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THE WAY TO PRACTICE SUSTAINABILITY: WONDERS OF UPCYCLING PRODUCTS

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ABSTRACT

Up cycling is a process of converting old or discarded materials into something more useful and creative. It is also gives an item a better purpose. The concept of Up cycling ensures the product is made out of recyclable materials and better than the original product. In another term, up cycling actually increases the value of the product (Thanam Industry, June 2014). Creativity and innovation are the key factors that are needed to produce better and more beautiful products. It is also an easy and simple method which can be followed by others as a way to save our environment. In recent years , though the world of interiors has look into up cycling approach.

PROJECT INTRODUCTION

Instead of being tossed aside and replaced by new furnishings, objects or products are getting reimagined, upgraded and up cycled, giving them a chance to be useful again.(Joanne Lim, 2015). In this chapter, there are selected of seven (7) case study products from Fifty (50) students which were designed and made by the Applied Arts and Design Year 1 students, from the batch 15 session 2018/2019, Kulliyyah of Architecture and Environmental Design, International Islamic University Malaysia. The selected works are focussing on different themes : Culture, Nature, Animals, Flowers, Planet and Tree. These themes helped them to express their creativity in choosing the various reusable materials such as plastic bottles, rubber tyres, metal motorcycle spare parts, fans, car spring, plastic banners and buntings, tin cans, metal wires etc. the exploration of ideas gave them a sense of maturity in challenging the design creativity by putting the various materials together with colourful tones.

The term upcycling originated in the 1990s and means 'reuse (discarded objects or material) in such a way as to create a product of higher quality or value than the original' (Oxford English Dictionary, 2016; Wegener, 2016).

Upcycling activities are influenced by the particular social, economic and political context in which they take place. Two extremes are upcycling driven by necessity to meet basic human needs, for example using waste materials to construct shelters in informal settlements, and upcycling as an art or craft to make objects of beauty.

CONCEPTUAL PROCESS, PROCEDURE AND SCHEMATIC

The selected works are showcasing various conceptual ideas in which the designers refer to the various sets of themes. Upon deliberating the concepts, the transformation of ideas were developed to relate to the physical subject matters with the selected reusable / recycled materials.

The challenges is to design a lighting following suitable interior and outdoor environment. The abstract concepts are developed to meet the functional and aesthetic requirements.

The transformation are to explore the various limitation of the various selected materials such as plastics, tins, metals, rubber, wood etc.

METHOD / PROCEDURE

By experimenting the various selected materials to suit the formation of the lighting designs, the student designers were encouraged to explore on the concept of SUSTAINABILITY and NON WASTAGE.

As related to the Sustainable Development Goals SDGs by United Nation (2015), this project gave the student designers an overview of the importance in taking care of the environment and awareness on recycling and up cycling the various materials into better and more beautiful products. This will create better sustainable products which thus help to create better awareness in caring for the environment. The student designers faced the challenges of constructing their products following the themes.

TRENDS IN UPCYCLING IN STUDENT PROJECT

Even though the term, upcycling, is a neologism, Szaky (2014), suggests that it has existed for thousands of years as an individual practice of converting waste or used objects into higher value/quality objects. Szaky explains that reuse and upcycling were common practices around the world before the Industrial Revolution and are now more common in developing countries due to limited resources.

Recently, however, developed countries have paid more attention to object/product upcycling in commercial perspectives L. R. Hartman, (2014), due to the current marketability and the lowered cost of reused materials T. Vadicherla and D. Saravanan, (2014). In the United States, for example, the number of commercial products by product upcycling increased by more than 400% in 2011 R. J. Slotegraaf, (2012).

The selected seven (7) case study are based on the final results and the outcome of product produced by the students. The scope of assessment were included cost of materials, aesthetic, function and the academic documentation as shown in the tabulation 2.0.

The scope of products produced by upcycling varies: rugs from fabric scraps, refashioned clothes, remade furniture, soaps and fertilisers (and energy) from organic waste, artistic objects from scrap metal, and even a whole building from reused components from deconstruction among many others M. Martin and M. Eklund, (2011). The creation of jewellery, bags, clothes, and other fashion items by upcycling, in particular, is also called 'trashion' Anderson, (2009).

The benefits of upcycling were discussed on the basis of the three pillars of sustainability – economic, environmental and social sustainability. Most publications referred to environmental and/or economic benefits but far fewer discussed social benefits.

Environmental benefits included solid waste reduction (and prevention), landfill space saving, raw materials use reduction, energy use reduction, and greenhouse gas emission reduction.

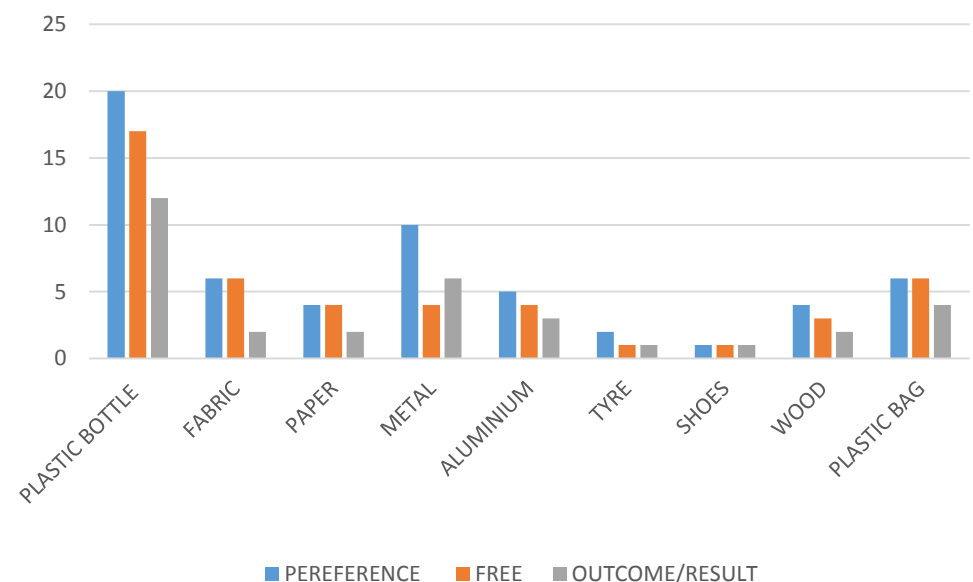
Economic benefits included cost savings and new profit opportunities for manufacturers, entrepreneurs and consumers. Social benefits in developing countries are mostly poverty alleviation and, in developed countries are more relevant to psychological well-being and socio-cultural benefits based on individual upcycling.

Table 1 : Finding sample 7 selected trend case study AAD Student batch 15 on material selection in the final product and concept

CASE STUDY	CONCEPT	MATERIAL SELECTION
CS 1	nature	fabric and paper
CS 5		plastic bottle
CS 2	african tribe design	wood, metal and colour plastic
CS 3	shoe	used shoes
CS 4	fruit	plastic from bottle and bicle weel
CS 6	betta fish	aluminium cane drink
CS 7	shell	tyre

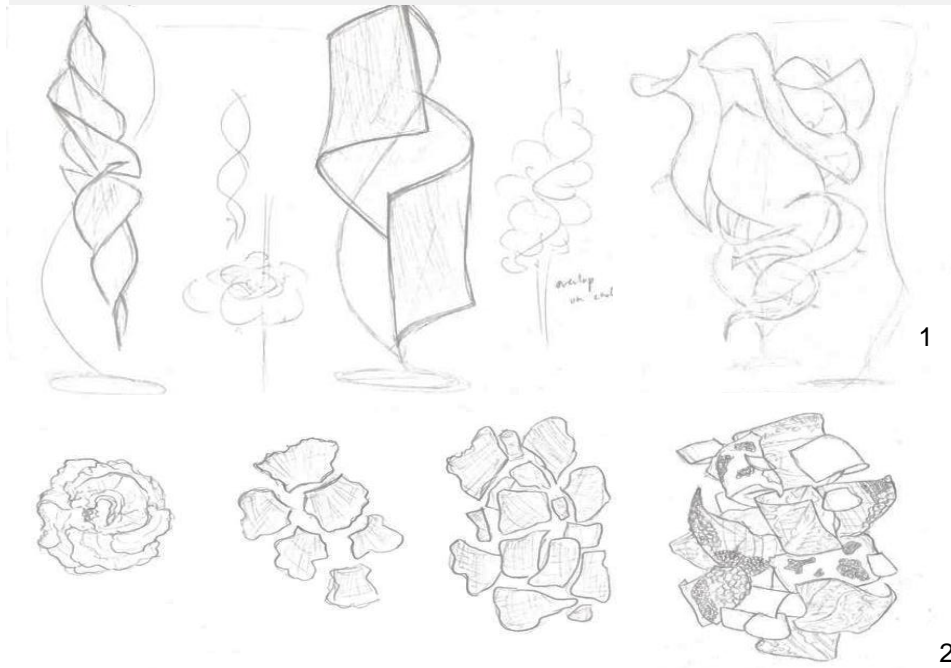
Table 2 : trends of selection materials, finding and outcome

TRENDS SELECTION MATERIALS AND RESULT OF FINAL PRODUCT



CASE STUDY 1 - RESEARCH / PROJECT FINDINGS

PROPOSED DESIGN



CONCEPT

The concept chosen is “The kingdom of underworld” where the design statement is the fungi which look a bit like the mushroom.

IDEA

Use the beautiful curves and features of the fungi. Implement the unique color segment into the design and parallel it with the idea of the placement lighting features inside the Balinese traditional spa.



Sculptural wall light is the light that have sculptural sconces that can be grouped together to create feature walls which have the visual impact of wall art installations. In contemporary homes where a minimal look is required and want the lighting to be unusual and special, these wall lights will work wonderfully. Consider using one of these sculptural wall lights on a wall with no other features, the light will add interesting detail to an otherwise plain area. Many of these sculptural wall lights provide ambient interesting lighting and lighting effects. This type of light provides a focal point on an otherwise plain wall. This range of decorative wall lights can easily be classed as art.

DESIGN STATEMENT

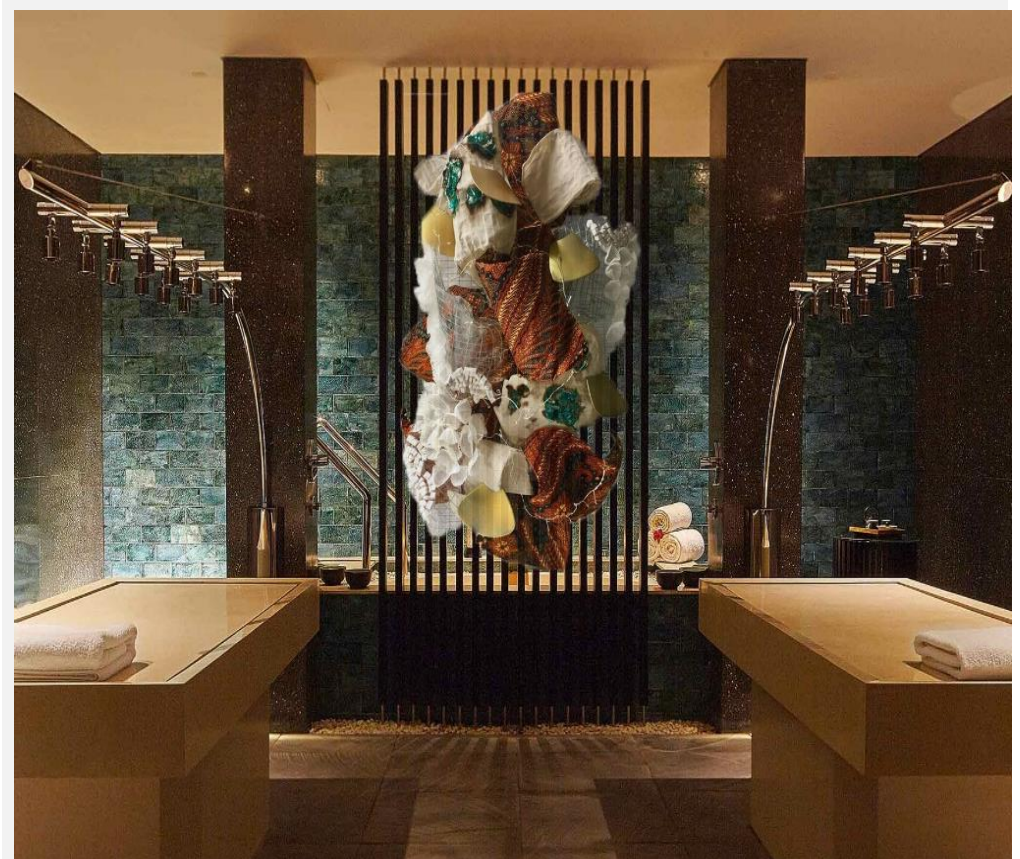
The concept is “The Kingdom of Underworld”. It is mainly focus on the uniqueness, the beautiful curves, the colour gradient and the wonderful creation of this underworld species.

The chosen subject matter for this lighting features is fungi or the specific name is *Schizophyllum commune*. From this concept, the designer intends to show the real beauty of this species and at the same time to emphasize on this unique creature in the world of nature.

The mood that the designer is trying to show is the mood of calmness and closer to nature.

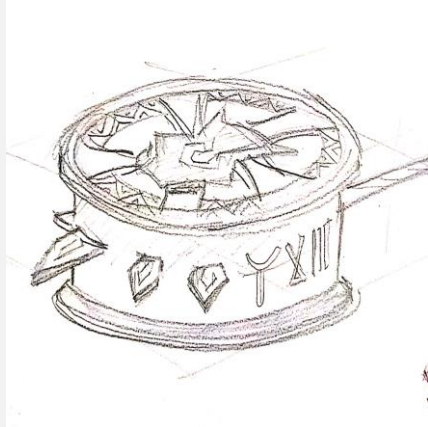


DESIGNERS' ILLUSTRATION



CASE STUDY 2 - RESEARCH / PROJECT FINDINGS

PROPOSED DESIGN



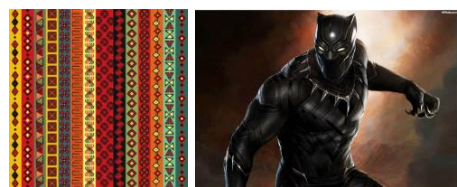
Whereby Allah guideth him who seeketh His good pleasure unto paths of peace. He bringeth them out of darkness unto light by His decree, and guideth them unto a straight path. (Quran 5:16)

Light is the source of life, giving us needed energy and uplifting our spirits. Without light, life stops. Lighting is the most essential element in the decoration of a space. We all need to bring more lighting into the spaces. Lighting creates, paradoxically, both reality and illusion.

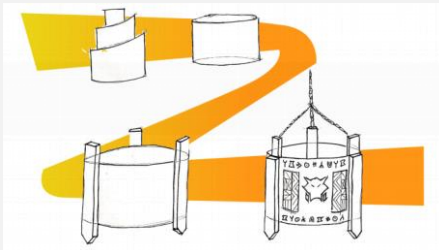
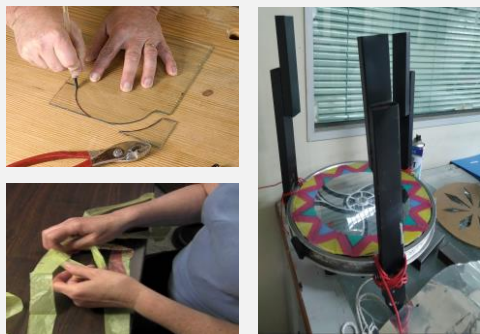
Its fixtures illuminate our treasured objects and highlights our favourite colours, as well as affects our mood, performance, and mental health on a daily basis.

CONCEPT

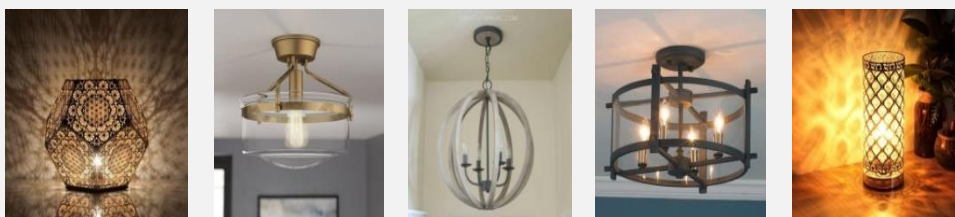
'African Tribal Design'



PROCESS



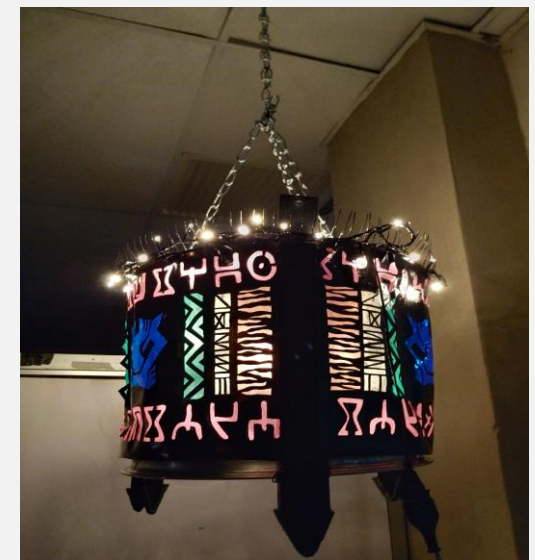
PRODUCT LINE UP



DESIGN STATEMENT

O mankind, indeed We have created you from male and female and made you peoples and tribes that you may know one another. Indeed, the most noble of you in the sight of Allah is the most righteous of you. Indeed, Allah is Knowing and Acquainted. (Quran 49 : 13)

Africa also plays an important role in the spread of Islam once. Inspired by the African's diverse tribal cultures, this project took the concept of 'African Tribal Design' which includes beautiful African tribal pattern and colourful design for the light.

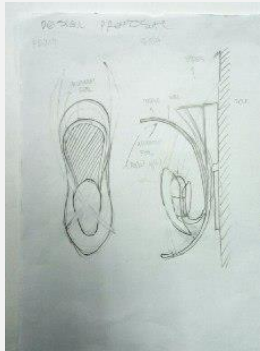


PROJECT FINDING



CASE STUDY 3 - RESEARCH / PROJECT FINDINGS

PROPOSED DESIGN



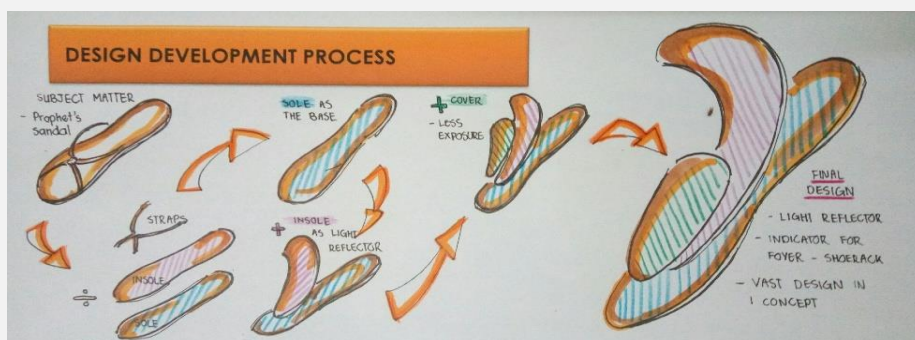
CONCEPT



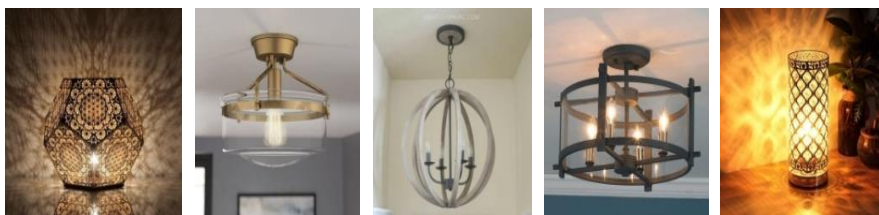
Jibril was sitting with the Prophet sallallahu 'alayhi wa sallam looking towards the sky, when he saw an angel. So Jibril - 'alayhis-salam - said to him: Indeed, this angel has never descended before today. So when the angel had descended, he said: O Muhammad! I have been sent by your Lord (to inquire) whether He should make you a Prophet-King or a Slave-Messenger. [It has been narrated by Ahmad, Al-Bazzar and Abu Ya'la, and its initial narrators are all the narrators of As-Sahih."]

Sunnah, lifestyle of the Prophet Muhammad S.A.W has been the main idea in this product, HUMBLE LAMP. His modest life is used as the concept. He is a leader for all of the Prophets, he was the King of Mecca and Madinah yet, he still humble and stay true in his way of Da'awah.

PROCESS



PRODUCT LINE UP

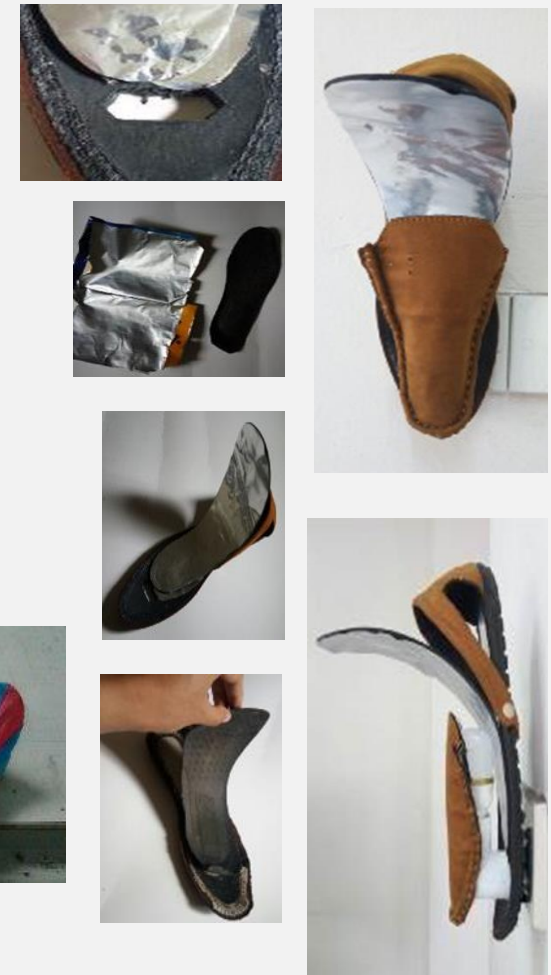


DESIGN STATEMENT

Designed in minimalist to have a great match between the humble concept and style. Subtraction was used widely by separating each parts of the shoe. Later, they were combined into a new form, high exposure same with the Prophet's sandals as in **Pic 2** form. The insole used as the light reflector in a way of someone is lowering his body, interpret the humbleness. Front cover of shoe was attached with the wall lamp, to avoid high exposure and creates reflection. Emphasizing the foyer as the place to put this HUMBLE LAMP, indicates the entrance, warm welcome and shows the place for the shoes to be placed on.



MODEL MAKING



DESIGNER ILLUSTRATION



PROJECT FINDING



CASE STUDY 4 - RESEARCH / PROJECT FINDINGS

PROPOSED DESIGN



6 sketches of different design of the light fixture . Mixture of three selected design with the color

CONCEPT

The concept Sweet Fire the subject matter is dragon fruit. Dragon fruit is a fruit that has many benefits: it contains high fiber and it also helps to lower blood pressure and helps control the level of blood glucose. Its origin from Mexico, Central and South America. And then spread in the Asian regions because of their need for heat. The name of the concept Inspired from the taste of fruit and the shape of the fruit that look like ball of fire .

RESEARCH BACKGROUND



The fruit of the dragon (Dragon Fruit) or Pitaya (**Figure 1**) which grows in the tropics and subtropical regions, which include Asia and Latin America, and the fruit in shape, and yellow and red, is a small fruit weighing about one hundred and ninety-nine grams, the fruit of the dragon contains important vitamins and minerals and The dragon fruit is low in calories, contains carbohydrates, proteins, fats and contains fiber. There are two types of fruit that differ in color from the inside, some white and the other pink color (**figures 2,3**) but have the same taste .

DESIGN STATEMENT

The color of the lighting is pink and little bit of green at the end of each leave These two colors were chosen to reflect the colors of the dragon fruit. The hidden meaning of using this kind of colors in design that these colors give meaning and feeling for the space, the green color give renewal, nature, and energy for the space, for pink color it gives romantic, charming and feminine touch in the space .The light fixture design is suitable for a girly and pink living

PROCESS

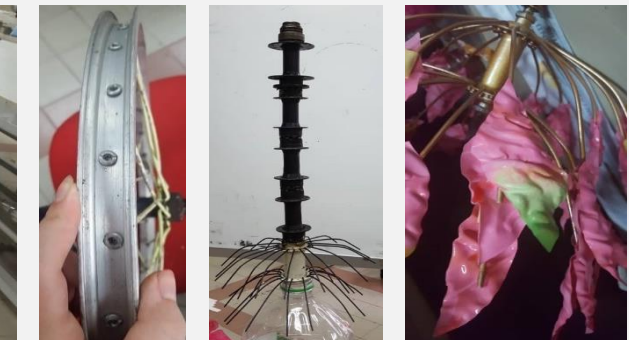
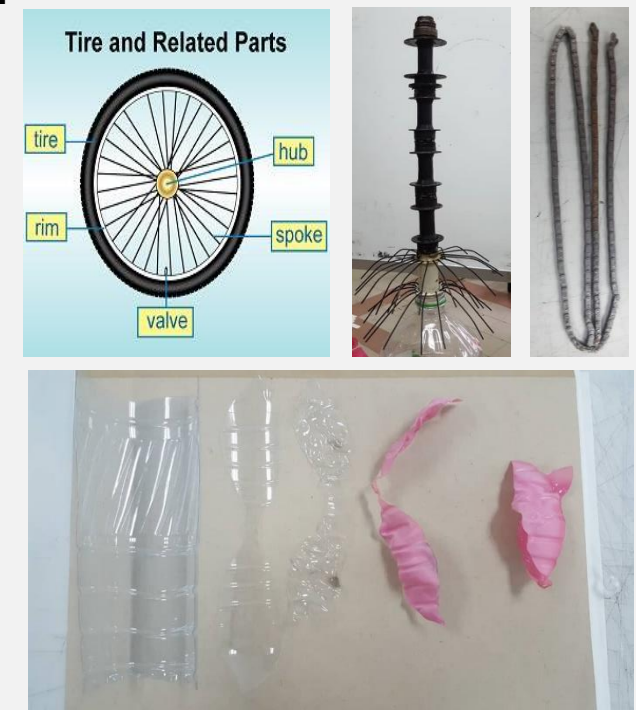


PROJECT FINDING

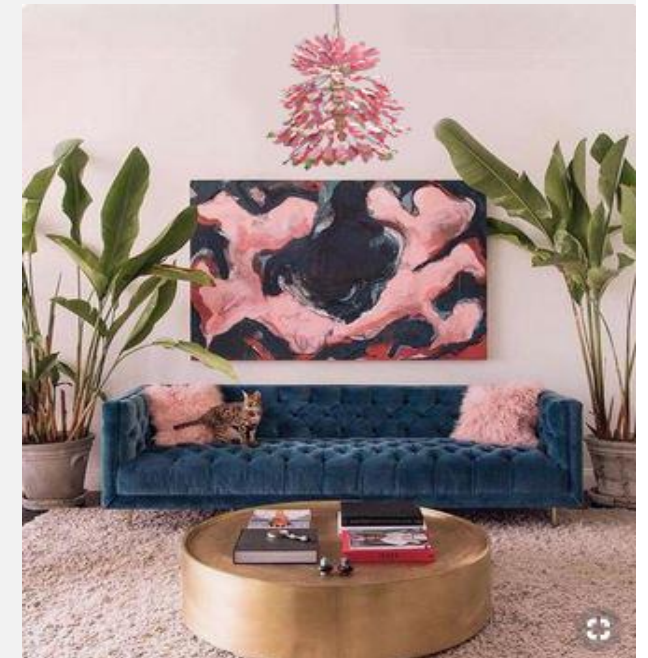
The light fixture is suitable
 For a girly living room its give some energy for the space and some feminine touch.



MODEL MAKING



DESIGNER ILLUSTRATION



CASE STUDY 5 - RESEARCH / PROJECT FINDINGS

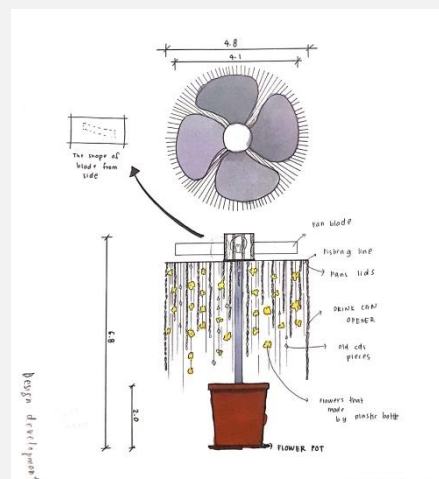
PROPOSED DESIGN

The idea is to give the effect of sparkling inside the room other than using stars.



CONCEPT

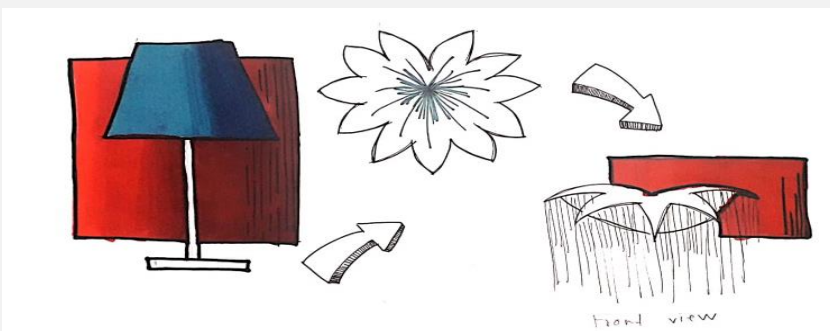
The concept for the design product is **'sparkling tears'**. The subject matter chosen for the design is **'skeleton flowers'** or called *Diphelleia grayi*



RESEARCH BACKGROUND

The subject matter that chosen was 'skeleton flowers' to get the concept of sparkling tears as the flower will turns almost transparent when it wet or rain fall down. Warm light was chosen as it helps to make someone feel more relax and help to wind down for the day. It is suitable used before sleep as sometimes people love reading books before fall into sleep

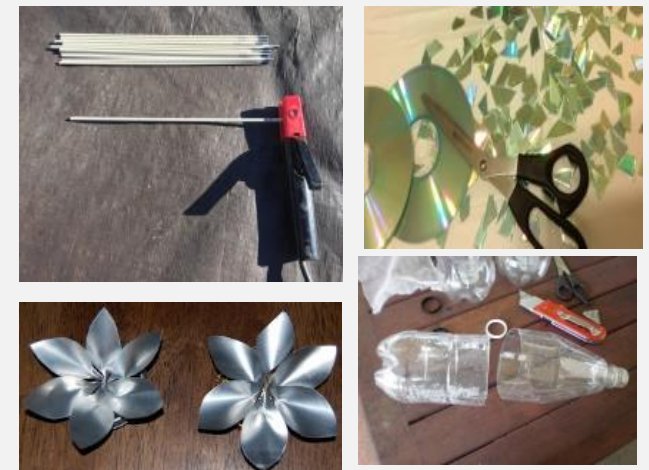
PROCESS



DESIGN STATEMENT

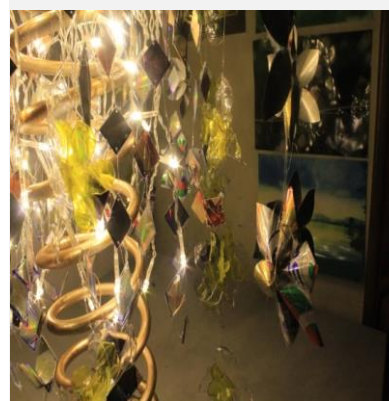
Skeleton flowers is one of rare flowers that can be found, the concept chosen for the design is sparkling tears. There are different stories behind all falling tears and the best one are those who can smile while they hurt inside. That is the idea that wanted to be interpreted in this design. The targeted users are teenagers especially for girls and the much more love sparkle than boys. It used for bedroom light.

MODEL MAKING



Cut all the recycle items into pieces before glued it to fishing line

PROJECT FINDING



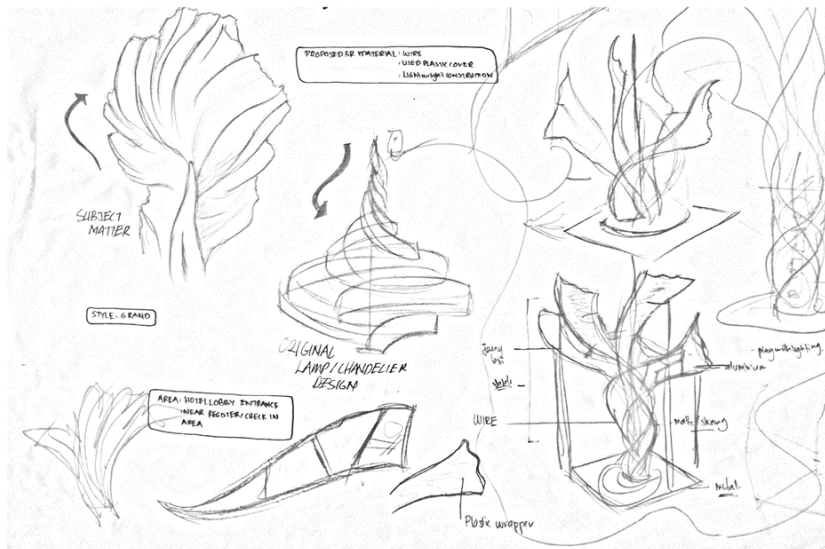
The Prophet (pbuh) said, "Allah said, "I have prepared for My righteous slaves (such excellent things) as no eye has ever seen, nor an ear has ever heard nor a human heart can ever think of.- Reported by Bukhari, Hadeeth

CASE STUDY 6 - RESEARCH / PROJECT FINDINGS

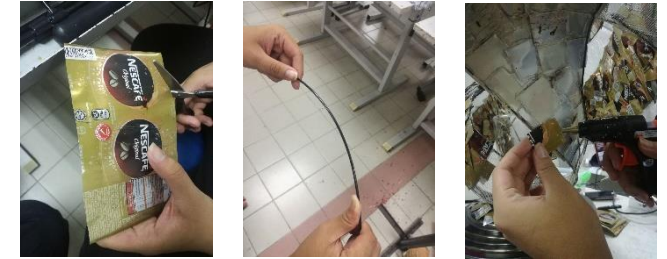
DESIGN DEVELOPMENT

MODEL MAKING

PROPOSED DESIGN



The process started by making the structure of the lamp, and then cutting the aluminum into small pieces, gluing them together and cutting the mosquito net as a support the structure.



CONCEPT

“Deadly Beauty” is about a story about the Betta fish itself where this fish is known for its beauty but has the characters to fight other fish. The design was inspired by the tail of the Betta fish. Its tail is beautiful, wavy and the pattern is unique by itself. The grandeur style was taken for the design to suit with the beautiful and colorful characters of the Betta fish which suits with the location case study.

PRODUCT LINE UP



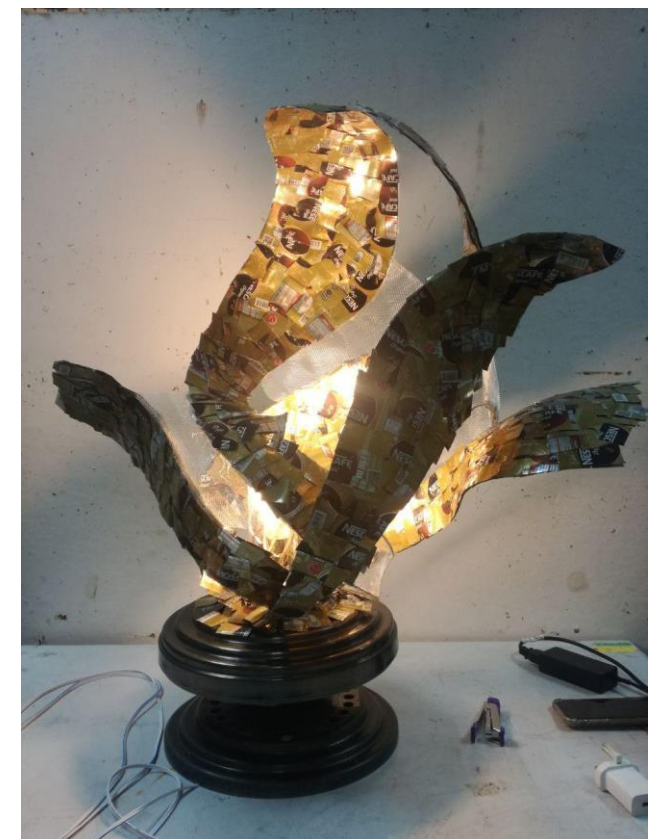
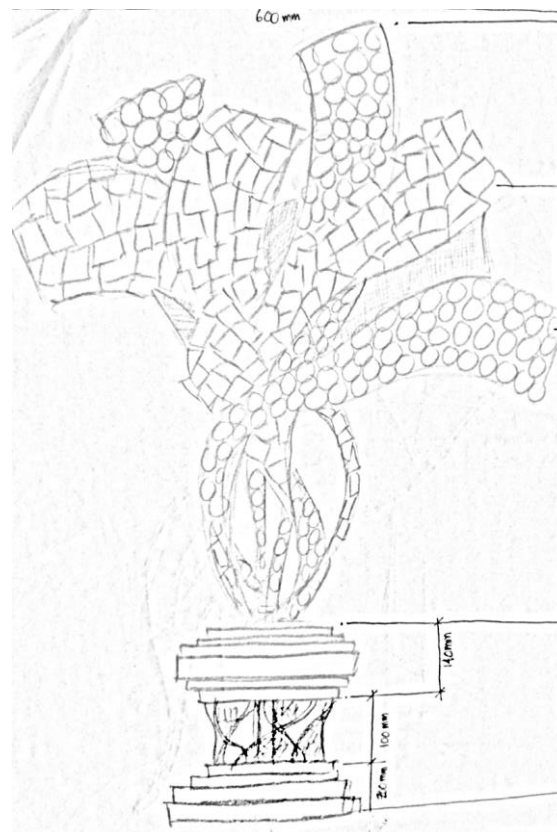
LIGHT FIXTURES	COLOURS	MATERIAL	INITIAL STRUCTURE	FORM	AREA	STYLE	TYPES OF LAMP	RESULTS
	GOLD	COOPER	RINGS	SWIRLING FORM	DINNER HALL	GRAND	HANGING	FROM THE RESEARCH LINE-UP, IT CAN BE CONCLUDE THAT THE DESIGNER WOULD LIKE TO CHOOSE THE FISH DESIGN OF CHANDELLIER AND THE CONCEPT OF GRANDOUR AND GOLD-BROWN COLOUR FOR THE DESIGN.
	BROWN	WIRE	BIRD NEST	OPEN SWIRL	PUBLIC AREA	CLASSIC	HANGING	
	GLITTER DIAMOND	DIAMOND	FALLING WATER DROP	RAINDROP	BANQUET HALL	SPARKLING	HANGING	
	DARK BROWN	IRON	DRILL	OVAL	ART EXHIBITION	ANTIQUE	HANGING	
	BROWN	WIRE AND STEEL	FISH AND SEA CREATURE	FISH TAIL FORM	DINNER HALL	CLASSIC	HANGING	

SCALE DRAWING & PROJECT FINDING



RESEARCH BACKGROUND

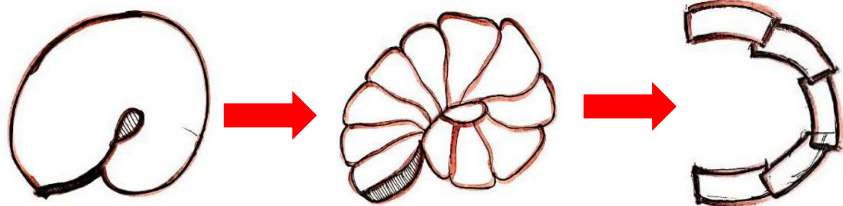
The Siamese fighting fish, also known as the betta, is a popular fish in the aquarium trade. Bettas are a member of the gourami family and are known to be highly territorial. Males in particular are prone to high levels of aggression and will attack each other if housed in the same tank. Bettas do not have to be kept in “solitary confinement,” as some people think. Female bettas can actually live together, and males can live with other species of fish.



CASE STUDY 7 - RESEARCH / PROJECT FINDINGS

CONCEPT

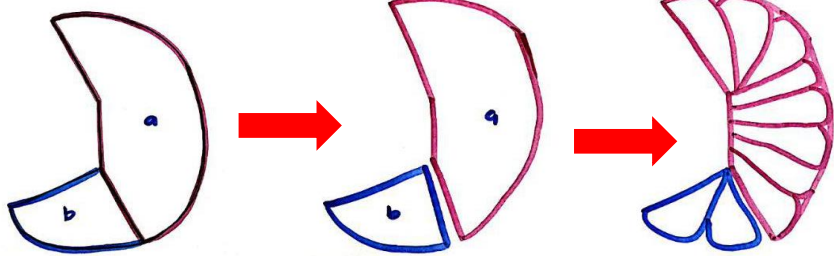
PROPOSED DESIGN



Derived from the seashell as subject matter.

Detail the seashell's texture.

Design the fixture lamp based on seashell.

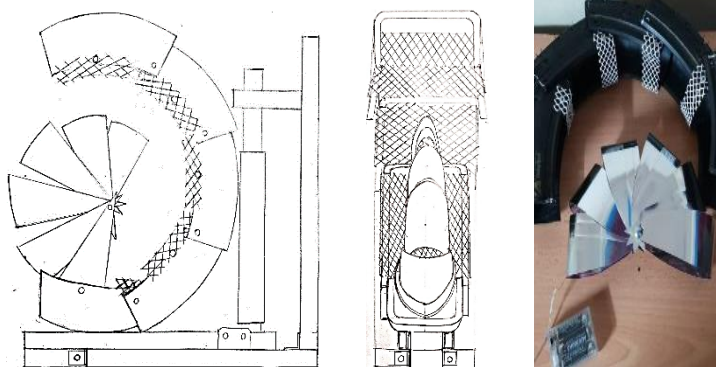


Derived from the seashell as subject matter.

Divided into 2 parts with different sizes.

Detail up the shape.

DESIGN DEVELOPMENT



RESEARCH BACKGROUND

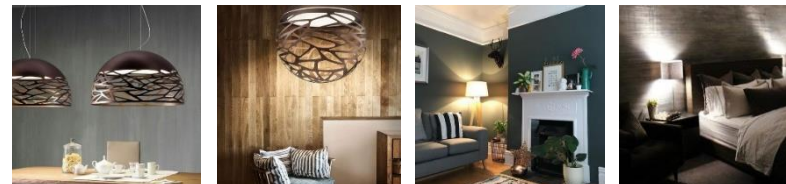
Seashell is the chosen subject matter because it has a unique shape, colours and intricate texture. The irregular curvy shape has been applied in final design. The student designer choose to design a table lamp which is suitable to be put in the bedroom setting. When the light turns on, the mystique shadow effect is reflected on the wall behind it.



The Shiny Seashell is derived from a seashell which has a unique spiral shape. The designer develops his product based on the texture of the seashell body.



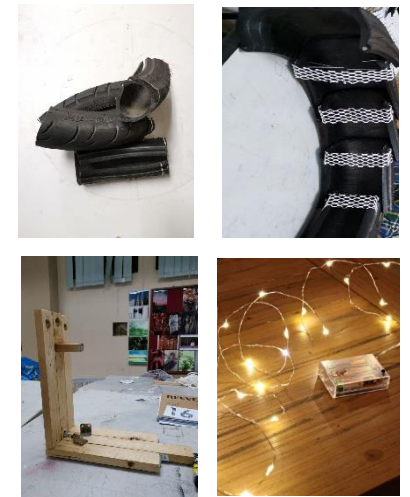
PRODUCT LINE UP



PROJECT FINDING



MODEL MAKING +



CONCLUSION

Upcycling is a process in which used materials are converted into something of higher value and/or quality in their second life. It has been increasingly recognised as one promising means to reduce material and energy use, and to engender sustainable production and consumption.

All the selected products show the various level of creativity in using recycled and up cycled the materials into better and beautiful products. We can see how the selected seven (7) design process helped the student designers to explore the materials and shaping towards the concepts that they have selected.

The idea of Sustainability in Design is reflected in all their works with various means of forms, color, material. The making and construction of these lightings are the basic challenges to produce the beautiful UP CYCLED PRODUCTS. The implication of this project was to creatively evolve different techniques to consume the scraps. New products were developed from the differences scarps which were appreciated for their innovative design and styles.

The traditional recycling is vital, it is key to reducing the amount of waste going to landfill. Recycling basically takes the waste items and takes them backwards in the chain to their raw state so they can be used again, however, through the addition of design, takes waste items forwards in the chain to become more beautiful, more valuable and hopefully more desirable for years to come.

Upcycled items are not just tatted up junk! Good upcycling is an art, you are buying a unique item designed and made by an artisan. Gone are the days when people just threw some paint all over a piece of furniture – upcycles are designers and should be following trends.

ACKNOWLEDGEMENT

This project was conducted by Batch 15 Studio AAD year 1 semester 2 session 2018/2019 under the supervisions of Studio Master Ts.Ismail Jasmani and his Assistant, Asst Prof Dr Norzalifa Zainal Abidin. There were 73 students works which were constructed. How in this chapter, 7 top products were selected to showcase the various forms, themes and concepts. Thank you to the Head of Department of Applied Arts and Design, and the top management of the Kulliyyah of Architecture and Environmental Design, International Islamic University Malaysia.

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