



INTERNATIONAL EXHIBITION & SYMPOSIUM ON PRODUCTIVITY, INNOVATION, KNOWLEDGE & EDUCATION

“Optimizing Innovation in Knowledge, Education and Design”

EXTENDED ABSTRACT



e ISBN 978-967-2948-56-8



“Optimizing Innovation in Knowledge, Education and Design”

EXTENDED ABSTRACT

Copyright © 2023 by the Universiti Teknologi MARA (UiTM) Cawangan Kedah.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or any means, electronic, mechanical, photocopying, recording or otherwise, without prior permission, in writing, from the publisher.

© iSpike 2023 Extended Abstract is jointly published by the Universiti Teknologi MARA (UiTM) Cawangan Kedah and Penerbit UiTM (UiTM Press), Universiti Teknologi MARA (UiTM), Shah Alam, Selangor.

The views, opinions and technical recommendations expressed by the contributors and authors are entirely their own and do not necessarily reflect the views of the editors, the Faculty, or the University.

Editors : Dr. Siti Norfazlina Yusoff
Azni Syafena Andin Salamet
Nurfaznim Shuib

Cover design : Syahrini Shawalludin
Layout : Syahrini Shawalludin

eISBN 978-967-2948-56-8

Published by:
Universiti Teknologi MARA (UiTM) Cawangan Kedah,
Sungai Petani Campus,
08400 Merbok,
Kedah,
Malaysia.

12.	MFRS 137 Provisions, Contingent Liabilities and Contingent Assets: Smart Game App <i>Norliana Omar, Noor Saatila Mohd Isa, Dr. Masetah Ahmad Tarmizi, Dr. Mohd Taufik Mohd Suffian & Mohd Zulfikri Abd Rashid</i>	61-66
13.	Hi-Purlex Facilis: Learning Hire-Purchase Law Effectively in the New Age <i>Zuramaznum Sainan & Nasreen Miza Hilmy Nasrijal</i>	67-71
14.	Kickstart Your Writing Content with Water Kid Trick <i>Nur Asyrani Binti Che Ismail, Noorfarida Filzah Binti Mohd Sobri Paridaluddin, Hanna Insyirah Binti Mohd Sukri, Haida Umiera Hashim, Nurfarah Binti Saiful Azam & Omar Abu Hammad</i>	72-76
15.	Pembelajaran Cerita Jenaka Pak Pandir Menggunakan Permainan Digital Melalui 3T Dalam Kalangan Pemula <i>Nordiana Bin Ab Jabar, Sudirman Kiffli, Suraya Sukri, Daeng Haliza Daeng Jamal & Mohammad Syukran Bin Kamal Ruzzaman</i>	77-80
16.	Preserving Cultural Malay Traditional Jewellery: New Design of Kerongsang Tok <i>Ts. Rozita Shamsuddin, Ts. Emilia Abdull Manan, Ts. Mohd Masdi Abdull Manan, Mohd Hakim Mohd Sharif, Muhammad Shafiq Muda & Wan Salwana Wan Sulaiman</i>	81-86
17.	Evaluation of Co-Production in Local Government Services (CO-PRO) <i>Siew King Ting, Tze Wee Lai, Adeline Engkamat & Sze Wei Yong</i>	87-92
18.	Learning Grammar the Fun Way Using EGGA (English Grammar Guide App) <i>Abdul Hadi Abdul Talip, Sueb Ibrahim, John Francis Noyan, Lilly Metom & Zubaidah Bohari</i>	93-99
19.	<i>Ad-Dhomair</i> : Pembangunan Aplikasi Mudah Alih Melalui Pembelajaran Kata Ganti Nama Diri Dalam Bahasa Arab <i>Afifah Binti Azmi, Masitah Binti Omar, Puteri Faida Alya Binti Zainuddin & Mohd Zuhaili Bin Kamal Basir</i>	100-105
20.	Embedded Video Survey <i>Nurul Najihah Binti Mad Rosni, Noor Syafiqah Binti Mohd Sabri, Ts. Siti Nurul Ainun Binti Mohd Mustafa</i>	106-109
21.	Utilizing Blooket the Game-Based Learning Platform for Introduction to Computer Security <i>Lenny Yusrina Bujang Khedif, Sulastri Putit, Ketty Chachil, Zubaidah Bohari & Abdul Hadi Abdul Talip</i>	110-105
22.	eNativeCase <i>Lenny James Matah, Rafidah @Malissa Binti Salleh & Shirley Arvilla Andrew</i>	106-115
23.	FLUX 2.0: Sustainable Furniture Production with Revolutionary Modular 3D Printed Joinery System <i>Muhamad Ezran bin Zainal Abdullah, Nor Hamizah binti Abdul Hamid, Jarfulhizam bin Jaafar, Mohd Firuz bin Mohd Anwar & Siti Nurul Diana binti Sukri</i>	116-119

Assalamualaikum warahmatullahi wabarakatuh,



First and foremost, I would like to express my gratitude to the organizing committee of i-Spike 2023 for their tremendous efforts in bringing this online competition a reality. I must extend my congratulations to the committee for successfully delivering on their promise to make i-Spike 2023 a meaningful event for academics worldwide.

The theme for this event, 'Optimizing Innovation in Knowledge, Education, and Design,' is both timely and highly relevant in today's world, especially at the tertiary level. Innovation plays a central role in our daily lives, offering new solutions for products, processes, and services. By adopting a strategic approach to 'Optimizing Innovation in Knowledge, Education, and Design,' we have the potential to enhance support for learners and educators, while also expanding opportunities for learner engagement, interactivity, and access to education.

I am awed by the magnitude and multitude of participants in this competition. I am also confident that all the innovations presented have provided valuable insights into the significance of innovative and advanced teaching materials in promoting sustainable development for the betterment of teaching and learning. Hopefully, this will mark the beginning of a long series of i-Spike events in the future.

It is also my hope that you find i-Spike 2023 to be an excellent platform for learning, sharing, and collaboration. Once again, I want to thank all the committee members of i-Spike 2023 for their hard work in making this event a reality. I would also like to extend my congratulations to all the winners, and I hope that each of you will successfully achieve your intended goals through your participation in this competition.

Professor Dr. Roshima Haji Said
RECTOR
UiTM KEDAH BRANCH



WELCOME MESSAGE (i-SPIKE 2023 CHAIR)



We are looking forward to welcoming you to the 3rd International Exhibition & Symposium on Productivity, Innovation, Knowledge, and Education 2023 (i-SPIKE 2023). Your presence here is a clear, crystal-clear testimony to the importance you place on the research and innovation arena. The theme of this year's Innovation is "*Optimizing Innovation in Knowledge, Education, & Design*". We believe that the presentations by the distinguished innovators will contribute immensely to a deeper understanding of the current issues in relation to the theme.

i-SPIKE 2023 offers a platform for nurturing the next generation of innovators and fostering cutting-edge innovations at the crossroads of collaboration, creativity, and enthusiasm. We enthusiastically welcome junior and young inventors from schools and universities, as well as local and foreign academicians and industry professionals, to showcase their innovative products and engage in knowledge sharing. All submissions have been rigorously evaluated by expert juries comprising professionals from both industry and academia.

On behalf of the conference organisers, I would like to extend our sincere thanks for your participation, and we hope you enjoy the event. A special note of appreciation goes out to all the committee members of i-SPIKE 2023; your dedication and hard work are greatly appreciated.

Dr. Junaida Ismail

Chair

3rd International Exhibition & Symposium Productivity, Innovation, Knowledge, and Education 2023 (i-SPIKE 2023)

PRESERVING CULTURAL MALAY TRADITIONAL JEWELLERY: NEW DESIGN OF *KERONGSANG TOK*

Ts. Rozita Shamsuddin
College of Creative Art, Universiti Teknologi MARA Cawangan Kelantan
rozita902@uitm.edu.my

Ts. Emilia Abdull Manan
College of Creative Art, Universiti Teknologi MARA Cawangan Kelantan
emilia494@uitm.edu.my

Ts. Mohd Masdi Abdull Manan
College of Creative Art, Universiti Teknologi MARA Cawangan Kelantan
masdi656@uitm.edu.my

Mohd Hakim Mohd Sharif
College of Creative Art, Universiti Teknologi MARA Cawangan Kelantan
hakim431@uitm.edu.my

Muhammad Shafiq Muda
College of Creative Art, Universiti Teknologi MARA Cawangan Kelantan
shafiq428@uitm.edu.my

Wan Salwana Wan Sulaiman
College of Creative Art, Universiti Teknologi MARA Cawangan Kelantan
salwa720@uitm.edu.my

ABSTRACT

Kerongsang Tok is an old Malay Traditional Jewellery made of gold metal or gold plated and consists of 3 forms of shirt buttons or better known as *kerongsang* which are matched with *baju kebaya labuh* or *kebaya pendek* which has been famous among the Malays, Portuguese, Nyonya Peranakan and the Ceti in Melaka for centuries. Since *Kerongsang Tok* is no longer as popular as it once was, this study proposed a new inspiration for the design of *Kerongsang Tok* for the benefit of future generations. This research is to renew the design that might spark the interest in preserving and promoting traditional Malay cultural heritage, which has led to a resurgence of interest in *Kerongsang Tok*. The main objectives of this study are to develop a new inspiration for the *Kerongsang Tok* design and to preserve the Malay heritage through the new creation of the *Kerongsang Tok*. This design research is based on the ideation process that is related directly to the basics of *Kerongsang Tok* design. The ideation begins with the development of the *Kerongsang Tok* design by using Malay motifs to enhance the new inspiration of the *Kerongsang Tok* design. A survey has been carried out to choose the best design based on the opinion of jewellery designers, goldsmiths, academicians, and students in the jewellery field. The new inspiration for *Kerongsang Tok* design has been produced based on the result of the survey. This research will contribute to preserving Malaysia's heritage and become a reference for future generations and initiate appreciation towards our cultural heritage.

Keywords: Preserving cultural heritage, Malay Traditional Jewellery, *Kerongsang Tok*, New Inspiration

INTRODUCTION

Heritage is what we keep now, what we leave to the next generation, and what we have inherited from the past. Both our natural and cultural history are priceless sources of inspiration and life ^[1]. Heritage is divided into two, namely tangible and intangible which revolves around the process of identifying, maintaining, and preserving heritage assets based on the goal of public interest. On the other hand, the sharing of heritage identity can create a sense of belonging in the people, thus instilling a spirit of love for Malaysia's cultural heritage ^[1]. Cultural heritage is the legacy of physical artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations. The best way to preserve our cultural heritage, whatever it may be, is to share it with others. Cultural heritage has a very high value and is unique ^[2]. Therefore, cultural heritage assets need to be well preserved and looked after to ensure the sustainability of our identity as Malaysians.

Jewellery or personal jewellery is a heritage art of the Malay community, consisting of two main types of valuable materials such as silver and gold. Apart from that, this metal is used by a few communities as collateral to accumulate property ^[3]. Among the jewellery produced are bun earrings, earrings, necklaces, brooches, pendants and so on. These items can be categorized into head ornaments, ears, neck, hands and feet, clothes, and waist ^[3]. Malay Traditional jewellery often featured floral motifs inspired by nature. The bunga tanjung, a common local flower, was a popular jewellery design amongst the women of yesteryear. These feminine floral patterns were incorporated into various types of jewellery, such as rings, earrings, necklaces, and brooches, and were often made into gold pieces embedded with coloured gemstones or diamonds. The designs and patterns produced by traditional Malay jewellery artisans are indeed famous for their finesse. The environment plays a role and is the main inspiration for producing jewellery. The art of silver and gold smithing is linked to various manufacturing and carpentry techniques. Therefore, the factors of subtlety, precision and beauty are the main factors that need to be prioritized to comply with the elements and principles of Malay art ^[11].

Kerongsang Tok also known as the big brooch which is the one on top is known as the mother and the other two small ones worn under the mother's brooch are called children. It has various shapes, patterns and motifs. Interestingly, brooches are made of materials such as gold, silver, copper and pewter. At the same time, brooches are often worn as additional accessories for women who like a simple style ^[4]. *Kerongsang Tok* is an old Malay Traditional Jewellery made of gold metal or gold plated and consists of 3 forms of shirt buttons or better known as *kerongsang* which are matched with *baju kebaya labuh* or *kebaya pendek* which has been famous among the Malays, Portuguese, Nyonya Peranakan and the Ceti in Melaka for centuries. Many generations nowadays are ignorant of the purposes and applications of this ancient Malay traditional jewellery, claim Esa S.R., Aziz A.A., and Mahamood M. ^[5]. Habib Jewels take on the role of a giant jewellery company in Malaysia that restores this *Kerongsang Tok* was designed to preserve the old Malay heritage from being lost over time. This product was marketed around 2019 by maintaining the original design concept of *Kerongsang Tok* which was given a new lease of life. The use of diamond stones is applied in the design [refer to Fig. 1].



Figure 1. An old heritage is given a new inspiration for preservation. of Malay cultural heritage (source Habib Jewels website)

METHODOLOGY

This study was carried out by implementing a qualitative methodology. This paper addresses the formal analysis technique for identifying and grading the visual and material appearance of traditional Malay jewellery. Most of the information was gathered through observation of secondary data from books, the internet, and magazines. A survey on the selection of the best design that is related to the main title has been carried out. The best design that had been chosen had the most outstanding characteristic of *Kerongsang Tok*. A particular survey was carried out among jewellery designers and practitioners, goldsmiths, academicians, and students in the jewellery field.

This design research is based on the ideation process that is related directly to the purpose of appreciation of our cultural heritage. The process is a series that substitutes any findings or data into any type of result [6]. A product development process is an arrangement of data that a designer needs to achieve from a design into something marketable or functional [6]. A survey method was used to assess the marketability, necessity of the research, demand, and analyzing findings [7]. One of the crucial elements of making jewellery is design. In order to address the needs of the end user, developing creative design methods, approaches, strategies, and procedures is far more important. Designers and jewellers should concentrate on client requirements and current trends throughout this stage [8]. The next step of the process is to determine if the design concept can be used to create a piece of jewellery product. From the initial concept to the final jewellery manufacture, the design of jewellery requires various steps. The five key steps of jewellery design, according to Elizabeth Galton [3], are ideation, sketching, rendering, modelling, and prototyping (refer to Fig. 2).

1. Ideation is the initial step in the jewellery design process, where designers produce concepts for their creations by brainstorming and inspiration-seeking.
2. In the second phase, called sketching, designers make quick drawings of their ideas on paper or on a computer.
3. Rendering, which takes place in the third stage, entails producing an intricate visual depiction of the design. Designers produce digital renderings of their designs, complete with colour, texture, and other elements.
4. The fourth stage is 3D modelling when jewellers use sophisticated software to build a virtual model of the jewellery. Before the final manufacturing, this stage enables designers to view the design from many perspectives and make any necessary revisions. The other alternative is production with manual techniques.

5. Prototyping is the last step, where a physical design is created. The new design needs to go through the fabrication process, and selecting suitable materials, such as precious metals, is an essential matter at this stage ^[12].

FINDINGS

The study explained the development of new inspiration for *Kerongsang Tok* design, along with a couple of ideas for how its design might be enhanced. The study has shown how jewellery designers can create unique and significant pieces of jewellery while still working within the limitations of the original shape, extra components, and cultural importance. The study has also shown how, by utilising traditional motifs to enhance traditional Malay jewellery may be revived and modified to fit modern trends and needs.

The latest design proposal, the inspired *Kerongsang Tok* still maintains a total of 3 brooch shapes and the design concept still has the concept of floral motifs. The latest design proposal inspired by *Kerongsang Tok* design still maintains the original characteristics of the brooch, which is the flower design but has been developed and given a new lease of life with a wider selection of motifs such as cloud motifs, filigree motifs and wood carving motifs. This inspiration fits with the original concept of *Kerongsang Tok's* design which is interesting and unique.



Figure 2. The design process involves the ideation, sketching, rendering, modelling, and prototyping of the final product. Final design produced by the result of the survey.

CONCLUSIONS

The new inspiration for *Kerongsang Tok* design was developed in order to give this traditional Malay heritage design new life. The latest designs are inspired by various sources of study material such as flowers, wood carving motifs and clouds of larat. The redesign of old jewellery products to enhance and reborn the Malay heritage. The Jewellery industry will benefit from this creation in terms of the variety of products to be manufactured and the design to be explored. Naturally, all genuine antique brooches are considered rare and hard to find nowadays. It is our responsibility to ensure that the old Malay heritage remains relevant with

the passage of time. The current inspired development of brooch design can re-establish the glory of Malay heritage jewellery from being lost in the current modernity and being relevant in the market. Combining and maintaining these traditional elements will preserve cultural heritage through a new design inspired by famous Malay traditional jewellery called "*Kerongsang Tok*." It is a Malay heritage that is given a new suitable to be worn at the present time. Nostalgic and traditional ornaments need to be preserved. Therefore, various steps need to be taken to maintain and continue the continuity of this historical heritage so that it does not get swallowed up by time and the current modernization. Heritage assets are a manifestation of the identity and culture of a society. Without society, there is no heritage. Therefore, Malaysians need to learn and take examples from the success of other countries in preserving and caring for their heritage assets but using their own country's model.

RECOMMENDATION

The development of technology in computerized jewellery design (2D/3D jewellery software) allows various designs to be produced without limitations. The new inspiration of *Kerongsang Tok* also can be explored to meet the customer's needs. The material used to produce jewellery can also be developed and explored based on market demand. Malay heritage deserves to be defended and preserved in order to preserve the old Malay heritage that is becoming extinct over time. It is our responsibility to ensure that the old Malay heritage remains relevant with the passage of time. In line with the National Heritage Act 2005 (645), taking care of heritage assets is the responsibility of all, especially heritage custodians immediately after its gazette by the National Heritage Department.

REFERENCES

- Galton, E. (2012). *Basics Fashion Design 10: Jewellery Design: From Fashion to Fine Jewellery*. AVA Publishing SA; Publication.
- Rahmah Bujang, Nor Azlin Hamidon. (2008). *Kesenian Melayu*, Kuala Lumpur. Akademi Pengajian Melayu Universiti Malaya.
- Esa S.R., Aziz A.A., Mahamood M. (2018). Pending: A Study on Form, Design, and Content of Malay Ornament. In: Anwar R., Mahamood M., Md. Zain D., Abd Aziz M., Hassan O., Abidin S. (eds) *Proceedings of the Art and Design International Conference (AnDIC 2016)*. Springer, Singapore.
- Karl, T. Ulrich., Steven D. Eppinger. (2012). *Product Design and Development*. New York: McGraw-Hill.
- Glasow, Priscilla A. (2005). *Fundamentals of Survey Research Methodology*. Virginia: MITRE product.

Hashim, H.Z., Rahman., Khairul Aidil Azlin., Hanif Khairi, Jewelry Design Process Direct on the Idea of Purchasing a Jewelry Piece. (2020). Proceedings of the 4th International Symposium of Arts, Crafts & Design in Southeast Asia (ARCADESA). Available at SSRN: <https://ssrn.com/abstract=3807697>

Ali, M.K. (2009). Barang Kemas Melayu Tradisi, Kuala Lumpur. Dewan Bahasa dan Pustaka. Kementerian Pendidikan Malaysia

Rahmah, B., Hamidon N. A., (2008). Kesenian Melayu, Kuala Lumpur. Akademi Pengajian Melayu Universiti Malaya.

Mohamad Ba'ai, Nazirah and Khairi, Hanif and Ahmad Hasma (2015) Apresiasi barang kemas tradisional Melayu: satu kajian mengenai budaya bahan / Nazirah Mohamad Ba'ai...[et al.]. In: ICOMHAC2015 eproceedings, 16-17 Disember 2015, Century Helang Hotel, Pulau Langkawi. <https://ir.uitm.edu.my/id/eprint/3578>

Dr Suraya Sukri, Berita Harian Online. (2022). "Pelihara aset warisan demi kelestarian identiti Malaysia". September 7. <https://www.bharian.com.my/kolumnis/2022/09/997411/pelihara-aset-warisan-demi-kelestarian-identiti-malaysia>

Business Today. 2022. " The Importance in Preserving Our Cultural Heritage." March 12. <https://www.businesstoday.com.my/2022/03/12/93591/>

MyMetro. (2015). 'Transformasi penggunaan kerongsang'. Ogos 22. <https://api.hmetro.com.my/node/72137>

e ISBN 978-967-2948-56-8

