

Optimizing Innovation in Knowledge, Education and Design

EXTENDED ABSTRACT



e ISBN 978-967-2948-56-8



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 Salamat 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.

CATEGORY: ASC ACADEMIC INVENTOR

NO.	TITLE	PAGE		
1.	EZ-ARGUE: Empowering Students to Master the Art of Argumentative Writing Nik Ahmad Farhan bin Azim @ Nik Azim, Nur Hafezah binti Hussein, Arifuddin bin Abdullah, Ahmad Zaki bin Amiruddin & Suhaida binti Omar			
2.	Kids Daily Flip Planner Gladys Sebi Entigar, Milfadzhilah Mohd Jamil, Roziana Ahmed & Nashrah Talib	6-10		
3.	Framework for a Sustainable Smart Retirement City: A Local Perspective Mohd Zool Hilmie Mohamed Sawal, Nazni Noordin, Zaherawati Zakaria, Muhammad Syahmizan Azmi, Adnan Aminuddin & Zakba Bin Shafie,	11-15		
4.	Kickresearch Module: Research Proposal Made Easy! Azlyn Ahmad Zawawi, Intan Syahriza Azizan, Noorlailahusna Mohd. Yusof, Junaida Ismail & Nor Ardyanti Ahmad	16-22		
5.	Gamifying Tax Learning: RPGT Interactive Game for Effective Tax Education Norhayati Sulaiman, Irda Syahira Khair Anwar, Siti Marlia Shamsudin, Norul Akma Mansor & Roslan Abdul Wahab	23-28		
6.	Master of Flood Preparedness (MOFP): Game-Based Learning to Prepare Youth to be Aware, Prepared, and Resilient in Facing Floods Mohd Rozaimy Ridzuan, Jamal Rizal Razali, Soon-Yew, Ju, Lai-Kuan, Kong, Amirudin Mohd Zani & Noor Amira Syazwani Abd Rahman	29-34		
7.	Learning Through Metaverse: Exploring the Role of Virtual Reality to Enhance English Language Proficiency Stefanie Natasha Rich Joseph, Daryl Albright Doubless John, Cindy Robert, Fakhira Jafri & Tracy Adeline Ajoi	35-39		
8.	Learning Mandarin as A Third Language Among Non-Native Speakers by Using Alpha M (An Educational Card Game) Sheau Ping Wee, Ai Nyet Chan, Chin Ying Liew & Yit Lian Liew	40-44		
9.	Green Banking Unveiled: Insights Into Student Perspectives on Sustainable Finance Liyana Ab Rahman, Maslinawati Mohamad, Siti Marlia Shamsudin, Faros Faizdnor Roslan & Fatimah Alwi	45-50		
10.	Go GP: Greening Your House Starter Pack Asmah Alia Mohamad Bohari, Zafikha Aida Bidin, Siti Nurul Ainun Mohd Mustafa, Natasha Khalil, Norliana Sarpin & Afiqah Iliyana binti Samsul Bahari	51-55		
11.	Tiktelligence: Making Learning Trendy, Memorable, and Fun! Zafikha Aida Bidin, Sylvia Gala Mong, Syamimi Liyana Amat Rais, Farah-Ajlaa Julaihi & Nur Illiana Husin	56-60		



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 Jemail

Chair 3rdInternational Exhibition & Symposium Productivity, Innovation, Knowledge, and Education 2023 (i-SPiKE 2023)



GO GP: GREENING YOUR HOUSE STARTER PACK

Asmah Alia Mohamad Bohari College of Built Environment, Universiti Teknologi MARA, Sarawak Branch asmahalia@uitm.edu.my

Zafikha Aida Bidin College of Built Environment, Universiti Teknologi MARA, Sarawak Branch Zafikha936@uitm.edu.my

Siti Nurul Ainun Mohd Mustafa College of Built Environment, Universiti Teknologi MARA, Sarawak Branch ainunmustafa@uitm.edu.my

Natasha Khalil Department of Built Environment Studies and Technology, College of Built Environment, Universiti Teknologi MARA, Perak Branch Natas582@uitm.edu.my

Norliana Sarpin Faculty of Technology Management and Businesss, Universiti Tun Hussien Onn Malaysia norliana@uthm.edu.my

Afiqah Iliyana binti Samsul Bahari College of Built Environment, Universiti Teknologi MARA, Sarawak Branch Afiqahiliyana03@gmail.com

ABSTRACT

The residential sector is one of the main contributors to Malaysia's carbon emissions and reducing energy consumption in households is likely to be important task of achieving this target. In Twelfth Malaysia Plan emphasized on the climate change and sustainable development which highlighted out the strategies to reduce carbon emissions and promote low-carbon development. In Theme 3 Advancing sustainability Chapter 8: Advancing green growthfor sustainability and resilience, Malaysia aims to reduce the greenhouse green emission intensity up to 45% by 2030 and to achieve this target the strategies are to increase the use of renewable energy and energy efficiency and promoting sustainable urbanizations and green buildings as well as implementing a low-carbon, clean and resilient development. It is important to reduce carbon footprint to lower the impact of climate change. The purpose of thisgreening your house starter pack is to provide practical and easy to implement solutions for contractors and homeowners in helping them towards reducing environmental impact. The methods used to create this starter pack is to integrate the MyHijau Directory and ODELA website in the starter pack application including instructions and ways to "green" homeowner'shouse. The benefits of this starter pack application will ease the choice and selection of green products by contractors and homeowners to create more environmentally friendly houses. Moreover, with this helpful starter pack

as an initial solution in greening the house, they will also benefit the environment in reducing household energy consumption and carbon emissions.Overall, the goal of this starter pack is to empower the contractors and homeowners to act towards reducing environmental impact and help them to achieve environmentally friendly and sustainable homes.

Keywords: Building project, Green Home, Green Building, Mobile app

INTRODUCTION

This Go-GP Mobile app as the guidelines was developed as the initial guide for beginners to introduce the green practices specifically for the guide for the project owner and designer. The Go-GP checklist and guidelines was established based on the findings from the literature and past research findings and become the basis to produce the Go-GP guidelines aims for the beginners. This guideline was transferred into an online guideline pertaining to green practices needed to produce a green building for the project owner. The guideline's checklist is novel and appropriate to be applied specifically for construction projects.

Malaysia commits to reduce 45% in carbon footprint emissions by the year 2050 compared to 2005 (Rasiah et al, 2017). One of strategy recognized by Malaysian government to preserve the environment is green approach. In 2005, the government released a blueprint of the Construction Industry Transformation Programme (2016-2020), where green initiative for construction projects was introduced.

However, Zainul Abidin et al (2012) listed the some of the hindrances to faster progress of Green Housing in Malaysia as lack of public interest and reluctance of change. The reluctance of change factor due to is the lack of knowledge and capability to understand the intended change (Alqadami, Zawawi, Rahmawati & Alaloul, 2020). Hence, it is crucial to produce a best practice guide to encourage the stakeholder's successful support. Thus, the development of the aims to provide guide and basic understanding on the green the home and producing way forward for green procurement implementation in Malaysia.

THE GO-GP DEVELOPMENT PROCESS

The development of GO-GP has been developed based on the integrative literature search. The search covered the journal articles, conference proceedings and industry report and guidelines. Based on the identified research problem posed where the slow progress of green home implementation and lack of public interest, the Go-GP app aims to assist step by step for the users to be able to embark into understanding on the concept of greening their home projects. The data is gathered, and the core features are decided based on the needs to establish the understanding of the users.





Figure 1. The Go-Gp App

THE GO-GP FEEDBACKS; PILOT SURVEY

The Go-GP app targeted a wide range of users ranging from individual homeowners, contractors, developers, and designers. The pilot study was conducted to get back from the users of the property on the usefulness and relevance of the app including asking for the comments on how to improve the app. A pilot study determines whether something is feasible to proceed. Conducting a pilot study does not guarantee that the main study will be successful, but it does increase the chances of success and provide valuable information for future research. The convenience sampling was used with a small number of respondents because of their convenient accessibility and proximity to the researcher.

84.6 percent of the surveys were carried out with responses from individual homeowners, construction contractors and building designers.



Ċ





Figure 2. The overall usefulness of this app especially for the beginners

More than half of the respondents, 69.2 percent, found the overall usefulness of this app especially for beginners to be good, 23.1 percent rated it as excellent and only 7.7 percent rated this app as average (refer Figure. 2). This is an indicator of the usefulness of the app that was created for individuals and organizations that want to build environmentally friendly houses.

Furthermore, the app users have also listed the benefits of the app to them to help them understand how they can be on the greener path (refer Table 1). Among them is triggering awareness on the importance of going green within our household (R11 and R8). While Respondent (R8) stated that this app helps me to design my own home to emphasize green elements more.

Really help me to design my own home	R10
I think it would help most of us on the	P R11
importance of going green within our household.	(° °)
Good app for homeowner	R7 0
It's an amazing apps to refer for	R8 0
sustainable home approach	0 0 0
Very informative and insightful apps.	R13

Fable 1. The user's	perceptions o	on the benefits	of the app
---------------------	---------------	-----------------	------------

CONCLUSION

The Go-GP app was produced to introduce green practices to the owner and the users of the building. The app has been streamlined to provide a greater understanding and references for all building developers and owners, including clients, contractors, and consultants, as well as external stakeholders such as end-users and the public. The Go-GP app will be valuable to construction stakeholders during the tactical and strategic phases of producing green houses and buildings. As one of Malaysia's most common types of buildings, the Go-GP app is useful for lowering environmental risks and improving quality of life. As a guideline, the Go-GP app signals the building industry to choose a greener path and educates them on green homes and buildings.



ACKNOWLEDGEMENTS

The research data collection is partly supported by the Fundamental Research Grant Scheme (FRGS) FRGS/1/2021/SSI02/UITM/02/4. We would like to express our gratitude to all the pilot participants for their cooperations.

REFERENCES

- Alqadami, A., Zawawi, N. A., Rahmawati, Y., & Alaloul, W. (2020). Challenges of implementing green procurement in public construction projects in Malaysia. In IOP Conference Series: Materials Science and Engineering (Vol. 849, No. 1, p. 012047). IOPPublishing
- Rasiah, R., Al-Amin, A. Q., Habib, N. M., Chowdhury, A. H., Ramu, S. C., Ahmed, F., & Leal Filho, W. (2017). Assessing climate change mitigation proposals for Malaysia: Implications for emissions and abatement costs. Journal of Cleaner Production, 167, 163-173.
- Zainul Abidin, N., Yusof, N. and Awang, H. (2012) A Foresight into Green Housing Industryin Malaysia. World Academy of Science, Engineering and Technology 67, 440 – 448







2uXX&ust=1690775293770000&source=images&cd=vfe&opi=89978449&ved=0CB EQjRxqFwoTCMianvrCtYADFQAAAAAAAAAAAAAAA







e ISBN 978-967-2948-56-8



