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BRANDT PENANG BAY INTERNATIONAL: RE-BRANDING COLONIALISM AND INNOVATIVE GLOBAL NETWORK

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Abstract

It is not surprising that Penang was once a global city. This factual is based on the work form Lopez (2001) when she envisaged that the British colonialism movement have established themselves in Penang in 1768. Even, that is earlier timeline when they set footing in Singapore in 1819 by creating an entrepôt. Indeed, colonialism is atoned to liberating the 'sphere of influenced', where British imperialism have categorically classified Penang straits settlement as competitive area. Being a global city, during those periods, Penang has been classified as production zones. As such, Penang settlement experienced an unprecedented urbanization phases and dramatically have transformed its built environment – the urbanism of Penang City. Meanwhile, urbanism to King (1991) refers to the urban form and processes that took place in the Straits Settlements, which expressed the symbiotic relationship between the spatial aspects of cities system, the system of cities that comprised on the governance, premeditated built environment and architectural forms, socially engineered societal structure, and the economic and cultural systems of which they are part. The relationships are apparent, where defence institutions were iconic evidences in the settlements'-built environment. The project aims to emphasize the re-branding Penang identity for the proposed master planning through Learning Resilient City planning and development. In the attempt to re-imaging resilient city, comprehending the self-efficacy among urban dwellers on the existence of urban deprivation that equates to marginalization among them is thus, important as that was documented through Brandt Commission Report North-South in the Independent Commission on International Development Issues, 1980.

Keywords: *Heretic urbanism; city; resilient; Brandt.*

1. Problem Statement

After 252 years of experiencing urbanism, what Penang City could offer now is Heretic Urbanism, which is dominated by unsecured society and chaotic contested city spaces. For this, we refer to the definition by Faizul and Fatimah (2018), as they envisaged that most colonized city spaces or regions, as like Penang. Colonialism usually brings along the systemic pre-emptive constitutive power, which normally works dialectically to local polity aspirations. This perspective does resemble Castells's (ibid) structuralism point of view when the social structure (equal opportunity), shaped by elements of the economic system (equal income distribution), the political system (fair and local democracy) and the ideology system (freedom of expression and belief) do challenge the existing social space which relates to a constitutive entity built.

For most, colonized societies are trapped psychologically. Over the years, societies are deluged with resentment, ignorance and dissonance that eventually leads to societal marginalization, and this is when heretic urbanism evolved. As the city evolved until modern Malaysia was established in 1957 as it is known today, the effects of colonialism hegemony continue. This could be observed through the articulation of the new urban regime - the fundamental to capitalism movement. The term "regimes" is about the informal coalition behaviour of powerful stakeholders who come together to "get things done" when government resources are inadequate or institutional arrangement is complex and overly bureaucratic. Through this early conception of regimes, urban spaces are dominated by fragmented power distribution, held by the upper echelon among societies that could be viewed from property ownership or dyadic groupings. Such an unequal distribution of wealth among urban societies would inversely exhibit marginalization, leading to urban chaos. Now, it seemingly equates urban disorder to the issue of urban deprivation, which is characterized by poor housing conditions and urban services, unequal property ownership, low-income employment, poor schooling, crime, single parenting, and poverty.

With all these conditions, it merits the project to emphasize this aspect before re-imagining city place identity for the proposed master planning. It is all about social re-engineering that should be a priori to urban dwellers needs and aspirations which is consistently laid to SDG Goals - in re-branding Penang City as an innovative global network by applying the Brandt report contextual integration.

2. Usefulness

It is important now to re-defining the term 'security', which should go beyond the bureaucratic sovereign right of a government. In re-defining, the multiple attributes to the symbiotic relationship that expound to heretic urbanism are the priority - the proponent in advocating resilient urban governance includes the institutions, the communities, and other city stakeholders. In the future, the work from Babbie (2009) that is posited to social psychological perspective is used, which explain the symbiotic relationship between 'self-individual' and 'the social set'. They emphasized the subliminal attributes imbued in individuals and sometimes could create a dialectical relationship in their attempt to venture into a new social setting. This contemporary line of inquiry resembled Adger et al. (2000) classic social theory on 'the individual' and their 'comfortable' feelings that hold them to society or disconnection from society's moral norms and rules.

This project adopts the Urbanism Resilient Index to measure Penang's urbanisation process, which emphasises social mobility, cohesion, empowerment, and inclusion (refer to Figure 1). The index lies under the SDGs requirements to ensure the urbanisation process in Penang prioritise the social and community aspect.

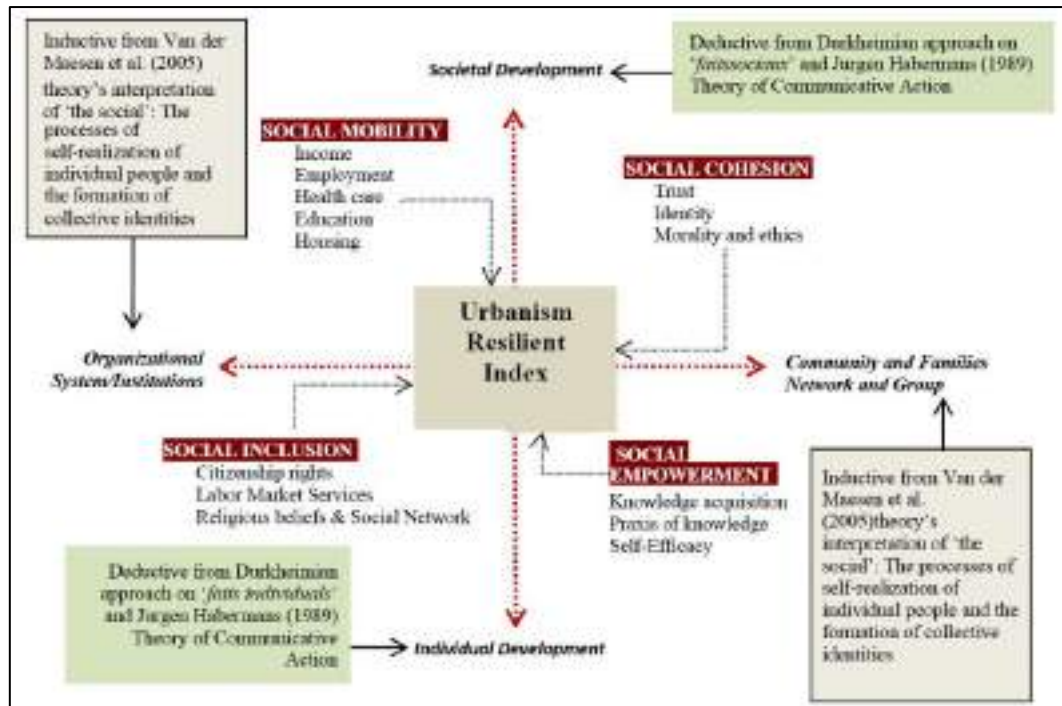


Figure 1 The framework of Urbanism Resilient Index to measure the Heretic Urbanism idea in Penang Brandt

3. Project Objectives

In advocating this project, the stewardship comprised of Penang State Government, Georgetown Convention and Development Corporation Sdn Bhd, Penang Island City Council, Seberang Perai City Council and ThinkCity, hereinafter known as The Proponent for Penang Bay International (PBI). The notion laid by the proponents are premised to rehabilitate, regenerate and rejuvenate the water-based assets of George Town and Butterworth into dynamic space city regions that much caveat to vast water-based assets with the intention to build a resilient city region over the next 20 years, with the stipulated objectives as follows:

- i. To create viable opportunities for environmental rehabilitation, minimizing carbon emissions and preparing for the possibilities of climate change
- ii. To generate opportunities for equality and the democratization of space in the face of social transformation associated with technological and demographic shifts
- iii. To establish the foundations for new economic activity that leverages emerging technology and Penang's unique qualities
- iv. To enhance the 'stickiness' of Penang for talent and capital by enhancing its livability and investment opportunities
- v. To display as future model that cities can be planned and build on private-public partnership procurement

Whilst not sidelined the SDG footprint and therefore, the key SDGs goal that need to give emphasize for the Penang Brandt Project are as follow:

| |
|--|
| SDG 3 : Health and Well-being |
| SDG 8 : Decent Work and Economic Growth |
| SDG 9 : Industry, Innovation, and Infrastructure |
| SDG 10: Reduced Inequalities |
| SDG 11: Sustainable Cities and Communities |
| SDG 13: Climate Action |
| SDG 14: Life Below Water |

4. Product/ Project/ Process

To apply qualitative and quantitative methodologies based on mixed positivism-interpretivism line of inquiry to determine social security conditional factors. The merits in developing the model are based on four (4) other inter-related deductive-inductive logic, as represented in Figure 1 earlier, signifying the project clarity when cohort will emphasize the conditional factors that eventually measure the social resilience among societies within city regions. The premised use is when the initial intent is to measure the definitive causal relationships to establish the pattern of security, which firstly merits this evaluation to pursuit on qualitative-based methodology, focuses on observation and involved interviews and questionnaires, documents and texts. The evaluation is purely based on the positivism perspective, when the causal to heretic urbanism is significantly dependent on the material-based relational, through some inducement of punishment. This project would pessimistically be observed to the probable complexities in the governance of resilient cities when rules and contingent may instigate severe resistance from urban societies. As explained earlier, some inclination is needed to explore the underlined subliminal factors that equate to the causal relationship. The interpretative approach would adopt voluntarism, assuming that urban societies would usually promulgate subjective choices. Therefore, it suggests that individuals make decisions as having their own volition-making conscious choices.

5. Commercialization and Potential

The project suggests that competitive cities based on innovation systems can be developed as guidelines to feed and support creativity and channel it into innovations, enhance the growth of new organizations and ultimately sustain the localization economies of cities. For these reasons, city planners and urban managers should focus on creating interesting and diversified environments, which conform to the requisites of organizational and management architecture as defined by the new breed creative class. This indicates that a combination of systems of innovation and cities as creative environments may be useful. Furthermore, it may guide urban planners to understand better the processes of the invention, which both city regions and nations depend on for their survival and development. Although it will not make it easy to plan and build creative environments in cities, it may increase realism in defining the meaning of innovation-embed knowledge cities and help avoid mistakes in “urban quality development and management”. It may also help national policymakers better understand the different roles which ‘territories’ play in the process of innovation.

6. Novelty

This project viewed the realities otherwise and questioned the sustainability of the project used in future. The premise of this contest is by comprehending Hamzah and Azmizam (2008) literature, and they are concerned like matured urban stakeholders that “is odd and hard to conceive” to any new artefacts, which leads to the existence of social marginalization and exclusion in societies. The resultant, this behaviour of “odd and hard to conceive” will invariably result in a not-so-meaning outcome to any change interventions on Penang urbanism. Furthermore, complexities in governance are beyond organizational change, where the endemics behaviour has already been imbued and reckoned as cultural and values among urban dwellers. To note, these innate cultures are powerful packed cognitive evolution that leads to the endemic behaviour. From the nominalist ontology standpoint, it will never justify the ‘what’ factors to explain any direct causal positivistic statements. This argument debunked positivist limitations when they give less emphasis in explaining the ‘why’ factors to the issues in defining the credence of shared envisioning of PBI initiatives among societies. This project could conclusively view that the structural-positivistic line of inquiry has delimited in its perspectives in explaining the ‘why’ factors that underlined the existence of unknown subliminal, which causes untoward social reality in city spaces - the heretic urbanism.

By introducing PBI interventions, the divisional of thought within societies on subject matters (Urban Resilient Index) may or may not meet consistent relational among city stakeholders. Hypothetically, suppose these values exhibit a significant gap. In that case, the likelihood of resentment, dissonance, or ignorance from the societies is high, suggesting the existence of paradox of thought among societies. The paradox of thought would encourage others to continuously negate any salient initiatives, as protest and challenge the status quo, which situates the city into becoming un-resilience. The heretical behaviours would, in turn, be considered as liabilities to the deployment of resilient city nobility and would instigate further complexities in the governance of city management. These endemics of heretic values are subliminal, and these subjectivities are powerful, and the evolution is dramatic. To note, most positivists undermine society subliminal and always downplays an individual's subjectivity or any sense of free choice or volition, and instead always exerting regimented choices over needs and aspirations.

Thus, it leads this project to explore other fundamental to gaining answers on the 'why', on the dialectical relationship that existed against the intention of re-branding Penang City's image. By adopting cognitive interpretivism, this project could be better footing to underline the subliminal cause and predict that heretical behaviour among societies could instigate major heretic urbanism filled with social marginalization and social exclusion.

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MAGSHARP KITCHEN KNIFE SHARPENER

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Abstract

MagSharp is the innovation of a kitchen knife sharpener that targeted housewives as the main potential user. It is portable and space-saving where it is easy to store and can bring to everywhere for any kind of activities such as hiking, picnic, camping and more. Also, the product is 2 in 1 which it includes 3 different types of sharpening stone and a built-in magnet knife holder. This sharpening stone is designed with an ergonomic concept, better safety, minimal style with a variety of colour options.

Keywords: *Knife sharpener, safety, portable product, space saving product*

1. Problem Statement/Product Statement

Housewife needs a simple, secure and ergonomic kitchen knife sharpener that allows them to sharpen a knife without asking for help from others. Most of the housewife, they do have fear of sharpening stones and freehand sharpening because of they do not want to mess up their favourite or expensive knife also their hand. The existing knife sharpener or traditional knife sharpener in the market does not provide the best applications of sharpening stones that lead to dissatisfaction. Thus, a user with a lack of knowledge about sharpening stones uses it without the right steps. Also, non- ergonomic and less safe than the existing product may cause an injury since it is involving sharp stuff. As a result, a housewife cannot have the best experience in sharpening knife and feel their purchase is not worth the price offered in the market.

2. Usefulness

MagSharp kitchen knife sharpener was introduced to give better experience and outcome to the sharpness of the knife compared to the traditional sharpener. Moreover, the quality and aesthetic of the product is also our priority to make sure it's worth people money. Also, due to its designed with compact size, this kitchen knife sharpener can be used for outdoor activities such as picnic and hiking. This designed allows the use especially housewife to sharpen their knife with proper application of sharpener stone based on the professional recommendation. The application as figure 1 and figure 2 below:

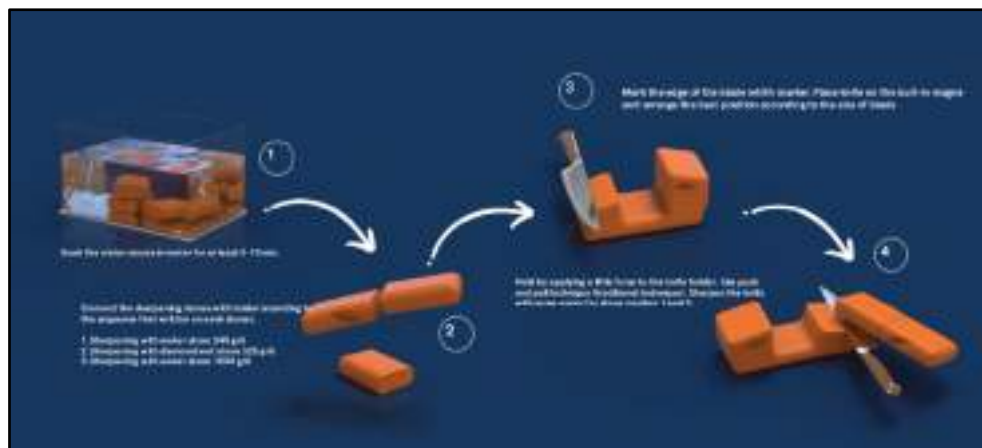


Figure 2 The application of MagSharp Kitchen Knife Sharpener



Figure 3 The Application of MagSharp Kitchen Knife Sharpener 2

3. Project Target/Objectives

a. Project Aim

1. This project intends to design an ergonomic and portable kitchen knife sharpener for housewife use.

b. Project Objectives

1. To identify the user behaviour towards ergonomic and portable kitchen knife sharpening stone.
2. To determine and develop a design model according to user preference for kitchen knife sharpening stone.

c. Target User

Target user for this project is mainly for a housewife. To meet the aim of the project a study about the housewife has been conducted such through online observation as lifestyle and behaviour, daily task, and user task analysis. Housewife is a stay-at-home mother or known as woman whose work is running or managing her family's home which is caring for her children; buying, cooking, and storing food for the family.

1. Housewife lifestyle

- i. Work field: House
- ii. Doing all work in house ex: prepare food, keep house clean, and more.
- iii. Usually have five to six maximum kids.
- iv. Need to prepare food three time a day for her husband and kids.
- v. Need to manage their time well which is need to do a lot of work at home in a day.

2. Housewife Daily Task

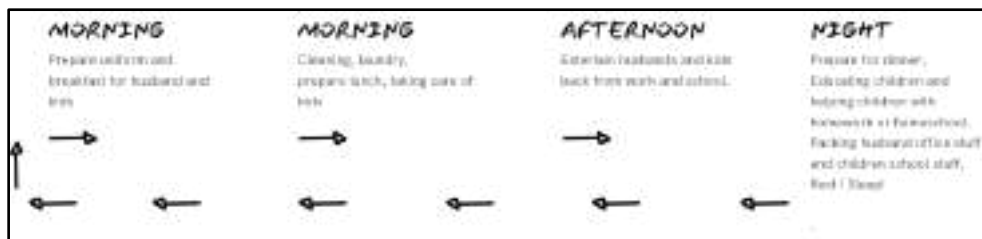


Figure 4 Housewife daily task from morning to night

Based on figure 3, the study has been conducted to observe the potential task, environment, and emotions of while user when using kitchen knife or kitchen knife sharpener. The study found that task, environment, and emotion of user relates to the user attitudes towards the product. Housewife have a lot of tasks to do and sometime in rush to make their task done before their husband and kids back from work and school. Also, morning, afternoon, and night is the most potential time user will use kitchen knife and kitchen knife sharpener where there are preparing meal for breakfast, lunch, and dinner. As a result, the types of kitchen knife sharpener that suit with target user attitude is does not require user to repeat every time, clean, easy to store, simple functional, comfortable and have very good safe concern.

3. User Task Analysis

| Task | User | Steps | Utensils | Observations |
|------|-----------|-----------------------------------|--|--------------|
| 1 | Housewife | Take knife sharpener tools | <ol style="list-style-type: none"> 1. Sharpening water stones 240/1000 grit. 2. Sharpening water stones 1000/6000 grit. 3. Diamond wet stone 325 grit. 4. Honing steel | |

| | | | | |
|---|-----------|--|---|--|
| 2 | Housewife | <p>Soak water stones</p> <p>Soak the water stones in water for at least 5-10 min.</p> <p>Mark Edge</p> <p>Mark the edge of the knife with a Sharpie marker</p> <p>Slide the knife over the stone they will be able to establish if you have the correct angle.</p> <p>Each style of knife will have a different angle.</p> | <ol style="list-style-type: none"> 1. Sharpie magic pen 2. Knife | <p>Likely to cause injury when they mark the edge of the knife with sharpie pen.</p> |
| 3 | Housewife | <p>Sharpening with water stone 240 grit</p> <p>Start with the coarse grit 240 water stone. With the knife edge at the top of the stone pull the knife toward until they reach the tip of the knife.</p> <p>Use firm 4/5 pressure.</p> <p>Start with the knife edge at the bottom of the stone and apply pressure pushing up.</p> <p>Apply water to keep the stone wet.</p> <p>Repeat for another side.</p> <p>Sharpening with diamond wet stone 325 grit</p> <p>Repeat the same steps as water stone 240 grit.</p> | <ol style="list-style-type: none"> 1. Sharpening water stones 240/1000 grit. 2. Diamond wet stone 325 grit. 3. Knife | <p>User safety</p> <p>Housewife could or not sharpening with the right pressure.</p> <p>Likely to cause injury</p> |
| 4 | Housewife | <p>Sharpening with fine grit</p> <p>Use the 1000 grit water stone to remove the burr.</p> <p>Use the same motions as before with 2/5 pressure for about 2-3 minutes.</p> | <ol style="list-style-type: none"> 1. Sharpening water stones 1000/6000 grit. 2. Knife | <p>User safety</p> <p>Housewife could or not sharpening with the right pressure.</p> <p>Likely to cause injury</p> |

| | | | | |
|---|-----------|--|--|---|
| 5 | Housewife | Polishing edge Polish the edge with the 6000 grit water stone. Use 1/5 pressure and give each side a handful of passes. | 1. Sharpening stones 1000/6000 grit. 2. Knife | User safety Housewife could or not sharpening with the right pressure. Likely to cause injury |
| 6 | Housewife | Testing Test the knife (cut paper, arm hair, fruit, etc.) | 1. Honing steel 2. Knife | Honing does not sharpen the blade, which is the process of removing steel and creating a new edge. |
| Maintaining Maintain the edge on the knife by honing. | | | | |

4. Product/Project/Process

In this project will be involved with two stages which the first stage is study the target user and the product line-up that would be analysing the design element, and user preferences for the design consideration. The second stage is would be design development and model making for the final product based on the research done in the first stage.

a. Product Line-up Study

The product line-up listed 9 products to be studied on. The line-up studies five characteristic which are dimension, material, safety precaution, price and cost, and features. From the table, it shows that the most popular kitchen knife sharpening stones is designed push and pull functional concept and less safety which not suit with the usage of the target user. However, there most of the product designed with long lasting material such as ABS, PP, PC and stainless steel. However, based on the observation most product is not concern on user experience which is designed without ergonomic holder. Thus, for this product innovation, designer use to design kitchen knife sharpening stone with ergonomic, portable, and safety precaution which to suit the product with the target user. Product line-up study as figure 4 and figure 5 below:

| Product Image |  |  |  |  |  |
|--------------------|--|--|--|---|--|
| Product Name | Waterstone | Rotating Stone | Grinding Stone | ... | ... |
| Material | Oil to grinding and oil | Stainless Steel | Stainless Steel and Grinding | PLC and Stainless Steel | 1000 and Stainless Steel |
| Dimensions | 2.5cm x 4.5cm | 2.5cm x 4.5cm x 4.5cm | 2.5cm x 4.5cm | ... | 2.5cm x 4.5cm x 4.5cm |
| Price | \$10.00 | \$10.00 | \$10.00 | \$10.00 | \$10.00 |
| Feature Comparison | ✓ | ✗ | ✓ | ✓ | ✓ |
| Remarks | The design is a pull-through design, which is not suitable for the target user who needs a push-and-pull design. | The design is a rotating design, which is not suitable for the target user who needs a push-and-pull design. | The design is a grinding design, which is not suitable for the target user who needs a push-and-pull design. | The design is a PLC design, which is not suitable for the target user who needs a push-and-pull design. | The design is a 1000 design, which is not suitable for the target user who needs a push-and-pull design. |

Figure 5 Product Line-up 1

| Product Image | | | | |
|-------------------|--|--|--|---|
| Product Name | Mini Knife Sharpener Assembly | Knife Sharpener | Knife Sharpener | Knife Sharpener |
| Materials | Ally, Ceramic, and Fingerprint | Leather and Steel | Plastic and Steel | Plastic and Steel |
| Dimensions | | 100 x 100 mm | 100 x 100 mm | |
| Price | RM 4.00 | RM 10.00 | RM 20.00 | RM 10.00 |
| Value Proposition | ✓ | ✗ | ✓ | ✓ |
| Remarks | Convenient, portable, and easy to use. Can be used to sharpen any knife. Hanging design, not taking up too much space. | Sharpening knife with rubber. Traditional sharpening method. Can be used to sharpen any knife. | Simple, easy to use. Can be used to sharpen any knife. Large storage space. Sharpening knife. High quality material, durability. | The FingerTip sharpener can be used to sharpen any knife. The sharpener is placed on the edge of the knife to get the best results. Sharpening. |

Figure 6 Product Line-up 2

b. Design development and model making

4. Sketches and design development

The design has been developed by sketching and 3D modelling. The design development as figure 6,7,8 and 9 below:

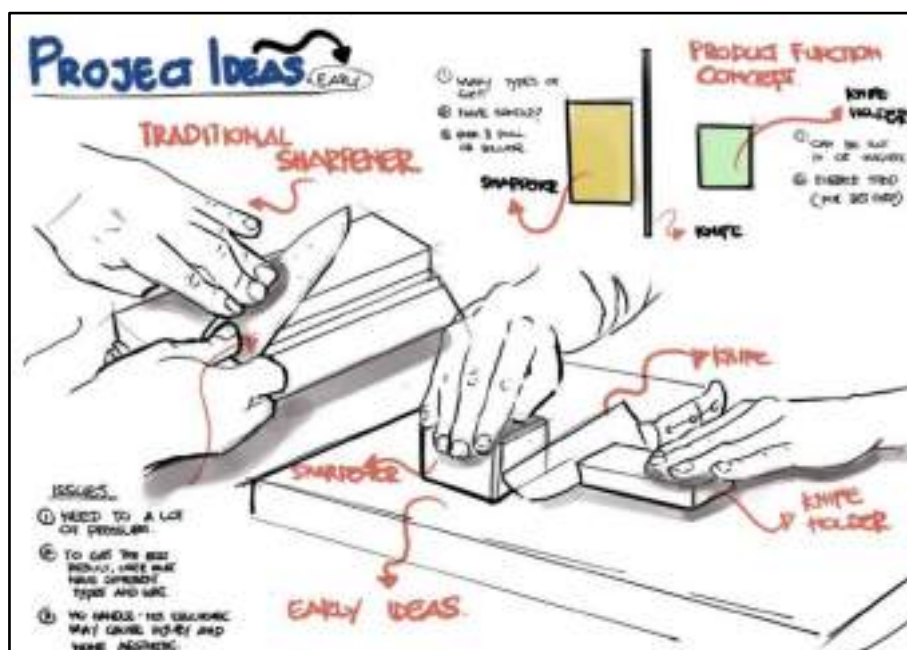


Figure 7 Early Ideas

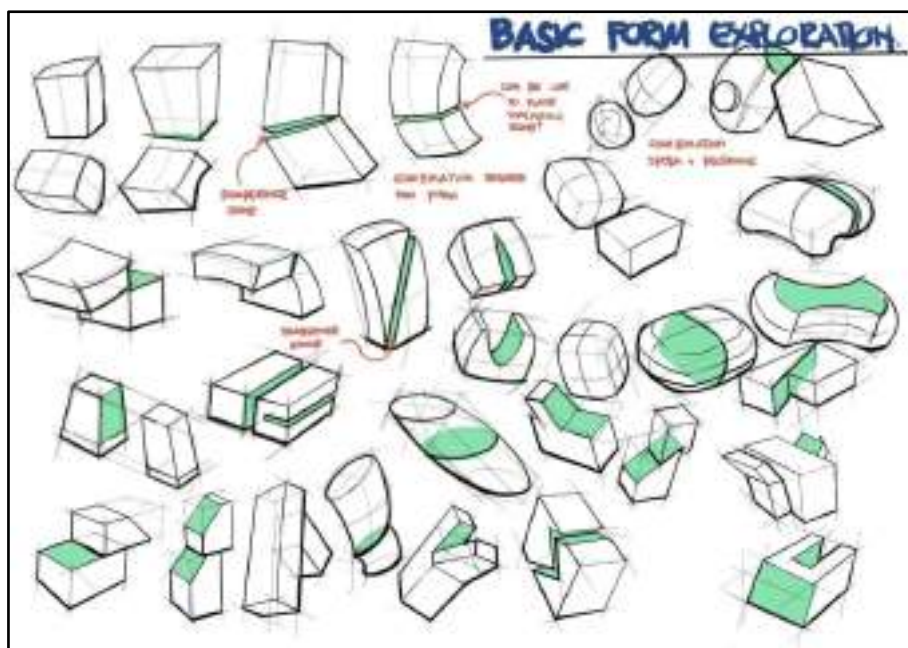


Figure 8 Basic Form Exploration

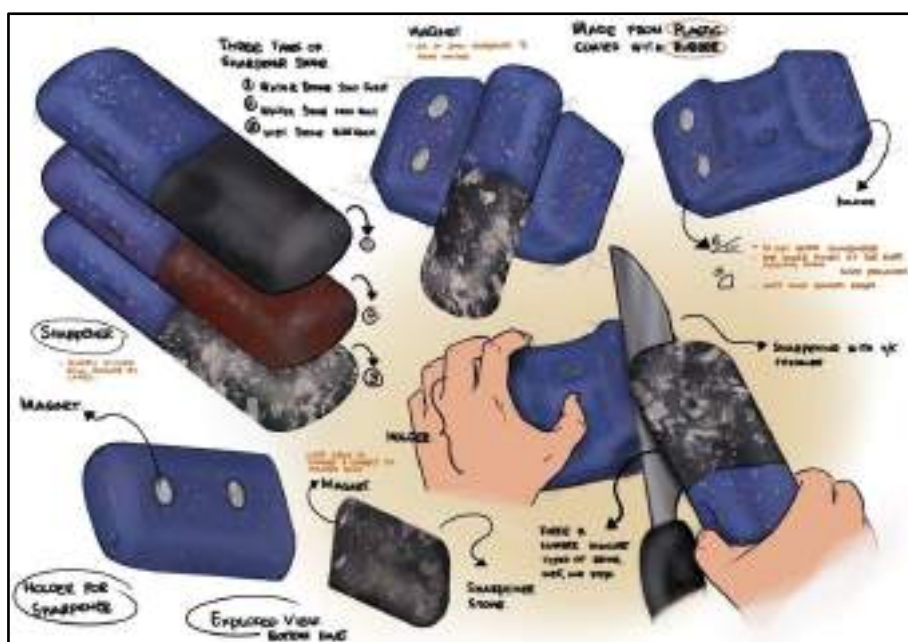


Figure 9 Design Shape and Details Exploration 1



Figure 10 Design Shape and Details Exploration 2

5. 3D detailing and design development

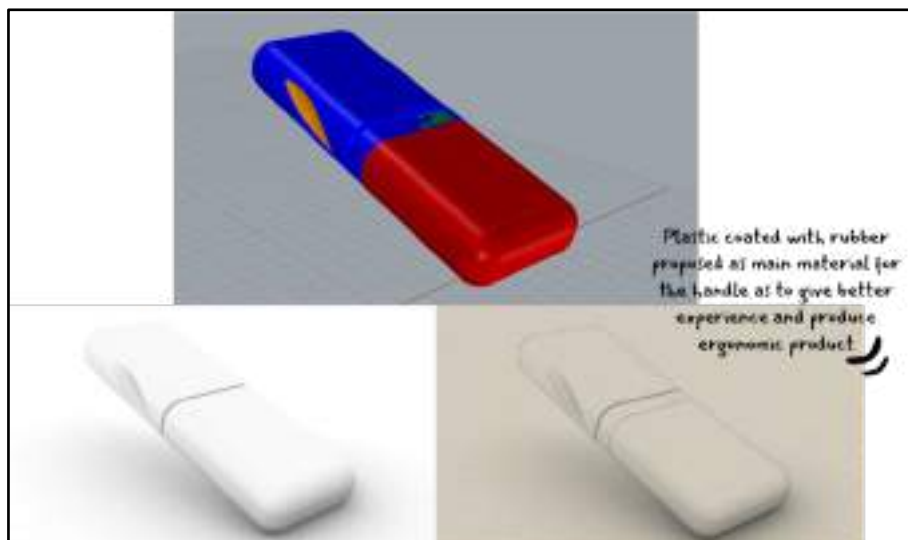


Figure 11 Sharpener and holder details exploration

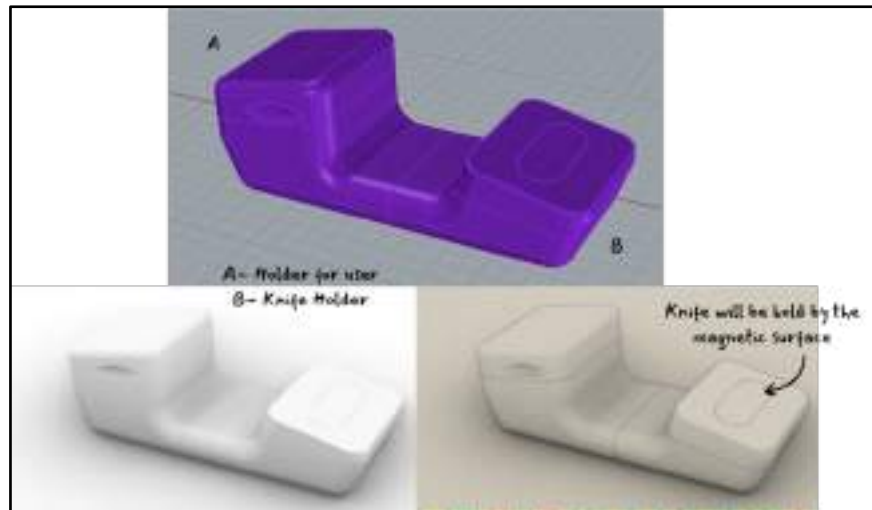


Figure 12 Knife holder details exploration

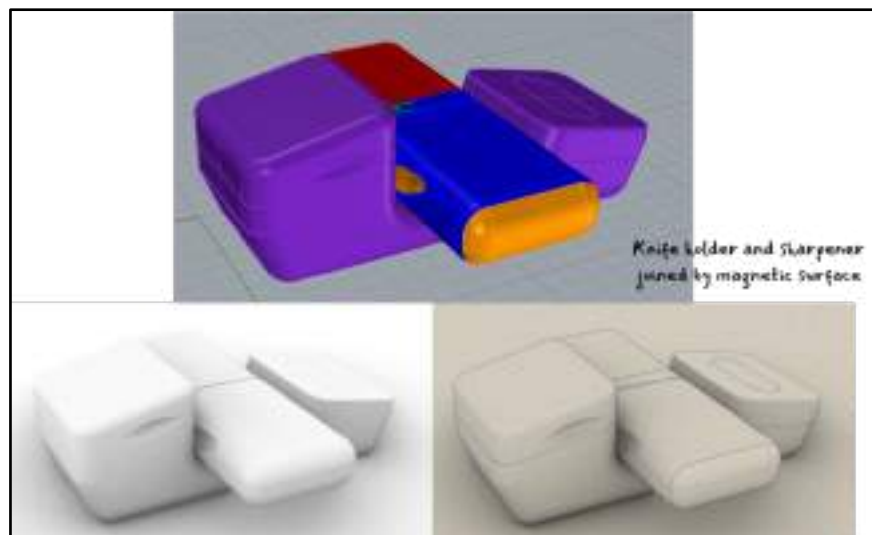


Figure 13 Knife holder and sharpener details exploration

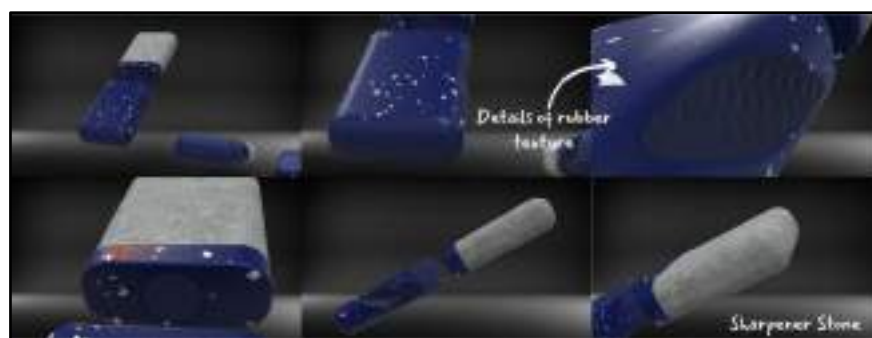


Figure 14 Materials and details finalisation 1



Figure 15 Materials and details finalisation 2



Figure 16 Materials and details finalisation 3

6. Product materials

Product materials is as figure 16 below:

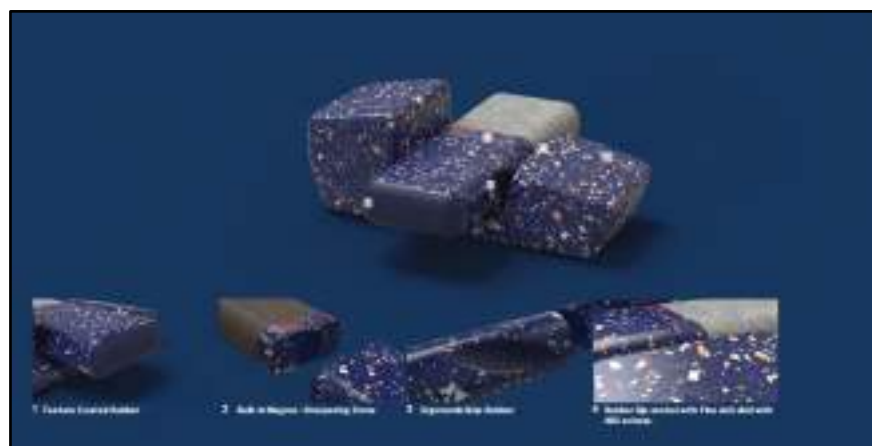


Figure 17 Final Materials and details

7. Product dimension

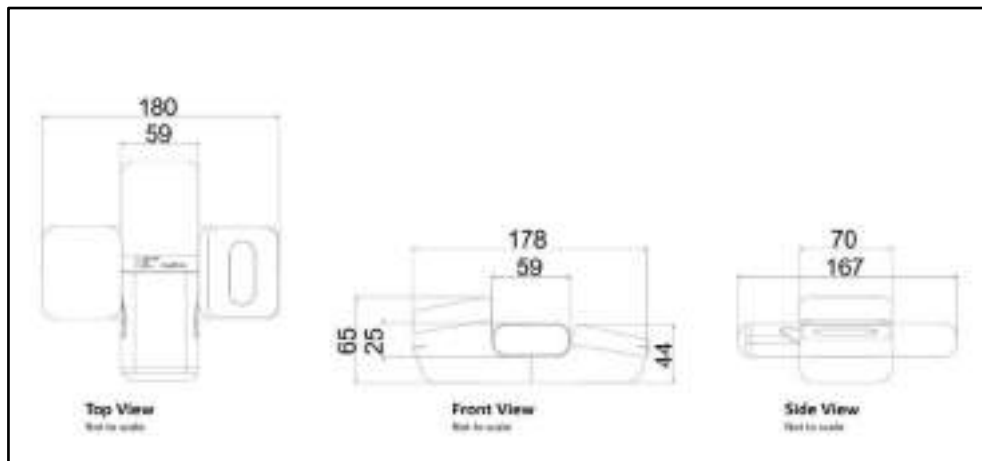


Figure 18 Product dimension

5. Commercialization and Potential

MagSharp Knife Sharpener has its' own commercial potential. It's an affordable kitchen tool and its' significance is not only limited for kitchen usage only, but also for outdoor usage such as camping, fishing activities that requires to use knives and sharpening tools. The usage of MagSharp may cater the food and beverages activities that involves vendors in hospitals, restaurants, cafes, food trucks, bakers, and such. As it comes in handy, portable and space saving, the design of MagSharp allows a proper application for sharpen knives that provides safety features as well. With a basic shape and form, it is also easy to use with the best types of stone and grit for the material selection. Due to its' product usefulness and novelty, MagSharp has the potential to be proposed to Small and Medium Enterprise Corporation and TEKUN Nasional that focusing on bumiputeras in kick – starting and to further expand businesses with an affordable price for the users.



Figure 19 Final product and commercial poster

6. Novelty

MagSharp has been designed based on the study of the user preference for the new innovation of kitchen knife sharpening stone. The study has been conducted throughout the design development process about the safety concern, the best types of stone and grit, and material selection. The design ideas of MagSharp kitchen knife sharpening stone is inspired with the existing product line-up that use push and pull functional concept that similar method with traditional sharpener stone. Based on the product line-up study, most of the existed product in the market used pull and push functional concept with less concern on user safety. Hence, the designer develops a kitchen knife sharpening stone with ABS coated with textured rubber and ergonomic holder for the better grip. Also, as the new innovation of kitchen knife sharpening stone, MagSharp sharpener is designed with built-in magnet that ease the user to change sharpening stone and to store it even in the small space. Lastly, each stone is designed with information regarding the types of stone, grit number, instruction, and stone number to indicate the right sequence. These ideas will ease the user to use each of the stone with right sequence and follow the instruction that already on the stone.

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SELF-TRAINING INITIATIVES INISIATIF LATIH MANDIRI (ILM)

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Abstract

Inisiatif Latih Mandiri (ILM) or to be translated as an initiative to train someone to be independent/ self-sufficient is an innovative idea that enables university students to serve the community by providing appropriate skills education for free based on the programs provided at their university. Self-sufficient skills are proven pertinence in today's time to prepare the community for the survival or development of this ever-changing world. This initiative allows the community to acquire suitable knowledge and skills that are useful for them to be independent at this time. Such skills can also be used in generating income leading to becoming financially independent. The substance of the syllabi or modules presented will be reviewed by the university to ensure that the community receives excellent information and skills, even if they are provided free of charge. Not only that, but the community will also get input about the programs provided by the university, thus enhancing public interest in them. The duration of this programme is expected to be done in 6 months for phases 1 & 2 before the execution of phase 3.

Keywords: *Community; free education; independent; self-sufficient; skills*

1. Problem Statement

Three problems spark this idea. Firstly, society as a whole is in greater need of self-sufficiency capabilities or skills as it becomes more crucial at this point. There comes a need in having self-sufficient skills to survive in this ever-changing world (Buheji et al., 2020). Next, coming from a student perspective, students have less interaction with the community and the outside world, due to a lack of exposure and training in soft skills. Lastly, the general public is becoming constantly unaware of the programmes offered by universities; they only know about the well-known ones, such as medical and engineering, leading to a lack of faith in other programmes.

2. Usefulness

Although this project/idea focuses on offering self-sufficiency skills to the general public, it will also help individuals who will be involved in it, such as students and the university, in terms of developing self-capabilities in engaging with the general public and branding. Not only that, but self-sufficiency abilities can be employed to generate revenue, resulting in financial

independence. This idea can help the public earn money by using the skills they've gained, as well as the students earn money by teaching the lessons.

3. Project Target/Objectives

There are three objectives for this idea which are (1) to provide community members with free skill classes to assist them in becoming self-sufficient, (2) to enhance the students' soft skills while they earn money and (3) to ensure that the community is aware of the benefits of the programmes available at each university.

4. Product/Project/Process

Inisiatif Latih Mandiri (ILM) are derived from Bahasa Melayu that means an initiative to train someone to be independent/ self-sufficient is an innovative idea that enables university students to serve the community by providing appropriate skills education for free based on the programs provided at their university. Below is the sample logo with Universiti Teknologi Mara, Perak Branch as the case study.



Figure 1: Sample Logo of ILM

4.1 Execution Phases

| | |
|-------------------------|---|
| Phase 1: Preparation | <ul style="list-style-type: none">● Preparation of modules with the guides from faculties. (e.g. Sewing Classes Module prepared by students with the guide from Fashion Department lecturers)● Training for students to ensure that the students will be ready to teach the public audiences |
|-------------------------|---|

| | |
|--------------------------------------|---|
| Phase 2: Online Classes | <ul style="list-style-type: none"> ● Online classes through our own platform teaching the audiences based on the module prepared. ● Searching for potential sponsors for the continuation of Phase 2 and the commencement of Phase 3. |
| Phase 3: Community Development | <ul style="list-style-type: none"> ● Face to face classes to a more targeted audience such as orphans, prisoners, Orang Asli and others. |

Table 1: Execution Phases for ILM

5. Commercialization and Potential

Every university can use this idea to increase public involvement for Corporate Social Responsibility (CSR) goals or the Knowledge Transfer Programmes (KTP).

6. Novelty

Comprehensive module prepared by university for the community and delivered by the students. This idea was inspired by Service-Learning Society University to Society (SULAM), SOLS 24/7 and *Pusat Aspirasi Anak Perak* (PASAK).

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THE KABAU FOUR FOSTER BED

Muhammad Muazzam Bin Mohd Rizal¹, Nazrul Helmy Bin Jamaludin², Nordin Bin Misnat³, Siti Rohamini Binti Yusoff⁴, Muhammad Izuddin Bin Mohamad 'Asri⁵, Shauqi Hakimi Bin Zul Kamal⁶

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Abstract

The 'Kabau' Four Poster bed is inspired by the shape of Minangkabau House in Western Sumatera, Indonesia and Negeri Sembilan, Malaysia. An iconic roof shape that resembles the buffalo's horn is used as the main character of the design. This design is an idea of bringing Malay's identity into our modern mainstream furniture design. The furniture design is not only about functionality, but it is also can showcase our way of life and culture. The Malay's has an abundance of exceptional traditional architectures and arts but not furniture. From previous research, Malay's don't have any significant furniture as we understood it should be. The Malay's in the old day de-scribe the house itself as a piece of furniture. The house accommodated any activities of households in multiple ways, an application through the perspective of 'semiotics'. The Floor and the wall were furniture for them, and there were using it in many ways. As time passed, the majority of Malay's houses nowadays have been equipped with modern furniture. All human activities in the space such as sit, sleep, cook and many more required furniture. But today's we merely seen our Malay's traditions from our ancestors in our house because our houses are full of modern furniture made by multinational companies around the world. We know too much about contemporary furniture styles such as English, Scandinavian, and French literally, but on the other hand, we have no idea about our own Malay's furniture style. The design proposal is not an attempt to imitate or presume Malay's furniture; it is more about adapting our traditions into the modern contemporary furniture design. The design that is not only has stipulated functions but also brings added value to the users.

Keywords: *Minangkabau, Malay, furniture, traditional*

1. Problem Statement/Product Statement

We would love to see our Malay's identity available in modern furniture design in the future. The furniture design showcases the beauty of Malay's arts and crafts.

Our traditional architecture, arts and crafts have been slowly forgotten and barely present in our modern society, especially to the younger layer of people. Our arts and crafts such as wayang kulit, gasing, wood carvings, tekak and many more are no longer popular and facing extinction. It happened due to modernization. Modernization makes our arts and crafts slowly been overlooked in our society. Looking at the furniture as an example, most of the furniture available on the market today's are more clean and straightforward. The majority of the design has been influenced by the Bauhaus style that emphasizes functions and features little to no embellishment or ornamentation.

Introducing Malay's identity into modern furniture design will help revitalize our traditional arts and crafts to a new level. We have many talented local designers who have better knowledge about our traditions and can produce furniture that can showcase our identity. More, the advancement of technologies and materials available today's will help furniture industry players to make things happen.

The design is another medium to foster people to love their local traditions. Our arts and crafts are unique and represent our roots. As descendants, we have to sustain and preserve our arts and crafts forever in many ways as possible.

2. Usefulness

The 'Kabau' Four Foster bed is like another bed. This queen-size bed is functions for relaxation or sleep. The bed head and front panel design were taken from the Minangkabau house roof, while four pillars were also taken from the same house are used to enhance its aesthetic looks. Besides, it has two Minangkabau wood carvings panels on both sides. In addition, it has two attached side tables with storage drawers on the left and right sides. The materials used are timber, aluminium, and laminate.

3. Project Target/Objectives

To adapt Malay's traditional identity into the modern contemporary furniture design.

To promote our identity to the local and the international

To cultivate our traditions in modern society.

To sustain our traditions from extinction.

4. Product/Project/Process



Image 1 Traditional Minangkabau house in Negeri Sembilan



Image 2 Perspective View



Image 3 Top View

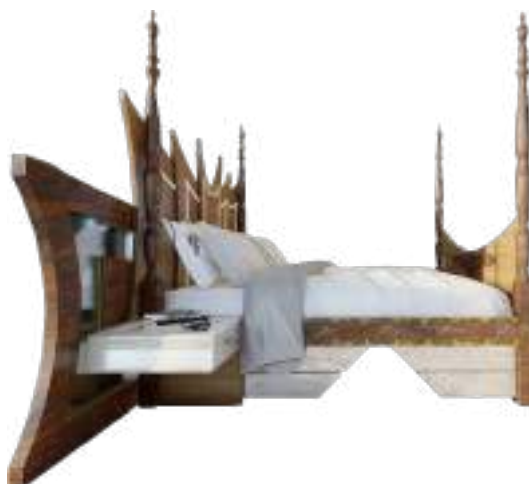


Image 4 Side elevation view



Image 5 Front elevation view

5. Commercialization and Potential

Our design will encourage all furniture industry players to look into our identity for its true potential. Our Malay's architecture, arts, and crafts can be commercialized because they are unique, beautiful, and have strong characteristics. Advancement of the technologies provides cutting-edge machines and materials that can make our intricate and complicated design easy to materialized and possible for mass production.

6. Novelty

Bringing our Traditional Malay architecture, art and craft into our modern furniture design will elevate our traditions to a new level. The new generation will know more about their traditions and starting to appreciate them.

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XIPHIAS 45 (FIC)

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Abstract

An aerodynamic fast interceptor craft (fic) with hybrid propulsion concept and establishing new and existing fast interceptor craft in future for 2045. To enforce high levels of reliability, availability and survivability demanded of modern warships in future for 2045. XIPHIAS 45 is a new image warship design with extreme and masculine body style. The advanced hybrid propulsion, high-performance concept elevates and reimagines the 'athletic magnic' design paradigm. The overall shape of the concept is characterized by a long hood and visualizing the fic performance-oriented nature inspired by striped marlin sh (*xiphiās*) a predatory sh characterized by a long, at, pointed bill and its resulting athletic stance.

Keywords: Fast Interceptor Craft (FIC), modern warships, establish new and existing fic

1. Problem Statement/Product Statement

The naval ships need advanced maritime support to increase monitoring and intercepting abilities from fast interceptor craft. The existing fast interceptor craft is small to chase bigger ships and need a large supply of oil. Most fic models looked very similar and hard to claiming that they were partners also the intruder ships that are constantly increasing their capacity in terms of speed and ability to move fast to enter the country's maritime space as well as pushing the capability of enforcement prevention ships. In addition, the existing fast interceptor craft need more space to capable of carrying up to eight personel at one time for military forces.

2. Usefulness

The XIPHIAS 45 is projected onto the seas. It protects the movement over water of military forces to coastal areas where they may be landed and used against enemy forces. In the modern era the word craft has come to denote small surface fic that operate usually in coastal waters.

3. Project Target/Objectives

To enforce high levels of reliability, availability and survivability demanded of modern warships in future for 2045 for Royal Malaysian Navy and creates a new image of warship design.

4. PROJECT

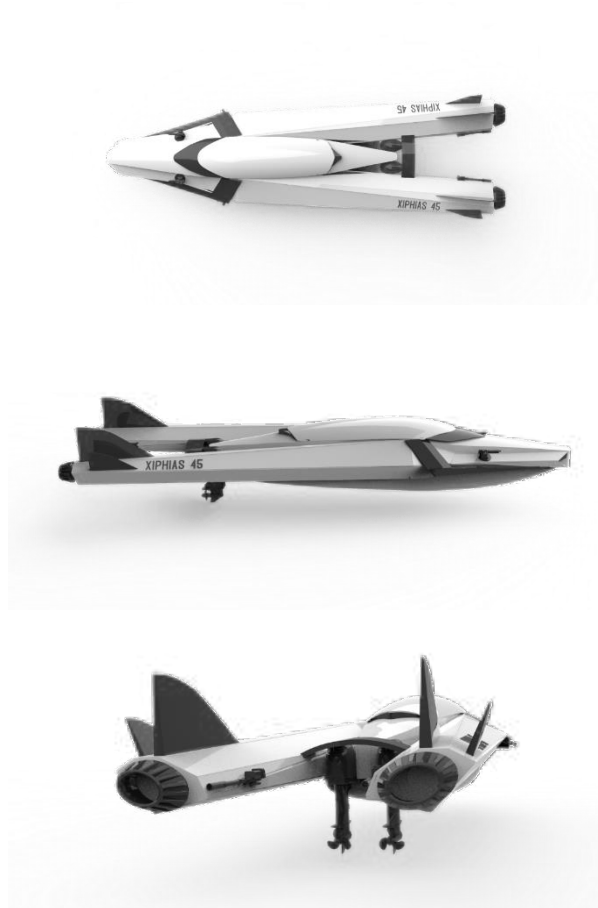


Figure 1 XIPHIAS 45

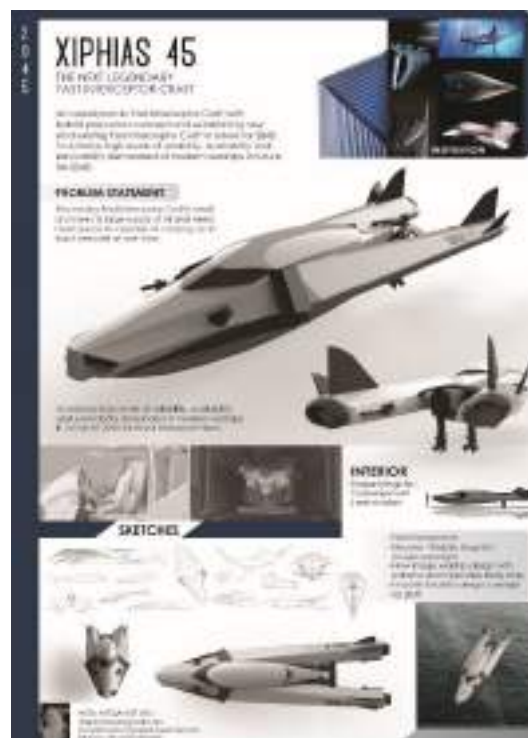


Figure 2 XIPHIAS 45 Descriptions

5. COMMERCIALIZATION AND POTENTIAL

Xiphias 45 is marketable to military forces such as Royal Malaysian Navy.

6. NOVELTY

The innovation of the Fast Interceptor Craft with technologically advanced hybrid propulsion concept and enforce a high level of modern and futuristic FIC.

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COMMERCIALIZATION MALAYSIAN CONDIMENTS THROUGH BRANDING EXERCISES: PACKAGING DESIGN

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Abstract

Belacan, cencalok and budu are local condiments that are widely consumed by Malaysians. this study is to promote a new look of packaging design as visual communication efficiently disseminate the knowledge and historical importance of a traditional Malaysian condiment to the local consumer as well to tourists, professionals in the culinary field, educators of foodservice and food preparation related studies, and practitioners in the field, including producers, marketers and other stakeholders in the supply chain. This research delves into the recommendations of packaging designs by identifying the criteria and expectation needs. in order to improve our local condiments products through packaging designs, this study adopts the Kapferer's brand identity model (Kapferer, 2004) that includes physique, personality, culture, relationship reflection and self-image. It is hoped that this study will improve packaging designs of Malaysian local condiments products in the local market shelves by embodying the local identity in promoting Malaysia as a unique food culture.

Keywords: *Local condiments, packaging design, brand identity*

1. Problem Statement/Product Statement

Initially, Malaysia condiments started out as belonging to a certain culture but over the years, these accompaniments have crossed cultures and are no longer confined to Malay, Chinese, or Indian cuisines.

Belacan, Cencalok and Budu are local condiments native to our country that are still practically known. They might be an acquired taste but with the right branding exercise and exposure, we might be able to address the demand for exotic condiments in the global market. The branding exercise that empathized on packaging design, logo design and graphic design could draw attention to a condiment which is produced and consumed by most Malaysians, but which has not been given due recognition. (Koh, 2020).

2. Usefulness

Belacan, Cencalok and Budu as distinctive national condiments will raise awareness and appreciation of a product commonly consumed but rarely praised for its cultural food heritage and commercial values. The branding exercise was the primary focus in introducing this speciality food product to the mainstream Malaysia market as well as to global market.

The new look of Malaysian condiments package design isn't just about looking attractive or following the latest design trends it's about motivating shoppers to pick up a product off the shelf

or click on its thumbnail online or in social media, and put it into their shopping cart physical or virtual.

3. Project Target/Objectives

1. To introduce the branding exercise in Malaysia specialty food products to the mainstream Malaysia market.
2. To explore consumers' demands for new branding exercise of Malaysian condiments market as one of Malaysia's food identities.
3. To raise awareness as eating culture in promoting Malaysian condiments as a unique Malaysian symbol of food culture.
4. To promote a new look of packaging design as visual communication efficiently disseminate the knowledge and historical importance of a traditional Malaysian condiment to the local consumer as well to tourists, professionals in the culinary field, educators of foodservice and food preparation related studies, and practitioners in the field, including producers, marketers, and other stakeholders in the supply chain.

4. Project



Figure 1 Product

5. Commercialization and Potential

SME industries and local market

6. Novelty

The ideas of using illustration design for local elements (*lesung batu*, Asian Spices, *batu giling*) which speaks to the heritage and tradition of this brand. Each flavor has a different color. We combined modern and contemporary visual illustrations with a fun, fresh design for an interesting balance. Bold color further helps the packaging stand out, while clearly differentiating between the flavors. The Malaysian name of EMAK represents mother in Malaysia language as a promise of quality, local and speciality in promoting Malaysia as a unique food culture. The local name was communicated in a modern typeface with *lesung batu* illustration.

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ADAPTIVE ISOLATED PERSONAL WORKSTATION POD

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Abstract

When Covid-19 pandemic struck in 2020, it had affected many job sectors' working norms. Employment and employability rate were also hugely affected from this outbreak. The movement control order demands new normal working environment, where people had to work from home (WFH). Inevitably, some still have to work from office (WFO) and sometimes, work outdoors (WO). However, there was never a properly designed isolated personal workstation that is tailored to adapt to these working conditions and may help reduce the risk of Covid-19 virus spread. Hence, in order to reduce employees' health risks, whilst maintaining work efficiency and flexibility at different work situations, the design project proposes "An Adaptable Personalised Workstation Pod" that is ergonomically designed, flexible and commutable (if needed) for different working conditions during pandemic control movement order. These innovative products are hoped to be the catalyst for safe and convenient working environments to withstand the pandemic health risks. The Workstation Pod sample shown here is one of the products of the project that is flexible enough to be opened, closed, interchange form, and if necessary, movable or transportable. Its size is a maximum of 2 metres (width) x 2 metres (length) x 2 metres (height). The sample product design shall be a prototypical example to many more personal workstation pods in the attempt to reduce the risks of covid-19 disease infection and increase work efficiency regardless of the pandemic threat.

Keywords: Covid-19, workstation pod, adaptive design.

1. Problem Statement/Product Statement

COVID-19 outbreak is one of the worst health crises since the beginning of the 21st century. In less than four months, the new corona virus, known as COVID-19 has affected almost three (3) million people and the death toll exceeds 200,000 worldwide (Ministry of Health, 27 April 2020). The infectious disease has put many countries on lock down to break the chain of infection. Malaysia is not spared in this devastating health crisis, not to mention normal living and working habits. Inevitably, work efficiency, employment and employability are hugely affected from movement control order, where people are either forced to work from home, or still have to work at the office, or outdoor due to their nature of work. The pandemic has also hit consumer industries hard. These industries employ 20% of all workers worldwide with retail as the world's largest private-sector employers. In addition to staggering business struggles and even failures, however, the pandemic has also compelled a much-needed breakdown of long-held orthodoxies about where and how employees work. With employees embracing remote working, how to best manage and engage an increasingly distributed workforce is of critical importance. However, there is no properly designed personal isolated workstation design at home nor in the office that can help prevent from covid-19 virus spread threats since the existing ones do not cater for it. Hence, the project proposes "An Adaptive Personal Workstation Pod"

with the aim to provide a flexible & conducive isolated personal workstation whilst reducing the potential risks of Covid-19 virus infection spread.

2. Usefulness

1. Aids employee to work efficiently in any circumstances during pandemic lock down, or endemic situation;
2. Ergonomically designed, adaptable to suit client's unique situation and needs;
3. Protective and hygienic workstation to help reduce the risks of Covid-19 virus spread at the workplace either from home, office or outdoor.

3. Project Target/Objectives

The Aim of the project is to provide an adaptive & conducive isolated personal workstation pod to reduce the risk of Covid19 virus infection. The objectives are as follows:

1. To develop innovative design solutions for an adaptable personal workstation design in response to unique client's functional and contextual needs;
2. To encourage flexible ergonomics, transformation of forms, and mobility (if needed) for (any) functional change in the workstation pod design;
3. To produce adaptive workstation pod prototypes for various clients needs in different work situations to reduce the risks of covid19 spread during pandemic lock down and beyond.

4. Product/Project/Process



Figure 1: QR Code for a sample of design process and development for an adaptive isolated workstation pod product.



Figure 2: Samples of final product designs of an adaptive isolated workstation pod product.

5. Commercialization and Potential

The products can be commercialised for companies who need an adaptable isolated personal workstation pods for their employees to work safely and efficiently either WFH or, WFO, during or post-pandemic lock downs and beyond.

6. Novelty

The "Adaptive Isolated Personal Workstation Pods" are uniquely designed and custom-made to suit the needs of a particular client and his/her job scope and workstation location, either WFH, WFO, or WO to reduce the risks of virus infection spread during Covid-19 Pandemic lock down and beyond.

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CINEMAGRAPH AS NEW MEDIA REPLACEMENT IN HEALTH AWARENESS CAMPAIGN

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Abstract

Creating effective yet functional health campaign is one of interference to be face, not only current but previous time. Poster and video is yet to be typical option to be official media in creating awareness content, but how far the acceptance of public on these ancient medium in making awareness is part of the major concern among public. These projects is aiming to create the effective media of cinemagraph technique as one of the health campaign approach in order to overcome the major problem of health rate in Malaysia that showing high in numbers. Current campaign of health awareness is supposed to be one of effective media in delivering the issue, but the percentage of people aware of the problem is still low. With the technology trend of social media nowadays, this technique is hope to be able to deliver the content interactively and in interesting unique way of moving elements appear on the technique. With the help of Theory of Planned Behaviour (Ajzen, 1985, 1987) hopefully this project will help in influencing the behaviour of public viewers on how important health and the consequences if the issue is not cater by all together. Thus, the data from this project will be fully utilised by future research especially in health awareness related and other potential fields that can be useful and impact to others.

Keywords: *Cinemagraph, interactive, health campaign, social media, behaviour*

1. Problem Statement/Product Statement

Current health issue in Malaysia is facing a major problem every time since several years back, especially with the rise of non – communicable diseases (NCD) on peak every year, put Malaysia is the leading for this health issue among other countries in Asia. According to Who (2020) report showed that estimated 3.5 million of Malaysian adults is living with these diseases, specifically of diabetes, while 6.1 million living with hypertension, and another nearly 3.3 million is having obesity. Meanwhile with the cases of hypertension, heart attack and diabetes that appears to be main concern for the health care industries to be worried, related parties overcome the situations by leading the campaign from poster, television commercial and radio advertising to spread the awareness, and yet the number is increasing.

With the help of health campaign been promoted throughout platforms, some may unidentified the existence of these campaign. Some may familiar with the campaign, but some not even noticed the presence at all. Meanwhile, the campaign has been actively advocated all over the channel, and yet questionable about the effectiveness rise when huge amount of money has been spent on but somehow the rate is still at peak.

According to Samsudin (2018) stated that public service announcement (PSA) is delivering message of life and health related, and some campaign may seem familiar because of the strong brand and marketing by any parties, but not all. There are few campaigns promoting on

certain high-risk issue like heart attack and diabetes but seems to be silence, because of lack in promoting, or maybe the medium or platform use to spread the information has been dispute since previous time. People notice well about the Tak Nak Merokok campaign because it has been promoted with a gigantic amount of budget with some of media use like poster and television ad and published it even on mass media, and yet somehow the rate of mortality from smoking habit shows still high.

2. Usefulness

This study is mainly focused on the technique of moving image or cinemagraph to be new technique enhancement of current media such as photograph and video with the issue on health awareness. Development of this technique is believed to be another change hopefully in behaviour and attitude as this technique interacts viewers with the interactive content of moving elements, thus may help in influence them on decision making, especially in health awareness. Since this technique rich with elements that may affect the viewers, hopefully it can fully utilise as new media technique in creative industry such as advertising and commercial, where it can be used to advertise products or services thus can influence target audience to buy. Another advantages this technique can offer is that since it still new, it will attract more viewers to see and experience themselves on the technique.

3. Project Target/Objectives

As for this project, the establishments for the technique to be recognize is the main priority, but there will be steps to get there, starting with the first objective of to introduce the new technique of moving image or cinemagraph as one of new media in the category instead of still image and video. Next, with the help of branding this technique, development of effective contents becomes second objective, to deliver the interactive and excellent effective content that can help influencing target audience into experiencing more with the technique. Last but not least, once the technique has been known and acceptable by all, then comes with the third objective which is to enhancing the current public service announcement (PSA) of health campaign by using the media.

4. Product/Project/Process



Figure 1 Cinemagraph

Based on Figure 1 above, it shows the technique of cinemagraph in screenshot view as the file only support in moving image. As what appears on the figure above, the moving element is selected on certain part, especially on the movement part which is the milk been poured on the glass. The moving element will be shown in moving file as the campaign above is about diabetes, and focusing on the habit of sugar intake on daily life.

5. Commercialization and Potential

This project currently on a research phase to test the engagement and effectiveness of the technique on several medium. Huge potential of future research and project development will be seen from this technique, as media support for the technique, commercialization on the advertising and commercial use, plus with the successful data gathered from this project, will help in expansion of the use of this technique to become next media replacement in the creative industry. In terms of commercialization, this technique will bring enormous impact and great opportunities in creative industry nor personal use, like fashion photography, fine art, commercial and advertising. For instance, the elements offer in this technique will deliver good impact especially attracting and seized the first impression of the interactive experience,

6. Novelty

The technique of cinemagraph will become another media enhancement in creative industry with the help of this project, to develop the chances of function ability in order to be used in public service announcement (PSA) and other. With the rise of social media user, this technique is suitable to become next technique enhancement besides still image and video. Elements of movements in this technique turns it into interactive experience to make viewers feel the different they had with still image and video. Current media use is exceptional but there

is no other option the be use, while viewers craved for something different and new to be experience with, and cinemagraph technique is the ideal one to offer that.

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REVITALISE LOST WOOD CARVING MOTIFS FOR RUMAH KUTAI IN KAED, IIUM

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Abstract

Malay traditional art and craftsmanship hold cultural heritage values of the Malay Archipelago. Examples of the art are carvings, jewellery, batik, pottery, handicrafts and many more. The most forgotten art is Malay traditional wood carving. The art is on the verge of extinction because few skills carvers survived, and young generations have no interest in continuing their forefathers' legacies. Wood carving for Malay traditional houses plays many roles, such as decorations to show beauty and status, air ventilation devices and cultural symbolism. Sadly, some Malay traditional houses are not maintained properly, which causes them to vanish. However, some agencies and universities conducted restoration projects of old Malay traditional houses. In 2018 Kulliyyah of Architecture and Environmental Design (KAED) restored 108 years old Rumah Kutai Beranjung located in Parit, Perak. The old house was restored and transferred to Malay Enclave Lab in International Islamic University Malaysia (IIUM). Some of the house carving motifs was missing and changed to solid wall panels. Therefore, this study objective is to revitalise lost wood carving motifs for the house and study the cultural meaning of Malay traditional motif. Two types of '*tebuk tembus*' carvings were proposed. The carvings motifs are proposed based on the observation of the remaining carvings and literature review. The carvings are proposed at the original location, underneath Rumah Ibu and on the top of the windows. Sun, Awan larat motifs, Bayam perak motifs, and Islamic calligraphic (Alhamdulillah) motifs produced the A3 size carvings. The carvings were digitalised and visualised in a 3D form on the house.

Keywords: *Wood carving; rumah kutai; traditional motif; awan larat*

1. Problem Statement/Product Statement

Malay woodcarving is a forgotten art due to the vanishing of knowledge, the carvers and the interest. In addition, knowledge regarding the meaning of Malay carving motifs is also scarce (Azmin et al., 2021). Most of the meanings of the motifs are not systematically documented. However, some studies suggested that Malay traditional carving is mostly based on natural elements such as sun, floral and herbal motifs, geometric patterns and Islamic calligraphy (Tohid et al., 2015). This study was conducted to revitalise lost Malay wood carving motifs for Rumah Kutai at KAED, IIUM.

The house was a relocation project from Parit, Perak to KAED, IIUM. The house is 111 years old (KAED, 2021). The house was restored and relocated in 2018. It has one verandah, rumah ibu, rumah dapur and a room. The entire house is made of Chengal wood. (Khairudin, 2019). The house original carving underneath the Rumah Ibu and on top of the windows was missing. Therefore, a systematic analysis of the remaining carvings was

conducted to design the lost carvings, and several journals related to the house motifs were analysed.



Figure 1 Original house in Perak
(Metro online, 2018)



Figure 2 The house after restoration
(Author, 2020)

Content analysis of the study leads to the development of two carving motifs. The first carving motif is based on the concept of Kosmora, a combination of the sun and Awan Larat. The carving symbolises the relationship of man, the universe and the Creator. The carving was proposed underneath the Rumah Ibu. The second carving motif is a design based on the concept of Syifa (cure). The motifs are integration between Islamic calligraphy (Allahuakbar) with Bayam Peraksi. The word (Allahuakbar) symbolises the occupants' spiritual cure, and Bayam Peraksi represents the physical cure. The carving was proposed on the top of the windows to create a shadow on the floor. The carvings were produced to sustain the values of the Malay Cultural Heritage for the future generation.

2. Usefulness

Kosmora carving used as decorative elements underneath Rumah Ibu. The area known as bawah rumah. Area for social gathering and various daily activities. The syifa carving located on the top of all windows. The carvings function as ventilation and daylighting device (Afifi, 2017). Both carvings will help to revitalise the beauty of the Rumah Kutai.

3. Project Target/Objectives

This project has two objectives. The first objective is to revitalise the loss wood carving motifs of the Rumah Kutai in IIUM and the second is to study the cultural meaning of Malay traditional carving motifs.

4. Product/Project/Process



Figure 3 The Kosmora carving based on the sun and Awan Larat motifs
(author, 2021)



Figure 4 The Syifa carving based on the Islamic calligraphy and Bayam Peraksi motifs
(author, 2021)

The carvings were produced in four steps. The first steps were tracing the motifs on an A3 size jelutong board. The second step was to pare and cut the wood using various types of chisel heads. The third step was polishing the wood using abrasive paper. The last step was coating the carvings with varnish. Then, the finished motifs are retraced by using a computer to create 3D models. The 3D models were superimposed on the 3D model of Rumah Kutai to visualise the overall effect (Figure 6). Process of making the carving can be seen from the QR code below (Figure 5).



Figure 5 QR Code for process of making the carvings
(author, 2021)

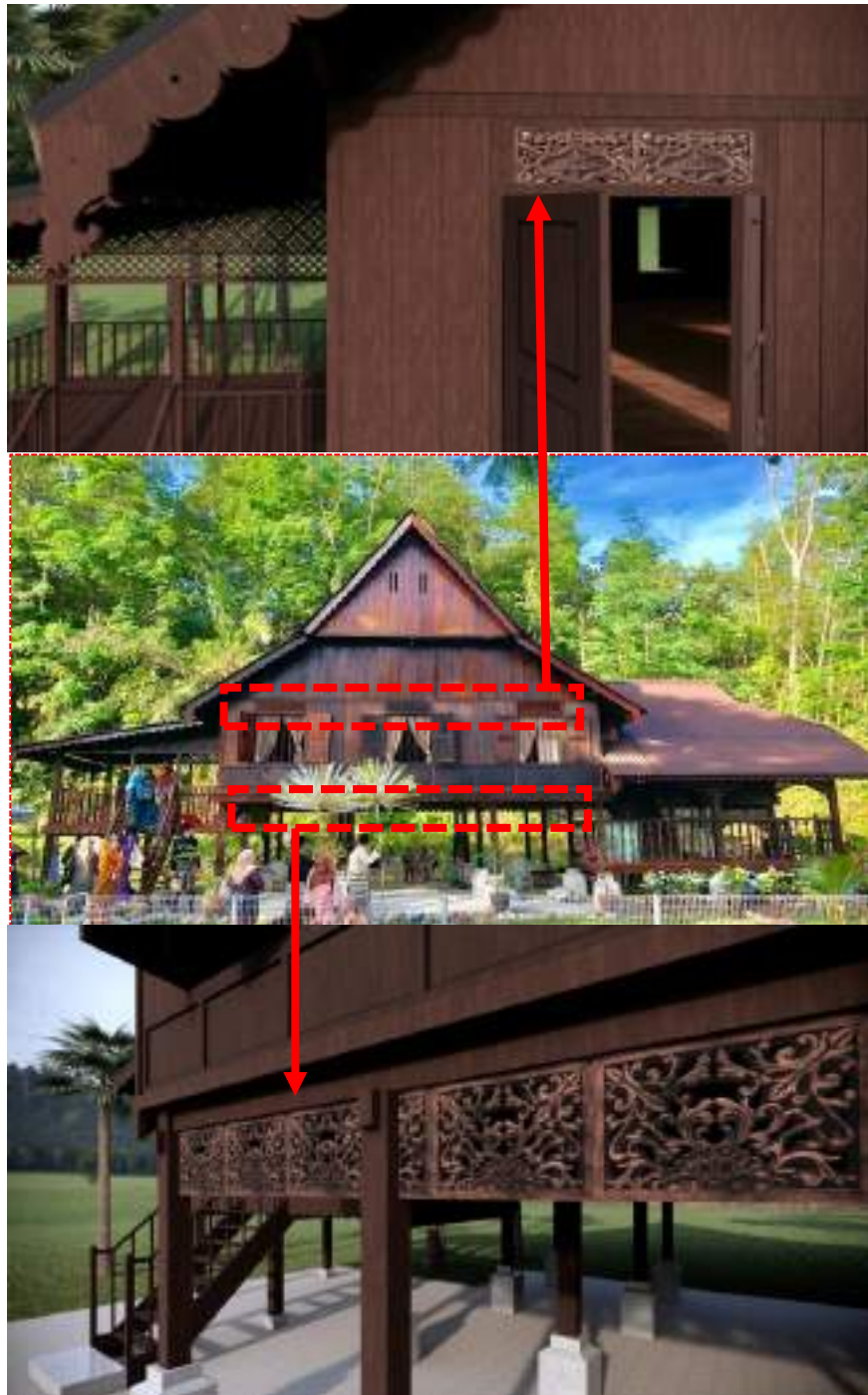


Figure 6 Position of the carvings on the Rumah Kutai IIUM
(author, 2021)

5. Commercialization and Potential

The carvings can be commercialized for other Malay traditional houses or conventional timber houses. The carving motifs can be as decorative panels in the houses.

6. Novelty

The wood carving motifs produced are the only “one-of-a-kind” in this world. It was designed with reference to the remaining original carvings by integrating the natural elements such as sun, floral elements and Islamic calligraphy.

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UCASH-DSAT: A PORTABLE DIGITAL SUPER ACUITY TEST FOR INDIGENOUS PEOPLE

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Abstract

UiTM Chen-Azmir-Saiful-Hoe Digital Super Acuity Test (UCASH-DSAT) is a portable digital-based super acuity test designed to test the visual performance or the ability to discern the details up to -0.5 logMAR. The majority of the visual acuity charts in the markets are usually designed to measure visual acuity up to 0.0 logMAR and usually are available in hardcopy. Many parts of the world reported 'super acuity' among indigenous people in remote locations with visual acuity better than 0.0 logMAR. This stipulates a demand to develop a portable digital super acuity test to reach out to the indigenous people. UCASH-DSAT is designed for a 3-meter testing distance to be used in electronic devices. The testing involves two letters from 1.0 logMAR to 0.7 logMAR and five letters from 0.6 logMAR to -0.5 logMAR for each line in the logMAR progression. The formula used in score calculation for the 2-letter line: $\text{LogMAR VA} = \text{LogMAR value of the best line read} + 0.05 \times (\text{number of optotypes missed})$. The formula used in score calculation for the 5-letter line: $\text{LogMAR VA} = \text{LogMAR value of the best line read} + 0.02 \times (\text{number of optotypes missed})$. There are four distinctive features of UCASH-DSAT design. UCASH-DSAT can quantify the super acuity up to -0.5 logMAR. UCASH-DSAT employs a single letter display design with four contouring bars to control the accommodation during acuity measurements. Each acuity level of UCASH-DSAT has an equal optotype combination that takes into consideration the optical blur from spherical, and astigmatism defocus stimulation. The automated data entry mechanism is integrated to automatically upload and convert into spreadsheet format. UCASH-DSAT is a portable digital super-acuity investigation tool explicitly contrived for indigenous people who reside in extremely remote locations.

Keywords: *Super acuity, visual acuity, letter chart, UCASH-DSAT, indigenous*

1. Problem Statement/Product Statement

Visual acuity is frequently measured using letter charts in eye care practices. Snellen chart, Bailey-Lovie chart and the ETDRS chart are popular letter charts (Wong & Kaye, 1989; Mathew et al., 2011; Bailey & Lovie, 2013). Traditionally, letter charts are designed up to 6/6 in hardcopy. Optotype selections and compositions in the existing letter charts remain debatable. There is a demand to develop a visual acuity test that can measure super acuity up to 6/1 as well as available in portable digital version for indigenous people (Stock et al., 1997; Taylor et al., 2010). The purpose of this project is to report a digital super acuity letter chart embedding those

contour designs to control the crowding phenomenon for indigenous people named as UiTM Chen-Azmir-Saiful-Hoe Digital Super Acuity Test (UCASH-DSAT).

2. Usefulness

UCASH-DSAT enables the data to be readily exported for immediate analysis of the target population in vision screening. All data is automatically converted and formatted in spreadsheet outputs. The electronic mode saves chair-times and overcomes data loss, insufficient physical storage, and paper waste issues. It tests super acuity up to 6/1 equivalent.

3. Project Target/Objectives

The objective of this project is to develop a portable digital super acuity test to reach out to the indigenous people in remote locations. Health care accessibility is a common challenge in those extremely rural areas due to transportation limitations. UCASH-DSAT can provide easy access to basic vision screening for indigenous people.

4. Product

UCASH-DSAT is a digital super-acuity letter chart designed to quantify the recognition acuity up to 3/0.5 Snellen Notation for indigenous people. UCASH-DSAT is formulated based on the logMAR progression for a 3-meter testing distance.

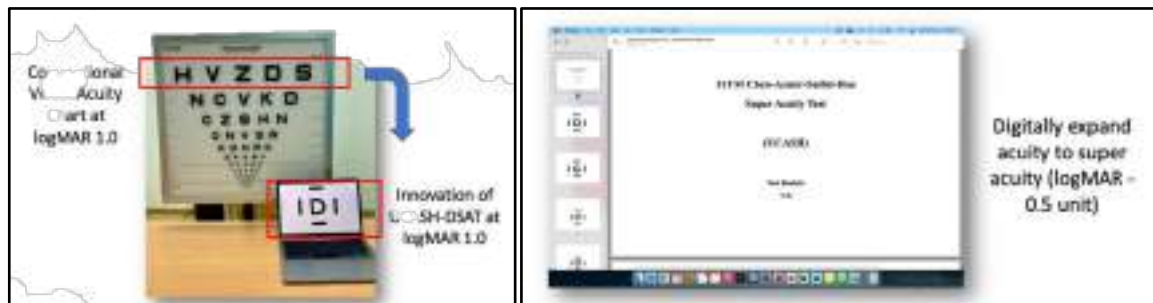


Figure 1 Product: UCASH-DSAT

5. Commercialization and Potential

UCASH-DSAT has the potential to be commercialized for any investigation of the super acuity of indigenous people worldwide as well as preventive eye care.

6. Novelty

UCASH-DSAT has two unique features that is not available in any existing visual acuity chart in the market. First is the super acuity measurement scale up to 3/0.5 or 6/1. The second important feature is the neighbouring bars. Four neighbouring contour bars are incorporated to simulate the crowding effect and control the accommodation during acuity measurements.

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BE GOOD VR VERSION 1.0

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Abstract

The idea of BE GOOD VR version 1.0 derived from the moral deterioration scenario among the Malaysian younger generation. Its design development is based on the chapter from a primary school text 'Hormati Negara, Rakyat Sejahtera'. It also involves the process of reviewing existing literature and virtual reality technology usage in the market. With the combination of 3D environment videos, the previous study asserted the capability of virtual reality in increasing students' understanding and engagement in a learning process. In addition, BE GOOD VR version 1.0 combines the elements of education through a virtual reality environment. This includes interactivity, object realism, motivation, ease of use, and educational usefulness. Users can use BE GOOD VR version 1.0 by playing the virtual reality video on a smartphone and pair it with any virtual reality glasses device and Bluetooth remote devices.

Keywords: *Virtual reality, moral study, education technology, VR*

1. Problem Statement/Product Statement

There is a need to instil good moral behaviour among the younger generation. The deterioration of good morale practices has been shared on social media and reported by mainstream media. Among the example is the bully culture which results in serious injuries among school teenagers has led to the involvement of police (Zainuddin, 2019), and this unhealthy culture is seen to increase over time. Towards this, the presence of high technology virtual reality with its interactive environment is capable of promoting campaigns to overcome the deterioration of good moral behaviour among the Malaysian young generation.

2. Usefulness

Previous research has established that the role of Virtual Reality was influenced by usability and perceived usefulness. To facilitate optimal user experience, Roberts et al (2019) asserted

a need for further improvement, despite its positive acceptance. Significantly, this technology further allows multiple users to interrelate the dynamic display for real-time interaction, responding directly to user input (Barrett et al,2020).

An actual learning environment requires innovative artistry, adapting its technology into existing practices through value-added design skills. Furthermore, there is a need to establish accessible, usable, and sustainable virtual experiences, parallel to real-life learning (Vergara et al., 2017; Neden, 2020). This further concluded that VR technology is capable to enhance students' independent learning ability, and accelerate learning through various learning resources, interactivity, immersion and visualization. Being misunderstood as a costly product, it can be produced at an affordable price, as there are three types of VR Technology (Melanie & Hughes, 2020):

- (i) Fully immersive: the use of a head-mounted display, connected hardware, allowing user physical movement using hand device to control a 3D virtual environment.
- (ii) Semi immersive: Use of Head-Mounted Display (HMD) or multiple projections.
- (iii) Non-immersive: Consideration of virtual environments and 360-degree pictures or videos.

Zhuang (2021) emphasized Moral education as a peaceful learning environment to support the self-development of an individual. Positive impact can be achieved by promoting Virtual Reality in its learning field (Makransky & Lilleholt, 2018). Students' interaction will be increased through technology-friendly usage.

3. Project Target/Objectives

To introduce and promote virtual reality technology by adapting the local learning environment.

To enhance the learning quality among students through dynamic virtual environment experience.

4. Product/Project/Process



Figure 1: Be Good VR Version 1.0 main idea

5. Commercialization and Potential

BE GOOD VR version 1.0 is a practical instrument to promote good moral behaviour among Malaysian younger generations. It is also capable to create a video sharing account such as youtube, or other social media sharing platforms. It can be further shared with other future content developers of good moral value campaigns which might incur some minimal charges. By upgrading the existing platform with other online video platforms, collaboration with authorities and sponsorship, BE GOOD VR version 1.0 is capable to gain greater visibility and generate profit. Furthermore, similar ideas and technology can be adapted for future development for other syllabus and subjects at any level of education.

6. Novelty

BE GOOD VR version 1.0 has the novelty with its technology implementation in the education field through the learning experience. It is easy to access through the usage of a smartphone with a virtual reality device or any cost-effective DIY (Do-Your-Self) device. Users are capable to replace the Bluetooth remote by using a Bluetooth mouse to access the content on the virtual reality video. This interactive experience is further capable to be viewed multiple times for the user convenience. This innovation is significant to enhance the Industrial Revolution 4.0 inspiration in education.

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BOMBSHELL SELF-DEFENCE TOOL

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Abstract

Bombshell serves as a self-defence product that can be used to ward off predators and escape dangerous situations such as rape and kidnapping. It contains a steel baton, top with a window smasher where you can use it by whipping the top of the product. There's also a 6cm knife at the bottom of the product that's covered with a cap and a built-in alarm plus a GPS tracker. The product is disguised as a round shaped mascara with a body grip so it's comfortable to use during hasty moments. As the product is lightweight, portable and able to cause minor injuries, it is a must have defence tool. In hopes to provide comfort for women who are concern about their safety, we anticipate Bombshell Self-Defence to be a success in reducing the rate of the attacks.

Keywords: *Bombshell, Self-defence, self-defence tool, safety*

1. Problem Statement/Product Statement

1. Although most people have been going out less during the pandemic, the impact of the health crisis has not been enough to put an end to street harassment.
2. Initial reports also show that sexual harassment and violence against women worsened during the coronavirus pandemic in 2020.
3. These incidences of sexual harassment cannot be isolated from the social and cultural norms within which they are rooted. Sexual harassment is also just one of the ways that the patriarchy exacts violence against women.

2. Usefulness

1. Retractable steel baton is made out of high-quality solid steel, allowing it to deliver a heavy blow onto its target.
2. Comes with a glass breaker in case you find yourself in an accident and need to be able to break out of a window. It can also be used as a close combat assault weapon.
3. Its handle is made from non-slipped rubberized material and designed for easy hold and comfort.
4. The concealed 6cm stainless steel knife can be used when necessary to cause pain and prevent further assault by attackers.

5. The alarm is essential to alert and attract nearby individuals of existing or approaching danger.
6. Due to its compact size, consumers will always have a self-defence weapon at their disposal.

3. Project Target/Objectives

1. To design a defence tool that is affordable, easy to use and suitable for everyday carry.
2. To create self-defence products that are suitable for combat and can deter assaults.

4. Product/Project/Process

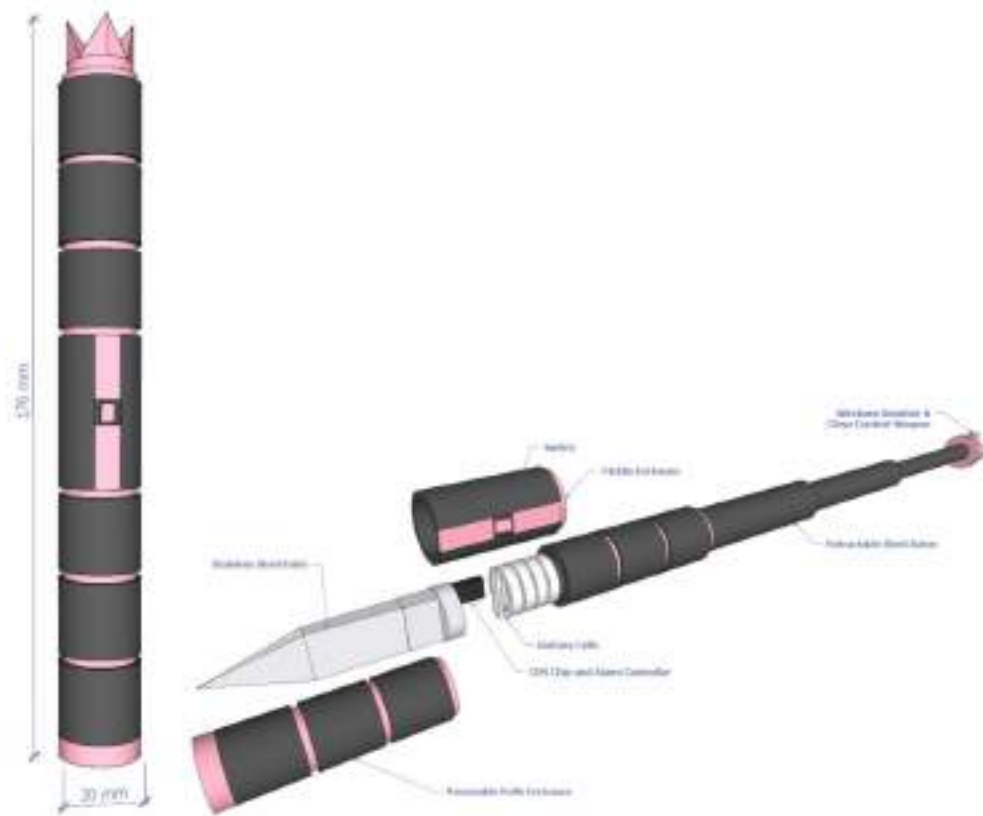


Figure 1 Bombshell Self-Defence Tool

5. Commercialization and Potential

1. Low production cost, hence affordable to most consumers.
2. Easy to use, compact and lightweight for everyday carry.
3. This product can be mass-produced because the production doesn't require specialized machines or tools.

6. Novelty

1. We disguised the self-defence tool as a mascara container.
2. Invention of a singular defence product that contains many tools.

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CARCASA SELF-DEFENSE

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Abstract

Since parliament was suspended in January 2021 owing to the coronavirus outbreak, a bill to protect women from sexual harassment has been stalled until late 2021. The government has delayed debate on the Sexual Harassment Bill until late 2021, after promising to table it in 2020. The postponement comes amid and uptick in violence against women. To illustrate, a survey by the Women's Aid Organisation (WAO) put the figure of Malaysian women who have suffered sexual harassment in the workplace as high as 62 percent. For that reason, we aim to present an overview of our own self-defense device, Carcasa Self-Defense. On this self- defense device disguised as a phone case, the emerged design features are a pocket-size self-protection stick used for breaking windows or stabbing, pepper spray; OC (oleoresin capsicum) Spray which is legal in Malaysia for self-defense purposes, and a personal alarm. This Carcasa Self-Defense will undoubtedly be a great innovation primarily for women's safety.

Keywords: A pocket-size self-protection device

1. Problem Statement/Product Statement

Many women and girls face domestic violence not only in their homes and in relationships, but also in public spaces due to poor choices in urban design and poor management of those spaces. This can be seen from a study conducted by the NGO where it collected and analysed 275 testimonials by survivors of sexual harassment and bullying cases in educational institutes. It said survivors were women and girls. In practical terms this can relate to factors such as inadequate street lighting, unsafe underpasses, ineffective community policing and lack of rehabilitation programmes for those involved in antisocial use of public spaces. During times of conflict or social unrest, those factors can further exacerbate the risk of gender-based violence. Women's safety involves strategies and policies that take place before violence has occurred to prevent perpetration or victimization. This can happen by improving self defense techniques with the help of self defense tools.

2. Usefulness

1. To defend themselves against physical attacks.
2. Encouraging users to think about their safety in public.
3. To act decisively and quickly when confronted with an attack.
4. To protect themselves from wrong-doers in non-lethal and safe ways.

3. Project Target/Objectives

Gives users especially women and teenagers peace of mind by making them feel safer and more secure with arming users our Carcasa self-defence casing that will help them to react in the nick of time and protect them appropriately anywhere and anytime.

4. Product/Project/Process



Figure 1 Product

5. Commercialization and Potential

1. An everyday need.
2. Comes in different patterns/colours & for all phone types to fit everyone's preference.
3. Design that keeping up with the latest trends (minimalist) and discreetly doesn't show this is a self-defence casing.
4. Secure button for the features to maintain user safety.
5. Materials used suitable for anyone who is actively involved in sports whose profession involves high chances of fall and injuries which can caused defects to the phone.
6. A 2 in 1 product, a self-defence device and a phone case, that ensures one of the uses is utilized all the time.
7. The position of the feature can be customised to adapt with people who are dominant right and left-handed for easier reach and facilitate access.
8. Secure a market in Malaysia as phone cases largest market in Asia Pacific.

6. Novelty

Carcasa self-defence provide 2 in 1 protection which stands head and shoulders above other casing and self-defence devices because of the unique combination firm structure and impact absorption, high quality materials will provide the higher level of protection for your

phone. The practicable self-defence features have been revamped and assembled together for easy access. This is to reduce the time it takes to act when an attack occurs.

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WEB ENCYCLOPEDIA: EXOTIC PETS TRADE CAMPAIGN

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Abstract

Any wild animals that are kept in houses or living with human are considered as exotic pets. Lately, there are many issues raised in the media regarding exotic pets that has been found locked in houses/buildings. The demand on exotic pets has increased due to the influences in social media such as in Instagram and Facebook. Wild animal such as dusky leaf monkey, axolotl, chinchilla sugar glider etc. are some common exotic pets trade that can be found in Malaysia. The lack of knowledge and ignorant by the public may cause extinction of these wild animals in its natural habitat in near future. Awareness is one way to educate and spread the message across younger generation for not supporting exotic pets trade. Besides traditional method of separating education on the awareness in the country using printed posters, there are other interesting ways to interact the young generation. One of the ways is web encyclopaedia which can easily access by anyone through online. The combination of modern illustration, photography and copywriting, makes the web encyclopaedia design more attractive to convey its message regarding the awareness. Furthermore, the data of this research obtained from online questionnaire survey, interviews and tertiary sources that discuss about exotic pet trade issue in Malaysia.

Keywords: *Exotic pets, wildlife trade, web encyclopaedia*

1. Problem Statement/Product Statement

Exotic pets are sold widely in Malaysia, however there are lacking of awareness from the government and non-government (NGO) authorities to educate the public regarding exotic pet trade issue that is currently happening widely in Malaysia. Poor action and awareness from the authorities regarding local wildlife threat, has led the exotic pet trade issue becoming bolder. Only limited media such as printed poster can be seen on certain places. According to South-East Asia TRAFFIC Director, Kanitha Krishnasamy, Malaysian government need to step up to protect wildlife by increasing public awareness regarding this issue. Many people are not aware that most of the exotic pets that are sold, classified as endangered and protected species such as dusky leaf monkey, leopard cat, and others.

2. Usefulness

The web encyclopedia is an educational site which provide information and awareness on exotic pets' trades to the public.

3. Project Target/Objectives

The web encyclopaedia objective is to educate the public regarding the awareness of wildlife threat focusing on exotic pet trades. Thus, discourage the public to owned wild animals as pets.

4. Product/Project/Process

| Parameter | Design |
|---------------|---|
| Awareness | Stop Buying Exotic Pet |
| Interest | Educate audience to stop buying exotic pet |
| Desire | Information to reduce the demand for exotic pet and boycott exotic pet selling |
| Action | Website link for more information |
| Art style | Realism, abstract |
| Image concept | Photography, Photo manipulating |

Table1 Sample of Idea 1

5. Commercialization and Potential

The web encyclopaedia targets government, private sector or non-government organisations (NGO) which is concerned on wildlife threat issues. It is to deliver the message across the public for educating and awareness purposes.

6. Novelty

The web encyclopaedia can easily access by the public as it is online. It is also friendly user which the buttons are easily navigated. The content is clear and easy to understand. Moreover, the design is contemporary which contains interesting images - photograph and illustration, as well typography.

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PARAMETRIC DESIGN OF A TURTLE REHABILITATION CENTRE

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Abstract

An architect's dream is often regarded as an engineer's nightmare, especially when dealing with architecture that requires challenging amalgamation of structure and sculpture. Often, the so-called parametric design could only be realised when the designer uses high-end computer aided design software. Nevertheless, with critical algorithmic exploration of forms, parametric architectural design could be manually crafted, producing lucrative and inspirational architecture. This project had two (2) objectives: to critically explore algorithmic 3-dimensional forms for parametric architectural design, and to produce the best possible architectural design solution for a Turtle Rehabilitation Centre. Qualitative approach of an action research was carried out, to systematically observe and consult the designer when he underwent the experiential exploration of forms to solve design problems and constraints. The designer managed to produce a design scheme that is not only visually stimulating, but also could implant the feeling of stewardship towards sustainability among the public.

Keywords: *Parametric architecture, architectural design, design exploration, turtle rehabilitation centre, design solution.*

1. Problem Statement/Product Statement

Without exploration of ideas by implementing the concept of learning by doing, designers are frequently unable to manually design building with parametric forms which have outstanding aesthetic values. Consequently, designers produce mediocre architectural design schemes that lack the architectural appeal. Hence, with constant observation and consultation from the supervisors, designers could creatively produce parametric design scheme to eventually generate lucrative architecture.

This design exploration focused on developing a parametric design of a Turtle Rehabilitation Centre, for a virtual client named Institute of Oceanography and Maritime Studies (INOCM, 2020). This project is stirred by the concern on marine pollution, which is one of the major issues in the current world. All countries bordered by sea are having similar marine issues such as extinction of marine species, accumulation of solid waste, contamination of sea water, coral bleaching, and acidification of sea water.

Human's striving for success and development, especially of those located near coastal area, have taken a toll to threat the sustainability of the marine life. WWF has observed heavy human impacts along the coastal beaches of Malaysia with problems of overfishing, coral bleaching, abandoned fishing nets, litters, unsustainable coastal land use, and the hunting of turtle eggs (WWF Malaysia, 2020). Considering that Malaysia is located at the most bio-diverse regions of the world, marine conservation in Malaysia is deemed critical (WWF Malaysia, 2020a).

UNDP (2020) and WWF Malaysia have continuously called for marine conservation programme. Especially through SGD 14 (Life Below Water), the aim is to sustainably manage and protect marine and coastal ecosystem from pollution. However, leaving the efforts to be championed by UNDP and WWF would not give high impact on the success rate. Attempts to get involve on such programme should be participated by all walk of life to support WWF's vision of "*Building a future in which humans live in harmony with nature.*"

2. Usefulness

The project empowers designers to comprehend the notion of producing lucrative and inspiring architectural design that requires systematic experiential exploration, in a form of learning by doing. This project could also act as a showcase of design exploration of architectural design scheme using parametric forms.

3. Project Target/Objectives

This project has two (2) objectives. First, to critically explore algorithmic 3-dimentional forms for parametric architectural design, and second, to produce the best possible architectural design solution for a Turtle Rehabilitation Centre.

4. Product/Project/Process



Figure 1 A painting drawn by the designer to represent the freedom sought by baby turtles

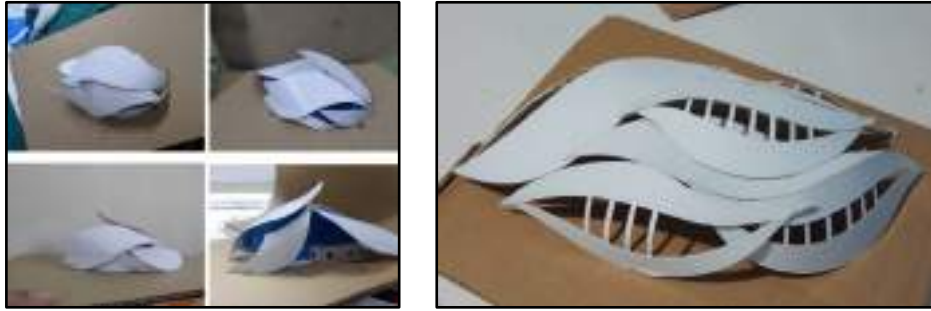


Figure 2 Exploration of design ideas by using 3-dimensioanal forms



Figure 3 Exploration of structural system in relevant to architectural forms



Figure 4 Scan me to see a video on the design process



Figure 5 The Front View of the Final Design Scheme



Figure 6 A View of the Final Design Scheme



Figure 7 The building model, viewed from the front angle



Figure 8 A side-view of the building model

5. Commercialization and Potential

The skills acquired during design process would enable designers to convince clients on architects' design proficiency; hence giving the potential of successful contract.

6. Novelty

The project produces architectural design with outstanding aesthetic values, with appealing complex building requirements.

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CRAFT BOOKMARK USING THE CHLOROPHYLL TECHNIQUE

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Abstract

In recent years, natural processes contributed to arts and crafts. Various studies have been done to explore the natural process. The effects of natural processes also involve the field of photography. Therefore, this research explores the natural process as an alternative tool for transferring images and making them into bookmarks. This process involves an organic process which is, the researcher uses the concept of photosynthesis. The process is bleached by sunlight directly onto the leaf surface using a positive image. Preliminary results of the research indicate that different types of leaves will give different picture results. Then, at variance times for exposure to direct sunlight will varying effects of picture results. At the end of the experimental process, the researchers find out that the chlorophyll process has a positive prospective new method for transferring images in photography fields

Keywords: *Photography, natural process, chlorophyll.*

1. Problem Statement/Product Statement

Nowadays, green technologies are often voicing up in Malaysia. However, green technologies lack awareness from the art and craft field. Therefore, the chlorophyll printing process works by letting a leaf receive an extraordinary amount of UV light to force a pigment change while the leaf is alive. According to a-n.co.uk (2021), there is very little information about this process. Thereby, the techniques of chlorophyll have been implemented in art and craft to explore the power of alternative process photography.

2. Usefulness

The craft bookmark using the chlorophyll technique is a product that preserves the environment because it involves the organic process. Therefore, this product supports green technologies and is affordable to buy.

3. Project Target/Objectives

The craft bookmark using the chlorophyll process technique brings out the three objectives. The first objective of the product is to enhance and facilitate Teaching and Learning (P&P) activities in art and craft using green technologies. The second objective is to educate the new generation on the importance apply art and craft to preserve the environment. The last is to explore the natural process for transferring photographs using the chlorophyll technique.

4. Product/Project/Process

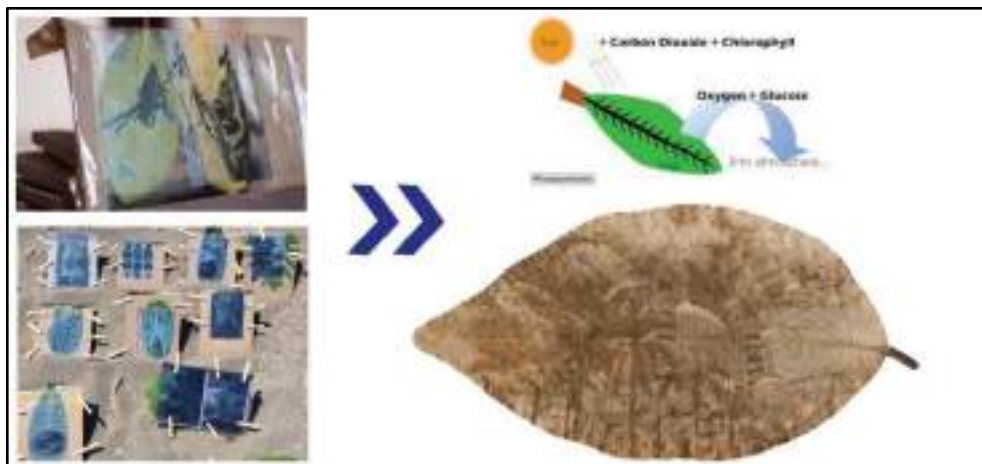


Figure 1: Sample of the chlorophyll process

5. Commercialization and Potential

The idea of craft bookmarks using the chlorophyll technique targeted for students' portfolios which is the final artworks can be framed as a decorative art with a high aesthetic value or kept as a portfolio for an art student. Besides that, it targeted the schools and universities as new techniques in Teaching & Learning (P&P) activities in schools and universities, especially for art students.

6. Novelty

The chlorophyll technique implemented in the bookmark is a safe learning tool that no harmful chemicals in chlorophyll activities for art and craft class. Therefore, learning chlorophyll techniques without producing any waste materials to the environment.

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PREGGERS ENHANCED SEAT BELT

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Abstract

The design of this product was created to enhance safety and car comfort for those individuals who exempted from wearing seat belt. The idea behind this innovative creation is nevertheless, originating from an existing 3-point safety seat belt that caused discomfort to them especially pregnant mothers to an innovative 5-point safety seat belt that emphasized on portable (any types of car seat), cost saving, car comfort, ergonomic and time efficient (easy to setup – no sweat) during fixing works or installation. The aim is to minimize the rate of traffic fatalities and or injuries (i.e., death, miscarriage and etc.) specifically pregnant mothers (2 souls in 1 life), let say, if they were involved in a traffic crash.

Keywords: *Pregnant mother, seat belt, preggers*

1. Problem Statement/Product Statement

“As stated in the motor vehicles (safety seatbelts) rules 1978, Article 7(b), categories of individuals who exempted from wearing safety seat-belts: to any person who is certified by two (2) registered medical practitioners that he is medically unfit to wear a safety seatbelt.”

Clearly, Malaysia legislation does not strictly implement “seat belt” as a mandatory for individuals that medically unfit e.g., pregnant mothers and etc. The lack of immediate response, solution and research has left this problem unsolved added with no action can be taken by Road Transport Department (RTD) to penalize them for not wearing seat belt. When these individuals are not buckling up, they exposed and have a higher risk to traffic fatalities that will harm them (especially the mother and the baby in the womb).

Attached are the reasons why unfit medical individuals chose not to buckle up their seat belt:

- i. Exemption – they are exempted from wearing seatbelts.
- ii. Flaws in the design such as uncomfortable, the existing seatbelt strap is not ergonomic and the existing seatbelt strap is exerting pressure on the womb.
- iii. Lack safety measures – when the position of the strap is altered using a strap stopper.
- iv. Constriction – tightening of the strap obstruct the ease of movement.

2. Usefulness

A product's design usefulness are as follows:

- i. Creation of brand-new innovative seat belt with enhanced safety features and at the same increase comfort and ease movement for these individuals while driving or as a passenger.
- ii. To minimise the rate of fatal injury (death, miscarriage and etc) especially for of pregnant mothers if they are involved in car crash (2 souls in 1 body).
- iii. Portable feature which can be applied to any vehicles.

3. Project Target/Objectives

The objectives of this project /design to create and enhanced safety of existing seat belt that focused on these three (3) keys area:

- i. Design (Comfort, Ergonomic & Enhanced safety features)
- ii. Portable
- iii. Ergonomic Structure

4. Product/Project/Process

After Application



Adjustment Device



Buckle Clip



Buckle



Safety Support Belt



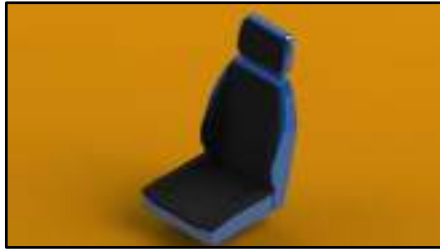
Car Seat**Retractor**

Figure 1 Technical Design & Components

5. Commercialization and Potential

- i. Collaboration with RTD, SIRIM and also car manufacturers to introduce this as additional safety addition.
- ii. Niche target market that focuses on pregnant mothers and individuals that have special needs to increase awareness and safety.
- iii. Can be sold worldwide as this design is more comfortable as compared to existing products in the market.

6. Novelty

- i. The brand-new 5-point seat belt is designed to create support system to enhanced safety and also improve durability during the collision.
- ii. The design of the seat belt can make the pregnant women feel comfortable and at the same time give protection to the pregnant women and the baby in the womb.
- iii. The portable and adjustable product can ease the fixing works (installation of the product also easy, time efficient and cost saving) and can be placed to any type of car seat.
- iv. Comparison before and after:

| Original Seatbelt | Preggers Seatbelt |
|--|--|
| Three-point safety seatbelt. | Five-point safety seatbelt. |
| Fixed to car. | Portable. Plug and play product that can fix to any vehicles. |
| Seat belt design itself than cross the body – mother's womb. | The innovative design of the strap position that easily can be moved. |
| Retractor that caused the difficulty to adjust the sitting position. | Come with two (2) retractors and additional straps that designed to ease movements that enable individuals to change the sitting position anytime. |

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THE MULTI-FUNCTIONAL TRAVEL PACKAGING DESIGN FOR VISIT LANGKAWI 2022 IN ENDEMIC ERA OF COVID-19

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Abstract

Covid-19 were expected will be treated as endemic by the end of this year, 2021 globally. At the same time, Langkawi Island will be reopened for tourism activities in efforts to rebuild the Malaysian economy that worst hit by the pandemic. This situation shows that Malaysia is preparing to learn for life with the virus Covid-19. Therefore, we proposed a multi-functional packaging design for 'Visit Langkawi 2022' that potentially will help to promote the Langkawi Island in the future endemic with several benefits for future tourism activities. The travel packaging is designed with recyclable material to ensure that the product is friendly for the ecosystem. The logo and the packaging are designed with a suitable and attractive concept to be a "must-have merchandise" from the Langkawi Island. 15 important icons for communication guidance are provided to reduce the verbal communication activities between the tourist and the local people. The big size of the travel packaging also functional for the icon's visibility and a convenient for storing travel items.

Keywords: *Packaging design, tourism, Langkawi, Covid-19, endemic*

1. Problem Statement/Product Statement

Tourism sector is one of the primary industries and service sector that generating income for the country of Malaysia. Malaysia was become a destination choice among foreign tourists because of the friendly hospitality and communication system (Karim, Haque, Anis, & Ulfy, 2020). However, there is a large drop in the number of tourists to Malaysia since the first COVID-19 case in China was confirmed in December 2019 (Foo, Chin, Tan, & Phuah, 2020). Too many airlines and hotel room bookings has been cancelled by tourists due to the outbreak of Covid-19, which caused a huge loss of revenue.

This pandemic situation has urged many parties and agency to take serious and immediate action in many aspects to convince and increase the attraction of Langkawi Island as a safe destination to visit incoming 2022. As a group of researchers and design practitioners, we believe that an innovation of multi-functional travel packaging design in a campaign will help to increase the attraction of local and international tourist to visit Langkawi Island in the future. As highlighted by Williams and Shaw (2011), innovation and internationalization are interwoven for future tourism. We aim to produce a beneficial product that can be a "must-have merchandise" in promoting Langkawi Island, directly contributing to the development of Malaysian tourism industry.

2. Usefulness

A success packaging design plays important role in the tourism industry because the high impacts to the sustainability of the social, economic (Wever, van Onselen, Silvester, & Boks, 2010), and environment (Paiano, Crovella, & Lagioia, 2020). The major problem for packaging design in the tourism is the waste behavior that led to the environmental pollution. Several experiments on the littering behavior had shown different packaging design solutions leads to the different waste behavior. The study had found that a branded packaging has a strong influence to reduce the waste rather than the unbranded packaging (Wever et al., 2010).

Langkawi Island needs a strong promotional item to attract more visitors in the future of endemic era. Packaging design with a quality brand identity has a strong impact to the promotional of a campaign in contemporary promotional strategy. As mentioned by Christopher (2013), the traditional role of packaging in providing protection of product has fully shifted to an important promotional tool. Therefore, a development of new strategy in packaging design and brand identity to promote Langkawi Island as a preparation to embrace the incoming 2022 is needed.

Based on the previous studies discussion, it is important to have a premium brand image on a fully recyclable packaging design in reducing the waste behavior of the tourists and directly save the environment. We managed to create a premium logo and attractive design to increase the value of the packaging. We named the campaign on the packaging as "Visit Langkawi 2022", with the tagline "Spread happiness, not the virus!". Several functions for goods storage and communication tools been added to facilitate the tourist travelling in the endemic Covid-19 situation.

3. Project Target/Objectives

The research objective of this project is to propose a multi-functional travel packaging design for Visit Langkawi 2022 in Endemic Era of Covid-19. This project aims to produce a beneficial product that can be a "must-have merchandise" in promoting Langkawi Island, directly contributing to the development of Malaysian tourism industry during the endemic era.

4. Product/Project/Process

4.1 Research and Product Development

This project was planned with a systematic procedure to ensure each of the design development stages achieve the research objective. All the group members contribute to the decision been made from the initial ideation until the final commercialization (Figure 1).

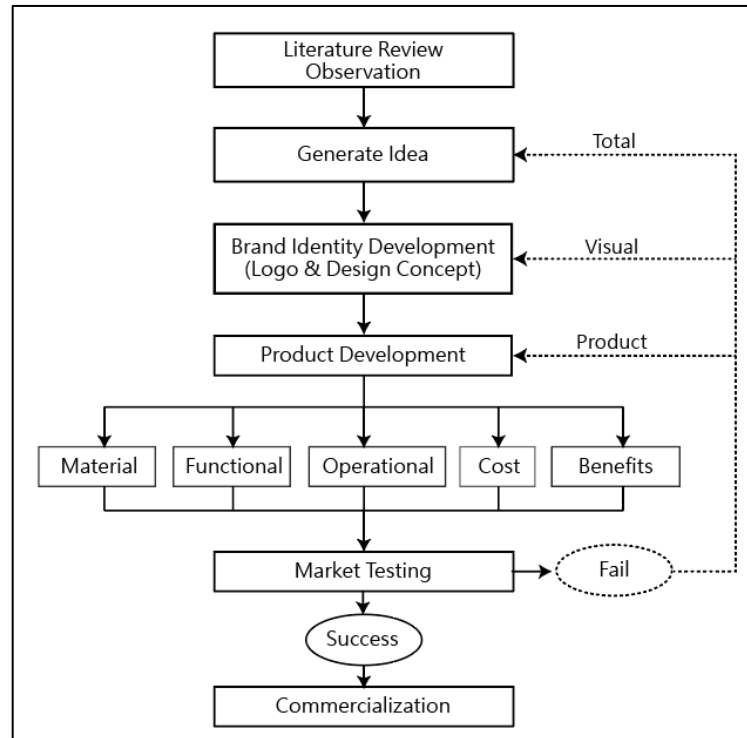


Figure 1 Research Flow

4.2 Logo Design and Concept

Logo is a paradigm of a brand. Langkawi tourism campaign need a new look of brand to refresh the welcoming approach to the tourist. We designed a friendly looks of logo concept for Visit Langkawi 2022 with a memorable and welcoming character of an eagle wearing a mask with spreading wings action (Figure 2). Eagle is the well-known symbolic icon to represent Langkawi Island because of the name historically. We purposely put the mask to the eagle in the logo to convince the tourist that Langkawi is a secure destination to visit because of the strict SOP (Standard Operating Procedures) control. A tagline “spread happiness, not the virus” clearly applied to this logo to deliver the message that everybody should know their responsibility to always take care of the SOP during their happy vacation in Langkawi.



Figure 2 Logo Design Process

4.3 Material and Cost

We planned to develop a product that recyclable with the lowest cost for mass production. As the result, we decided to make this travel packaging from cardboard material that fully eco-friendly because it is 100% recyclable. However, the continues contact of this material with water will cause the cardboard to become soggy and easily breakable. As the solution, our product is coated with biodegradable waterproof coating to ensure that the surface is water resistance and can last for a longer period of time rather than the traditional cardboard (Figure 3).



Figure 3 Product Material

4.4 Specifications

The multi-functional travel packaging was designed with suitable size for handheld use. The big storage capacity fit to store various types of Langkawi's products because the compartment inside is adjustable. The compartment arrangement easily can be changed according to the suitability of the goods stored. There is no need for plastic bag when using this travel packaging and it will contribute to the sustainability of the environment effectively (Figure 4). This product also provides an easy-slide space for the user to keep safe their mask and sanitizer in a proper place. The mask and sanitizer

keeper are placed on the side area of the travel packaging to ensure that the tourist always be ready and alert with the SOP control during travel in Langkawi (Figure 5).

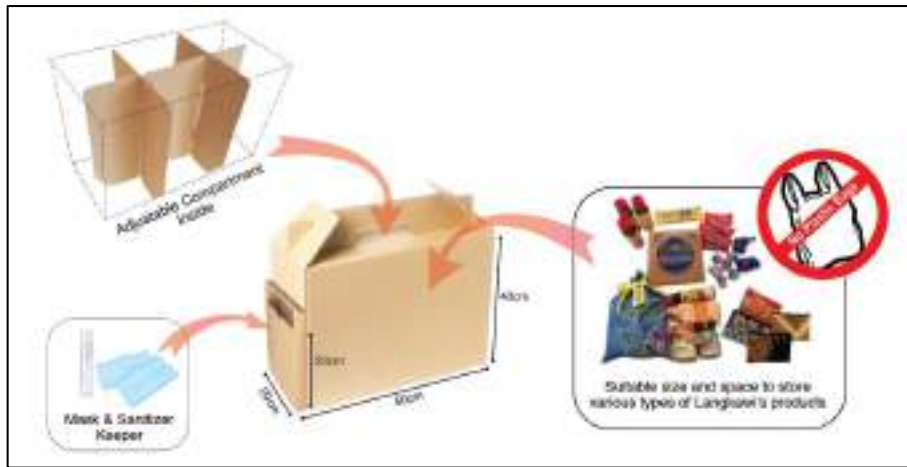


Figure 4 Product Specifications

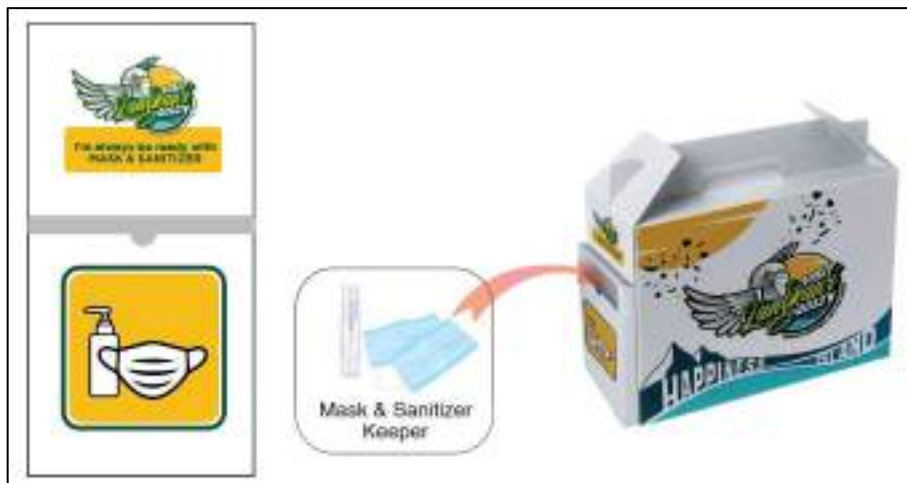


Figure 5 Mask and sanitizer keeper



Figure 6 Stylish design and large storage

4.5 Icons for Foreign Tourist Communication

There are several mobile applications such as Google Maps and Waze that can be used to help the tourist go to any specific place in Langkawi. However, they still need to ask help with the local people if the area has no internet connection or their mobile phone out of data. With the SOP control situation, the tourist should minimize as possible the verbal communication activities and keep the social distancing.

As a solution, we develop 15 icons for important places during vacation consists of toilet, hotel, shopping mall, bank, money changer, bus station, cycling area, taxi, airport, jetty, beach, mosque, mountain, restaurant, and scuba diving. All the icons were simplified and stylized to ensure it fit to the design concept and easily to understand by everyone (Figure 7 & 8).



Figure 7 Icon's development process



Figure 8 15 icons of important locations for tourist

4.6 Multi-languages Instruction

According to the Tourism Malaysia report, for the first half of 2019 the top 10 international tourist arrivals were from Singapore (5,381,566), Indonesia (1,857,864),

China (1,558,782), Thailand (990,565), Brunei (627,112), India (354,486), South Korea (323,952), the Philippines (210,974), Vietnam (200,314) and Japan (196,561) (Karim et al., 2020).

Mostly tourist from Singapore, Indonesia, Thailand, and Brunei have no communication difficulties with the Malaysian people either in Malay or English languages. Therefore, we provide additional instruction text in the design for the tourist from China, India, Korea, Philippines, Vietnam, and Japan (Figure 9).

Instruction: "You point to the icon. We show you the location"

| Country | Language | Instruction |
|-------------|------------|---|
| China | Chinese | 您指向☐☐☐。我☐向您展示位置 |
| India | Tamil | நீங்கள் சின்னத்தை சுட்டிக்காட்டுகிறீர்கள். நாங்கள் உங்களுக்கு இடம் காட்டுகிறோம் |
| Korea | Korean | 아이콘을 가리킵니다. 우리는 당신에게 위치를 보여줍니다 |
| Philippines | Filipino | Ituro mo ang icon. Ipinapakita namin sa iyo ang lokasyon |
| Vietnam | Vietnamese | Bạn chỉ vào biểu tượng. Chúng tôi chỉ cho bạn vị trí |
| Japan | Japanese | アイコンをポイントします。場所を表示します |



Figure 9 Multi-languages Instruction

4.7 Final Product

As shows in figure 10 below, this product only has 3 printed area to minimize the printing cost. On side A, the graphic shows a clear brand identity for Visit Langkawi 2022 with the happiness concept. Side B is the area where the user can use the icon for the communication tool. The instruction was clearly given with multi-language to help the user know how to use that design part. Side C is provided to educate the user keep aware on the SOP control along their vacation. The mask and sanitizer symbol been applied on the side C to ensure the user know what is the purpose of that additional compartment.



Figure 10 Product Design

5. Commercialization and Potential

We believe that this product has a high commercial value because of the various benefits for the tourists, environment, economy, and society. The benefits of this product are:

- 1) Multi-functional: This product can be used as a goods storage, communication tool (icon), proper mask and sanitizer keeper, valuable merchandise, and a new promoting tool for Langkawi tourism in new norm situation.
- 2) Eco-friendly: By using this product, no plastic bag is needed for shopping anymore.
- 3) Recyclable : This product is made by using fully recyclable material.
- 4) Long-lasting: The material is waterproof coated.
- 5) Safe : The icons provided will welp to reduce verbal communication and keep the social distancing.
- 6) Lightweight: The product is lightweight and easy to carry everywhere.
- 7) Easy to use: Multi-language instruction is provided for various kind of foreign tourists.
- 8) Stylish: The design is developed with high aesthetic value.
- 9) Adjustable compartment and large storage: Easy to store various kiond of merchandise from Langkawi.



Figure 11 Safe and easy communication

6. Novelty

As a preparation for new norm tourism activities in Langkawi, we proposed a multi-functional packaging design for 'Visit Langkawi 2022' that potentially will help to promote the Langkawi Island in the future endemic era. Until now, there are no such product that offer similar design or functions in local market. This product contributes to the development of Malaysian economy in tourism sector with various benefits for tourists, environment, economy, and society. This product also has been registered under intellectual property right (IP Code: CR003645).

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EDUTAINMENT APPLICATION TO HELP ADHD CHILDREN IN LEARNING BASIC MATHEMATIC

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Abstract

Attention Deficit Hyperactive Disorder (ADHD) is a neurodevelopmental disorder of childhood that can make children having a difficulty and losing their concentration in listening, learning, and reading. This problem has led ADHD children frequently seem to be left behind in education compared to normal kids. Several empirical studies in ADHD learning have stated that ADHD children likely reflect with elements of design, motivational, learning in pairs, kinaesthetic elements, and impulsive elements. Therefore, we proposed a game application to help the ADHD children get know numbers and basic calculation in the basic mathematic with easier and entertaining. The combination of education and entertainment (edutainment) will help them focus and enjoy learning the mathematics. Parallel with the current high technology and during this pandemic situation, this game application can be programmed or installed in any tablet or mobile phone that allow the children to play and learn it on the go.

Keywords: *edutainment, game application, ADHD children*

1. Problem Statement/Product Statement

Early education is important role for children development process. It will affect the children life development in academic, social life and also career development when the children becoming an adult. ADHD is one of the most common neurodevelopmental disorder of childhood (MaHTAS, 2020). The person who suffering ADHD will find difficulties in study, focus and demotivated when they felt left out. According to Mohd Zuri and Adnan (2011) explained that ADHD is one of the learning disabilities. The statistic was getting worried when in Sarawak alone reported that 184 children diagnosed with ADHD, 151 whom in primary school and 33 in secondary school (The Star, 2014).

2. Usefulness

With current situation, parent has difficulties to observe and helping their children in online learning. Thus, researcher has developing a study to create an application or a game design for ADHD children to learn especially in mathematics. In this game application, its only focused on the subject of mathematic. It will follow the subject syllabus that suitable for kids under 12 years old. This game application has it mission, and level of difficulties start with knowing the numbers that align with the subject syllabus. This Game Application also allowed children to

share their level and score among with their friends. Those method will help them to compete each other and motivate them to do better

3. Project Target/Objectives

As a group of researcher and design practitioner, we believed that developing an application or a game design that based on mathematic learning will help the children who diagnosed with ADHD in learning. ADHD students are required specialised curriculum and teaching methods that helps them in academic (Jamila, 2006). In previous study mentioned that children who diagnosed with ADHD kindly reflect with the studies method that have the element of design, motivational, learning in pairs, kinaesthetic element and impulsive elements (Zuri, 2020). Thus, developing an application for them are one of the methods to help ADHD children in learning. Using the method of edutainment, that has the element of design and motivational might help them to learn despite being left out. Meanwhile, modify the methods of teaching or learning, times for activities and narrative subject and teaching aids for achieve the goal and subject of special education (Ministry of Education 1997).

4. Product/Project/Process



Figure 1 Sample of Idea 1: Logo Design



Figure 2 Sample of Idea 2: Interface Design

This game application will start with Mission 1 which is the easier level in learning mathematics. It will start with Knowing the numbers, addition and followed by subtraction. The level of difficulties will increase when the user continues with mission 2 which is about calculation, divide and multiply equation.

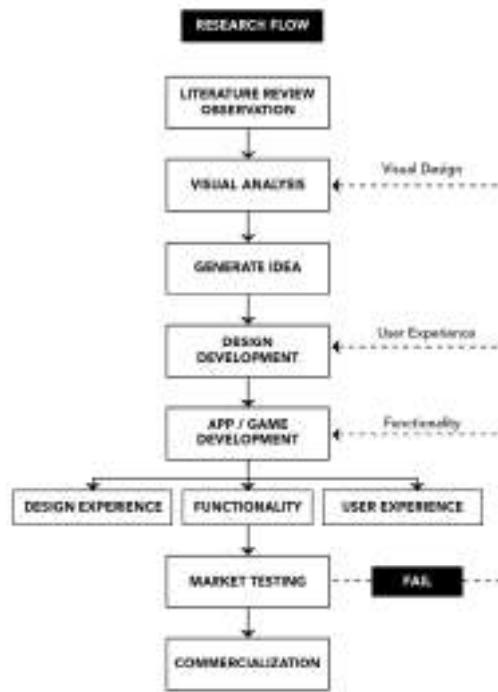


Figure 3 Project 1

The research objective of this project is to propose a game application especially ADHD children in learning Mathematics. A group of researchers has planned a systematic flow of research to ensure achieved the research objective. The game application will be tested for the functionality, design interface and also user experience before it can be fully commercialized.

5. Commercialization and Potential

This game application is one of the methods for children education which is using the element of design for attraction, edutainment that make the children learning while playing games. Thus, it can be commercialised to Malaysian Ministry of education, Special Children School and also to parents in Malaysia

6. Novelty

The game visual design and functionality was develop based from user experience and can attract children to play the game while learning. In addition, the visual design also was developed by the research members by compiling the sketch and apps flow. To parallel with

the stages of children education, this game design was followed the mathematic learning syllabus.

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THE KOLEK CONSOLE TABLE

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Abstract

The Koleh Console Table- Generally, it is a console table whose top surface is supported by corbels or brackets rather than the usual four legs. It is thus similar to a supported shelf and also designed to serve as a stand-alone surface. It is frequently used as a pier table (which may have legs of any variety) to abut a pier wall and divide space in an interior space. This design provides a better understanding of how the Malay culture and traditions affect how an area or space is built according to their usage of furniture used. The final design is significant in explaining the usage evolve based on historical knowledge of the Malay Kingdom understanding. Also, it is a bridge and continuation from the past and back to the future.

The traditional Malay designs have been known to be a reflection of the splendour and beauty of the aesthetical elements or ornamentations adorning them that carry deeper philosophical and sacred meanings (Halim Nasir, 1997). The uniqueness in Malay traditional aesthetic elements has made them masterpiece concepts that are unavailable elsewhere. Thus, elements of nature reflect in traditional Malay crafts, and the craftsmen are highly artistic and skilful, endured with strength and inspiration to transform the traditional design elements into unique and aesthetically pleasing pieces (Mastor Surat, 2015). The ideas are derived from The Malay fisherman Boat shape with Kepala Bangau as a symbol for them to make a living at sea to get many catches. The boat shape design with the "Kepala bangau" looks like the letter "S", which symbolically reflects the nature of the neck of a stork that is fishing. Also, "Kepala bangau" decorations are placed as current protection at sea because they believe they are dealing with a malicious sea mover. As an attractiveness, the "Kepala bangau" paired with an "Okok" is seen as an object decoration to beautify the boat. "Kepala bangau" and "Okok" are often carved in actual or symbolically and coloured with bright colours. The fineness of the carving on the crane gives the impression that the community, especially on the East Coast, has high art creativity.

Keywords: *Koleh, Malay, tradition*

1. Problem Statement/Product Statement

Furniture design is a specialized field where function and fashion collide. Many interior designers believe that furniture is one of the most important aspects of interior space. Pieces of furniture not only add function and Practicality to space, but they also add style and personality. Furniture has evolved and changed with the times, and some styles have remained somewhat constant throughout the years, while others have drastically changed or become obsolete. Today, creating new furniture styles is often seen as a type of industrial art form. Until now, a situation like this does not apply to designs based on this Malay character. But many

local designs nowadays do not have local values and designs even follow the western designs that do not reflect the local image and culture.

Today's furniture market demonstrated a lack of furniture design with a touch of Malay character. This situation has led to many projects of interior space with Malay theme was using a less accurate and borrow another furniture design ideas into the design. This situation has illustrated a different theme than desired. According to Sabrizaa (2021), the lack of Malay design in the market has resulted in the furniture industry being dominated by other designs such as Bali, Thailand, China, and Western countries that do not reflect the Malay world. Therefore, this design is an initiative to address the issue of Malay-based design that can be highlighted and remain relevant.

2. Usefulness

The Koleh Console Table is designed in a contemporary style today with various uses such as a crane's head as the focus of the design with the character of the Awan Larat carving with a source of lighting inside. In the middle part, there are drawers and open shelves for display items that illustrate the function of the boat's belly. The glass table top as display and writing area to show transparency characters. And at the back is the boat's rudder is a reflection of the boat navigation controller. The use of timber, glass, coloured choices, and finishes reflects the evergreen, eco-friendly and environmentally friendly design of Malay World principal. Overall, this design will inject Malay essence-based design into the local and international furniture market. The design of this furniture serves as a place to store, display items and as a space divider.

3. Project Target/Objectives

- To apply the uniqueness of Malay character into furniture design.
- To design evergreen contemporary Malay Characteristic furniture design.
- To develop furniture design with a touch of Malay splendour in accordance with the space and specific activities towards resilience and sustainability Malay heritage design.

4. Product/Project/Process



Image 1 Kepala Bangau motive at front of perahu kolek



Image 2 Perspective view



Image 3 Top view



Image 4 Front elevation view



Image 5 Side elevation view

5. Commercialization and Potential

This design will be an exciting element and focal point of interior space design. Great for interior spaces such as waiting rooms, lobbies, hotel rooms, living rooms and private rooms. Oval design, with a touch of Malay character and the use of technology and materials nowadays, has the potential to be commercialized.

6. Novelty

In the last decade, artistic designs have attracted significant attention and have high value to meet today's consumers' cultural needs. The changes in time and culture are driven by extraordinary modernization should not cause the country to lose its historical link to its traditions. Concept design based on Malay Traditional Culture will bridge the past, present, and future to maintain Malay Heritage's value.

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TRADITIONAL BED - DENDAM

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Abstract

The Dendam- is a bed design inspired by one of the famous types of tengkolok worn by royalties known as "Dendam Tak Sudah". The bedhead design showcased the crescent and eleven-pointed stars pattern to replicate the royal emblem, alongside the pucuk rebung (bamboo shoot) motif—the burung balam (spotted dove) motif on both side panels and other traditional elements taken from the traditional Malay house. The overall bed design also brought some contemporary approaches.

Tengkolok is a traditional headdress worn by Malay men and was a typical outfit during the olden day. It has many styles and names, and every one of them can distinguish the status of the people whether they belong to nobility or royals. Fashion trends change over time, and they are now classified as traditional Malay outfits in the modern era. Tengkolok is typically made or fashioned from high-end speciality fabrics, most commonly songket fabrics.

This proposal attempts to explore the Malay spirit into furniture design concepts to suit spaces ranging from traditional Malay to contemporary design. A bed is a piece of furniture upon which or within which a person sleeps, rests, or stays when not well, and it's essential furniture in modern Malay culture. The ideas combined, which has a character as Malay design, will feature stylish and identifiable owners to be identified as Malay furniture around the world.

Keywords: *Tengkolok, traditional, furniture, Malay*

1. Problem Statement/Product Statement

Malaysia still lacked ideas in the furniture industry featuring a design that has the Malay spirit. The furniture available now has been in various designs so that we cannot guess its origin. External influences and foreign goods from being brought into Malaysia has made progressively disappear Malay identity. With little effort to show the Malayness in furniture design will somehow return the furniture that is characterized and suitable with our climate and daily use. Other countries such as Europe, Japan, and China highlight their identity with various shapes and materials built to maintain a one-nation identity and be introduced comprehensively, with new and old styles follow suit. Therefore, to enhance our Malay spirit and beauty, there are small ideas for the bedroom focal point: a bed. Using mixed materials for furniture pieces and upholstered beds will break up the hard finishes and soften the space.

2. Usefulness

The traditional Malay design has been known to reflect the splendour and beauty of the aesthetic elements or ornaments adorning them that carry deeper philosophical and sacred meanings. It is not merely an object of beauty but also serves to create an environment of peace and quality, and the bed is the whole purpose for the bedroom, so it should be the focal point. In other words, it should stand out. The elements found in the traditional Malay design can be regarded as a factor of global players, which only have their own identity and cannot be found elsewhere. Thus, traditional design can play a significant role in establishing a local identity for the global positioning of the nation.

3. Project Target/Objectives

The objective of this research is to analyse the tengkolok as a magnificent piece of Malay art. The object is one piece of art used as a headdress for royals and nobility and a symbol of Malay bravery and masculinity. This essence is adapted thru design furniture called "*Dendam Tak Sudah*". Design featuring the bed as a skilful work with the support of traditional house carvings of the Negeri Sembilan traditional houses to balance the bed's design. In a bed design, the headboard is a key. Therefore, the application of the tengkolok is more prominent in that part.

4. Product/Project/Process



Image 1 Image of traditional Tengkolok Dendam Tak Sudah



Image 2 Perspective view



Image 3 Top view



Image 4 Side elevation



Image 5 Front elevation

5. Commercialization and Potential

The design has a big potential to manufacture, it's a set of wood bunk easy to assemble and pack to post all over using a premium material to suits with manufacturer and end user.

6. Novelty

Therefore, the tengkolok, as a work of art by the Malays, has to be given exceptional exposure and realization for the younger generation to appreciate, honour and preserve. Besides giving exposure, using the form and character of tengkolok, we transform it into so-called Malay furniture to support and develop to suit current needs and maintain the origin of Malay itself.

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THE TANGGA BATU CONSOLE TABLE

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Abstract

Malacca Traditional house was famous with unique staircase “Tangga Batu” as the main attraction. Each influence enriches the architecture of the house itself. This traditional house is a symbol and pride of the Malays as it reflects the people in the Malay archipelagos. Malacca was a well-known harbour among traders from all around the globe, such as from China, Dutch, Portuguese and Arab etc., to some extent, which will affect the Malay spirit.

A staircase called tangga batu has a unique design using ceramics that have motifs of flora and fauna. The tangga batu will be the central theme in the creation of console table furniture. The outcome is to develop contemporary furniture—the composition of natural form, motif, and pattern, expounded its timeless beauty.

The art wood carvings, motifs of flora and fauna, art and architecture are used as the main essence of the invention of the console table. This attempts to explore the Malay spirit injected into the so-called Malay furniture to the contemporary interior. The final design successfully implements several elements and motifs from Malacca traditional house in a simple and elegant design and is suitable for various interior spaces.

Keywords: *Malacca traditional house, Malay, furniture*

1. Problem Statement/Product Statement

The research by Roslan Talib et al. Shows that the house's age determines the richness of traditional elements in a house. More thought and consideration were given to details such as ornamentation and construction in older houses. A more simplified design can be seen in later traditional houses. It is due to several factors, including the lack of skills of tukang kayu, expensive materials and artistry, time, and little appreciation of this heritage. In expressing the unique characteristics of the Malacca Malay houses as an essential cultural asset unavailable in other parts of the world. Nowadays, the house is banishing, and it will be no more Malacca traditional house for the next twenty years perhaps. The lack of craft man and tukang kayu and the price of timber is increasing, which shows how critical we are. To be part of it, we have support in every corner to maintain our heritage with the application of spirit in any of our daily use.

Despite modern living having a multi used of furniture and utensil, it is appropriate if the design became a legacy to the most significant and most common problem people face nowadays when living in a small space like an apartment, and other for space separation. A console provides adequate separation without obscuring the view to the other side of the room and can function as TV stands or media consoles. Their narrow body and raised surfaces make them ideal for some living rooms. Placed by the entry door, a console table can provide some

much-needed surface space for keys, hats, scarves, and other miscellaneous items. When decorated, a console table can greet guests with a preview of your home's style and add a lovely, lived-in quality to your home. This furniture is designed to suit new space arrangements with a touch of Malay essence.

2. Usefulness

This console table has a unique and brilliant colour to bring contrast to the interior of any space, especially in the dining and living area. Ready to be used anywhere accompanied by decorated flowers, vases, sculpture, etc.

The true essence of Malay traditional architecture through the colour chosen suits any background, and it naturally blends with the traditional and contemporary space with a simple design and yet elegant look.

3. Project Target/Objectives

This research study has several objectives to define in achieving the enriched content of the research in furniture design product, which is a console table. Those are to learn how to appreciate the uniqueness and the specialities of the Malay traditional house in Malacca. Also, to understand the architectural features in Malay traditional houses and their relation to the Malay culture and lifestyle. Next, the research objective is to learn about Malay architecture and its contribution to our culture and heritage. To explore Malay spirit from Malay architecture of Malacca traditional house emphasises “*tangga batu*” with decorative features and elements.

4. Product/Project/Process



Image 1 Malacca Traditional House



Image 2 Perspective view



Image 3 Top View



Figure 4 Front elevation

5. Commercialization and Potential

Derived from Malay Traditional house of Malacca spirit to contemporary furniture is genuinely amazed that contributed the core of Malay essence with the sophisticated design yet elegant and straightforward to suits any space of interior nowadays.

6. Novelty

The design inspired by Malacca traditional houses emphasizes decorative elements and “*tangga batu*”. The combination from it using mixed material to high lite the motif of tiles and rectangular shape. The idea is to bring the simple yet easy design and construction to suit contemporary interiors nowadays.

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THE CRESCENT SOFA

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Abstract

The CRESCENT sofa is inspired by the shape of Dokoh (Pendant), one of the famous traditional Malay women's accessories since 200 years ago, especially on the east coast. It's originated from India and brought to the islands of Sumatra Malay traders in the 18th century. The form of a "day of the moon"/ agok shaped like a crescent moon is placed as a key form in the Dokoh design. This design is an idea of bringing Malay's identity into our modern mainstream furniture design. The design is not only about functionality, but it can also showcase our way of life and culture.

Malay's has an abundance of exceptional traditional architecture, arts and crafts but not furniture. Traditionally, the indigenous Malays did not use furniture, the custom being to sit cross-legged upon the floor while royalty sitting upon a cushioned dais. It has much to do with the structure of Malay vernacular timber buildings, the design of which is based upon free circulation. Unlike European dwellings, the emphasis is upon an ample central space used for various functions throughout the day instead of suites of rooms. The interior either being open to the outside or screened with carved latticework to create a calm, shady environment. In such flexible, necessarily open, space both heavy fixed furniture and moveable pieces would be inconvenient. But today's we merely seen our Malay's traditions from our ancestors in our house because our houses are full of modern furniture made by multinational companies around the world. We know too much about contemporary furniture styles such as English, Scandinavian, and French literally, but on the other hand, we have no idea about our own Malay's furniture style.

The design is not an attempt to imitate or presume Malay's furniture; it is more about adapting our traditions into the modern contemporary furniture design. The design that is not only has stipulated functions but also brings added value to the users.

Keywords: *Dokoh, Malay, traditional, furniture*

1. Problem Statement/Product Statement

I would love to see our Malay's identity be seen and known by people as a unique contemporary furniture design in the future whilst elevate the Traditional Malay Design (TMD) to a new level.

However, our furniture market today's full of modern furniture designs that do not represent any local identity but more on style taken from outside brought by foreign designers. The Bauhaus or international style is the most popular and common in modern society that emphasizes functions and features little to no embellishment or ornamentation. This scenario

causes our unique and beautiful TMD to be gradually set aside from our society and increasingly forgotten.

TMD has been known to be a reflection of the splendour and beauty of the aesthetical elements or ornamentations adorning them that carry deeper philosophical and sacred meanings. TMD are not merely objects of beauty but also serve to create an environment of peace and tranquillity. The elements found in the TMD can be regarded as a factor of global players, which only have their own identity and cannot be found elsewhere. The elements of TMD can play a significant role in establishing a local identity for the global positioning of the nation. Hence, integrating these TMD elements into contemporary design is seen as an approach towards sustaining the nation's heritage values.

2. Usefulness

The CRESCENT sofa is like another sofa. This three-seater sofa is used primarily as seating. The sofa headrest and leg designs were developed from the Dokoh shape, while the front panel design features the 'Awan larat' wood carving with some dazzling and stunning gemstone to enhance its aesthetic yet luxury looks. Furthermore, two cushions are placed on each side of the armrest to bring comfort. Timber, metal and fabric are among the materials used in this sofa design. The fabric's fern green colour of fabric defines the breadfruit leaf motif from the pattern on the Dokoh pieces, while the gold paint is the key element to create an eye-catching visual that will make people feel leisure while sitting on it.

3. Project Target/Objectives

- To adapt Malay's traditional identity into the modern contemporary furniture design.
- To promote our identity to the local and the international.
- To cultivate our traditions to the modern society.
- To sustain our traditions from extinction.

4. Product/Project/Process



Image 1 Traditional Dokoh with crescent motif



Image 2 Perspective view



Image 3 Top view



Image 4 Front elevation view



Image 5 Side elevation view

5. Commercialization and Potential

Our design will encourage all furniture industry players to look into our identity for its true potential. Our Malay's architecture, arts, and crafts can be commercialized because they are unique, beautiful, and have strong characteristics. Advancement of the technologies provides cutting-edge machines and materials that can make our intricate and complicated design easy to materialize and possible for mass production.

6. Novelty

Bringing our Traditional Malay architecture, art and craft into our modern furniture design will elevate our traditions to a new level. The new generation will know more about their traditions and starting to appreciate them.

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TAKRAW SINGLE SEATER SOFA

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Abstract

Takraw is a piece of single-seater sofa inspired by one of Malaysia's most famous sports, Sepak Takraw. Sepak Takraw is a sport inspired by a traditional game popularly played by men in Southeast Asia called "Sepak Raga". It is a team sport played on a court similar to a badminton court with a rattan ball between two teams of three players each. The sport is similar to volleyball in that it is played with the hand, but it differs from related sports such as footvolley in that it uses a rattan ball and only allows players to contact the ball with their feet, knees, shoulders, chest, and head.

The furniture is designed with the characteristics and spirits of this traditional sport. The ball originally using rattan with a unique weaving pattern. In the traditional game, it was played in a round formation with a number of players. Takraw single seater sofa resembles a takraw ball with the use of rattan material and the round shape formation. In addition, the cushion design, and its cover use quality materials with a modern batik pattern finish with "Pucuk Rebung" and "Bunga Raya" motifs to give a variation and promoting the traditional art of batik in Malaysia beside to uplift its concept and to suit with contemporary lifestyles.

Keywords: *Sepak takraw, traditional, furniture, Malay*

1. Problem Statement/Product Statement

Furniture design is an expression, a manifestation of objects born from the 'spirits' of the people living within a certain space and time. The spirit of an era is unseen but is usually expressed in tangible forms. Apart from its functional role, furniture is the quest for human spirits to express themselves by means of creating trust and values in real forms. This project explores the Malay spirit that could be injected into furniture design concepts to suit spaces ranging from traditional Malay to contemporary interior architecture.

The adaption of our Malay identity to modern furniture has been one of our objectives. We would love to see the beauty of Malay art through the design. Nowadays, the tradition and the use of elements originating from Malaysia have begun to be forgotten and sunk in this modern era. This is because of the increasingly advanced world and the design of new types of materials that are more beautiful, durable, and of more modern quality. But, the creation of these modern elements does not mean that traditional elements cannot be renewed into modern elements. This designed furniture aims to restore the Malaysian tradition that is increasingly forgotten by the younger generation as well as aims to modernize the tradition and develop Malaysian art to the world stage to introduce the country's name better.

2. Usefulness

Takraw is a single seater sofa unit equipped with a soft cushion and a batik motif pattern to guarantee greater comfort while preserving Malaysia's modern art and traditional elements. Following that, adding functionality by providing storage space beneath the couch seat may make it easy to store all objects that meet the size of the available storage space. As a result of this benefit, it becomes more special due to the originality in the design that has a highly beneficial purpose. Finally, this sofa base is designed in a pentagon shape to match the shape and pattern of each hole on the takraw ball, in addition to giving full stability.

3. Project Target/Objectives

Creating a single seater sofa based on takraw concept by adapting to the Malay culture can be seen as promoting Malay sports culture. In order to prevent the traditions from being forgotten, the rattan single seater sofa can promote Malaysia's tradition to become well known towards all generations, especially those younger generations, whilst expanding the awareness of our traditional towards globally.

4. Product/Project/Process



Image 1 Image of synthetic takraw ball





Image 2 View of Takraw Single Seater Ball in multiple angles

5. Commercialization and Potential

Takraw has wide potential in the furniture industry because of its different sofa design from the others as well as having the features of modernized Malaysian tradition. Convenience to buyers because it does not require any installation. In addition, Takraw single seater design is a middle to exclusive design that can create the opportunity to enter the market to suit various spaces such as offices, hospitality design space, restaurants, airports, and other exclusive interior architecture.

6. Novelty

Takraw is a single seater sofa furniture designed according to the takraw ball. This game originated from Malaysia and is famous as one of the traditional sports in South-East Asia. The primary material as the main structure of this furniture uses rattan in the form of a round shape with the weaving patterns of the actual takraw balls. The cushion cover uses batik art with the motif "Pucuk Rebung" and "Bunga Raya," a strong Malay identity. The furniture is unique in design, solid in concept, and high in aesthetics, leading to its potential in the global market. This product contributes to the innovation and commercialization in the furniture industry.

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THE LIMAR BERSONGKET CONSOLE TABLE

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Abstract

The LIMAR BERSONGKET console table design was influenced by the Limar Songket textile, one of the famous traditional Malay inheritance textiles that uses tie-dye techniques combined with songket, or supplementary weft gold thread patterning. Aristocrats and palace folk usually wore it during the olden days. This design is an idea of bringing Malay's identity into our modern mainstream furniture design. The design does not only about functionality. It also can showcase our way of life and culture by representing the unique characteristics of Malay's through furniture design.

Malay's have an abundance of exceptional arts and crafts. Traditionally, the indigenous Malays did not use furniture. The Malay house itself is a piece of furniture. It serves as a repository of such tools and utensils. For example, the floor was a place of rest where the user would sit cross-legged or lying down while the wall for hanging clothes, organise tools and utensils. Wall structure can be lean while sitting and forming space for storage. The stair can sit while chatting with a guest. As time passed by, the furniture has been prevalent in every Malay's house nowadays. Many designs and styles are available in the market, such as Scandinavian, contemporary and English, accompanied by the latest materials and technologies. However, we rarely found any of them with our Malay's characteristics or identity. Hence, the furniture that reflects Malay's identity remains obscure.

The purpose of this design is more about an adaptation of our Malay's traditional art and craft and identity into modern contemporary furniture design. The furniture design must not only meet its functions but also brings some added value to the users.

Keywords: *Limar bersongket, traditional, Malay, furniture*

1. Problem Statement/Product Statement

The Malay's identity represents our culture's uniqueness and the beauty of our traditional art and craft. The identity is strong enough to be seen and known by people and introduced through furniture designs.

Contemporary furniture nowadays merely carries any identity. The design objectives are more towards functionality and demands. In Malaysia, too many furniture designs imported from outside, even locally made, have promoted styles that do not represent our identity. Unlike Japan, for example, they adapt their identity well with the modernization in their design. The identity and character of the Japanese design are present in their furniture and easily recognizable worldwide.

The Traditional Malay design has significant values towards our historical and traditional background. Our ancestors were delivered deeper philosophical and sacred meaning through

beauty and aesthetics. Their designs are not merely objects of beauty but also create an environment of peace and tranquillity. An understanding of these design philosophies can play a significant role in establishing a local identity for the global positioning of the nation. Hence, integrating these traditional design elements into contemporary design is seen as an approach towards sustaining the nation's heritage values.

2. Usefulness

The 'LIMAR BERSONGKET' console table represents the unique characteristic of limar bersongket textile. This console table is used primarily for space decoration and as additional storage. The wood-carved on the swing doors is developed from the pucuk rebung motives from the limar bersongket to enhance its aesthetic and classic look. Both sides of the console table are surrounded by fine vertical lines to indicate the most delicate thread used on limar bersongket textile. Furthermore, the chain-linked pattern on both sides imitated the Teluk berantai motives and was made from golden songket thread to create an eye-catching visual. Timber and stainless steel are among the materials used in this console table design.

3. Project Target/Objectives

- To adapt Malay's traditional identity into the modern contemporary furniture design.
- To promote our identity to the local and the international.
- To cultivate our traditions to the modern society.
- To sustain our traditions from extinction.

4. Product/Project/Process



Image 1 Songket Limar Terengganu



Image 2 Front elevation



Image 3 Top view



Image 4 Side elevation

5. Commercialization and Potential

Our design will encourage all furniture industry players to look into our identity for its true potential. Our arts and crafts are unique, beautiful, have strong characteristics, and have good potential to commercialize. Advancement of the technologies helps to simplify the process and make complicated design easy to materialized and possible for mass production.

6. Novelty

Bringing our Traditional Malay architecture, art and craft into our modern furniture design will elevate our traditions to a new level. The new generation will know more about their traditions and appreciate them.

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ALTURA YACHT CLUB

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Abstract

Inspired by the idea of live and work with water, Altura Yacht Club highlights main issues based on the site proposed and also from other existing yacht clubs. Some issues include the safety of users and yachts due to flooding that often occurs and yacht clubs being non-family friendly. By maintaining balance between the nautical and non-nautical aspect of the design, the building was able to sustain while creating a community where it lives and works with water. To achieve these intentions, the concept of Aquatecture is presented. Aquatecture is the balance of amphibious architecture and adaptability by creating an experience for user which makes them adapt with water. Experiences through senses. The planning of the building focuses on integrating the spaces and programs with the river and landscape design which enhances the element of the river. While adaptability creates an experience for the user and makes them adapt with water, amphibious architecture introduces an innovative type of construction which solves the underlying issue of flooding. An alternate flood mitigation strategy that allows ordinary structure to flood on the surface of water. As a result, the building focuses not only on the building itself but also the user inhabiting the building while not neglecting the surrounding element of the site.

Keywords: *Yacht Club, architecture, amphibious construction, tourism, community.*

1. Problem Statement

Design and purpose of yacht clubs varies in every country in the past years as most yacht clubs are designed with the sole purpose of catering to the high-class community who are usually the members of the yacht club themselves. As all of these yacht clubs regaled to this specific community, the role that they play in the local community there have yet not been justified. To justify, a majority of known yacht clubs around the world are inclusive to their users. In addition, they also neglect the consideration of providing towards the younger generations. Some designers have spoken out on this matter by stating that in order for a yacht club to sustain well, they will need to think about the future generation that will in a few years be their new customers. An additional acquired fact that were encountered due to the surrounding

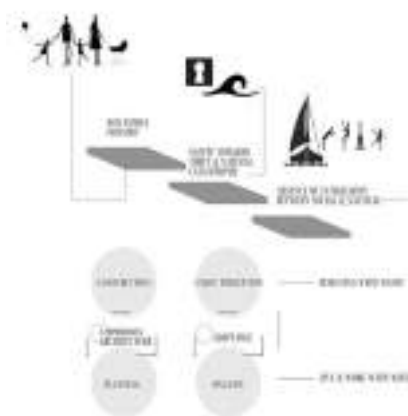


Figure 20

site of the yacht club proposes. Flooding often occur in the area that could potentially create some drawbacks to the purpose of the yacht club, as the purpose of the yacht club is to provide safety towards the yachts that are berthing and stored there.

2. Usefulness

The design of the yacht club is strongly based on strategies that were studied and justified its purposes to correspond to the concept applied. Primarily, the form is deliberately expressed through an evolving structure of dynamic form. Derived from the characteristic of yachts which are aerodynamic and are usually related with speed.



Figure 22



Figure 21

An earmark of the design called 'The Nexus' acts as an anchor point for tourist and the community which also responds to the current issue of biological degradation. Veritably, it is a floating platform where a space that responds to biological degradation through a floating self-sustaining community. The floating construction undulate the movement of water using the floating dock system with high density polyethylene cubes which are installed to underwater anchor. The structure's poetic design merges architecture, art and nature while offering visitors a stimulating experience both indoors and outdoors.

Based on the morphology of form in the spatial organisation of the design, the inner part of the floor plan is subtracted to make room for the courtyard where its main purpose is to counter the drawback of the site. The courtyard acts as a space where the nautical would have an expanse to interact with the non-nautical without neglecting the exclusivity of the yacht club. A narrow reference line following the direction of wind flow is placed with a void to establish a wind tunnel flowing into the courtyard. As the courtyard undertake the hierarchy role of the whole building, it accomplished the sole purpose of applying passive ventilation into the building.



Figure 23

As the design progresses in focusing on the visitors and programs inhabit the building, it would be neglectful if not considering the existing community and neighbouring context surrounding it. Hence, a distinctive type of pedestrian walkway inviting the surrounding into the gates of the yacht club are constructed. Humane pedestrian walkway following the datum of the building starting from the surrounding into the site creates interaction between the

yacht club with other building and surrounding context. Despite being a normal pedestrian walkway, the humane factor goes into its design where the main water centric approach is also applied. Not only does visitors walking along the walkway will be accentuated by the water experience, but they would also be closer towards greeneries and nature. Combining these elements, a state of calm and tranquil can be achieved.

3. Project Target/Objectives

With the implementation of water centric approach as the design goal, a few parameters had been laid out in order to achieve the concept of Aquitecture. The goal is to design with water rather than on or using water through a few aspects across key disciplines of:

- Planning
- Construction
- User Perception
- Balance

The design focuses on creating spaces where the non-nautical activities could integrate well with the nautical spaces hence acts as an anchor for tourism as well as providing more family friendly facilities. The concept of Aquitecture highlights that the building is design to sustain with water. Also, to create community where it lives and work with water.

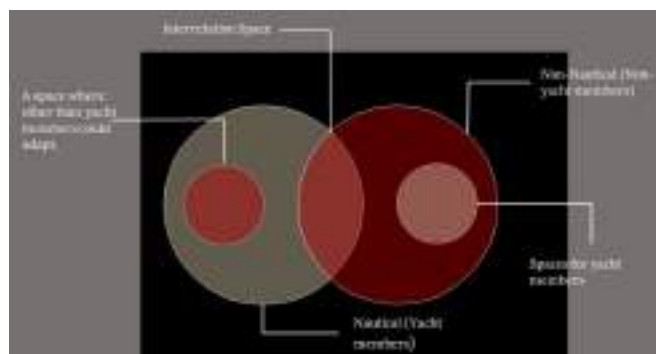


Figure 24

4. Design Process

The design process unfolds through various categories starting with the development of spatial organisation on each floor plans. The intent of creating experience for visitors to adapt with water oversee various aspects that needed to be considered mainly through the application of sense of place. Creating a sense of place in the design is structured around 3 main aspects.

- Experience through their journey in the building
- Water landscape
- Spaces which accentuate the water element



Figure 25

On the outset, the interlaced spaces between the river and land are created as an exposure to the visitor towards the element of water. New manifestations are then presented between water and land that will cultivate multi-sensory experience of spaces.

Subsequently, enforcement of form development set out by categorizing the mass of the building into 3 parts which reflects the zoning of the site. The existing mass is then broken down into parts which is based on its purposes. An open space situated along the river line is added with the front facing the river. Staggered layout is added in the vertical massing to create platform where shading for open spaces can be created.



Figure 26

5. Construction

On an average situation of flooding, water surrounding the site risen up to 2000 metres from the average sea level whereas the highest recorded is up to 3600 metres from the average sea level. This phenomenon is common and happens every year during the monsoon period. The damage that this water level could do leads up to building deterioration and casualty towards visitors and goods. Higher priority comes towards the yachts berthing at the yacht club considering one of the main purposes of the yacht club is to provide sanctuary towards the yachts.

On that ground, the amphibious construction is implemented to respond to the sustainability of the building with water. The amphibious construction introduces a new way of flood mitigation strategy which allows the building to rise and flood on the water in situation of flooding. The building is able to be elevated from the ground with the aid of hydraulic jacks connected to posts under the building. Buoyant concrete foundation replaced standard foundations in order to allow

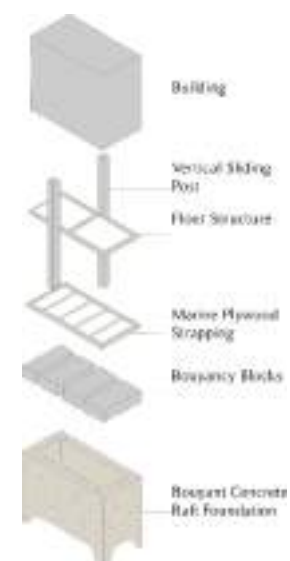


Figure 27

overflow water to flow in. As the buoyant foundation fills up, the buoyancy blocks strapped to marine plywood strapping help the building to slowly elevate following the water.

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DESIGN SHOES WITH STANDARD SIZE FOR MALAYSIAN WOMEN WITH BUNION USING CIRCUMFERENCE OF BUNION MEASUREMENT

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Abstract

Bunion cases are very common among the elders and it can be passed as genetically. Other factors are caused by standing too long or wearing a tight shoe which has pressured the feet. A bunion is a bulging bump that appears on the side part of metatarsal tibiale that could be seen that mostly bunion happens to women to be compared to men. Women tend to care about fashion more and the possibilities of wearing uncomfortable shoes for the sake of style is very high. It is really hard to find a perfect shoe for bunion problems as the shoes need to be customised according to the severity of bunion. The research was done through quantitative as the questions was given out through a google document with participants' ethnics which are Malay, Chinese and Indian, also to measure the circumference of the bunion. There are three stages of bunions which are mild, moderate and severe with sample size is n=150. Hence, a design was created based on standard size of circumference for different categories; mild 220 mm, moderate 245mm and severe 282mm and data shows that the highest percentage in size seven. This would be easier as the shoes that has been designed specifically for bunion sizing can be find easily and feel comfortable without having it to be customised as it costs a lot more than ready made.

Keywords: *Malaysian women; foot deformities; bunion*

1. Problem Statement/Product Statement

There are a lot of people who got bunions either by genetic or the wrong way of wearing shoes. A lot of types and cases for bunions could be seen such as the images below. In this case style is not a priority but comfort is because bunions can be really painful as causes redness, swelling and soreness, intermittent pain, corn calluses (first and second toes overlap) and discomfort of walking. Referred to Marrison (2019), wearing normal size shoes can affect cramping, squeezing, pressing, irritation of the toes and feet.





| Respondents | Effect of wearing normal shoes |
|---|---|
|  | Redness |
|  | Swelling and soreness |
|  | Intermittent pain |
|  | Corn Calluses (First and second overlap) |

Table 1 Effect of wearing a normal shoe



Figure 1 Respondent shoe condition

Fig 1 above shows the condition of the shoe bunion woman experience on the existing sizing shoe. This condition shows that the problem that all the respondent can be seen as the shoe will be torn at the part of bump.

2. Usefulness

The shoes are wide that based on circumference measurement and could fit the feet that has bunion and make space for it to lessen the pressure onto the bunion. Standard size was made and doesn't have to be customised. Other than that, different material was used suitable for different type of bunion's conditions. Moreover, it is lightweight and the material is soft which is very comfortable for people who has bunion.

3. Project Target/Objectives

To identify the problem of the comfort for women in Malaysia with bunion cases
To measure the stage of bunion categories using circumference measurement
To propose an appropriate comfort design based on the ball girth measurement
of prolog health for bunion shoes

4. Product/Project/Process



Product 1 Design for three difference size circumferences of mild (220mm), moderate (245mm) and severe (282mm)

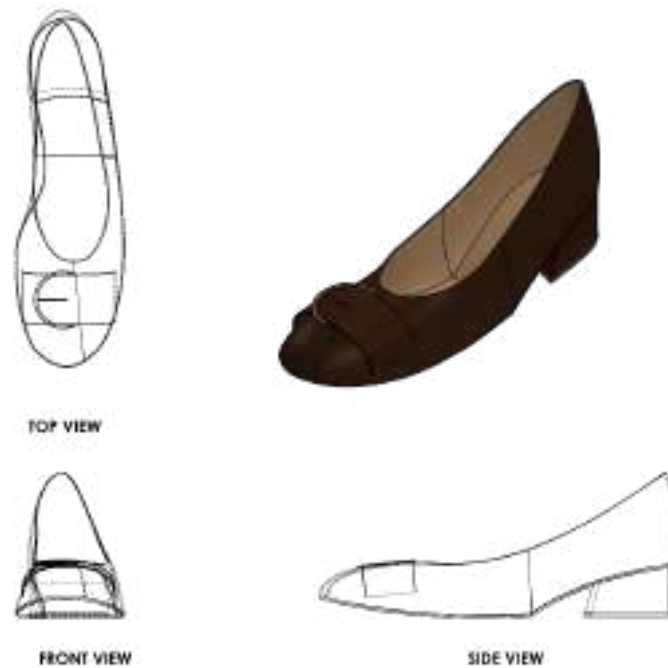


Figure 2 Technical Design Shoe



Figure 3 Process of measure circumference of bunion

Fig. 3 above shows the step of taking the bunion measurement to get the measurement of bunion shoe design. Flat surface and stand straight by using the measurement tape and wrap it as measure the circumference bunion in centimeter and convert into millimeter to identify each of the measurement of the respondents. The data was analyzed and the result of the measurement was used to create the new size of circumference shoe based on the stage of each for mild, moderate and severe.

| Needs Analysis | Minimum | Mean | Maximum |
|-------------------------------|------------------|----------------------|--------------------|
| Circumference of Bunion in mm | 220 mm (Mild) | 245 mm (Moderate) | 282 mm (Severe) |

Table 2 Results of circumference

Table 2 Circumference Result Needs Analysis Minimum Mean Maximum Circumference of Bunion in mm 220 mm (Mild) 245 mm (Moderate) 282 mm (Severe) Data of the result using measurement tape for the circumference of bunion for mild, moderate and severe has been a record. This measurement is necessary to design the size of the ball girth for women in a bunion. Through the process of the data, this study is required to take each of the respondent's measurements to get an accurate size. The minimum represents the mild size which is 220mm, mean is moderate 245mm and the last stage is maximum which severe 282mm. The measurement is from (n=150) and included from all group size from 5 to 10.

5. Commercialization and Potential



Diagram 1 Data of Respondent needs

The diagram above shows the percentage of consumer needs based on analysis that has been collected with a total of 150 respondents in Malaysian who are experiencing bunion from mild, moderate and severe.

6. Novelty

The uniqueness of this product is the to create a standard size with the design that based on consumer needs on Malaysian women which is have a wide that could fit their comforts.

The most important feature in this product is the measurement are based on the circumference measurement of each category of bunion which is mild, moderate and severe

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The Lipack

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Abstract

As fast paced humans, we often seek convenience especially when it comes to fulfilling our daily tasks, whether as students or the working folk. Taking in the current constant changes in workplace environments, ie; on and off work from home & online learning situations, we frequently find the need to make readjustments to our environment just to get things done. The Lipack, inspired by the Malay word, 'lipat' and 'pack' meaning to say it can be folded and packed into a portable lounge-like workspace. Make up of TPE in environmentally friendly material and often used for yoga mats allows the user to sit comfortably cross-legged reducing the risk of Lumbar Lordosis by 72.9%. The TPE also provides a soft and durable surface comfortable enough for the user to still be able to move around the 70 by 33 inch surface of the Lipack to multitask at best.

Keywords: *workspace, cross-legged, TPE, online learning, convenience*

1. Problem Statement/Product Statement

The constant need for a conducive workspace

The struggle to increase productivity

Health concerns of those working in unhealthy environments with poor ergonomics

2. Usefulness

Allows an increase in productivity as the Lipack serves optimum comfort, appropriate space and easy access for users when they simply can unfold the portable workplace anywhere they are although when unfolded the Lipack is seemingly large enough for users to move around whilst working, the flexible TPE material with MDF backing for structure is designed to be able to fold up into a suitcase like carriageable. On the other hand the user would benefit financially with the Lipack as they would not have to make excessive spendings on separate furniture pieces for a workspace as the Lipack is an all in one working area.

3. Project Target/Objectives

Considering the community as a whole, including students and working people, the main objective is to provide a better more productive and convenient work area, designed by students, in thoughts for all.

4. Product/Project/Process

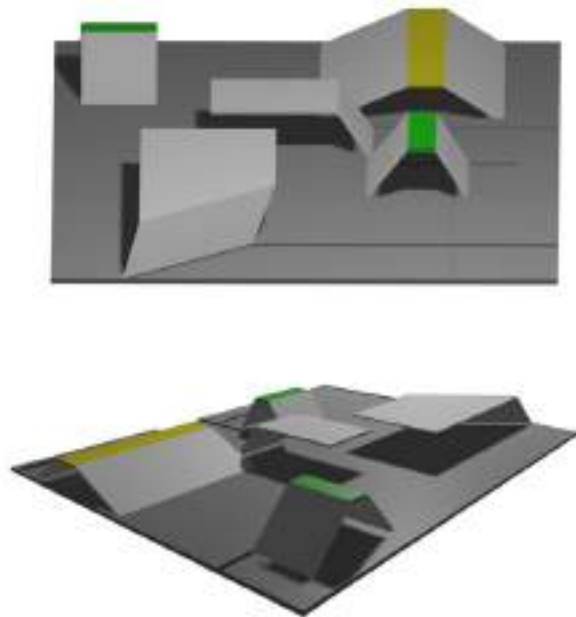


Figure 1

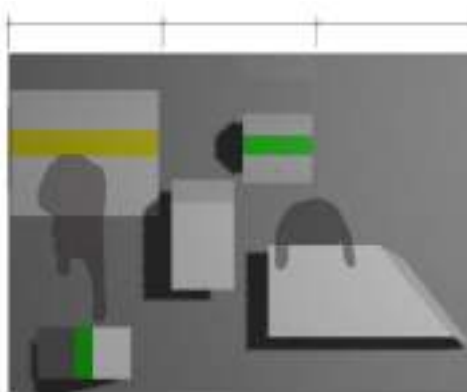


Figure 2

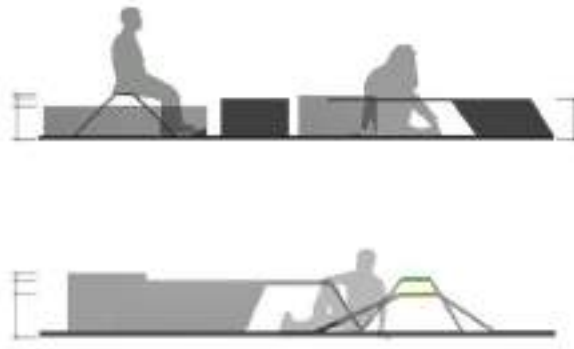


Figure 3

5. Commercialization and Potential

The open design of our product is made to be modular or flexible. This means that according to needs and priorities, it can be altered into specific dimensions that are desired. The adaptive design means that the end user will have an option to make it their own increasing the commercialization potential of the product.

6. Novelty

Derived from a Japanese-origin foldable rug-like lounge space, but modified into this innovation to fulfill specific purposes as mentioned, mainly to advocate user's productivity. The design was inspired by an existing piece but transformed into our portable workspace, the Lipack.

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THE ADAPTATION OF MODESTY CONCEPT IN SPORTSWEAR DESIGN FOR MALAYSIAN WOMEN

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Abstract

Modesty sportswear design is an alternative outfit to fulfill the needs of modesty appearances while doing sports especially for the Muslim women. The intention of innovating modesty sportswear design for Malaysian women is to provide more options of sport outfit for their active lifestyle. Recently, there was an issue regarding the lack of fashion likeness of the current sportswear design in local fashion industry and an excessive attention towards the women appearance in public which could distress their moral and confident level. The objectives of this study are: 1. to investigate the problems faced by Malaysian women regarding their option of sportswear clothing; 2. to identify the important features to be considered in designing modest sportswear designs for Malaysian women; 3. to create alternative sportswear designs with adaptation of modesty concept to suite Malaysian's lifestyle; 4. To offer a module/guidance to designers and Small and Medium manufactures in getting the right designs and cutting in producing women sportswear. In order to achieve the objectives, this research has been done by using mixed methods which are observation sessions at two (2) selected location to study the retail market and current trend, the face-to-face interview was done with two (2) respondents of designer and a group of women hikers, the questionnaires were distributed through online; forty (40) respondents and manual distribution which were thirty (30) selected respondents. The experiment was conducted by applying the criteria gathered from the survey. As a conclusion, all of the objectives had been achieved in producing the modesty sportswear design for Malaysian women. This awareness will help to educate and enhance the innovation in producing modesty sportswear designs in Malaysia fashion industry, especially for Small and Medium manufactures and designers.

Keywords: *Adaptation, modesty concept, sportswear, design and innovation*

1. Problem Statement

The Western-dominated in sportswear making manufacturing companies, they have been accused of exploiting women athletes and not developing suitable sportswear for women in Islamic countries (Jarvie, 2012). Religious and socio-cultural restrictions, mixed gender sport, playing dress code, general trend of the masses towards female sport and limited resources are some of the basic constraints to women participation I sport (Dangkas et al, 2010). In addition, the natural phenomenon such as humidity and high temperature in Malaysia (Aman & Basaruddin, 2006) could cause discomfort choice of outfit to be worn for outdoor activities.

Although sports hijabs are on the market, some Muslim women may find it difficult to find suitable workout attire. Most of its' were far too indecently tight for any hijabi to wear (Maryam, 2012). The excessive attention towards the women appearance in public could distress their moral and confident level. These are significant to the limited choices of sportswear design in

market to suit Malaysian women, who concerned about modesty and expediency of their sports attire.

2. Usefulness

Sportswear has been through the evolution period in decades, from the materials selection up to the design and functional, designers and developer went through exploration and invented new technology for these purposes. Nonetheless, despite all the innovative designs there were only several designs could be appropriately suite with the modesty requisite. Furthermore, there are limited choices of decent outfit for sports activity provided by current market to suit Malaysian women who practicing modesty in their appearances. The design proposed will be part of innovation to overcome the needs of fashionable and modest sportswear. It was designed to suite typical Malaysian women body types and sizes as long as to meet the modesty purposes. Some of the pieces designed in layering style to suggest alternative styling for casual looks as well.

Usability features

To support the aesthetic value in sportswear design for modesty purposes, designer have to deliberate the significant of sportswear design with an element of functional and practicality. Other than that, the important ergonomic features of safety, material, detailing and anthropometry (a study of the measurement and proportion of human body) specification are essential in designing a sportswear design. These criteria will improve the efficiency and to ensure comfort in any sportswear design. More than that, this research has to follow the guidelines of clothing to meet the requirement of Syariah compliance to avoid misunderstanding of the modesty appearances.

3. Project Objectives

1. To investigate the modesty and designs issues faced by Malaysian women regarding their option of sportswear clothing.
2. To identify the important features to be considered in designing modest sportswear designs for Malaysian women.
3. To create alternative sportswear designs with adaptation of modesty concept to suite Malaysian women's lifestyle.
4. To offer a module/guidance to designers and Small and Medium manufactures in getting the right designs and cutting in producing women sportswear.

4. Product/Project/Process



Figure 1 Samples of prototypes made for the Modest Sportswear Collection

5. Commercialization and Potential

The idea of reinventing sportswear design for Malaysian women is to provide more range of sportswear to suit the needs of local women and encouraging them to continue their active lifestyle without any hesitation. This product was designed for the niche market for modest yet fashionable active wear. It is a challenge to be comfortable and look good at the same time for difference body types and sizes especially the Malaysian women which celebrating diversity in cultural and religious obligations. By proposing the right materials and cut, the designs could fill in the gap and needs of modesty sportswear in Malaysia especially.

6. Novelty

The uniqueness of the product is the basic construction and cutting of the garments. These element plays and important features in the designs to reflect the main objectives of the study besides the selection of materials used to capture the most important keys in comfort ability

and durable with any topical weather. The concept of layering and disguise in pattern could be the main point in this design efficiency as well as the styling of this product was meant to complement all body types, particularly for Malaysian women in general.

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RECYCLED MATERIAL AS ALTERNATIVE MEDIUM IN GLASS SCULPTURE

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Abstract

The Corona pandemic has changed our view of life and daily routine into the new norms. Due to the Movement Control Order (MCO), artists have to work with limitation. While being in isolation it is a challenge for artist in producing creative work.

As a glass artist, from the experience of working during the MCO, there is a need to research for substitute of medium that could represent the material accordingly. In order to get along with standard operational procedure SOP, working time in studios and workshop are limited. Artist does not have the opportunity of working hours like they use to. So, in order to help the artist to produce artwork, household Recycle Hpe plastic is used as substitute due to its property of low heat melting and fusing temperature of 120c to 180c in comparison of 500c to 900c for glass.

It could be combined with glass and could be shaped into mould. It retracts light and has the translucent quality similar of the glass for an example the Patte de Verre method (powder glass effect) on the surface. These advantages have offered more space for artist to practice creativity and contribute to cost efficiency in producing glass sculpture.

1. Problem Statement/ Product Statement

The pandemic has put artist under restriction and limitation. During the MCO, artists have to work with limited source.

While working with glass, there is a need for substitute media that could represent the material accordingly. Usage of kiln and workshops are limited due to strict SOP hence artist need to improvise material that is cheap, available and efficient to use as material to incorporate with glass. Recycle material of Hpe plastic is suitable in this project because it has the similar process of forming like glass but less complex and lower energy consumption.

2. Usefulness

- It promotes the idea of recycle material in art production. It is
- cost efficient and less energy consumption.
- Artist are able to produce large glass incorporated material object as it is much lighter in weight.

3. Project Target/Objectives

- Recycle Hpe plastic is used as substitute due to its property of low heat melting and fusing temperature of 120c to 180c in comparison of 500c to 900c for glass.
- It could be combined with glass and could be shaped into mold. It refracts light and has the translucent quality similar of the glass.

4. Product/Project/Process



Figure 1

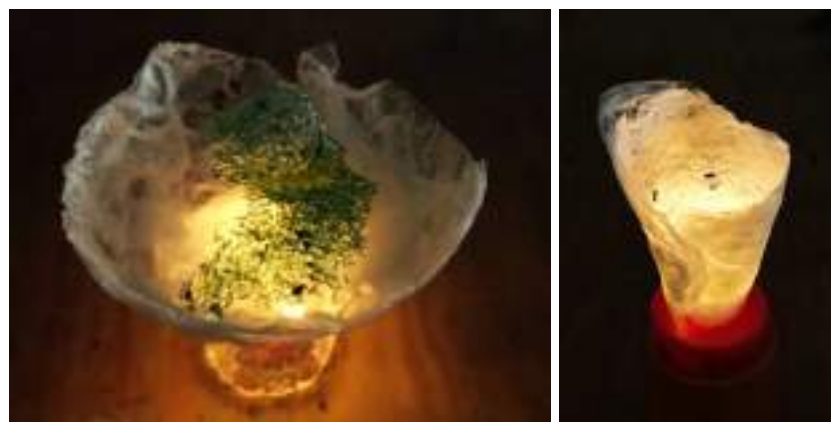


Figure 2

Layers of recycle plastics assembled together in bowl shape mold and reheat with hot air gun or similar tools to fused it together. The layers of plastic are combined with fused glass and then are place in between the plastics to create a combination of glass and plastic artifacts. The layers are re heat to further blend and fuse it together as glass sculpture.



Figure 3

The translucent quality of the layer of recycle plastic and glass are suitable for combining with interior lightings for it offers soothing and calm effect the surrounding.



Recycled material as alternative media in producing glass sculpture. It is formed into a shape of a bowl and combine with glass to create an artwork of glass sculpture.

Figure 4



Figure 5

The flexibility of plastic and glass are able for different casting method to be applied and due to its lightness larger size sculpture could be achieved.

5. Commercialization and Potential

- The recycle plastic is highly potential to be developed as sculptural medium.
- It could offer diversity for the glass artist and promotes recycle material. It is cost efficient and less energy consumption.

6. Novelty

- It signifies waste to wealth as initiative art projects.

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SAVING FRASER'S HILL: A TOURISM PERSPECTIVE

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Abstract

Fraser's Hill is known as an ecotourism attraction in Malaysia (A. M. Azima et al., 2012), providing a breath-taking escape a short drive away from the bustling concrete jungle of Kuala Lumpur. Basically, Fraser's Hill stands out among other Malaysian highland destinations by being home to more than 250 species of wild bird (Goh, 2015, as cited in Khoo, 2015). Many quickly suggest modern developments to be built like theme park and cable car in Genting Highland to attract tourists visiting a destination, especially when tucked away in rural area. Based on a research done by Bouchon (2013), standardization and development may diminish a destination's identity in aiming to be a global city. Thus, a good governance is needed and anticipated to not only protect tourism assets in Fraser's Hill in terms of better infrastructure provision and enhanced environmental policy execution, but also the well-being of the community to survive by being involved in the ecotourism business. With the help of the concept of volunteer tourism, the objective of this project can be accomplished.

Keywords: *Fraser's Hill, Ecotourism, Highland, Governance, Volunteer Tourism*

1. Problem Statement

According to A. M. Azima et al., (2012), although Fraser's Hill is emphasized in the Second National Physical Plan and Malaysian National Ecotourism Plan, there is not much enforcement done to meet the objectives of the plans. Consequently, this led to environmentally harmful projects by ignoring the Environmental Impact Assessment (EIA) requirement like the Fraser's Hill Resort and Spa project which is a 15-storey hotel by iKHASAS Fraser Sdn. Bhd. to be operated by Novotel (Binwani, 2020). Therefore, it can be contended that the inability to recognize the cool climate, flora and fauna diversity, and history of the area as the essence of tourism attraction, as well as the lack of policy enforcement are the basis of this project.

| | |
|--|---|
| NPP 25 Land development in the highlands shall be strictly controlled to safeguard human safety and maintain environmental quality and biodiversity. | Special Area Plans for: 1. Cameron-Kinta-Lojing Highlands (SMA) 2. Penang Hill 3. Bukit Larut 4. Gunung Jerai 5. Fraser's Hill |
|--|---|

Table 1 Inclusion of Fraser's Hill in National Physical Plan 2 (source: NPP 2)

- 17. RESORT AND RECREATIONAL DEVELOPMENT:**
- (a) Construction of coastal resort facilities or hotels with more than 80 rooms.
 - (b) Hill station resort or hotel development covering an area of 50 hectares or more.
 - (c) Development of tourist or recreational facilities in national parks.
 - (d) Development of tourist or recreational facilities on islands in surrounding waters which are gazetted as national marine parks.

Figure 2 EIA Prescribed Activities Number 17 (source: EIA Order 1987)

2. Usefulness

The environment will be left untouched to nurture on its own, while sustainable tourism practices are exercised at the destination by highlighting soft-ecotourism activities like birdwatching, jungle trekking, as well as knowledge ecotourism site for schoolchildren as its core identity (A. M. Azima et al., 2012). This can be used in educating the public to understand that every tourism destination has to have its own personality of which not all need glamorous shopping complex and luxurious hotel to prosper. On the same note, local community with their sense of belonging when given official role in safeguarding the area will assist in reporting suspicious and illegal activities. These are some of the positive outcomes to be gained from volunteer tourism or “voluntourism” concept at Fraser’s Hill. Chart below exhibits 78.1% of survey respondents support the idea that the voluntourism will be useful towards the environment.

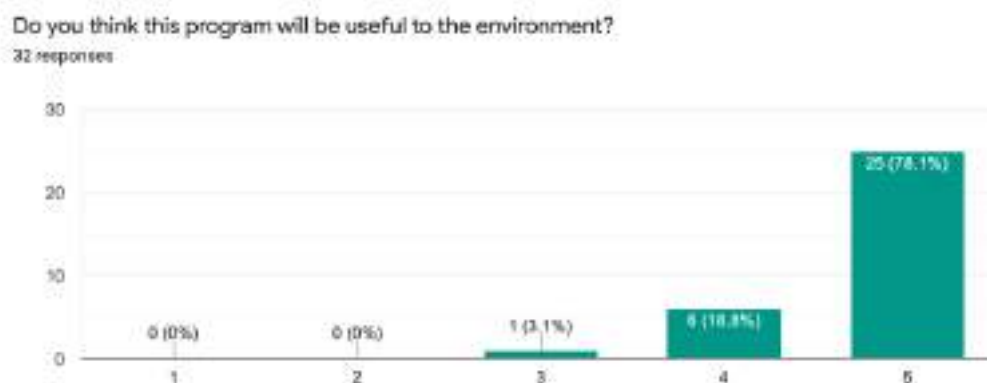


Figure 3: Percent that believes volunteer tourism program at Fraser's Hill will be useful towards the environment,

Strongly Disagree 1 – 5 Strongly Agree (source: field survey)

3. Project Target/Objectives

Recognizing the area's distinctiveness and character, the primary focus should be on the area's unique ecosystem and bird sanctuary, with efforts focused on encouraging the appreciation of these assets rather than constructing false substitutes that will have negative environmental consequences.

4. Commercialization and Potential

The growth of volunteer tourism - defined as individuals offering their services to change some elements of society for them to live in a better place while travelling - can be utilised in protecting this Environmentally Sensitive Area (ESA), while at the same time promotes Fraser's Hill as an ecotourism destination among public especially youngsters to give back to the nature. A training programme to be conducted involving local residents acting as programme supervisor, which will also create job employment.



Figure 4: Voluntourism comprising eco-tourism (source: Suanpang et al., 2018)

5. Novelty

Promoting the destination by adapting to the socio-cultural change in the tourism niche that is volunteer tourism while adopting sustainable tourism approach as endorsed by the United Nations World Tourism Organization (UNWTO). This effort will be cost effective since it utilizes the freewill among interested and concerned individuals, while at the same time enriching youth's life with fruitful experience that can be applied in both of their organizational and individual growth in the long run.

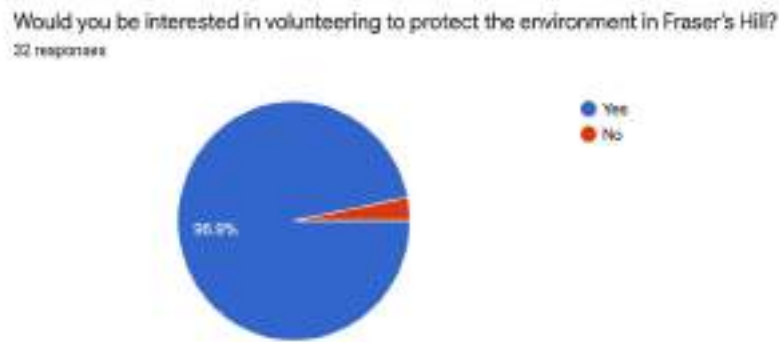


Figure 5: Percent that is interested in protecting the environment in Fraser's Hill through voluntourism. (source: field survey)

In spite of this volunteer tourism concept to be implemented in Malaysia is newly developed, yet 71.9% of survey respondents agree that the country is ready to take on the abstraction.

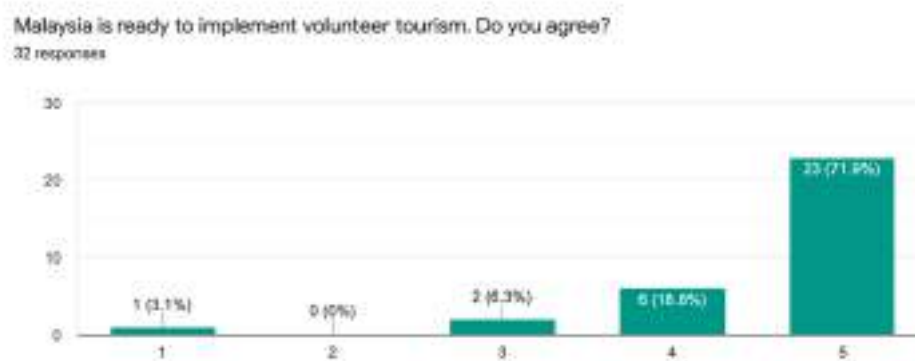


Figure 6: Percent that believes Malaysia is ready to implement volunteer tourism, Strongly Disagree 1 – 5 Strongly Agree (source: field survey)

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LOKA FOOTPRINT

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ABSTRACT

In an effort of encouraging the public to adopt sustainable tourism practices, we often fail to create a personal connection with the individuals. Campaigns on sustainability are usually very general and hard to relate to on a personal level. Therefore, they are not as effective in bringing the change we want to bring. Individuals often feel distant from the sustainability issues and their contributions usually feel insignificant or small. Oftentimes, they will underestimate the impact that they make through their consumption and tourism activities as there is no established method to measure their footprint. As an innovative concept, LOKA Footprint is a measure of personal impacts of an individual tourism activity toward the environmental, economic, and social. Loka is a classic Malay word with the meaning of "World" or "Heaven". LOKA Footprint symbolizes the trace we leave in this world that can bring us to heaven. This website aims to encourage the practice of Sustainable Tourism among the public through personalization strategy. The strategy is a growing concept in marketing where it applies the "Cocktail Party Effect", which indicate that people prefer to focus on information that revolves around them exclusively. This means that, through LOKA Footprint, highlights given on the individual positive impacts of their tourism activities will give them an intrinsic motivation to practice sustainable tourism. Incentives and rewards will also be given to encourage their sustainable tourism choices through the award of points collection and points redemption. A fund-raising platform on the website will allow the public to support a selection of sustainable causes and programs. Cultivating the habit of responsible consumption among tourists will boost domestic tourism, local foods and product and preserve the nature. It also aligns with the 12th United Nation Sustainable Development Goals (UNSDG), "Responsible Consumption and Production".

Keywords: *LOKA Footprint, sustainable tourism, personalization marketing, individual tourism impact, responsible travel.*

1. Problem Statement

According to Cárdenas et al. (2015), informed participation of all key stakeholders is one of the concepts that is critical to the success of sustainable tourism development but is often unsatisfactorily achieved. "The public's understanding of tourism looks, at most, to be barely enough to establish trust in the quality of their contribution," he cited Simmons (1994). Tourists are more likely to have minimal awareness of tourism and/or are unaware of how their activities affect and impact a community. Therefore, they can hardly make an informed decision to support sustainable tourism efforts. According to Forbes (2019), a study by Southern Cross University states that 77% of the public wants to learn how to live more sustainably. However, they still lack the motivation and knowledge to act on it.

A persistent issue in instilling sustainability values into the community is due to the difficulty to make a behavioural change on an individual scale. The approach to a conscious change requires 3 steps: Awareness, Acceptance and Action. Although most of the public already have a basic awareness on sustainability, it is still not enough to make a change due to the:

- i. Low public acceptance in sustainability issues. Fear-mongering tactics used by some advocates may scare people away.
- ii. Individuals may feel that their actions are insignificant when the impacts cannot be observed, visualized, or materialized.
- iii. Limited channel to express support, participate and contribute towards sustainability.
- iv. No acknowledgement and rewards for their effort.

2. Usefulness

LOKA Footprint website is a multi-functional website that serves the purpose towards sustainable tourism practice. It is free to register and set-up an account for the public to track their milestones and record their sustainable efforts. It can be used for:

Tracking personal “LOKA Footprints” from tourism activities.

Impact visualization through personalized yearly report.

Gamification through points collection, unlock special badges, rewards, and competitive ranking.

Public fundraising channel for sustainability projects/programs.

Promoting sustainable domestic tourism destinations.

3. Project Target/Objectives

The website aims to be a catalyst in bridging the gap for the public to practice sustainable tourism habits. The goals are to provide:

Personal encouragement to individuals through advanced personalization towards sustainability.

Recognition and acknowledgement towards sustainable efforts.

Cultivating investments on chosen locality towards sustainable tourism development and local economic revival.

Establish a thorough Donor Impact Report to showcase the money flow and distributions of monetary contributions.

Encourage sustainable business practices by creating demand for sustainable travel.

4. Product

Loka is a classic Malay word with the meaning of “World” or “Heaven”. Therefore, LOKA Footprint symbolizes the trace we leave in this world that can bring us to heaven. To encapsulate the message, the chosen tagline is, “A trace you embrace.” It perfectly describes that having LOKA Footprints is something to be proud of as you are doing your part in making the world a better place.



Figure 1 LOKA Footprint logo and tagline.

LOKA Footprint is a website that measure the personal impacts of an individual tourism activity toward the environmental, economic, and social. It comprises of 6 main categories under the LOKA Footprint branding with different functions such as:

- | | | |
|------|---|---|
| i. |  | LOKA Footprint: Report of personal tourism footprint. |
| ii. |  | LOKA Location: List of sustainable tourism destinations. |
| iii. |  | LOKA Points: Points gained from contribution. |
| iv. |  | LOKA Rewards: Rewards redemption with LOKA Points. |
| v. |  | LOKA Badge: Badge collections to unlock rewards. |
| vi. |  | LOKA Investment: Fundraising channel for sustainable projects. |

The visualisation of the mobile website features are as follows:



Figure 2 The breakdowns of the profile page on LOKA Footprint website.



Figure 3 The breakdowns of the LOKA Footprint report.



Figure 4 The breakdowns of the LOKA Investment section.

5. Commercialization and Potential

The concept of LOKA Footprint website has a vast potential to be commercialized as it is a unique proposition that has yet to be established. The commercialization of the website will be through:

Certification for Sustainable Destinations and Sustainable Organizations can be awarded by the company through strict criteria to be enlisted as a “Certified LOKA Location”.

Penetrate the niche market for sustainable tourism.

6. Novelty

In response to the current awareness on sustainable and responsible tourism, this innovation presents:

A website that tracks an individual impact from tourism activities.

A reward system for individual sustainability efforts.

Real-time progress tracking of public projects and transparent donation distribution.

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MAGNETITE ART

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Abstract

This study to aspires the understanding Earth intimately. To inform Earth Science is a poetic and crucial related to life time. It's about time. Time transforms geological phenomena, from atmospheric carbon molecules to ancient mountains that consists of lyrical voice to the rocks. In this time process can actually produce force and chemical reaction that tell the story of our magical planet. It led to beautiful scientific processes and artistic senses. This research is to actually meet the objective of idea collaboration of Art and Science in which to convey life complexity of the problem, while also making it accessible through visual understanding. Art is creation of aesthetic and the visual exploration of symbols, while science is the attempt to understand natural phenomena using scientific method. The research method is described through qualitative study. This study forms based on close observation through the creation idea of the Magnetite Art sculpture. Where the findings were performs through artistic movement based on nature forces of the magnetite powder together with the electrical neodymium force that built under the sculpture. This procedure eventually will form a diverse artistic spiky pattern. Regarding to the statement the research creates communication platform through artistic visualization in order to explain the basic characteristic of the magnetic force. This formation led to a new art media exploration and also new art ideology and invention in Malaysia art perspective.

Keywords: *Magnetite, movement, forces*

1. Problem Statement/Product Statement

There is a barrier of understanding between the connection of Art and science knowledge. The major problem when it comes to scientific language, it needs specific understanding towards its theory. According to Ede (2010), art manifest intentional communication to others, in which art seems to have been a medium of communication which linked the natural and the metaphysical worlds. Visual access is not necessarily straightforward for example, some works can only be seen through microscopes or via other special instruments. Paradoxically, the art world is somewhat ambivalent, simultaneously promoting experimentation or iconoclasm and the preservation of historical standards (Wilson, 2002). In the context of technology and digital era, the knowledge towards science and invasion is part of important It is very crucial to actually highlight the idea of integration between these two fields. What makes the role as inter disciplinarians crucial is our ability to coordinate vastly different fields, and to be the link between it, in order that specific goals may be achieved for communicating with the public through the collaboration between art and also science.

2. Usefulness

This research will focus on the idea collaboration of Art and Science in which to convey life complexity of the problem, while also making it accessible through visual understanding that art is creation of aesthetic and the visual exploration of symbols, while science is the attempt to understand natural phenomena using scientific method. This particular artwork brings the philosophical meaning of human's life. This would basically help the student to be exposed with the understanding of different language from different field. This research concept on integration between art and science will lead for further investigation. The question about one's role is in fact keeping this research questioning why do art and science have developed into such different beasts in the last couple centuries. Through this research it is a platform to bring back the collaboration between art and science just like Leonardo Da Vinci's era. Through the marriage between art and science it will definitely will benefits the society in so many ways. Other than bringing up a new knowledge for the future it will also help the society in terms of career wise and create new field for the community to work in between art and science.

3. Project Target/Objectives

To bridge the gap of understanding between Art and Science through the creation of the artwork, so that people can easily see the visual process of the movement and the spiky pattern in which form through the scientific forces. Using Art as the visual communication platform in order to explain the basic characteristic of magnetic forces. Scientifically, the knowledge about the kinetic or movement art in this artwork practically focus in the used of the material in which using the electricity power in order to create a consistent moving towards the magnetite powder that moved along with the neodymium forces in which build below the board. Through the marriage of art and science it is also a base line for the artist and scientist to work together as team, scientist and medical nowadays need artist and designer in their field for a better understanding towards the science that will eventually help to invent new technologies. In this artwork research does work as a platform where artist examine problems from different angles and engage with in a different way from scientist, there is a great deal to be gained for scientist as well that can engage with artist.

4. Product/Project/Process

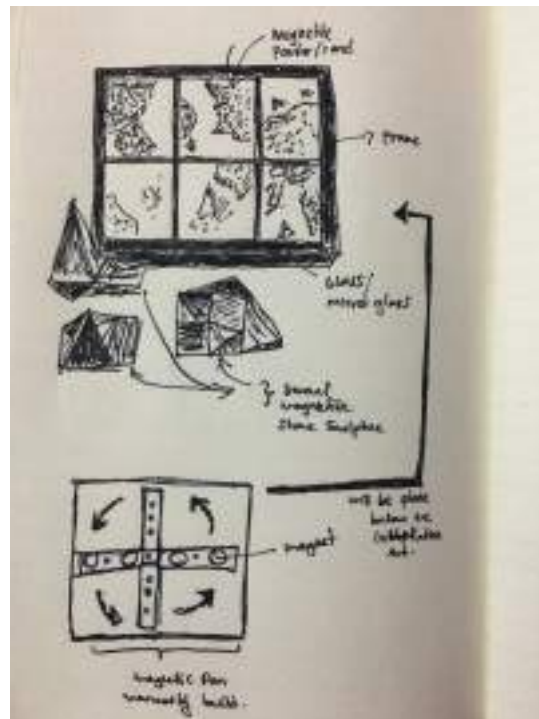


Figure 1 Idea sketch & Movement Processes



Figure 2 Image of the Artwork

5. Commercialization and Potential

The research towards Magnetite Art were basically related to marriage between art and science. It will rush ahead, for example about the power of vested interest choosing where research funds are prioritised, or about the ways in which new discoveries are increasingly being patented for profit. For example, experienced medical department need an illustrator in order for them to illustrate all the scientific medical figure process just for the medical purposes. Illustrator is an artistic career, in today's modernization experienced medical illustrator is needed. It instinctively implements many communications convention and techniques are encountered in medical illustrator's job. Whereby in this particular research, Magnetite Art form as an Illustrated sculpture to visualize the magnetite forces

6. Novelty

Contemporary artist were crucial pioneers seeking to expand the arts to address contemporary culture. In this research as a team of contemporary kinetic artist, the research does update the artwork by incorporating more sophisticated technology and using the technology to explore cultural commentary in investigation. In this particular research highlighted original artform that experimenting with different reaction of nature sources that lead to artistic and creative art interaction. This method considered unique ways in interpreting the visual and the magnetite artistic forces.

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REINVENTING THE SUSTAINABLE BIKERS JACKET DESIGN FROM RECYCLED RUBBER TIRE TUBE

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Abstract

The issue of recycling is a current issue that is no longer foreign in various aspects of the industry, including the fashion industry. Various methods or innovations carried out around the world to produce products that are recyclable, especially for developed countries. In Malaysia, the importance of recycled products, especially in the field of fashion, is still new and various initiatives are underway to raise awareness of this important issue for the country. The Berita Harian newspaper headline "Malaysia is still lagging behind in recycling practices" by Nor Azizah Mokhtar, October 25, 2016 commented on the issue of environmental pollution and government actions to combat this issue by exposing the importance and impact of recycling issues to society and the country. The definition of recycling is the process of recycling materials that should be discarded into similar products or resources that bring value to the environment, finance and social benefits. Tires are one of the waste or used materials that can be recycled to be used as other materials. This related issue has been commented on in the Utusan Borneo newspaper quote, September 2021 related to the issue of dumping of tires and also the effect of making it a breeding ground for mosquitoes, pest attacks and so on. Because of the issues that arise by using used waste materials such as tire tubes to be experimented on clothing and also fashion such as jackets. This design and manufacturing process are carried out to produce new designs based on using other materials other than animal skins or artificial materials such as PVC. In addition, the marketability of the use of this design will be valued as a result of the design comparable to the design of leather jackets and current fashion trend. This innovation project is also a prototype that can be studied in detail by involving the clothing industry as well as science to see the function and effectiveness comparable to PVC artificial leather.

Keywords: *recycle, innovation, jackets*

1. Problem Statement/Product Statement

For decades, there have been many efforts to improve the performance of tires to be more durable and able to withstand extreme weather. However, these characteristics become a problem to the environment when used and discarded tires cannot decompose or rot on their own due to their high durability properties. With the number of vehicles on the road increasing at an average rate of 600,000 new vehicles registered each year, now tires are one of the

largest and most problematic wastes in our country Malaysia. Without an affordable disposal system, used tires will end up with dumped arbitrarily everywhere and create breeding grounds for mosquitoes and pests. With the rapid increase in the number of dengue cases in our country reported from January to February 21, 2015 which is 21,310 cases, causing 54 deaths, compared to 13,915 cases (25 deaths) in the same period last year, this issue should not be taken lightly anymore. Due to the heat retention nature, illegal tire storage stocks are exposed to the risk of tire fires that are extremely difficult to extinguish. Once burned it can burn for months and emit unhealthy smoke with toxic chemicals. one of the worst cases of tire fires in history occurred in Virginia, USA in 1983. At the maximum level of the fire, plumes of black smoke rose into the air and spread down wind gusts up to 80-kilometers and burned for nine months. In addition to soil pollution, dumping used tires into forests is another serious form of pollution as it disrupts underwater ecosystems.

2. Usefulness

This product is made from tire tube to be made into a jacket based on the thickness of the tube which is the same as artificial leather or PVC leather. This jacket is very suitable for the motorist rider apart from the life style fashion. One of the important components in driving that can be used for long or short distances is a jacket. Using a jacket is not just to protect yourself from the hot sun or direct wind, the jacket also has other important functions.

- To maintain body temperature from the surrounding air, when the air temperature is cold or hot.
- Protects the body from the wrists, torso, to the neckline from objects thrown while driving.
- Provides immediate protection from the wind.
- Protects the body from the groin to the neck during a crash.
- Provides a more optimal form of protection for the body when driving.

3. Project Target/Objectives

Product objectives are targets for product development or product management. They serve as the basis for product strategy, design, refinement and launch. Product objectives also serve as target for teams and individuals and may be incorporated into performance management targets.

4. Product



Sample of Idea 1

5. Commercialization and Potential

- Replacing clothes made from animal skins and also artificial leather such as PVC where the care and durability of the PVC fabric has a limit.
- Process new ideas from recycled tire tube materials to jackets that can preserve the environment from waste
- Improving the Malaysian clothing industry by producing motorcycle jackets or the like because Malaysia is the world's rubber producer.

6. Novelty

Meeting the Sustainable Development Goal is about "sustainable cities and communities"

1. Where production from waste materials to something new to the general public
2. Provide and improve the clothing industry where the innovation in fabric technology which involves many parties from manufacturing to help the entrepreneurs of the clothing industry

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T-SHIRT ILLUSTRATION SOP FOR TEENAGERS

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Abstract

According to a research study T-shirt illustration as a medium to spread awareness among teenagers about standard operating procedure, most of the respondent are aware about the important to always follow the standard operating procedure in public place during pandemic covid-19, even so there are still a few numbers of teenager that not follow the standard operating procedure fully while being in public place. They still commit mistake unintentionally while being in public place. According to survey research conducted, most of the teenager are prefers comic style character and small, cute and adorable character style for the visual on t-shirt illustration design. Based on the objective, on an awareness campaign, an online survey was distributed to teenagers. Respondents were among the main target audience which is a teenager who is aged 13 until 23 and asked to respond to three sections of the question. Analysis of the responses demonstrated that the respondents were aware of the problem of the teenagers. The results show that teenagers attribute toward the standard operating procedure. Further, research is required to make a more engaging and unforgettable t-shirt message for time being.

Keywords: *T-shirt, illustration, Covid-19, teenagers*

1. Problem Statement/Product Statement

Teen nowadays really had no idea about their situation and had really tough time when they need to stop going school and need to learn online. They can't make physical contact and hang with their peers and this will cause mental health disorder to them. But when the MCO was lowered, they were become like hungry animal that hunted every single chance to be together with each other and this will make the front liner worried. They didn't care about social distancing with each other when they hang out even this time is MCO. They are lower their guard toward these issues as a piece of paper. So, it's really hard to make them under control when they hit poverty and their instinct so to always hang out with friends or people with same age with them.

2. Usefulness

Helping teenagers to gather with their peers in this situation of Pandemic Covid-19 by sharing the information and reminders to always follow the "Standard Operating Procedure". The illustration also interesting and may be the "trend" among teenagers at the same time will lead the teenagers to always stay in safe situation while hang out with friends.

3. Project Target/Objectives

- a) To create awareness among teenagers about the important to always follows SOP in Pandemic Covid-19.
- b) To design Illustration T-shirt about 5 common SOP to being followed when goes outside in Pandemic Covid-19.

4. Product/Project/Process



Sample of Idea 1

5. Commercialization and Potential

Interesting Illustration design that can attract attention of audience and also can share the message completely clear. The T-shirt design are friendly that can be wear anywhere and anytime, anybody since it "t-shirt"

6. Novelty

Through observation and researching, there are still no t-shirt design that using the "chibi" character design and main illustration with important message about to stay protected while being outside in this Pandemic Covid-19.

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TANDA KASIH: APPRECIATION CAMPAIGN FOR HEALTHCARE WORKERS

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Abstract

'Tanda Kasih' can be directly translated from Malay as 'An Act of Love'. This phrase can simultaneously describe both this campaign main objective and healthcare workers, which is we are both doing this as an act of love. This campaign main objective is to express gratitude and show appreciation towards healthcare workers who have sacrificed almost everything in helping all of us fighting this pandemic together. Other than that, this campaign will become a special edition chocolate that can only be find in our popular local tourist spot which is Langkawi, Malaysia. This is because Langkawi is very synonym with chocolate-based products. Elements are one of the important things that all designers should consider in designing a pattern especially for an important project like this. Since this campaign's main objective is to honor our heroes which is healthcare workers, elements from PPE clothing were taken to turn into patterns. Why PPE clothing? this is because these clothes are always being relate to healthcare workers during this pandemic. This clothing is also a symbol of one of their most visible sacrifice since we heard a lot of stories about healthcare workers and their struggles with these clothes. By using this pattern, it will highlight their sacrifice.

Keywords: *Art, mental health, Covid-19*

1. Problem Statement/Product Statement

The COVID-19 pandemic, according to new findings, poses a threat to our society's physical as well as mental health. According to research conducted by our local researchers, half of our healthcare workers are experiencing burnout and mental health symptoms because of their overwork. This campaign is one of the ways to help them cope mentally, as gratitude and appreciation have been shown to benefit people with mental illnesses.

2. USEFULNESS

This product is useful to show buyer's appreciation towards healthcare workers. This is because other than to promote and highlight healthcare workers struggles and sacrifices, this product can be bought by any Malaysians and can be gifted to healthcare workers to show support. Inside the gift box, there are various items that were included as side items that will highlight our thankfulness towards healthcare workers.

3. PROJECT TARGET/OBJECTIVES

The main purpose for this project is to conduct a collaboration campaign with Cadbury by making a special edition chocolate packaging design to express gratitude and appreciation towards healthcare workers who are still struggling both physically and mentally throughout this pandemic. The income gained from this product's sale will also be used to buy medical equipment that can be donated to chosen hospitals.

4. PRODUCT/PROJECT/PROCESS





5. Commercialization and Potential

Due to this product being limited edition and only being sold in Langkawi which is a tourist attraction, the product can possibly attract tourist from all over the world who visit Langkawi to buy it. This product will also spread awareness to them.

6. Novelty

Due to COVID 19 being the most recent issue, there are not much research or project were made that use appreciation or gratitude as the main theme. Especially in art and design field. The patterns and elements including illustrations were all made by us.

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THE AWARENESS OF COVID-19 PANDEMIC THROUGH ILLUSTRATION IMAGES ON MURAL AMONG SCHOOL STUDENTS

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Abstract

The purpose of this study is to identify and give the awareness of COVID-19 pandemic among school student. Through this pandemic, students are required to wear face masks and maintain hygiene which is students less concerned about personal hygiene. This includes maintain a distance of 1 meter from everyone interacting. The epidemic needs to be prevented from spreading to schools in which can spread infections among teachers and students. However, the level of awareness for students regarding to COVID-19 epidemic are less concerned. The objectives of this study is to identify the awareness of students towards COVID-19, to find out the practice of new norms that has been done by school student and to identify whether the students understand the meaning of message design for COVID-19 towards them. This study used Murals to give awareness to school students about COVID-19 visually. Mural is one of the platforms that is close to the community, especially among school children.

Keywords: *COVID-19, illustration, awareness, mural, school students.*

1. Problem Statement/Product Statement

The level of awareness for students regarding to COVID-19 epidemic are less concerned by them. In fact, some students do not comply with the Standard Operation Procedure (SOP) that has been made when they are in the school grounds. The pandemic COVID-19 in education sector has gave huge impact to schools and students. This should be prevented from spreading to schools in which can spread infections among teachers and students.

2. Usefulness

The use of this mural is to provide education and also awareness to school students about the importance of compliance with SOPs when in school. By taking precautions, the transmission of COVID-19 can be prevented.

3. PROJECT TARGET/OBJECTIVES

The present project was conducted under three research objectives, which are:

- 1) To identify the awareness of students towards COVID-19.
- 2) To find out the practice of new norms that has been done by school student
- 3) To identify whether the student understand the meaning of mural message design for COVID-19 towards them.

4. PRODUCT/PROJECT/PROCESS



Figure 1

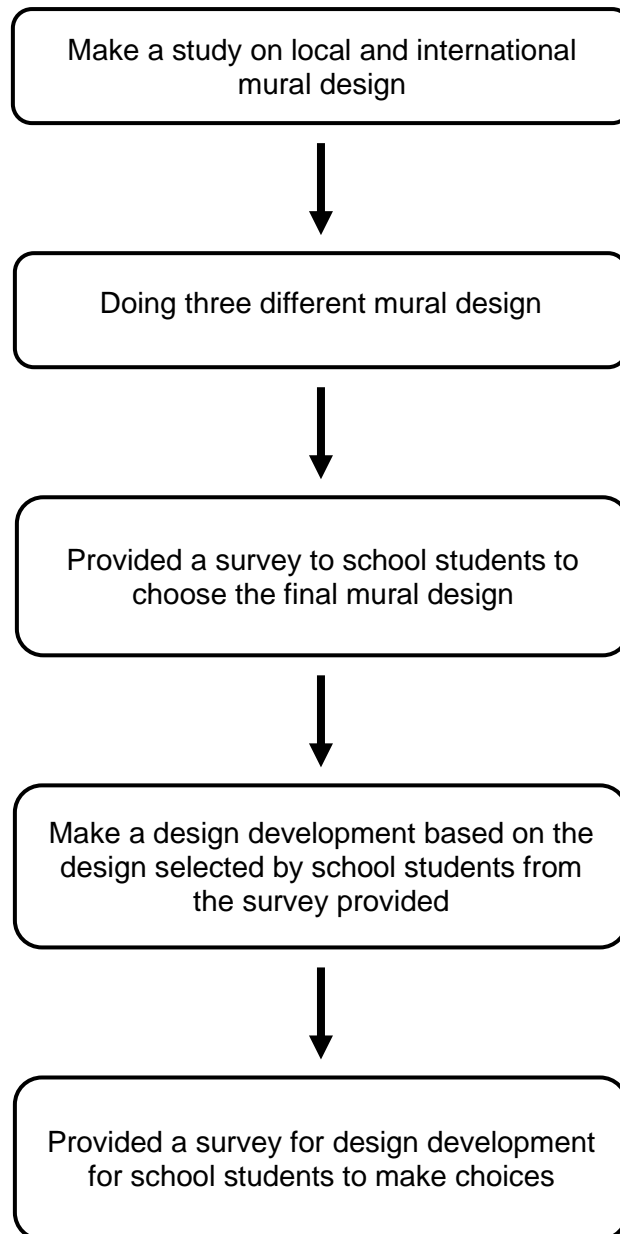


Figure 2

5. Commercialization and Potential

This study can provide exposure and knowledge to students who are interested in the field of art to better understand and deepen the world of art. This is because, having a deep understanding of art will change the views of individuals or students to be more positive about art.

6. Novelty

This project is conducted to give awareness about COVID-19 toward school student and it is a collaboration with school. This project can also be as a reference material in which it could give important information to the students. Therefore, by doing the campaign awareness, this could help students to become more concern about the increase of COVID-19 epidemic. For this mural, I will produce a series of murals or connected to the next wall. So this mural will be a story on the wall.

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CHILDREN'S AWARENESS TOWARDS COVID-19 THROUGH ILLUSTRATION STORYBOOK

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ABSTRACT

Medical literature stated that children are easily exposed towards COVID-19, but also affected the most by psychosocial effects. Children are forced to stay indoors, wear mask and using hand sanitizer without acknowledging what happened and it affect their psychological state. Children might rebel because they could not play outside, meet their friends and have to wear a face mask wherever they go. If they do not acknowledge this situation, they will keep refusing to follow guidelines and give troubles towards their parents. The purpose of this study is to spread awareness of children's understanding and acceptance of this pandemic. Specifically, it is to provide information about COVID-19 pandemic to children through suitable medium and their own preferences style in illustration storybook. These findings support the awareness towards children regarding COVID-19 through illustration and storybooks. This research will be helpful for both parents and children to understand the situation and follow the rules made for everyone.

Keywords: *COVID-19; children; illustration storybook; preferences style*

1. Problem Statement/Product Statement

The first problem statement is some children could not understand this pandemic and were wondering what would happen since the schools were closed and they had to stay at home. They also have to follow rules that applied to them without knowing the reasons and putting them into quarantine. In addition, they are having hard times as they could not spend their childhood very well while wondering this situation and could not escape themselves.

2. Usefulness

To help children understand and gain inclusive information about COVID-19 that is relevant to them through an illustration storybook made by putting their own preferences in visual illustration in order for them to discover what they can do to help with the situation as children. Children are able to easily comprehend about COVID-19 through this appealing illustration storybook.

3. Project Target/Objectives

To produce an illustration storybook that can help children aged around 7 to 10 years old to understand this situation of pandemic. Moreover, to provide children with inclusive information and comprehensive knowledge using visual presentation to assist them in discovering information regarding COVID-19.

4. Product/Project/Process



Product 1 Illustration storybook



Product 2 Merchandise items

5. Commercialization and Potential

By selling this illustration storybook from online platform such as through website and also in book stores, it is able to persuade and enhance children to read books rather than playing with gadgets at home. With this, this illustration storybook can assist children to knowledge about COVID-19 issues while improve their focus, attentiveness, emotional intelligence and communication capabilities.

6. Novelty

Designing a storybook about COVID-19 using children's preferences in the illustration storybook through questionnaire surveys as well as the effectiveness of illustration storybook towards children.

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CHILDREN ILLUSTRATION BOOK CHARACTER DESIGN FOR COVID 19 AWARENESS CAMPAIGN

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Abstract

COVID-19 started from one city of China in December 2019, but in a short span of time, it covered almost all over the world (WHO, 2020). Nearly 216 countries of the whole world are struggling for their civilization and livelihood against the coronavirus pandemic. On January 11, 2020, China declared first death of their 61 years old citizen due to COVID-19, who was exposed to the seafood market (WHO, 2020). To give a awareness that Covid 19 is very dangerous. Children have probably already heard the words "coronavirus" and "COVID-19" at home, in their social circles, and in their school environment. Other than that, we know that children are not the face of this pandemic because lack of children awareness towards Covid 19 and lack of proper covid 19 awareness media for children. So this paper will explain about the suitable media for Covid 19 awareness campaign that is children illustration book for 6 years old to 10 years old and we will discuss the problems, challenges and how to solve this situation through illustration book character design for children.

Keywords: Covid 19 ; illustration ; character ; awareness; media

1. Problem Statement/Product Statement

A problem statement is a concise description of the problem or issues a project seeks to address. The problem statement identifies the current state, the desired future state and any gaps between the two. A problem statement is an important communication tool that can help ensure everyone working on a project knows what the problem they need to address is and why the project is important.

2. Usefulness

This product give a benefit to children by providing them with a better awareness of the danger of covid 19 as well as measures to protect themselves against it. Helps parents by conveying a manner that is simple and easy to understand through the usage of the story book. It serves instructors as a medium for delivery information on covid 19 to children, as the book usage of intriguing character entice children to read and understand it.

3. Project Target/Objectives

This product help children and kids ages around 6 to 10 years old to understand how to protect their self from Covid-19. To provide them knowledge that is relevant to them through creative ways using various of character design.

4. Product/Project/Process



Figure 1
Illustration Book



Figure 2 Posters



Figure 3 Eraser



Figure 4
Mug



Figure 5
Sticker



Figure 6
Keychain



Figure 7 E-book

5. Commercialization and Potential

This product is ideal children education medium. Have a suitable illustration style for children and easy to understand.

6. Novelty

This product use illustration storybook to deliver and spread awareness is a really effective and easy medium to make them understand and what they have to followed like why they must

wear a mask, why they have to use hand sanitizer and so on also help bring attention to the value of children's on how to protect their self from Covid-19.

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CAMPAIGN: THE AWARENESS OF WEARING FACE MASK FOR CHILDREN

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Abstract

The purpose of this study is about the importance of wearing face mask for children. Face masks can prevent the spread of SARS-CoV-2 virus, especially since this spread can occur from people who do not have symptoms. To prevent them from contracting this virus parents should play a role in child safety. After that, to attract the children to wear face masks, so many ways one of that is an illustration of their favourite design. In addition, the study also examined ways of attracting children to wear face masks. Most children do not wear face masks because the design on the face mask does not attract their attention. Therefore, this study will examine the illustrations they like.

Keywords: *Covid-19, children safety, illustration*

1. Problem Statement/Product Statement

Most parents today do not care about the safety of their children. Where they take their children to public or crowded places without wearing face masks on their child.

Next, parents who are too obedient to the wishes of their children who do not want to wear it.

2. Usefulness

This face mask is suitable for children aged 5-11-year-old. To interest the children, we have designed a cartoon-themed illustration element on the face mask. This face mask is disposable 3ply, single use, and BPE 90% so it suitable for children for the quality of face mask, we use 3 layers so that it can protect the child.

3. Project Target/Objectives

This face mask is suitable for children aged 5-11-year-old. To interest the children, we have designed a cartoon-themed illustration element on the face mask. This face mask is disposable 3ply, single use, and BPE 90% so it suitable for children for the quality of face mask.

4. Product/Project/Process



Figure 1 Product Logo

'Protect Us' means the child asks for help from parent or guardian to protect them from Covid-19 and 'small thing is a great way' as a tagline. All the logos will be chosen by doing a survey

Main Product



On this design, Fox is a witch (as a hero) fighting covid-19 using his wand. Typography (Unicorn are awesome) is used to detail the meaning of the design.



Figure 2 Face mask design

Merchandise



Figure 3 T-shirt, packaging and paper bag

Advertising



Figure 4: E-poster and Instagram

Multimedia



Figure 5 Website and E-book

5. Commercialization And Potential

This project is focuses on face mask, “Protect Us” has collaborated with a local manufacturer Dr.Talbot’s. We have chosen animal illustration design to interest children because mostly of them are more interested in unique things. Besides that the fox theme is also declining in the market.

6. Novelty

This project focuses on awareness of face mask among children aged 5-11 years old. The beginning step of the project is the research about the cartoon. The next step was that i made a survey to get the best types of cartoon. The theme for this project is magic, where the fox as the hero fights covid-19. This project it was done in software called Paint Tool Sai and Photoshop CS6.

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ZENITH – GAMING WITH MENTAL HEALTH AWARENESS CAMPAIGN DURING THE COVID-19 PANDEMIC

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Abstract

This study was conducted to study matters related to mental illness and illustration designs of visual communications. To go further, this study examines the problem of mental illness, understanding issues that do not influence and interest the community to learn about how to cope with mental illness during pandemic through gaming, all these studies are required to do a literature review and to find out all the components needed for this project to help with it. To study all the essentials that an illustration design on this kind of therapy gaming campaign should have for the study to know all the right conditions and features. To make the community interested and influenced by the campaign, the study should learn all the essential components of all advertising and illustration game designs.

Keywords: *gaming, mental health, mental illness, pandemic*

1. Problem Statement

Parents and adults tend to overlook that gaming could help a mental illness patient cope with the isolation especially during the COVID-19 pandemic. They are too afraid of the fact that their children would be addicted and would result in a negative consequence.

2. Usefulness

Virtual gaming tournament and also a character illustration as a mascot. A character that symbolizes mental illness. Specifically, the most cases of mental illness during the pandemic.

Which are: ADHD, anxiety and depression.

3. Project Target/Objectives

To determine if the illustration design of the awareness campaign is comprehensive enough and can impact the public to understand the message that is trying to be implied.

To ensure that with this awareness campaign the issue of “gaming is bad for health” will no longer be brought up

4. Product/Project/Process



IDEATION



FINAL EXECUTION

5. Commercialization and Potential

Determining if the illustration design of the awareness campaign is comprehensive enough and can impact the public to understand the message that is trying to be implied. Also ensuring that with this awareness campaign the issue of “gaming is bad for health” will no longer be brought up

6. Novelty

To know that the mental health awareness campaign through gaming during pandemic could influence the community.

To know whether visual designs and illustration is attracting a better number of individuals.

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SAFETY NEIGHBOURHOOD MODEL THROUGH CRIME PREVENTION TOWARDS SAFER FUTURE

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Campus

Abstract

Safety is widely recognised as a necessary component of development in order to ensure the community's quality of life. The security and safety risks that have recently been recognised and raised around the world concern the rapidly globalised world. The issues that the international community faces have a considerable detrimental influence on the lives of millions of people all around the world. This problem is one of the most urgent issues in today's world. This research was carried out in order to reinvigorate a model for safe neighbourhoods by integrating physical and social crime prevention elements into a crime-free neighbourhood, with an emphasis on the neighbourhood area where people spend most of their lives. Among the physical crime prevention factors include layout design, building design, pedestrian pathway, access and route, landscaping and urban design, lamp (lighting) and security equipment whereas among the social crime prevention elements include community initiatives, parenting program and youth development which will help in strengthening the security of the neighbourhood area by preventing the crime occurrence at the same time enhancing the safety of the neighbourhood towards crime free.

Keywords: *Safety neighbourhood, crime prevention, physical crime prevention, social crime prevention, crime-free neighbourhood*

1. Problem Statement/Product Statement

Having a safe neighbourhood is not only necessary, but essential, since our world is a completely different place presently, and rising crime rates have made us more aware of the dangers and risks that exist even in our own neighbourhood. Urban experts pointed out that crime and the fear of crime have long been recognised as a fundamental barrier to sustainability. Crime and fear of crime are serious issues facing societies and lead to the declination of the quality of life. Marzbali, Abdullah, Razak and Tilaki (2012). According to Malaysia 2015 Crime and Safety Report, the general crime rate in Malaysia has been classified as high. Previous researchers also pointed out that rapid population growth has also resulted in a slew of social issues, including urban poverty, insufficient housing, urbanisation, pollution, traffic congestion, and crime.

Among the crime incidents that frequently associated with neighbourhood area is burglary or house break-in. This kind of crime have led to negative significant implication to the victims. According to the research report by Dinisman, Tamar, Moroz, Ania (2017), there are several existing evidences on the main effect of crime to the victims including emotional and physiological impact, physical impact and financial impact. Other several implications outlined by previous researcher including considerable fear of repeat cases, female victims were afraid

to be alone as reported and many other significant implications. The long-term effect that will certainly be remembered is when the crime scene involves the loss of the life of a loved one. With the increasing of population and rapid growth of urbanisation, the needs for crime prevention is crucial as the fact that the volume of crime is related to the size of a jurisdiction's population has been well established. This showing that there is a need to strengthening the safety especially in the neighbourhood area towards better future and higher quality of life as neighbourhood is the place where people spend most of their time. Crime prevention is the best approach to eliminate criminal offense potential by preventing crime at the early stage focusing in the neighbourhood area.

2. Usefulness

Housing is one of the most essential basic need to the human. To live in the safer housing area become the demands of all family institution in order to ensure the well-being and higher quality of life. This model will aid the government 's (12th MP) transformation plan in strengthening social security networks and improving people's well-being for community safety, as well as serving as a platform for Malaysians to come together to develop a better and safer living environment in the country. In addition, it also will strengthen the housing planning and development stakeholders (local planning authority, town planner, designer, architecture and many more) in designing safer living environment through the application of safety neighbourhood model approach in designing neighbourhood areas.

There is strong evidence that well-thought-out crime prevention methods not only prevent crime and victimisation, but also increase community safety and contribute to a country's long-term development. Effective and responsible crime prevention improves everyone's quality of life. It will save money in the long run by lowering the costs of the formal criminal justice system as well as other social costs linked with crime. Crime prevention provides prospects for a more humane and cost-effective response to criminal issues.

3. Project Target/Objectives

The target for this project is to establish a safety neighbourhood model through the integration of physical and social crime prevention factors towards crime -free neighbourhood. Establishment of a safety neighbourhood model through the integration of physical and social crime prevention elements towards crime -free neighbourhood can give significant contribution especially in closing the gap of crime occurrence where necessary towards safer community and higher quality of life. In addition, this project is planned to be develop as detail guideline in the future.

4. Safety Neighbourhood Model

The model namely "Safety Neighbourhood Model through Crime Prevention" outlined that there are two important factors prevention the occurrence of crime which includes physical crime prevention and social crime prevention. This strategy gathered through systematic literature review followed by the validation and verification with expert panel from well

developed country which has been pioneering safety development approach from the beginning including Germany, United States and United Kingdom.

Taylor and Harrell (1996) outlined that features of the physical environment can have an impact on the likelihood of a crime occurring. They have an impact on potential offenders' views of a potential crime scene, their assessments of the conditions surrounding a potential crime scene, and the presence and visibility of one or more natural guardians at or near a crime scene. After determining the following, offenders may decide whether or not to commit a crime in a certain location:

The listed of physical factors in preventing crime in neighbourhood area including layout design, building design, pedestrian pathway, access and route, landscaping and urban design, lamp (lighting), security equipment (CCTV, safety mirror, warning signs, panic button, safety alarm, gate, durable door and durable window).

The International Centre for the Prevention of Crime defines social crime prevention as anything that reduces delinquency, violence, and insecurity by successfully tackling the scientifically identified causal factors. The listed of social crime prevention factors in preventing crime including community initiative (community association or organization, voluntary patrol scheme, health care assistant or home help for the needy, drug addiction treatment program, alcohol addiction treatment program, anti-drug programmes, home visiting programmes, skill training class), parenting program initiatives (parenting knowledge development program in early childhood development, parenting attitudes development program in early childhood development, parenting behaviours development program in early childhood development, and parenting practices program in early childhood development), community empowerment development program (job skills training program, skill training program and alternative learning program). All factors outlined above are important in preventing crime at the early places.



Figure 1

Safety Neighborhood Model through Physical and Social Crime Prevention

5. Commercialization and Potential

Establishing a safety neighbourhood model through the integration of physical and social crime prevention elements toward a crime-free neighbourhood can help designers, town planners, architects, developers, policymakers, and the government close the gap in crime occurrence where necessary, resulting in a safer community and a higher quality of life. This model plan to be develop as a guideline to guide all neighbourhood stakeholder in planning and designing area for safer future.

6. Novelty

It also acknowledges that there are some significant disparities between regions and countries when it comes to the issues posed by crime and victimisation, as well as the significance of tailoring programmes to local circumstances. The suggested model might be used as a tool for future neighbourhood implementation by all neighbourhood planning stakeholders, ensuring the establishment of a crime-free neighbourhood area. This also linked with the 12th Malaysia Plan (12MP) that aligned with the shared prosperity initiative encompassing three dimensions, namely economic empowerment, environmental sustainability and social re-engineering. Under the social re-engineering, it highlighted the social re-engineering dimension comprises enhancing societal values, improving purchasing power of the people, building resilient Bumiputera community, strengthening social security networks and improving the wellbeing of the people which closely related to this project which is to produce a model of a safety neighbourhood for the well-being of the population. This is also in line with the 2030 SDGs agenda under the thrust-improving people's quality of life, where the SDGs in Malaysia context with the theme "anchoring growth on people" by the setting that the people are the bedrock of the nation, preparing people for the future and everyone enjoys the growth and development. The establishment from this study will also support the development of National Housing Policy which is strengthen the role of the community in strengthening the quality of the neighbourhood environment.

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PRESERVATION OF PERANAKAN BABA NYONYA MOTIFS ON CERAMIC TABLEWARE FOR PRECIOUS OLD CHINA: QLOURE

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Abstract

When Peranakan Baba Nyonya is mentioned, it is well-known that they are a culture that are prominently linked to their choice of bright colours, which is commonly seen such as bright pink and green. As well as their ceramic art motifs, where the phoenix and peony motifs are the most well-known motifs. That is just the surface of their culture, when studied in depth, the culture is rich with other beautiful motifs with philosophical meaning to each. Their motifs hold importance to symbolizing beauty, loyalty, purity, and harmony. With how they have adapted with the Malay culture, they do not focus on figurative motifs, but lean more towards flora and fauna. The aim of this study is to preserve these existing motifs of the Peranakan Baba Nyonya culture, as these motifs were not made to be forgotten. A total of 45 respondents participated in the questionnaire that studied their understanding of the motifs in the culture. The findings from the questionnaire resulted in 6 out of 8 motifs having more than 80% negative response on its familiarity. Based on the data collected, the motifs that were least known by the respondents which were the crane, peach, and Flower of Four Seasons were selected to be preserved and produce a collection of ceramicware that consists of a plate, bowl, and a teacup set.

Keywords: *Peranakan Baba Nyonya, traditional motifs, Nyonya ware*

1. Problem Statement/Product Statement

The restaurant proposed for the ceramicware designs, which is Precious Old China, does not focus on showcasing the beauty and diversity of Baba Nyonya motifs on their tableware. The restaurant uses plain white dinnerware, or their drinkware would be minimally ornamented with phoenix and peonies. With no application of Peranakan Baba Nyonya ceramicware, this alienates the Nyonya concept of the restaurant. From the other case studies of Nyonya restaurants in Klang Valley, the other restaurants also do not focus on Nyonya ware. This links to the second problem which is the untended potential to introduce Baba Nyonya motifs to tourists. The location of Precious Old China is in the heart of Pasar Seni, which is a main tourist attraction, where Pasar Seni received 4.16 million and 4.20 million visitors in 2017 and 2018 respectively (Tourism Malaysia, 2019). The location of the restaurant will be indirectly sharing information of Peranakan Baba Nyonya motifs through tableware. Unconsciously, through the use of Nyonya ware it's a way to promote the culture. Lastly, there is no proper documentation of the motifs and of Peranakan Baba Nyonya ceramic, with proper documentation this will help to achieve the United Nations Sustainable Development Goal 11: Sustainable cities and communities. Target 11.4 is to strengthen efforts to protect and safeguard the world's cultural

and natural heritage. Preserving these motifs will bring a positive social impact which establishes and preserves the cultural heritage of the Peranakan Baba Nyonyas.

2. Usefulness

The collected data and design produced from this study highlights the importance of other motifs existing in the Peranakan Baba Nyonya culture, besides just the phoenix and peony. The study will help benefit the symbolism and understanding within the Peranakan Baba Nyonya culture. The aim is to preserve the existing motifs in the Peranakan Baba Nyonya culture by applying them onto ceramic tableware to be used in restaurants.

3. Project Target/Objectives

The study has several objectives which are the following:

- To study Peranakan Baba Nyonya history and origin of ceramicware.
- To identify Peranakan Baba Nyonya motifs and colour on ceramicware.
- To propose ceramicware designs that include the Malaysian Peranakan Baba Nyonya motifs and colours.

4. Product/Project/Process

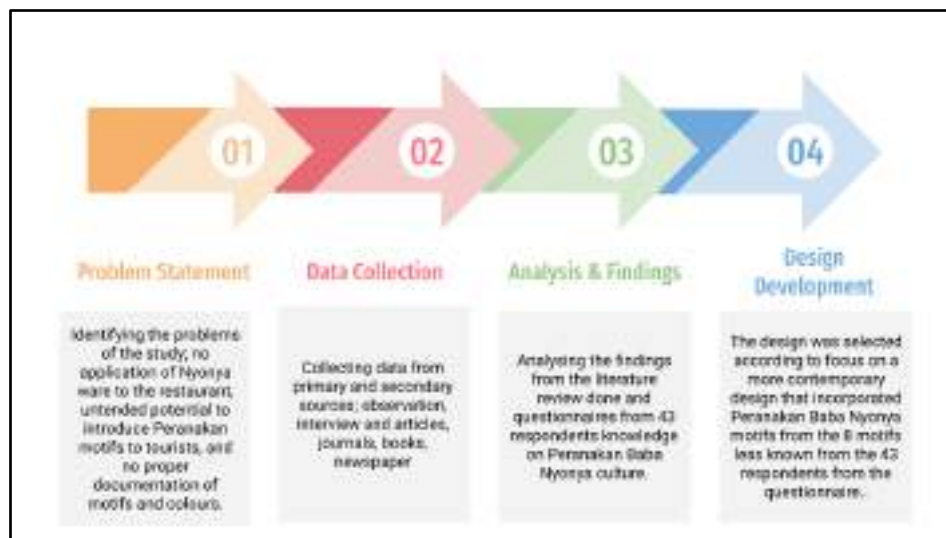


Figure 1 Process of the project

| Question | Motif | Yes | No |
|----------|------------------------|-----|----|
| Q1 | Phoenix | 29 | 16 |
| Q2 | Peonies | 35 | 10 |
| Q3 | Lotus | 2 | 43 |
| Q4 | Mandarin Duck | 8 | 37 |
| Q5 | Butterfly | 22 | 23 |
| Q6 | Peacock | 1 | 44 |
| Q7 | Crane | 0 | 45 |
| Q8 | Flower of Four Seasons | 0 | 45 |

Table 1 Data of 43 respondents on the familiarity of Peranakan Baba Nyonya motifs

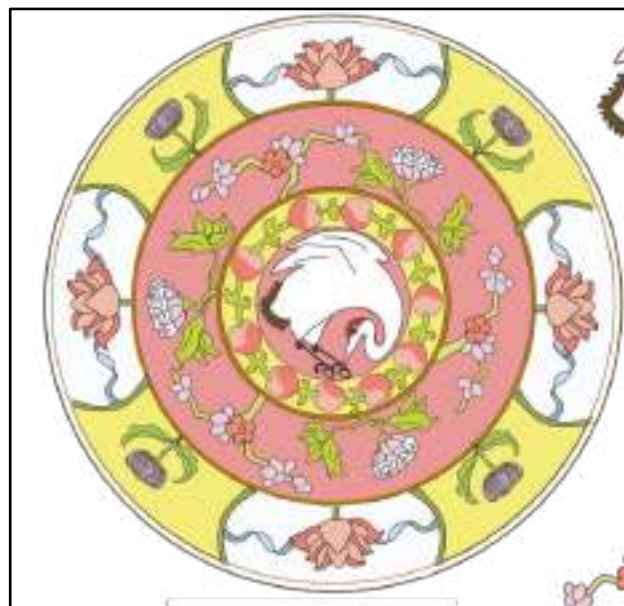


Figure 2 Design Proposal 1, titled *Sinar matahari Terbenam*



Figure 3 Design Proposal 2, titled *Langit dan Bumi*



Figure 4 Rendering of finalised design of the ceramic tableware consisting of Peranakan Baba Nyonya motifs

5. Commercialization and Potential

The set of ceramic design which shows the application of Peranakan Baba Nyonya motifs will play its part in bringing back existing traditional motifs from the 17th century. As of now, the conservation approach to preserve Peranakan Baba Nyonya motifs and ceramicware is minimal. Conserving this art form in ceramics is a process of preserving and protecting the motifs' historical and community values. As well as strengthening the efforts made to protect this cultural heritage that exists in many regions in Southeast Asia which are Malaysia, Singapore, Indonesia and Thailand. By having Nyonya restaurants actively use these

ceramicware, it indirectly contributes to the awareness of the existing less familiar Peranakan Baba Nyonya motifs that have been long forgotten.

6. Novelty

The approach taken to preserve the Peranakan Baba Nyonya motifs was designed in a contemporary manner. The design followed a more contemporary style that still preserved the motifs and colours of the Peranakan Baba Nyonya culture. The motifs and colour applied are not usually seen on Peranakan Baba Nyonya ceramicware but still maintain its aim, which is to preserve the Peranakan Baba Nyonya traditional motifs.

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'TABTOYS' 2-IN-1 FURNITURE THAT GROWS WITH CHILDREN

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Abstract

Children enjoy playing, communicating, exploring, and learning new things around them. They love to expose to toys, books, and other stuff, including furniture. Today, many children's furniture has limitations of function, where it cannot use for a long time for many growth phases of children, and it is less cost-effective. Thus, investing in furniture that grows along with the children can help save much money. The project aims to design furniture that grows with children for age 2-12 years old with 2 phases of age and functions: toys storage and activity table. The objectives are 1) To understand the user behaviour of kids towards children furniture, 2) To develop a design model for growing furniture, 3) To support the Goal 3; Good Health and Well-being and Goal 4; Quality Education and of United Nations Sustainable Development Goals through the encouragement of children to explore and boost various skills including writing, playing, and organizing while using it. Simple observation and survey are done on 15 children, aged 2-12 years old, to understand their behaviour and preferences towards children's furniture. As a result, children are more attracted to colourful furniture with many functions. They also have high preferences on safety for furniture's design and material. 'Tabtoys' is a design model that developed with the concept of 'rotatable furniture' with several colour variations; yellow, light blue, and light pink to convey the cheerful style to suit kids' taste. The size is 630mm in length, 490mm in height, and 260mm in width in a toy storage position, while 630mm in length, 490mm in width, and 260mm in height in table position. The functions of the 'Tabtoys' furniture are different based on two age phases: 1) Phase 1; for 2 to 5 years old as toy storage to encourage children to value belongings, be independent and keep the area clean after playing, 2) Phase 2; for 6 to 12 years old as activity table to encourage children to explore while learning and enhance various skills with good postural control. The 'Tabtoys' furniture is considered safe in terms of its design and material, for example, curvy edges on all exposed sides and inward curves in contact with the user body to prevent discomfort and ache. 'Tabtoys' comes with lightweight and durable material for easy mobility, safety, and cost-effectiveness, such as polypropylene plastic. The 'Tabtoys' is suitable to use in home, kindergarten, schools, and care centres.

Keywords: *Children furniture, toys storage, activity table, mobility, lightweight*

1. Problem Statement/Product Statement

The main problem is the limitation of children furniture which provides only dedicated function of a product hence cannot be used for a long time. This also leads to more money spend to buy different furniture for different purposes. Therefore, Tabtoys serves as a furniture that grows together with children and can be used up to 10 years as toys storage and activity

table. TabToys also aims in lowering injuries which commonly happened while using conventional wooden toys storage. It is hinge- free and lightweight to ease user while opening or lifting it.

2. Usefulness

TabToys's function can be simply converted to activity table or toys storage by a 90-degree rotation inward or outward which is safe to be conducted by children.

While in activity table position, it encourages user freedom to customize their playing and working space through five different sizes of stationaries container based on their preferences and need. User also able to utilize the playing space optimally on the table due to its wide and convenient surface which also easy to clean. It also aids in storing stuffs such as books, since Tabtoys comes with additional shelf under the table. While in toys storage position, stuffs can be organized through two separated compartments which is neater and well-ordered. Furthermore, TabToys is proposed to be made up by Polypropylene plastic which is affordable and durable, with the intention for a long-span usage up to 10 years through two different children age phases. Tabtoys is safe in the aspects of material selection, physical look and mobility in order to provide the best playing and learning experiences for user.

3. Project Target/Objectives

1. To create or design growing furniture that gives convenience & support kids development
2. To understand the user behavior for kids' table & storage
3. To develop a model based on the research analysis study
4. To support the Goal 3; Good Health and Well-being and Goal 4; Quality
5. Education and of United Nation Sustainable Development Goals

4. Product/Project/Process

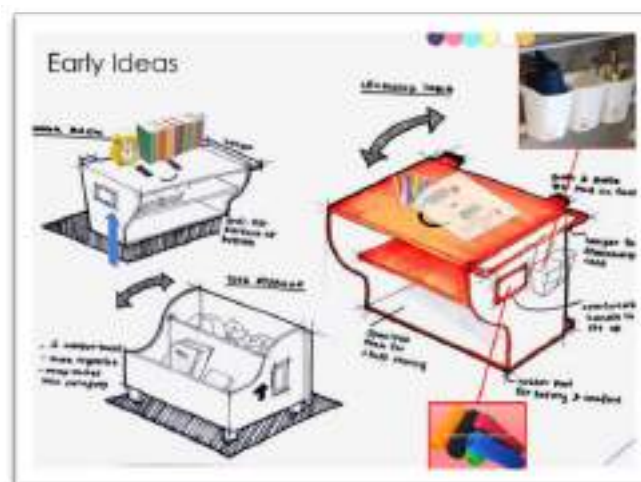


Figure 1 Early ideation sketches

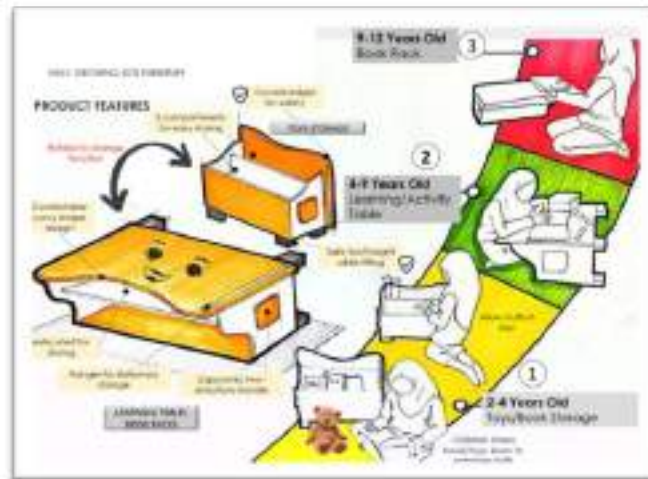


Figure 2 Early ideation sketches



Figure 3 Mock-up study 1

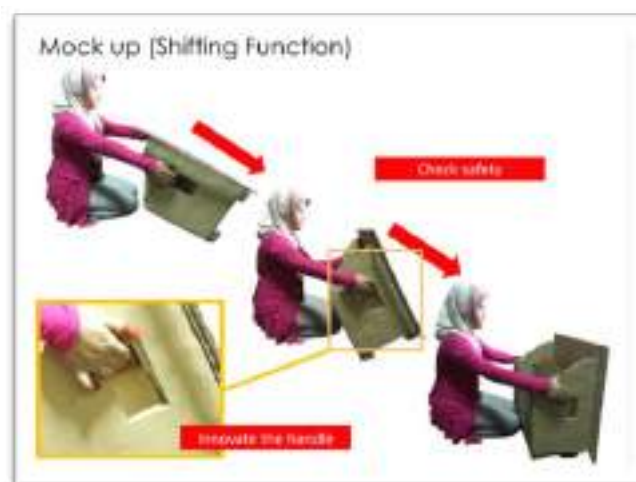


Figure 4 Mock-up study 1

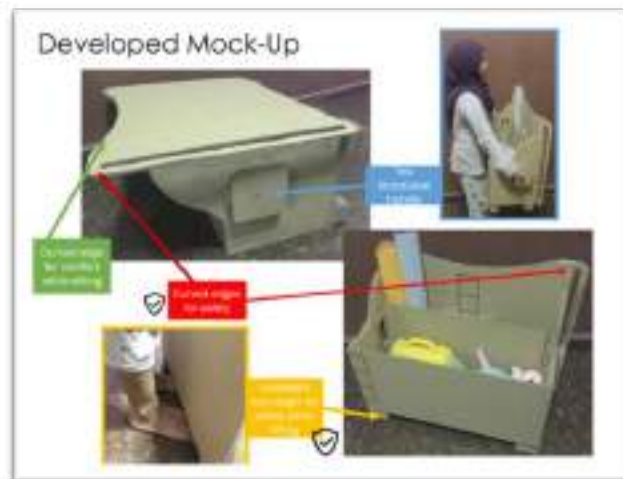


Figure 5 Mock-up study 2



Figure 6 Mock-up study 2



Figure 7 Early 3D illustration



Figure 8 Early model making



Figure 9 Final 3D illustration

5. Commercialization and Potential

TabToys advances in serving two different function for different children age phases which benefits parents, teacher and the children itself under one product.

The convertible concept of TabToys can lower the cost spend on children furniture. The flexibility and mobility to be safely used is appropriate to be utilized at home, kindergarten and paediatrician clinic. Aimed to be sold at RM250, this dual-function product is affordable and durable which worth to be used for 10 years.

6. Novelty

Tabtoys is designed based on the study of user preference for the new innovation of growing furniture toys storage and activity table. The study has been conducted throughout the design development process about the safety concern, additional organizing features, and material selection. The design ideas of Tabtoys growing furniture is inspired with the existing product line up that use rotation and growing functional concept that which can be used up to 10 years, save up cost and space. Based on the study, most of the existed product in the market used rotating and expanding; taking out growing concept with less concern on children safety and convenience. Hence, the designer develops a 2-in-1 growing furniture; toys storage and activity table made up of polypropylene plastic and curved edges on all exposed sides and

ergonomic handle for the better grip. Also, the innovation of Tabtoys, is designed with customizable and stackable stationaries container with different sizes to allow children to organize the container based on their needs. User; children, only has to insert the hanger clip on the Tabtoys hanger, provided on both sides to use the container. Tabtoys also innovated based on existing learning table which has no internal or lower rack to place their stuffs.

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Article;

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COMPACT DESK : WORK FROM HOME (WFH) SOLUTION

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Abstract

Compact furniture is a significant element nowadays. In response to the pandemic situation, various spaces in most houses are being utilised. Living rooms, dining halls, bedrooms and even balconies and kitchens are being transformed into workspaces. Working from home and online learning are the main reasons compact furniture is becoming more prevalent in every household. The living and working patterns in a compact space are observed in reference to the emotional design concept. Hence, this paper illustrates the functions of compact furniture design that focuses on Don Norman's viewpoints on the three levels of emotional design by presenting the features of the compact furniture design focusing on visceral, behavioural, and reflective levels.

Keywords: *Compact furniture, emotional design, interaction design, working space*

1. Problem Statement

The starting point of our design proposal is the ability to work and learn from home within limited house zones. Compact spaces with several individuals in one household working simultaneously are issues that can be associated with emotional behaviours; emotional risk for working/learning space at home that relate to the quality of work accomplished.

Emotional risk is a situation where emotion and logic need to be addressed in balance. Such as inconducive space, social disturbance, noise, as well as messy surroundings which lead to struggle and eventually demotivated/low self-motivation to work/learn. Hence, this compact desk is designed to reduce the emotional risk and support the working/learning user experience.

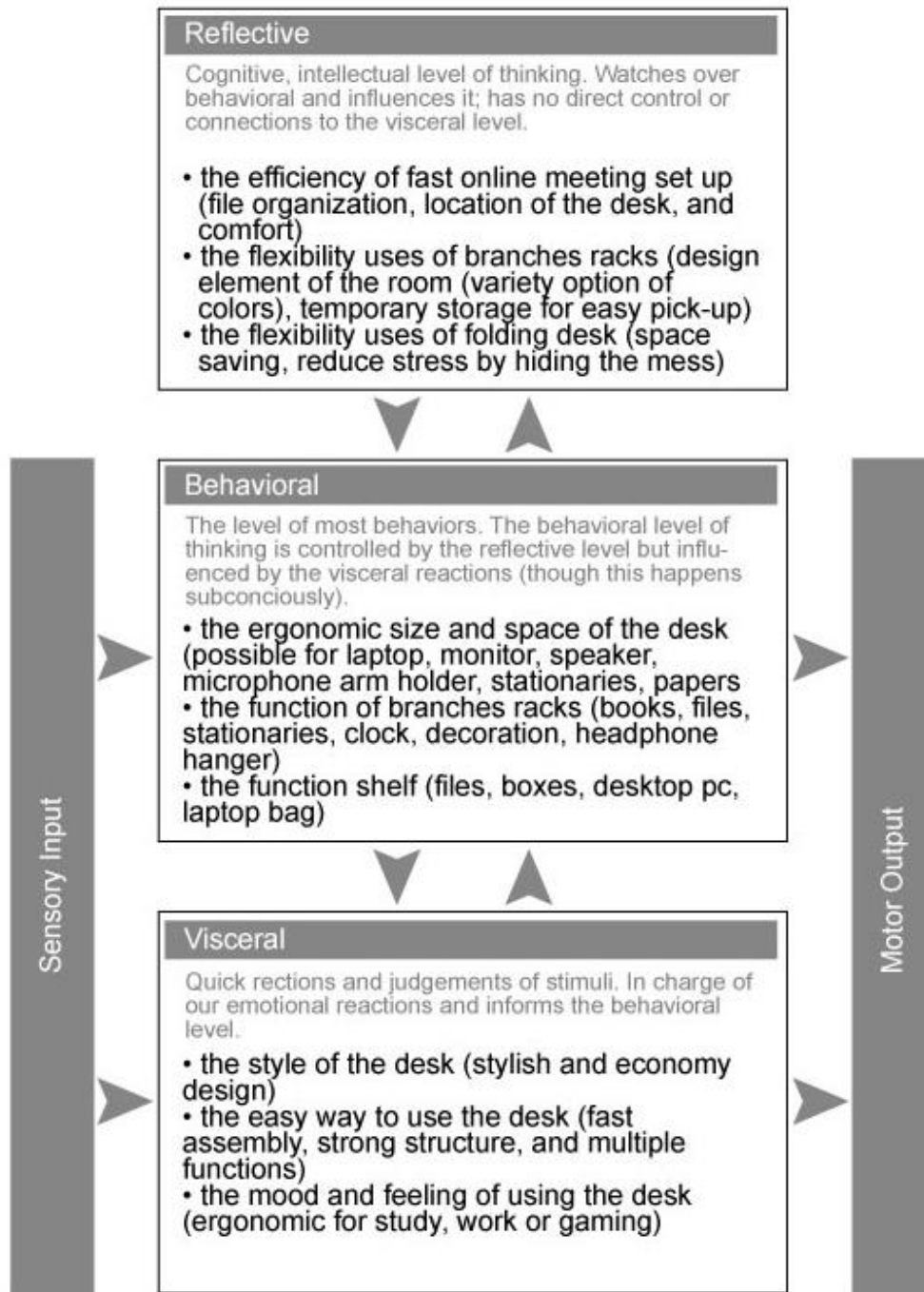


Figure 1 Conceptual Framework

2. Usefulness

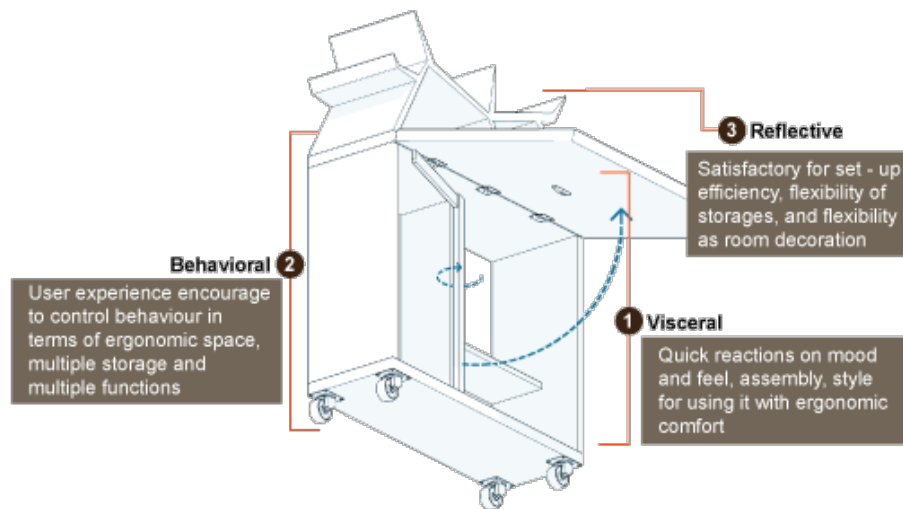


Figure 2 Compact Desk: WFH Solution Usefulness Diagram

Visceral

- the style of the desk (stylish and economy design)
- the easy way to use the desk (fast assembly, firm structure, and multiple functions)
- the mood and feeling of using the desk (ergonomic for study, work or gaming)

Behavioural

- the ergonomic size and space of the desk (possible for laptop, monitor, speaker, microphone arm holder, stationaries, papers)
- the function of branches racks (books, files, stationaries, clock, decoration, headphone hanger)
- the function shelf (files, boxes, desktop pc, laptop bag)

Reflective

- the efficiency of fast online meeting set up (file organisation, location of the desk, and comfort)
- the flexibility uses of branches racks (design element of the room (variety option of colours), temporary storage for easy pick-up)
- the flexible uses of a folding desk (space-saving, reduce stress by hiding the mess)

3. Research / Project Objectives

RO1 To observe the appearance of a compact furniture design for users.

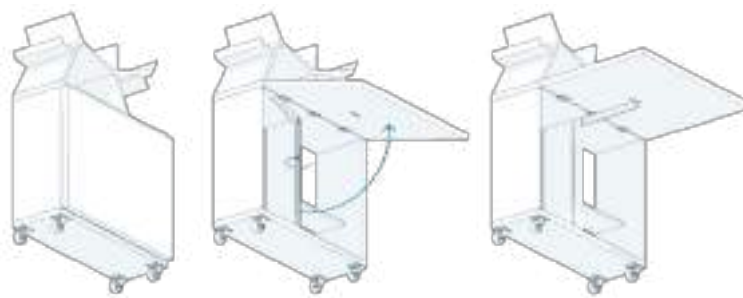
RO2 To design the characteristics of a compact furniture design.

RO3 To improve the user's behaviour for working at home behaviours during the pandemic.

4. Product Process

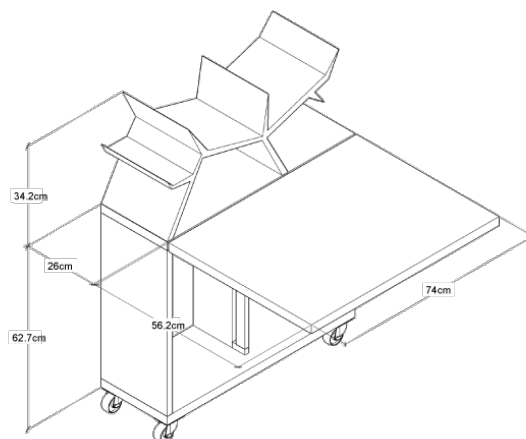


Figure 3 Compact Desk: WFH Solution ideations



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Figure 4 Compact Desk: WFH Solution proposed mechanisms



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Figure 5 Compact Desk: WFH Solution proposed dimensions

5. Commercialization and Potential

This paper will be conducted in partnership with East Heritage, a furniture design company based in Kuala Lumpur. Therefore, this compact furniture design will be looking at the current trends of a compact furniture design that can accommodate a furniture company's requirements as East Heritage produces customised furniture with an artistic approach with solid characters.

6. Novelty

This product offers a new design solution for a compact furniture design idea focusing on working desks specifically for home usage. This compact work from home desk also offers enhanced working conditions despite the pandemic circumstances; in generating a positive environment while working and learning from home within compact spaces with its' unique features and functions such as stylish and economical design, easy and fast assembly, multiple functions, space-saving and attractive as well.



Figure 6 Compact Desk: WFH Solution (Collapsed View)



Figure 7 Compact Desk: WFH Solution (Collapsed View)



Figure 8 Compact Desk: WFH Solution (Perspective View)



Figure 9 Compact Desk: WFH Solution (Perspective View)



Figure 10 Compact Desk: WFH Solution (Perspective View)



Figure 11 Compact Desk: Flexible for Multiple Users

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ART WATER WASTE MANAGEMENT SYSTEM

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Abstract

In our daily life, we use a lot of water, we used water for various things like washing cloth, drinking cooking, taking bath, cleaning floor. Industry and education used a lot of water in their daily operation, this include art practitioners, water is an important component in the production of art works because they used water is to mix colors, wash their equipment such as brushes, color pallets, color mixing containers, washing their hands and also wash clothes that has stain of colors. Because of that, among the costs that need to be taken account and emphasized is the water bill. In art education centers, water resources are one of the most wastes. Usually art practitioner cleans their equipment in a sink in a toilet or special sink in their studio but it gets dirty because of color stain and art waste, and this polluted water or colored water which through drainage system, can cause disruption to the drainage and disposal system. Dirty and polluted water from color waste and chemicals from color will directly to reservoir. An invention of managing art waste water system has been suggested to solve this problem. A system where art waste water will be filtered using innovated two-layer sink with POP waste from Ceramic waste and hard clay also from ceramic waste to filter color and art waste like acrylic and oil paint.

Keywords: *Art waste, water waste, recycle, reused.*

1. Problem Statement/Product Statement

Water waste from art usually came from arts department and any department that used colour and it likely produces substantial amounts of waste like old paints, turpentine, clay, plaster, wires and other art materials. This water will flush directly to drainage and to reservoir. This coloured water also left stain in a sink.



Figure 1 Dirty Sink because of art waste

Source: <http://entertainingessays.blogspot.com/2014/09/the-dirty-art-sink.html>



Figure 2 Cleaning tools can leave art waste in the sink and the polluted water

Source:

https://www.reddit.com/r/mildlyinteresting/comments/bis9t8/the_sink_in_my_art_class_before_i_rinsed_it_out/

2. Usefulness

This ideation will help to reused art water waste for other purposes and this will help to reduce waste water during cleaning art tools. Usually the amount of water needed to clean tools is just a small amount but it needs thoroughly clean in order to prevent colour such as acrylic, paint, water colour get harden on brush. Art student also often cleaning their hand and this used lots of water, so that's why this invention can help to reduce waste water during school, and semester session.

3. Project Target/Objectives

This water system can help to reduced and avoid water pollution and also building maintenance cost can be reduce when there is less plumbing problem. The cleanliness of toilets and sinks will be maintained when there are no colour pollutants and green environment can be maintained without water pollution.

4. Product / Project

This water system will be placed at art class, and the used of this sink is only for cleaning art material such as color and paint. Water that been filtered will drained into a large tank, this clean water will be used for cleaning purposes such as cleaning other art material or floor and drain around building. This will save cost of water usage for cleaning.

There are two layer of filter and it will be maintaining the cleanliness by lifting up the hard waste filter. The first layer that used as color filter also need to cleans by scooping color that trap on the top layer and its ready to used again. This system is easy and less cost of maintenance the second layer which is hard clay doesn't need maintenance unless it it no longer filters water, then new clay needs to be replaced.

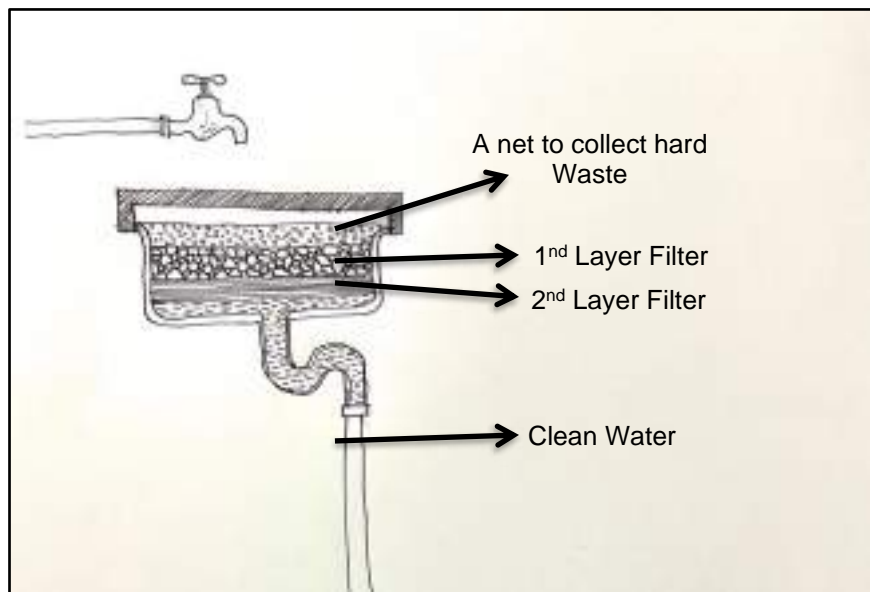


Figure 1 Sink with two layers of filter.

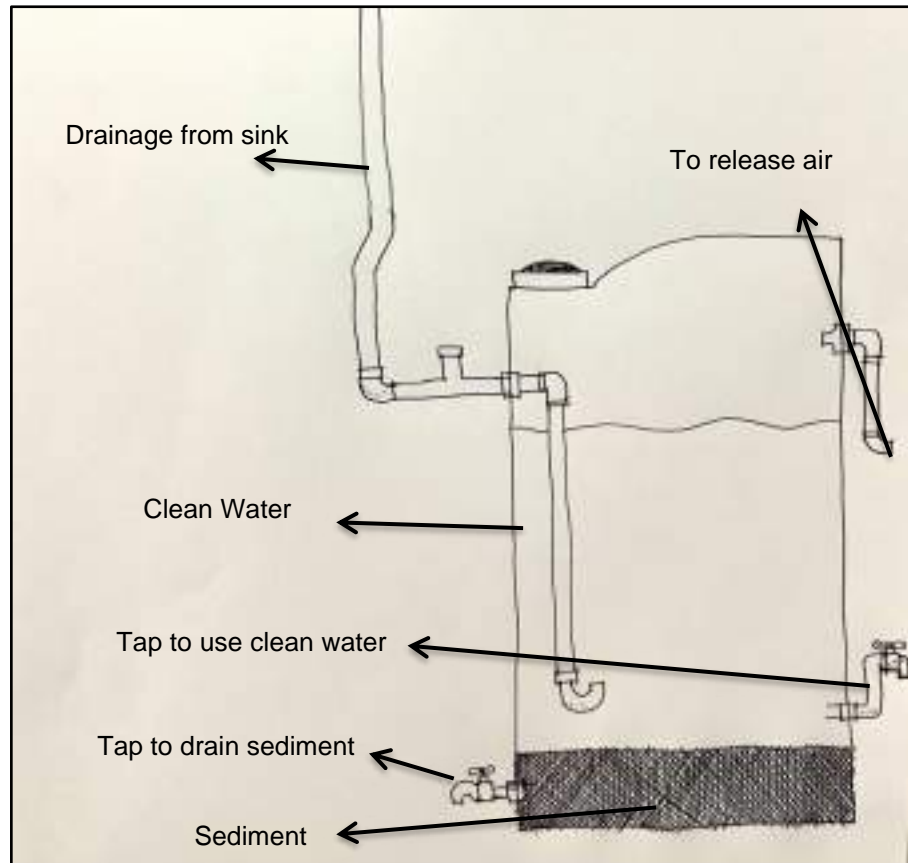


Figure 2 A tank where all filtered waste water will be collect and reused for other purposes.

5. Commercialization and Potential

This innovation can be used in all type of university, school, organization, personnel art studio, and kindergarten and preschool that has art activity or washed colour or art waste. It is not expensive and it used other waste as a filter and this filter can be used many times so the maintenance cost will be cheaper and water bill for unnecessary used can be reduced. This is a new idea and innovation in order to save our earth, government and organization that have art waste should use this system to manage their waste in order to save environment and cost.

6. Novelty

Having a green and clean environment without pollution especially water pollution is effective for studying environment and this system is a discipline to guide new art practitioner especially among student and children. Cost effectiveness to organization especially school and institution because once budget for plumbing and cleanliness of sink and toilet can be reduce, automatically that budget can be used for others purposes. Cleanliness and beauty of a facility in institution can give good perception and good reputation to public.

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https://www.reddit.com/r/mildlyinteresting/comments/bis9t8/the_sink_in_my_art_class_before_i_rinsed_it_out/

NED - ADJUSTABLE TABLE DIVIDER

Devia Nanda Salsabila¹, Hilda Septiani Amalia², Intan Ayu Rahmania³
Universitas Sebelas Maret

Abstract

NED Adjustable Table Divider's concepts are to make an adjustable product, so it will be easier to do the health protocol in this hybrid era by the physical distance method. This product can protect our loved ones by the droplets of saliva or microorganism.

The material used for the standing part is ABS Plastic (*Acrylonitrile Butadiene Styrene*), which has good characteristics such as good durability, high rigidity, safe for children and medical equipment. The next one is the screen for the main protection. The screen used PVC plastic sheet. It has very good durability, lightweight, elastic and flexible.

The product also equipped with UV light inside to sterilize the screen from the bacteria when it is rolled inward. UV light has a wavelength from 4 nm to 400 nm, whereas the highest efficiency to control microorganisms at 365 nm wavelength. But UV light have a weak penetration power, that's why the UV light of the product is right on the top of the screen sheet so it can sterilize the screen. This product comes with adjustable bracket that easy to use with the same material as the standing part.

Keywords: *Hybrid, Pandemics, Health Protocol, Social Distance*

1. Problem Statement/Product Statement

Hybrid era is a transitional era or new normal. It's the time that people can go outside and do activities, but one must keep in mind that we still have to follow the health protocol. With this hybrid era, sometimes people tend to forget and do activity without any physical distance between one to another, especially in public places such as restaurant, school, or even office. This can cause another wave of COVID-19.

2. Usefulness

This product designed to prevent the spread of COVID-19. It can be used as shield in hybrid era such as restaurant, office, school, etc. by dividing the table without eliminate social aspect because it comes in different color, transparent and the solid color.

3. Project Target/Objectives

Employees
Students
Community
Commoners

4. Product/Project/Process



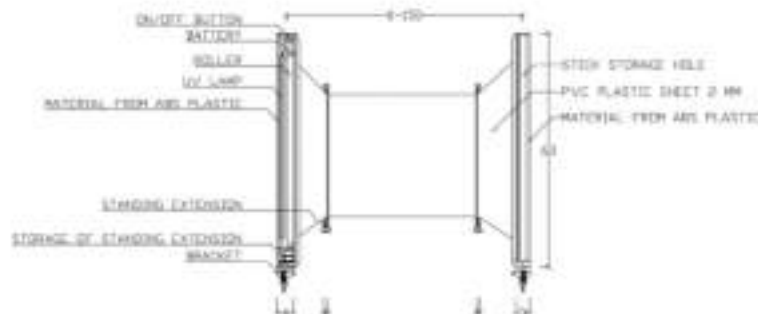
NED - Adjustable Table Divider

Product Features



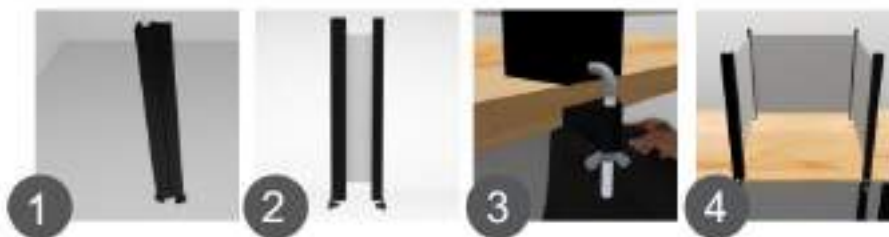
Product Features

Detail Construction Design



Detail Construction Drawing/Design

Product Operational



1. Prepare the product
2. Open the product and pull the shield
3. Adjust the bracket to surface
4. Shape according the table

D - Product Operational

5. Commercialization and Potential

Even though Covid-19 cases are starting to decline now, we must not be reckless and must remain vigilant. Hybrid era like this will at least be carried out until the pandemic is completely over, and because of that, product specialized for hybrid era like this is very important. This product can be produced massively to people who need it with medium to high-end consumer targets.

6. Novelty

Easy to grab-and-go goods. This product can divide area from one person to another
Can fit in any flat surfaced table
Equipped with UV Light that can kills bacteria or virus

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NATURAL FIBER LAMINATION OF MENDONG PLANTS (*FIMBRISTYLIS GLOBULOSA*) AS AN INNOVATION TO INCREASE COMMUNITY COLLABORATION IN PLEMBON HAMLET, YOGYAKARTA, INDONESIA

Dinda Karina Yohanny
Faculty of Art and Design / Sebelas Maret University

Abstract

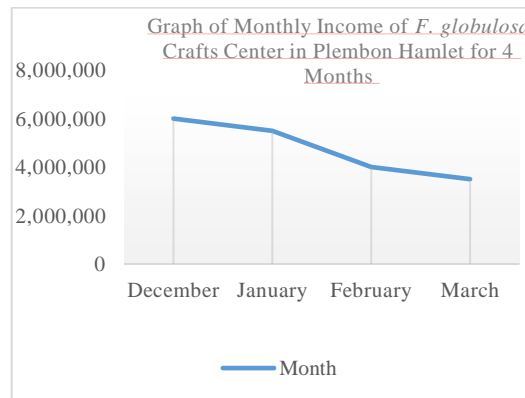
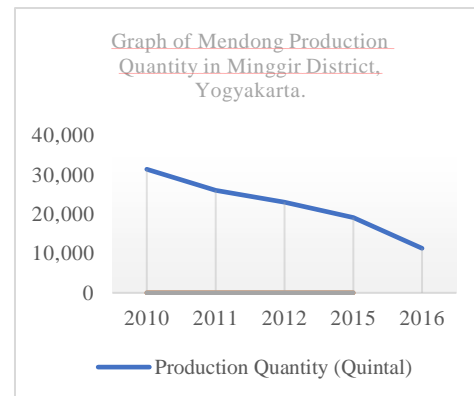
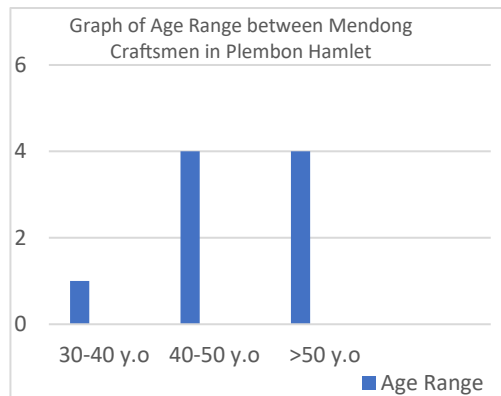
The mendong plant (*Fimbristylis globulosa*) is a grass species in the Cyperaceae family that grows about 100 cm in height and thrives in locations with plenty of water and sunlight. Farmers must wait around 4-6 months to harvest mendong and then dry them in the sun. After that, the craftsmen will turn it into items to sell to consumers. Mendong is a common crop in Indonesia, with one of the most notable examples being in Plembon Hamlet, Sendangsari Village, Minggir District, Yogyakarta, where it is the principal agricultural commodity. Handcrafted dry mendong products are part of the creative economy and are sold on the market by small and medium enterprises (SMEs). Deriji Craft, which has been in business since 2009, is one of the SMEs. However, because mendong farmers' and craftsmen's majority are elderly, issues such as lack of cooperation across community groups ranging from farmers to weavers to the craftsmen to collectors, difficulty in regeneration, and decreased productivity develop (harvested area and total production). Furthermore, when dry mendong plants are not processed into products, they are sold for a low price. So, started with the problem formulation, the article aims to innovate by using natural fiber lamination made from mendong as an ingredient to create items with a higher selling price. The mendong is woven and pressed to create high-quality laminated boards with a lovely pattern while maintaining the traditional and local woven fiber structure. This innovation can thus improve collaboration and establish a social community for the surrounding neighborhood by manufacturing natural fiber lamination.

Keywords: *Community, collaboration, mendong, lamination, natural fiber*

1. Problem Statement/Product Statement

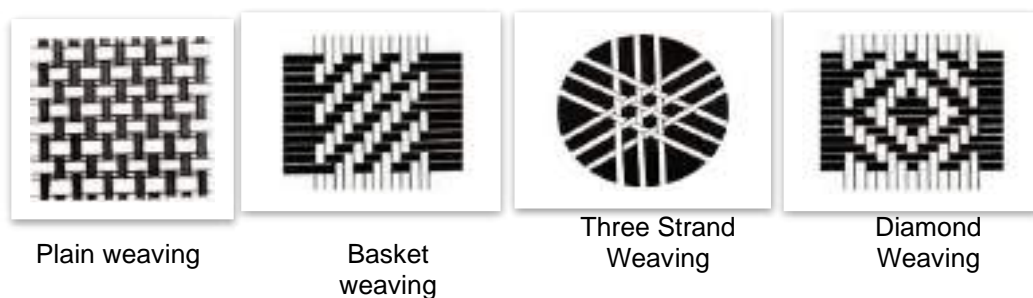
- 1) There is a huge potential for mendong plants in Plembon Hamlet, Sendangsari Village, Minggir District, Yogyakarta, with an area of 66 Ha (59 percent), however most of them are still uncultivated. The majority of the farmers offer raw mendong, which is only priced at 4000 rupiahs per bunch/ per kilogram. Only a few of them then weave mendong into mats and sell them to craftsmen.
- 2) Because farmers and craftsmen regeneration are difficult (most of them are elderly) and cooperation is lacking, they continue to employ the wholesale system, resulting in lower productivity.
- 3) The marketing of mendong and its products has also experienced obstacles and a decline due to the covid 19 pandemic. Farmers usually distribute it to collectors or craftsmen, so that if there are no collectors, mendong cannot be marketed or made into products.

- 4) Generally, the lamination process uses synthetic adhesives that are detrimental to human health and the environment due to excessive emissions, such as headaches, ARI, eye diseases, and others.



2. Usefulness

With the *F. globulosa* laminate and this design, the problems will be solved, and cooperation will be established, resulting in the formation of a social community in Plembon Hamlet. This collaboration will broaden the range and opportunity for local products, thereby boosting the local economy. Furthermore, the simple laminating procedure will simplify and speed up the performance, making it suitable for all age groups. The cold press process used to laminate *F. globulosa* uses an environmentally safe adhesive while yet preserving the diversity of traditional *F. globulosa* woven designs and local character, as illustrated below:



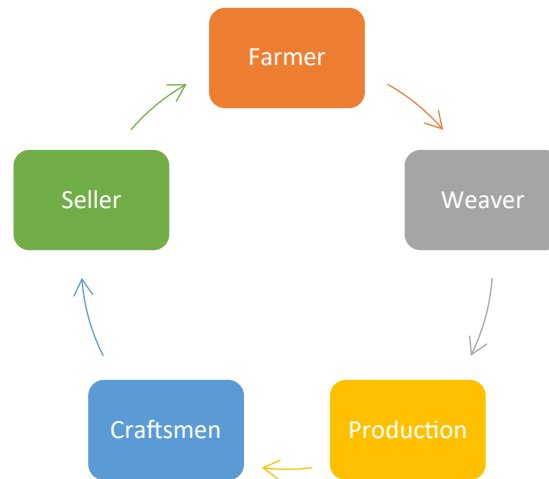


Illustration of Community Collaboration (Social Impact)

3. Project Target/Objectives

- 1) Creating citizen and social community collaboration between independent and sustainable farmers, weavers and *F. globulosa* craftsmen.
- 2) Designing alternative innovations and variations of woven motifs on product designs from *F. globulosa* laminates that are environmentally friendly and have high selling value.
- 3) Developing the potential of local products towards global by empowering the community.
- 4) Increase the selling price of products made from *F. globulosa* lamination and the economy of the local community.

4. Product/Project/Process

- 1) Process
 - a. Material

The equipment used are as follows:

 - Measuring tool (ruler and caliper)
 - Cutting tool (scissor and cutter)
 - Press tool (made of two solid wood planks and clamp-C)

- Digital scale
- Glass
- Paperclip
- Brush
- The materials used are as follows:
- Mendong
- PVAC
- Water



b. Methods

- Harvested mendong plants are dried in the sun for a day.
- Dry Mendong cut into sizes 15cm and 10cm in quantity according to the distribution of layers by weight.
- Weigh PVAc and water. Then stir until blended.
- Lay out the first layer on the mold then apply a mixture of PVAc and water using a brush.
- Attach the second layer of mendong. Repeat until layer 3 and 5.
- Close the mold and place the Clamp-c on all four sides of the mold. Fasten it.
- Wait for 12 hours.
- Open the mold and remove the laminate.

2) Product



Figure 1: (Features: Products Made from Mendong Laminates)

5. Commercialization and Potential

- 1) Domestic market : various islands within Indonesia besides Java (Bali, Sulawesi, Papua, Kalimantan, Sumatra).



- 2) Foreign market (export) : According to Statistics Indonesia (BPS), the countries that became the largest export destinations for *F. globulosa* products from 2009-2013 were the United States, Japan, Germany, and the Netherlands.

6. Novelty

The application of the natural fiber lamination method with the basic material of mendong plant which has the characteristics of traditional weaving and local identity and is environmentally friendly as a result of the application of community-based design.

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Informant:

Dwiyanto (50 years old). March, 11th 2020. Plembon Hamlet, Sendangsari Village, Minggir District, Yogyakarta.

PRESTAZI: MAXIMIZE STUDENTS' POTENTIAL AND PASSION IN PANDEMIC

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Abstract

Due to the impact of the COVID-19 pandemic, 68 million students in Indonesia and 127.9 million students worldwide require their schools to be closed (UNESCO, 2021). As a result, all learning activities are conducted online. But don't let the pandemic get in the way of students realizing their full potential and passions. One way to increase the potential and passion of students is to take part in a competition or take self-development lessons. However, according to the Institute of Competition Sciences, in our society, many automatically identify competition with having a winner and a loser. The negative stigma tied to the term "Competition" produce a biased view of the natural act of competing. It keeps us from realizing the true power and benefits that can be had through competition for all of our students. (Neubert, 2016). Many students are hesitant to participate in a competition because of this stigma. In fact, by participating in the competition can have many benefits for their self-development. Participating in a competition, according to research from the National Center for Biotechnology Information, can have a significant beneficial effect. These findings have significant ramifications in terms of education and other real-world settings. That's why "Prestazi" was created as a platform to solve this problem. Prestazi is an application that collects competition information from various categories online, media to publish the results of students' achievements. And provide soft skills classes, webinars, workshops, etc. to increase the potential and passion of students.

Keywords: *Pandemics, educational status, problem-based learning, students, competition*

1. Problem Statement/Product Statement

As Students:

1. Covid-19 causing disruption in education forcing a new method of learning offline to online
2. Student not participating due to the lack of competitive spirit even though participating in competitions help realize the individual hidden potential
3. Due to the lack of dissemination the students are baffled to choose the appropriate competition that are suitable for the individual
4. The stigma surrounding competition as the antithesis of collaboration. That makes students feel discouraged to participate. Even though competing is not always about winning or losing, as a result of competing, may result in disappointment and frustration

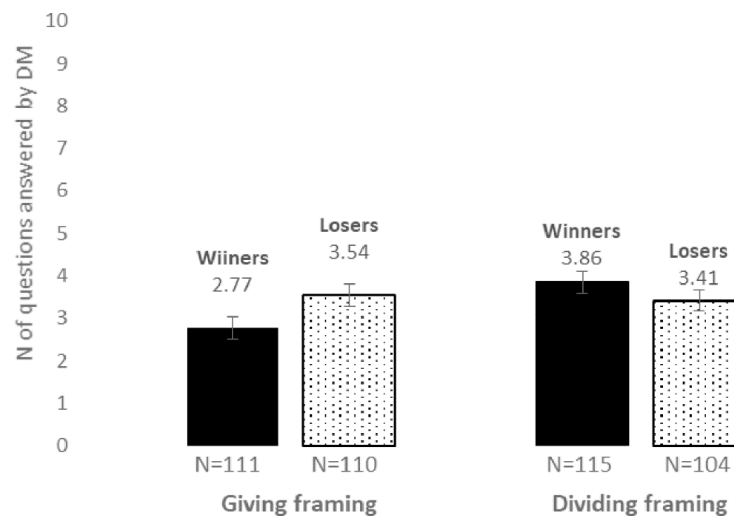


Figure 1 The effect of contest participation and contest outcome on subsequent prosocial behavior. (Moyal & Ritov, 2020)

5. As a committee: Lack of entrants traffic [to their competition](#) & event because the lack of dissemination causing the spreading of information not reaching the optimal result. For instance, Facebook shows you limited demographics for the people your posts reach (Origami Globe, 2020).



Figure 2 “People Reached” on Facebook about spreading a contest information

2. Usefulness

1. Connecting various parties such as the students or participant with trainers, tutors and competition/event committee
2. Compiling information about competition from various category by using an online platform
3. Applying to competition/event easily and efficiently

4. Providing classes, event, and webinar related to self-development and skill upgrading.
5. Appreciating and highlighting the winner's achievement in the news highlight
6. Make it easier for the competition/event committee to disseminate about the competition/event.

3. Project Target/Objectives

1. Guiding the students to help realize their hidden talent or passion within themselves
2. Nurturing the student's competitive spirit without forgetting their collaborative side
3. Help students get more experience for their future careers
4. Engage students in realizing the full potential of their future
5. Make it easier for the competition committee to disseminate information.

4. Product/Project/Process



Figure 3 Loading page, Home page, and Competition



Figure 4 Features: Organizer, Submission, and Profile

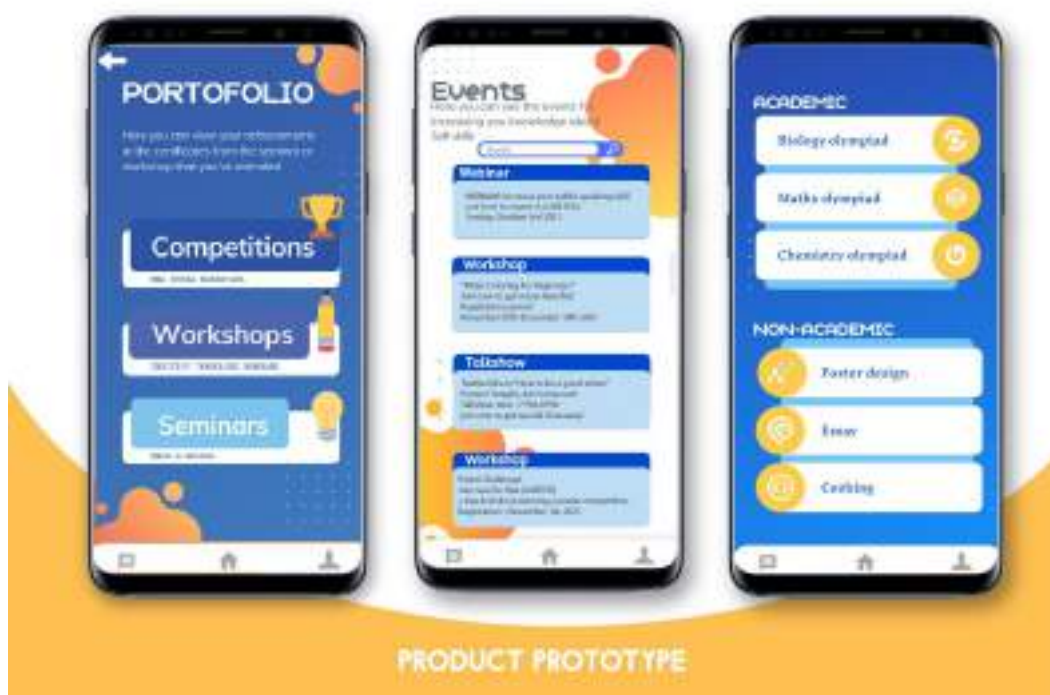


Figure 5 Features: Portfolio, Events, and Academic & Non-Academic Classes

5. Commercialization and Potential

1. Student as a participant: There are 127,9 million students in this world from 17 countries that are affected by the pandemic and result in their method of learning to change from offline to online. Prestazi is made to accommodate the students with subscription and paying fees for competition, events and mentoring classes online
2. Competitions and events committee: Make a collaboration with the competition committee that benefits both sides and by making an event to promote to the user
3. Mentors, experts,& trainers collaborate to participate in teaching the students.

6. Novelty

1. An app that compile all skills or potential upgrading activities on an online platform
2. Showcase students' skills and achievement in news highlight to inspire others
3. Make the process of applying easier for the participant
4. Make it easier for the user to submit their creation with the "submission" feature
5. Make it easier for the competition/event committee to make and distribute certificate

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NEKO PET FURNITURE

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Abstract

Pets such as dogs and cats are considered part of the family who lives under the same roof. Like any other family member, their everyday needs from eating, drinking, sleeping, to playing must be met properly. As a good pet owner, of course we want to provide the best and proper facilities for our pets. Along with the increasing human concern for animals and the level of animal adoption, especially during the COVID-19 pandemic, special products for pets are needed that are also beneficial for their owners. Indonesia is one of the largest contributor countries to furniture industry exports in the world. Some cities that are famous for their furniture production are Yogyakarta and Jepara. SMEs in Yogyakarta are famous for their use of sandalwood bamboo materials, while in Jepara are more focused on the use of teak and mahogany wood materials. Seeing the potential of the furniture industry in Yogyakarta with its bamboo specialty and Jepara with its mahogany wood, we designed pet furniture products with these natural materials so that later it can help to add new market SMEs in Yogyakarta and Jepara during this unfortunate pandemic.

Keywords: *pet furniture, pandemic, SMEs, natural material*

1. Problem Statement

Cats have a sleeping habit an average of 12-15 hours. Therefore, it is important for them to have a decent and comfortable place to sleep. Other cat habits that are often ruled out by cat owners is the habit of scratching. The habit of scratching things by cats is common and normal (Overall, 1998b). Outdoor cats tend to scratch on vertical objects such as tree trunk. Sometimes on horizontal pieces as well, like bark, soil, or dirt (Landsberg, 1991c). As for indoor cats tend to scratch on different material such as carpet, wood, or fabric. Cats often return to the same object of scratching. However, this habit often makes the furniture around the house damaged. That's why pet furniture is invented and needed around the house.

The COVID-19 pandemic has an indirect impact on SMEs in Indonesia. Especially in terms of local and export shipments. The pandemic has an impact on the community's economic decline which causes decrease on furniture order demand. Therefore, SMEs need to rack their brains and find the appropriate market in this difficult time. The pet furniture market can be the right choice for SMEs due to the increasing number of cat adoptions during pandemic.

2. Usefulness

For this reason, we designed a multi-functional NEKO Side Table made of mahogany wood and multiplex. This product can be function as storage, table, cat bed, and scratcher. This product is suitable for consumers who have a modern minimalist design taste. As for other

alternative design, the NEKO Bamboo Box is made of sandalwood bamboo as the main material. Its main function is as a place to put litter box in the room so it can't be seen directly from the outside and does not interfere with the aesthetics of the room. It can also be converted into a cat bed or a storage.

3. Project Target

The target of this pet furniture product project is people who keep cats with modern, natural, and minimalist design tastes. This pet furniture is suitable to be placed in a room with a modern, tropical, and zen design. Pet furniture products with bamboo material are also suitable for consumers who are concerned with sustainability.

4. Product



Product 1 NEKO Bamboo Box



Product 2 NEKO Side Table

5. Commercialization and Potential

According to an article published by the Norwegian Ministry of Foreign Affairs, Indonesia is one of the largest furniture exporters in the world. Based on Indonesian Statistics, the export

value of Indonesian furniture reached 1.7 billion USD in 2019. While Yahoo! Finance reports The Global Pet Furniture Market size was estimated at USD 1,070.99 Million in 2020 and expected to reach USD 1,154.13 Million in 2021, at a Compound Annual Growth Rate (CAGR) 8.10% from 2020 to 2026 to reach USD 1,709.13 Million by 2026. It shows that pet furniture products have a big potential to be commercialized, especially in Europe which already has special provisions for exporting pet furniture products. In Indonesia alone, not many SMEs produce and market pet furniture products so the competition is still not tight.

6. Novelty

In Indonesia, SMEs rarely sell and produce pet furniture products. Especially those using bamboo and mahogany wood. Most pet furniture sold in the market has playful design toward the cat but less concerned with the taste of the pet owner. Our design is relatively new in the use of bamboo and mahogany material, also pays attention to the tastes of the pet owner and multi-functional. Bamboo material is an environmentally friendly material that is inexpensive and its use is still rarely explored by SMEs, specifically in the form of pet furniture products. The use of various materials is adapted to SMEs specialty with aesthetics that emphasize the human aspect.

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FOLKTALES ANIMATION ON SERVERWARE FOR TOURIST ATTRACTION

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Abstract

In Malaysia there are 100s over folklore story in each state and region, it is unpopular among children and new generation because lack of exposure to them. This tableware set visual innovation project has been inspired by myths, legends and the history in Malaysia. The visual illustration grabs the attention and leaves an indelible mark in the minds and hearts of anyone that sees it. This innovation aims to be a medium between the tools and the surrounding community whereby the tools that are often used serves as a visual reminder. Product serve ware that have story and its Malaysian Folklore, this product will give signature and memorable to collectors and buyers

Keywords: *Folktales animation, tourist attraction, server ware.*

1. Problem Statement/Product Statement

Ancient folklores and legends are no longer popular among the younger generation because they are considered archaic. This is mainly due to the lack of exposure of ancient folklores and legends to the modern community and advent of advance technology in the world today. Therefore, this tableware set visual innovation project will serve as a reminder to the modern society about the valuable moral values in ancient folklore and myths. From a psychological aspect, it has been proven that it is much easier to remember something when we are often exposed to a visual presentation or visual image of the said object. The Power of visual images is not to be underestimated.

2. Usefulness

This product is used as tableware and can be used daily. The design and its packaging is so suitable for souvenir and gift. There are collector who love to collect tableware and this product is attractive to uses as decoration. Last but not least this product is used for educational purposes and it is so interesting that student can learn and its attract kid who does not like to eat, to sit and eat in order to discover a story of a folklore.

3. Project Target/Objectives

As a medium that serves as a reminder to the younger generation about the ancient folklore and myths in Malaysia. Using an interesting image that familiar to the user will make it more memorable. As a memento or souvenir for local and foreign tourist that reflects the ancient folklores and myths in Malaysia. To create a locally produced product that reflects the local identity and also as a means of branding local products by the Malaysian community.

4. Product / Project



Figure 1 Sample of Folklore story

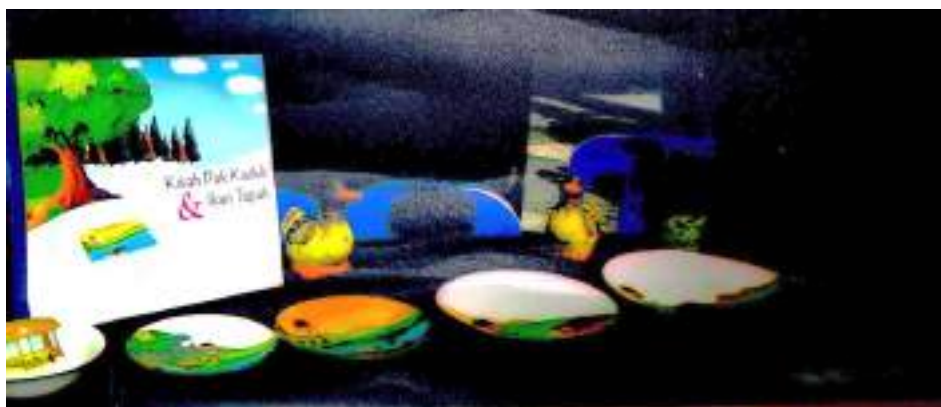


Figure 2 Sample of Sets Server ware with Folklore Animation

5. Commercialization and Potential

The product can be used by the hotels in Malaysia as it reflects the Malaysian identity. The product can be used as souvenirs by the Tourism Ministry to be given to foreign dignitaries. The product can be used as souvenirs by the national Department of Culture and Arts to be

given to foreign tourist and delegacies. The product can be used in cultural exhibitions by the National Heritage Department and the National Museum to showcase the local Malay myths and folklore that will serve as reminder to the modern community. The product can be also used as a learning tool in kindergartens to stimulate and develop the visual senses of children.

This product has won

- Gold award at Universiti Teknologi MARA Perak Branch Innovation Competition
- Silver Award at 6th Internantional Invention and Innovation Universiti Teknologi MARA
- Silver Award at 1st Asian Invention and Innovation Competition Bandung Indonesia
- Pattern and copyright has been registered and waiting for approval

6. Novelty

In every region and country, they usually have signature or identity product base on their region, with this idea and concept of Malaysian folklore animation on serve ware it is sure that it will be memorable and our folklore will not disappear because effort to expose our culture is consistently done.

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BRANDING OF 360-VIDEO BASED LEARNING

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Abstract

Lockdowns in response to COVID-19 have disrupted traditional schooling, leading in nationwide higher education closings. While the educational community worked hard to maintain learning continuity during this time, instructors were forced to rely more on their own resources to continue learning remotely via the Internet, television, or radio. They must also adjust to new educational concepts and instructional delivery strategies with which they may be unfamiliar. As a result of the Covid-19 incident, Universiti Teknologi MARA, Malaysia established a one-stop centre known as the Centre for Delivery Learning (CIDL), which is housed within the Office of the Vice Chancellor. This CIDL group has formed 18 Collaborative Groups (CG), one of which is CG 360 Video Based Learning. CG Based Video Learning is a forum for sharing knowledge and ideas about how to conduct classes using video teaching, such as 360-degree video. The team frequently develops relationships on social media platforms such as Facebook Live and YouTube Live, and has garnered positive feedback. As a result, a logo was created to establish the team as a brand that can serve as a reminder to the audience to continue to support and remember this 360-Video Based Learning team in each live broadcast session, thereby increasing the number of audience so that video-based learning techniques can be used by all educators. This is since brand logos are an essential component of institution visual identity. We feel that this 360-degree video-based learning branding will elicit attention because it reflects the organisation we represent.

Keywords: *remote learning, logo, branding, identity, higher education*

1. Problem Statement/Product Statement

The 360-Video Based Learning team is a new addition to CIDL, and many UiTM instructors are unaware of it. As a result, this logo is created to establish our own identity and branding to match the organisation we represent because we feel a logo can instantly capture the attention of viewers and communicate our group fundamental values in an exciting way.

2. Usefulness

The Advantages of Using a Logo

1. As an identity branding tool for both internal and external audiences interested in learning more about the CG-360 Video Based Learning team.
2. Provide succinct information via the logo, which includes an explanation of the type and graphics used.
3. To sustain audiences' interest in the learning session as it becomes more professional in appearance

3. Project Target/Objectives

1. to acclimate audiences to the 360-Video Based Learning environment
2. to establish the 360-Video Based Learning team as a trademark under the CIDL UiTM
3. to communicate to audiences the concept of the logo element as visual communication.

4. Product/Project/Process



Figure 1

5. Commercialization and Potential

In the 360-Video Based Learning team, the logo's aim is to help the audience remember the message through the communication graphic. It creates a strong professional image, which helps audiences feel more secure in the sharing session and master class material.

6. NOVELTY

This is a brand identity that will assist audiences inside and outside UiTM in remembering the 360-Video Based Learning team as a professional organisation that provides video learning content via a social media platform.

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THE INVENTION OF THE “ROBOTIC IN EDUCATION” MODULE BOX

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Abstract

Malaysia is progressing toward becoming a developed country, with a greater emphasis on improving the education system as the country's mainstay in propelling Malaysia forward. With a focus on science and technology, robotics is a fairly interchangeable term in the context of science, mathematics, stem, and technology. Indeed, incorporating robotics into the educational system is a step in the right direction toward achieving that goal. Education is the most critical factor of everyday life make it more advanced. Information is often divided into hundreds or even thousands of elements, technology and robotics are one of its sciences. It definitely contains hands-on instructional kits when it comes to robotics and technology.

Introduction

The invention of an Education Module Box begins with the use of a paper box for a printed product which can be used as an educational tool. For the time being, an Education Module Box innovation can be viewed as a structured set of material. A Module Box for Education may support a course purpose, a course target, a subject, a principle, or a theme. Using a storyboard or a collection of dependencies, instructors can set a structured path through the content objects. Understanding the first notion relies on knowing the second notion. Alternatively, teachers may encourage learners to explore the content in any order and at their own speed in a Learning Module. Education is the most critical factor of everyday life with the goal of making it more advanced. Information is often divided into hundreds or even thousands of elements and technology and robotics are one of its sciences. It definitely contains hands-on instructional kits when it comes to robotics and technology. An education module box with almost all the kits used to learn about technology and robotics was born in this respect. In this sense. Pleasure is also required in the best way and method when finding information. This makes it really important for teachers and students to build and use this box for this education module.

Literature Review

The learning kit is defined as a comprehensive teaching material for learning topics (Dewan Bahasa & Pustaka 2007, p.48). Different teaching aids for a subject can be developed and prepared. Teaching and learning kits are called the instructional tools stored in a container (plastic, boxes, wood, etc) (Norzainariah Abu Hassan, 2004). This storage is designed to make management and storage easier. Learning kits usually have non-electronic visual equipment and material, such as alphabet cards, storyboards, photos, plastic blocks, storey cassettes (Norzainariah, 2004) and boxes, with tools used throughout the learning process and other activities (Prihatiningtyas et.al, 2012). The learning kit is intended to facilitate learning and understanding of the topic for students. The way the learning kit is used is a learning strategy to help improve student performance that can be implemented by teachers. The students' achievement through the use of learning kits will be more effective. This is because students are able to understand and master a concept and improve the test results in the classroom.

Design and Concept

Design and concept thinking in education is a way of thinking about learning, collaboration, and problem solving. The design process is a structured framework for identifying challenges, gathering information, generating potential solutions, refining ideas, and testing solutions. Design Thinking can be used in a variety of ways, including as a framework for course design or as a road map for an activity or group project. The teaching and learn (Kob, 2016)ing can provide a variety of support for design and concept thinking in education including design consultation, brainstorming kit and physical prototyping kit which is can used for project, session and courses including active learning and facilities strategies. Meanwhile in education, teaching materials are important not only for improving student achievement in the classroom, but also for improving student understanding of the subject. Students can be more creative and learn new things more quickly. Teachers provide students with a broad understanding of co in relation to everyday materials. Various examples and activities with the teaching kit ultimately improve the overall performance of the students. The design process is well established in fields such as engineering, architecture, and computer science, and consists of the basic steps of planning (analysis and design), development, implementation, and evaluation (refer to the figure below). The design process is frequently initiated by a need, a problem, or a challenge

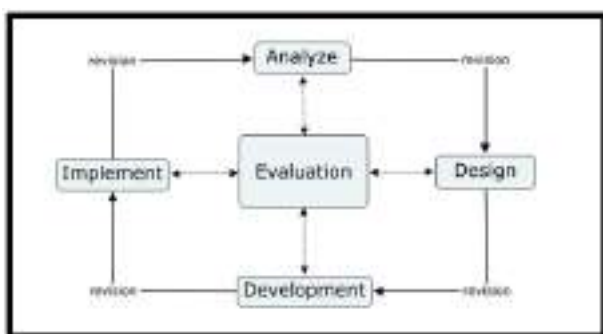


Figure 1 : ADDIE Model By Fav203

The design process can be used in higher education to develop, renew, and improve any aspect of learning and teaching. Curriculum design, task design, spatial design, classroom layout, assessment design, curriculum alignment, instructional design, human-computer interface design, programmed instruction, adaptive technological systems, and pedagogical design are a few examples. Teaching itself is increasingly described as a designerly task.

Robotic Module Box

This education kit is a learning kit that help to improve how to deliver learning and teaching session in a classroom. The development from old to the new learning module box.



Figure 2 : Old Packaging



Figure 3 : Robotic Module Box Design



Figure 4 : Robotic Module Box

Function & Element

The primary reason packaging is created is to store products in cost-effective ways, to meet industry needs and consumer desires, and to ensure the product's safety. There are numerous factors that can be related to effective packaging that aids in the product's existence to the consumer. Packaging serves the following purposes :

- To protect
- Marketing and information
- Convenience
- Transportation

Packaging allows the product's quality to be preserved while also keeping the product safe. In other words, packaging will protect against three major external factors: chemical, biological, and even physical. Chemical protection can help to minimise changes in product composition caused by environmental influences such as exposure to damp and light. There are numerous materials that can act as a barrier to chemical influence. Biological protection, on the other hand, can act as a barrier to microorganisms, insects, rats, and other animals that can cause dangerous disease. Physical protection can prevent mechanical damage to the product and reduce physical impact during the delivery process.

Packaging is the product's face and the only medium through which the product is exposed to the consumer. In general, appealing and innovative packaging can boost sales while also adding value to the product. Packaging can also be used to improve the image of a product and differentiate it from other products on the market.

Aside from that, packaging can provide consumers with information about the company and the product. For example, product and company information, slogan words, ingredients, nutrition value, net weight, and bar code. Furthermore, packaging can convey important product information such as how to use and store the product, brand identification, and price. This educational kit will, of course, help students and teachers during learning and teaching sessions, particularly in the subject and field of robotics. Apart from being able to increase the impact in education, it can also have a more positive impact on teachers and students. After the product has been packed, it will be easier to handle. It also depends on the suitability of the material used in the product's packaging. This product is handled from the time it is packaged at the cafe until it reaches the hands of the consumer.

Novelty

When education becomes part of human life, education is, of course, the main goal of progress. Talking about the development and creation of something modern that is more sophisticated and, of course, seeks to promote human work. These changes and innovations are necessary because they must keep pace with the rapidly changing modernization trends. It is also important to build and develop a package in order to satisfy the ever-changing demand, depending on the situation and needs. The reforms centered on how to collect and bundle all the kits required for education in a box used for education. Besides that, it also has its own Augmented Reality (AR) which enables digital information to be superimposed and integrated into our physical environment. AR is a tool that can help us transform our immediate surroundings into learning, work and entertainment spaces as its novelty as shown in figure 5. Next, this education module box also has used the benefit of social media which is filter that been used in taking photos or selfie can be used as education purposed. Figure 6 shown that on this box its contains QR Code so that the student can download our own Instagram filter to be used as to attract others to joins robotic

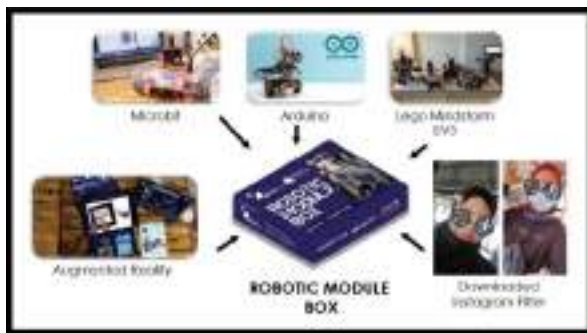


Figure 5 Innovation & Added Value



Figure 6 : QR Code & Augmented Reality

Conclusion

At the end of the education and learning process, teachers are also able to achieve the expected learning goals in every subject. In a study by Jasmi et al. (2011), kit aid is a means of enhancing the efficiency of student-centrated learning by teachers. In their study, teachers participated only 25% in the classroom. The abstract content can also be explained by using the learning kit. This facilitates students' understanding of the subject (Mohsin & Hassan, 2011). Indirectly, the use of right and multi-faceted learning kits can achieved students' passive behaviour because they can stimulate the students' interest in continually participating and motivating and wanting to learn about education (Nurhanim Saadah et al.,2013). Learning is therefore no longer dependent on traditional equipment as a medium for education, like chalk, blackboard and textbooks (Ahmad Zanzali & Daud, 2010; Haizum Hanim Ab. Halim & Lai, 2011). Learning kits therefore play an important part not only in enabling students to understand a concept easily in their teaching and education, but also to attract them. The utilisation of teaching kits in education and learning is an alternative to teaching and learning success. The role of teachers is essential to make the classroom creative.

Recommendation

A quality educational kit starts with an attractive way of packaging and has its own distinctive appeal. The results of this research have clearly shown a good impact on consumers especially its use in the education sector. Printing quality and design are the most critical aspects in producing a quality printing box. When it comes to education, of course, it is a sector that has no limits, but the aspect of delivery in education is the most emphasized. Various suggestions and views we need to take as a starting point to something greater and quality. Building a brand in education should also emphasize the quality aspect for use by students. We must take the initiative in always trying to convey something useful. The effectiveness of this Robotic Module Box surely can be a recommendation for future reseacrh depending on how its will give an impact through learning in classroom.

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BATIK APPLICATION IN ART AND CRAFT OF CULTURAL PRODUCTION TOWARDS MALAYSIAN TRADITIONAL GAME: PORTABLE INNO-CRAFT TENG-TENG

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4

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Abstract

Malaysia consists of multiracial society and enriches the cultural aspect. Malays are among the races in the country that depicted their unique culture from past to current generation. Besides, being Malaysia's dominant ethnic group, Malays are recognized by their rich cultural heritage, especially in traditional games. Unfortunately, traditional games are no longer being seen as popular as universal games. Hopscotch is a popular traditional game and popularly known as Teng-Teng or Ketinting among Malaysian society. Nevertheless, this traditional game was forgotten with the emergence of digital technology games. This research embarks the reinvention towards the creation of traditional games with the Malay identity preservation into the Portable Inno-Craft Teng-Teng (PICT). This innovation also applied with Batik motif as an application in art & craft of cultural production towards Malaysian traditional game. Thus it rests on the Hopscotch (Teng-Teng) traditional game as a case study. This study purpose is to explore the capability of this innovation as a mechanism in attracting the young generation to appreciate the product of culture along with preserving the Malaysian traditional game in future. The research will be conducted by qualitative method through a visual analysis approach. Focuses on the valuable thoughts from society and focuses on the concept of reinventing the Malaysian traditional game without neglecting the preservation towards the Malay identity through the batik application as a medium of art and craft cultural production.

Keywords: *Batik, Malay traditional game, Malay cultural production, Teng-Teng*

1. PROBLEM STATEMENT

A review of the previous research found that Malay cultural heritage towards traditional games of Teng-Teng or Ketinting have been forgotten with the arising of modern technology games. According to the literature, this effect could be explained through the research of Siti Murni Mat Ali et al, (2019) and Kun and Shahreen Mat Nayan (2019) agreed on the difficulty in obtaining traditional game equipment, uneasy sizes to carry, and the price of expensive products are among the factors that traditional games is faded away.

In addition, the lack of exposure and comprehension towards the origins and history of the traditional game among the generations contribute to the issue. There is an urgent need to rectify this problem and with that, researchers ideate the innovation product of Portable Inno-Craft Teng-Teng to solve the issue from previous matter. The creation of the innovative product highlighted the added value by using the batik material as the design identity on the product material as well as the packaging. The product of culture represents the identity of a nation aesthetically. In this research context, the use of Batik as an application of the innovative product material and the packaging in art and craft helps to enhance the productivity of the Malaysian cultural product by presenting the batik pattern and design worldwide. Many strategies have been proposed in literature to deal with the use of Batik design towards art and craft as a cultural production.

According to Hendayana et.al, (2019) stated that with unique packaging, the public image of batik handicraft products is expected to be higher. The aesthetic of packaging that portrayed the identity of Malaysia was seen through the application of the batik material into the production of art and craft. The material of Malaysian Batik applied the floral motif as the design identity which has been used in the production of Portable Inno-Craft Teng-Teng throughout the design process. However, as discussed in the literature, there is a loophole in giving a new idea to batik design and people only used the Batik as a home wear or as a 'Batik Sarong'. The statement supported by Hanipah Hussin et al., (2016) whereby not many batik are trying to introduce new ideas, static design and was not renewed, causing batik enthusiasts to shy away for a while. Thus, to make batik as a commercial product, it needs to be a usable product and parallel with taste and trends from society. Razali et al., (2021) discussed the challenges of the batik industry in Malaysia consisting of issues on local design plagiarism, lack of demand, local batik identity, intellectual property, current youth trends, lack of employees, and no marketing innovation. Entrepreneurs and designers need to use the channels that have been provided to help them achieve global competitiveness for products and services.

It should be noted that previous research has indicated that to commercialize the batik as a cultural product, the role of entrepreneurs and designers need to be highlighted and considered to enlighten the batik industry towards arts and crafts. Here, the focus of the research is to embark the reinvention towards the creation of traditional games with the Malay identity preservation into the Portable Inno-Craft Teng-Teng (PICT) by using the batik pattern and design as the material.

2. USEFULNESS

There were clear benefits to be seen in the creation of the innovative product idea by the researchers. Portable Inno-Craft Teng-Teng functions and is useful to society because the innovation focuses on the product durability, practicality, mobility, and handiness yet convenience.

2.1 Durability

The durability of the batik material applied the use of kapok, a material of silky fibre from the silk-cotton tree and were covered with the batik cloth and later stitched into a creative and unique product as a form of traditional game, Teng-Teng. In a traditional way, Teng-Teng was played on the ground of sand or cement. Players need to use chalk to make the frame line for the game. Eventually, the existence of this innovative product enhances the product's durability and long-lasting use.

2.2 Practicality

The form of design shape makes this innovative product easy to carry, handle and were designed to the purpose of storage space as it is foldable and storable.

2.3 Mobility

Portable Inno-Craft Teng-Teng is a portable that can be moved from one place to another place. Convince the players to play it anywhere and everywhere and also provide it with a safe ambience.

2.4 Handiness and Convenience

The weight of the innovative product can be handled easily and washable by hand or users may apply the stain remover spray on the product's surface for better results.

3. PROJECT OBJECTIVES

This project objective aimed at further understanding of the problem. This research's main purpose is to explore the capability of this innovation as a mechanism in attracting the young generation to appreciate the product of culture along with preserving the Malaysian traditional game in future. The research embarks the reinvention towards the creation of traditional games with the Malay identity preservation into the Portable Inno-Craft Teng-Teng (PICT). The innovation also applied with the Batik motif as an application in art and craft cultural production towards Malaysian traditional game. A secondary objective of this research was to preserve the Malaysian traditional game in future especially for the young generation. Thirdly, specifically researchers aim to preserve and prosper the batik industry in Malaysia.

4. PRODUCT PROCESS

This research undergoes the qualitative method through a visual analysis approach. The method focuses on the valuable thoughts from society and with the concept of reinventing the Malaysian traditional game without neglecting the preservation towards the Malay identity through the batik application as a medium of art and craft of cultural production. Furthermore, this research will determine the interest among the young generation in appreciating the Malay traditional game along with the emergence of present digital games. This research undergoes the qualitative method through survey for pre-test and post-test regarding the product innovation to collect the required data and information related to achieve the research objective. The survey is distributed to the focus group to test the research objectives:

- Audience is the young generation between the ages of 20-35 years old.
- Audiences that are interested in sustaining a Malay traditional game.
- Audiences that are interested in the innovation and invention of Malay traditional games.

The use of questionnaires as an instrument was targeted to the group of people as the target audience. The questionnaire aims to gather the data from the target audience based on their demographics, their comprehension of the Malay Traditional game which is Teng-Teng and their thoughtful opinion of this innovative product intended to use for the research. The pre-test questions are about the audience's understanding towards the Teng-Teng playing method and the valuable thought of the Malay traditional product innovation. The post-test questions are more focused on the commercialization of the innovation product. Apart from this, researchers applied the combination of ADDIE design models for the design process. These models have been known for a year as credible methods. ADDIE is the acronym of Analysis, Design, Development, Implementation and Evaluation.

4.1 Analysis

The innovative products of Portable Inno-Craft Teng-Teng were executed with the first phase of analysis. The product referred to visual images of several Malaysian Batik patterns and design to generate the ideation of the product's packaging.

4.2 Design

Following the analysis phase, researchers used the preliminary thought from the audience based on their ideas and thoughts related to the innovative products to be produced. Data findings from the audience will be used as a source of inspiration in the context to produce this traditional game Portable Inno-Craft Teng-Teng.

4.3 Development

At this phase, the development of the product or the prototype concentrates on the design pattern by referring to the wants and demands from the audience through the gathered data collection. Using Adobe Illustrator to design the innovation of the product's packaging, the researchers begin to sketch and colour the packaging prototype.

4.4 Implementation

Throughout this phase, the product's prototype is ready to be tested. Experiments are performed on the innovation products to obtain relevant feedback for commercial purposes. This is based on the test method of Pre-Test and Post-Test.

4.5 Evaluation

The evaluations were conducted through the survey form to be given to the same target audience in the preliminary stage by using the Google Form. During this session, any issue discovered may be fixed or improved.

Table 1. User Feedback towards Portable Inno-Craft Teng Teng (While Using)

| No. | Questions. | Percentage | |
|-----|---|--------------|-------------|
| | | Yes | No |
| 1 | Colour elements in the product should be applied with traditional Malay elements. | 95.1% | 4.9% |
| 2 | Product Design <i>Teng-Teng</i> to be produced must also symbolize Traditional Malay. | 100% | 0% |
| 3 | This <i>Teng-Teng</i> product should be easy to carry. | 95.1% | 4.9% |
| 4 | <i>Teng-Teng</i> products are unique and suitable for handicrafts and souvenirs | 95.1% | 4.9% |
| 5 | <i>Teng-Teng</i> products are easy to store | 95.1% | 4.9% |

Table 2. User Feedback towards Portable Inno-Craft Teng Teng (After Using)

| No. | Questions. | Percentage | |
|-----|---|-------------|-----------|
| | | Yes | No |
| 1 | <i>PICT</i> has creative and exciting innovation ideas | 100% | 0% |
| 2 | This <i>PICT</i> product can be as a gift. | 100% | 0% |
| 3 | Has a small sack for storage of mounds. | 100% | 0% |
| 4 | Environmentally Friendly Materials as innovation product materials. | 100% | 0% |



Figure 1 The Product of *Portable Inno-Craft Teng-Teng*
The actual size and shape are Length-135cm x Width-40cm



Figure 2 The New Product's Packaging of *Portable Inno-Craft Teng-Teng*
The size and shape are Width-18" x Dimension-6" x Height-18"

5. COMMERCIALIZATION AND POTENTIAL

The aesthetic of PICT is using batik cotton to introduce or highlight the Malay culture. The process of cultural production using batik design comes with a colourful and element of floral pattern that makes the PICT attract users that can generate commercialization. Other than that, PICT provides an opportunity to consumers or players to get to know the physical game such as size, shape, color, weight, texture and type. This product also can be commercialized as a souvenir in the context of re-dignifying traditional games to the current audience who are increasingly forgetting the Malay cultural traditions and identity through traditional games. The Fine Arts of Handicrafts are also widely disseminated with the use of batik fabric sewing skills for the production of Portable Inno-Craft Teng-Teng (PICT) that can bring new products or services to the market.

6. NOVELTY

The idea for Portable Inno-Craft Teng-Teng is based on the tagline 'Portable and Foldable' which incorporates traditional and aesthetic features with the use of materials from the batik cloth. Besides, it is environmentally friendly using materials like batik cotton and kapok (kekabu) only. The product also can be washed after the game ends. The handicrafts in this innovative product are based on the art of handmade, neat sewing on batik cloth using machine stitching.

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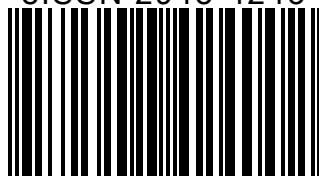


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