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Muhammad Al-Ameen Mustafa Kamal

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Industrial Ideation and Exploration

Hasri Yunardi Hassan & Nik Aizan Nik Abdullah

The industrial design studio practice in the second year is mainly focused on aesthetics, creativity and styling while the design laboratory emphasises on designing for manufacturing. The second year study further provides ample opportunities for students to develop their design thinking and awareness.

The Industrial design studio practice exposes students to learning a structured design process that involves problem solving method based on ergonomics, technological applications and awareness of contemporary design trends. Students would demonstrate their abilities to communicate their most relevant solutions in refining product designs that optimise users' expectations and requirements. The outcomes of their design solutions should incorporate the use of appropriate technological application and how it could be embedded in producing an innovative design.

On the other hand, the industrial design and manufacturing laboratory practice develops students' skills in exploring problems, selecting appropriate industrial materials, identifying relevant manufacturing process and acknowledging technological issues on existing similar products.

Exploratory design is about utilising design process and method to explore a product's design without limitation. The course provides students with an opportunity to explore new design inspirations and solutions towards proposing novel innovative product design ideas.

The course covers structural construction and physical form of design with the aim to facilitate fabrication as well as to utilise current mechanism or new technology. The process also embeds the available current technology in the market. Its main purpose is to expose students to the importance of technology required in any new product development. In addition, this course also unravels a product's structure while experimenting with its appropriate physical form relevant for reducing fabrication difficulties and technical constraints.

The Natural Disaster Aid is one project focused on developing a design for people with special needs. The project had enabled students to develop a new design idea to the form of a semi-working prototype. The prototype demonstrates the designer's sensitivity towards providing a potential solution in developing a product that could assist people need. On the other hand, the Modular Toilet System and the Greenio Mini Grass Trimmer are two utilitarian products for everyday use. The first is to be located in a busy urban space while the second is for household usage.

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Jury Review

Khairul Aidil Azlin Abdul Rahman

Based on the selected works, I found the students successful in displaying functional ideas in simple forms. The issue of today's design education is discerning between conceptual versus practical products. Both types of exercises are important to expose students to various current and future problems. In order to avoid duplication. IP search was conducted to ensure design novelty. In one case, the student is recommended to validate his product with the targeted disabled community for better understanding and design improvement. The functional prototype and packaging of a finished product illustrates a student's maturity about the design process and its related commercialisation aspects.

Through my short observation of the exhibition, I found the students showing a satisfactory level of understanding about the industrial design process from conceptualisation of an idea to its design development. With product styling being the bread and butter for an industrial designer, personal touch and characteristic of the designer should always be embedded in the design thus creating a designer's identity in product styling. Some of these ideas have potential to be further developed to the next level of commercialisation phase. Their basic skills in the second year such as styling, computer-aided design and visual representation of each design proposal are satisfactory and can be improved by enhancing both theoretical and practical aspects of creativity. Graduates with such high value of creativity and innovation are expectedly marketable.

Overall, the selected schemes portray good ideation processes. Exploration of futuristic design is recommended to be backed with strong design needs and specifications. I believe all designers understand how important consumers or user needs. Today's consumers are power purchasers. However, consumer or user behaviour and lifestyle are two difficult and complex subjects to study. There should be various scientific research methodologies, user analyses, product validations and thorough experimental approaches that could be exposed to students. I would like to suggest this additional vital skill for designers to master.

The selection of projects justified current existing problems. Today, service innovation design is a vacuum in our local industrial design scene. How can design contribute to enhance services? In any service, reducing waiting time is crucial. The students were able to propose practical solution such as interactive information system or waiting in a comfortable environment. Basic needs are also available such as vending machine and are user friendly. Both designs create excitement and functional space with variation of geometric forms. However, I am concerned about the actual physical and human dimensions of things. Students are recommended to further integrate economical production method, material application and ease of assembly method during product development processes.

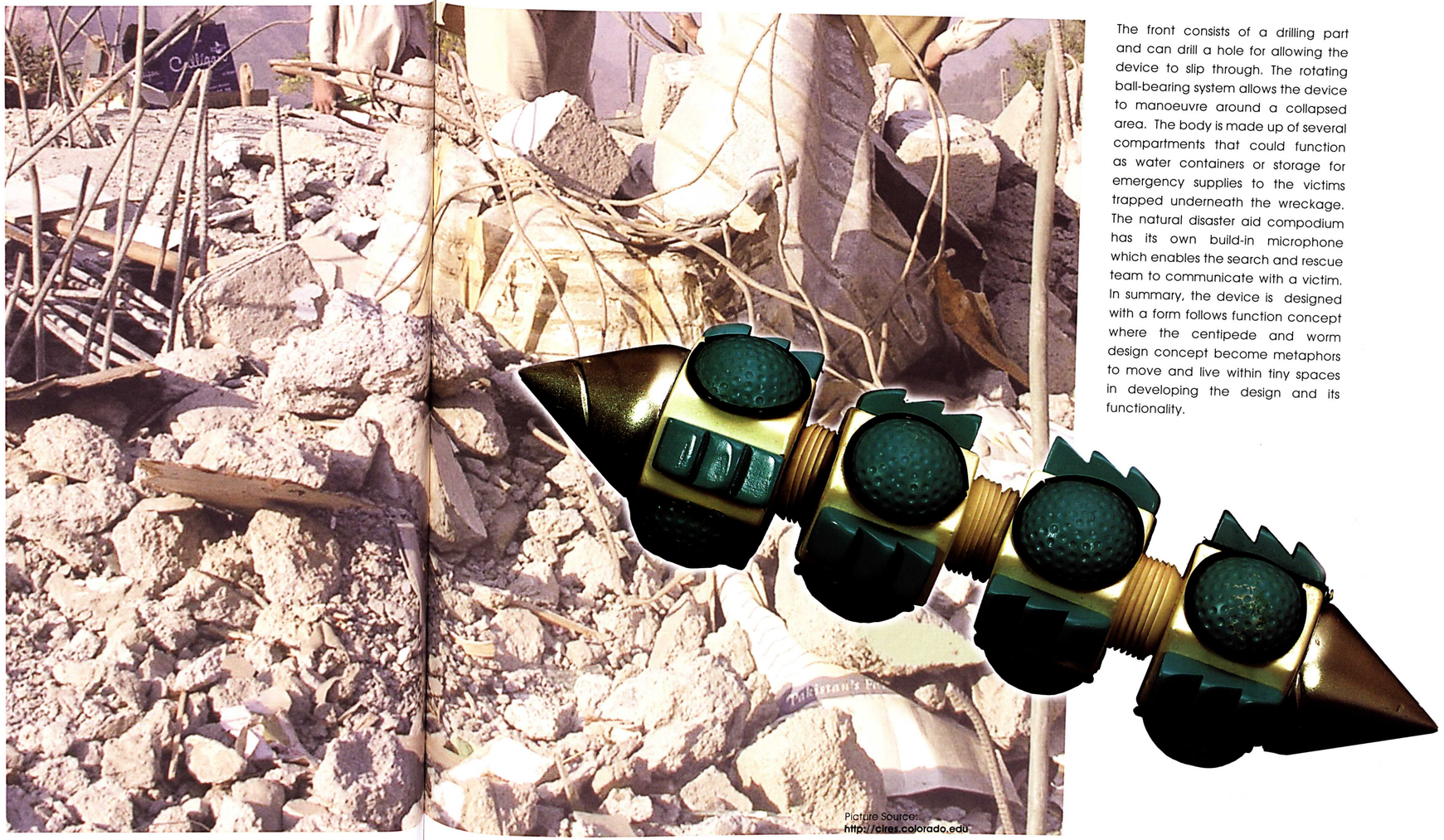
Natural Disaster Aid Compodium

Muhammad Faizal Che Leh

Natural disaster is unpredictable and government authorities must be prepared to face it when it happened. Disasters such as earthquake, typhoon and landslide are natural catastrophe to mankind. Even man-made marvels such as buildings, tunnels, mega constructions could collapse unintentionally. During such disasters, the main target for rescuers is to locate and save as many lives the soonest possible. Rescuers must ensure that they do it properly and with the use of right equipments. The idea to create this composite survival pod device was derived from the Kashmir's earthquake which occured in October 2005 with a magnitude of 7.6. Richter scale. This natural disaster affected an area covering 80 km from the epicentre and caused over 80,000 deaths with 70,000 more injured.

Mohd Faiz's design could support the search and rescue team to identify, locate and perform rescue operation. Inspired by the movement and form of the centipede and the worm, this device is meant to slip deep inside a building's wreckage and foundation which would have been destroyed or collapsed in an earthquake. Its functions are controlled by remote-control via a split external monitor. The device can manoeuvre deep inside the rubbles through pockets of air safely without causing more damage to the already weakened structures. The worm-like movement would enable the device to be directed to a victim's position.

Mohd Faiz Abdul Khair
Co-inventors: Hasri Yunardi Hassan, Nik Aizan Nik Abdullah & Shahrul Azman Shahbudin



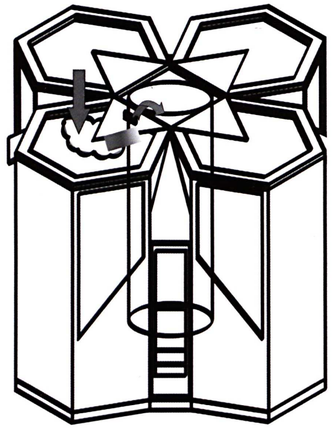
Picture Source:
http://cires.colorado.edu

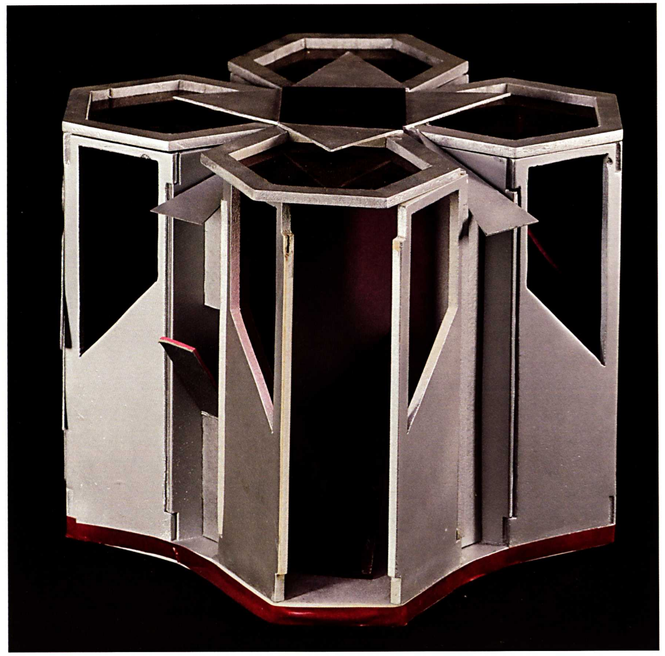
The front consists of a drilling part and can drill a hole for allowing the device to slip through. The rotating ball-bearing system allows the device to manoeuvre around a collapsed area. The body is made up of several compartments that could function as water containers or storage for emergency supplies to the victims trapped underneath the wreckage. The natural disaster aid compodium has its own build-in microphone which enables the search and rescue team to communicate with a victim. In summary, the device is designed with a form follows function concept where the centipede and worm design concept become metaphors to move and live within tiny spaces in developing the design and its functionality.

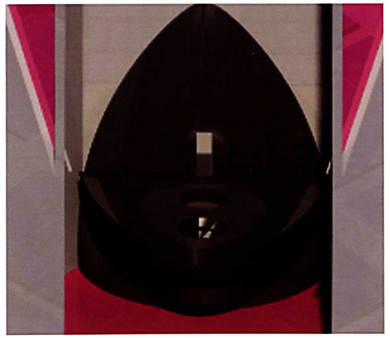
Modular Toilet System

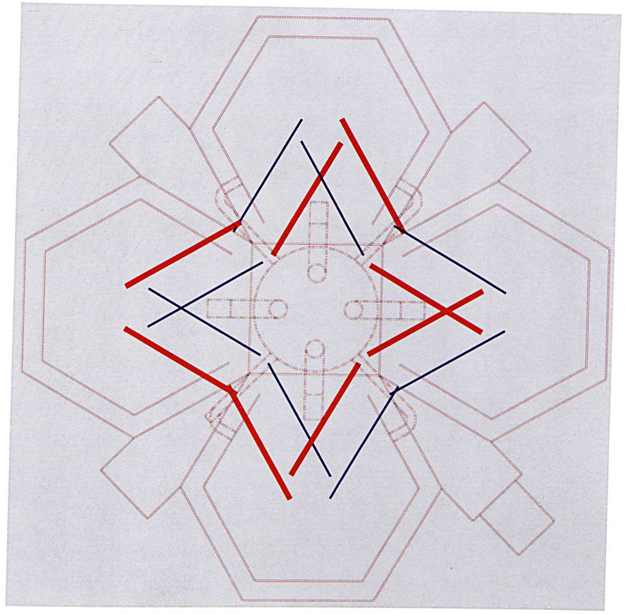
Hasri Yunardi Hassan & Rahinah Ibrahim

There are always a large number of visitors going shopping at Jalan Tuanku Abdul Rahman everyday and the number of visitors usually increases during weekends and major festive seasons. Due to this large turnouts, the use of public facilities such as toilets always become a major concern to the authorities.









The design consists of both male and female toilet sections. It includes a proposed platform for mothers to change their babies' diapers. In order to facilitate users of both genders and all ages, this modular toilet system has a user-friendly vending machine that sells basic needs such as tissue packs, sanitary napkins, tampons and baby diapers. Furthermore, the designers have also successfully addressed the hygienic aspect by featuring its own green features for easy maintenance and having natural ventilation for releasing bad odours.

Hoo Jun Hui, Sarah Rusmin, Nabil Fikri Ithnin & Mohd Borhan Mat Din
Co-inventors: Nik Aizan Nik Abdullah, Bakri Bakar, Shahrul Azman Shahbudin & Ahmad Rizal Rahman

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Greenio Mini Grass Trimmer

Nik Aizan Nik Abdullah, Rizal Rahman & Noorizan Mohamed

This design project was developed based on a continuous idea development process aimed to encourage new product improvement. Design considerations include usability, user requirements and environment. The mechanical parts, product functions and basic technology are based on a study about existing grass trimmer where improvements were focused on its ergonomically aspects. On the environmental aspects, this product has been designed with low vibration for minimal sound output during its operation. There is potential to incorporate alternative power source in future development.

Shabudin Md. Sattar
ID registration: MY 09-01170-0101
Award: Bronze PRPI 2010
Co-inventors: Nik Aizan Nik Abdullah, Sazrinee Zainal Abidin, Mohd Azali Abd Rahim, Zulkifli Muslim Mohamizzam Mohammad, Noorizan Mohamed & Ina Krisantia