



الجامعة
UNIVERSITI
TEKNOLOGI
MARA



PROCEEDINGS OF JOHOR INTERNATIONAL INNOVATION INVENTION COMPETITION AND SYMPOSIUM 2024 (JIICaS 2024)



*“Flourish and Nurturing Sustainable
Innovation for a Prosperous Nation”*

Editorial Board

Editors

NUR INTAN SYAFINAZ AHAMD

DR. HAJAH NORBAITI TUKIMAN

DR. NUR IDAYU ALIMON

AHMAD KHUDZAIRI KHALID

DR. MOHAMAD FAIZAL AB JABAL

DR. WAN MUNIRAH WAN MOHAMAD

DR. NUR SYAMILAH ARIFFIN

AZYAN YUSRA KAPI@KAHBI

NURHAZIRAH MOHAMAD YUNOS

NORZARINA JOHARI

AISHAH MAHAT

AZRINA SUHAIMI

HARSHIDA HASMY

DR. NG SET FOONG

FOO FONG YENG

Copyright © 2024 Universiti Teknologi MARA Cawangan Johor, Kampus Pasir Gudang, Jalan Purnama, Bandar Seri Alam, 81750 Masai Johor.

All extended abstracts published in this e-book have not been subject to JIIICaS2024 peer review or check. The authors are responsible for the contents of their extended abstracts and warrant that their extended abstract is original, has not been previously published, and has not been simultaneously submitted elsewhere. The views expressed in the abstracts in this publication are those of the individual authors and are not necessarily shared by the editor.

All rights reserved. No part of this publication may be reproduced in any form or by electronic or mechanical means, including information storage and retrieval systems, or transmitted in any form or by any means, without the prior permission in writing from the Course Coordinator of College of Computing, Informatics and Mathematics, Universiti Teknologi MARA Cawangan Johor, Kampus Pasir Gudang.

e ISBN: 978-967-0033-25-9



**Published in Malaysia by
Universiti Teknologi MARA Cawangan Johor
Kampus Pasir Gudang
81750 Masai**



Preface

In the name of Allah, the Almighty who gives us the enlightenment, the truth, the knowledge and with regards to Prophet Muhammad (peace be upon him) for guiding us to the straight path. We thank to Allah for giving us guidance and strength to write this e-book.

This e-book compiles the extended abstracts that submitted to Johor International Innovation Invention Competition and Symposium 2024 (JIIICaS2024), where JIIICaS2024 is a virtual platform for all creative minds to share and present their invention and innovation. Each abstract gives a brief background on the innovation or project.

We hope that this e-book will help the readers to get to know the innovation done by the students and get some ideas to develop future innovation products.

Foreword Rector



Assalamualaikum warahmatullahi Wabarakatuh,
Salam Sejahtera, Salam Malaysia MADANI and
Salam UiTM Dihatiku.

In the name of Allah, the Most Gracious, the Most
Merciful.

It is a great honor to welcome you to the Johor
International Innovation, Invention, Competition, and
Symposium 2024 (JIICaS 2024). This event

connects various disciplines, focusing on education and engaging educators,
students, researchers, and innovators from all walks of life.

Innovation is not just about ideas; it demands perseverance, creativity, and
determination to turn those ideas into reality. The remarkable projects
showcased today highlight the dedication and spirit of all participants.
Initiatives like this not only explore new technologies but also cultivate skills
and leadership among our youth. At Universiti Teknologi MARA (UiTM) Johor
Branch, we are fully committed to fostering a dynamic culture of innovation,
promoting the commercialization of new products, and encouraging
meaningful collaborations with industry and society.

As we celebrate this event, I would like to extend my heartfelt gratitude to all
sponsors, judges, the College of Computing, Informatics and Mathematics,
UiTM Pasir Gudang Campus as the event organizer, as well as to the
researchers and participants for their hard work in making this event a
success. Let us continue striving for innovation and excellence. May the
ideas presented today inspire us and lay the groundwork for future
achievements.

Thank you.

Associate Professor Dr. Saunah Zainon
Rector
Universiti Teknologi MARA (UiTM)
Johor Branch

(A-ST113) MYRENO - HOME DECORATION AND INTERIOR DESIGN PORTAL

Syed Muhammad Haikal bin Syed Husni¹, Azleena Mohd Kassim¹

¹School of Computer Science, Universiti Sains Malaysia, 11800, Penang, Malaysia

Corresponding author: azleena.mk@usm.my (Azleena Mohd Kassim)

ABSTRACT

This project is motivated by the need to address inefficiencies in home design collaboration. We aim to streamline the design process and enhance communication while cultivating trust and transparency between designers and clients. Our objectives include creating a user-friendly platform, empowering clients with design tools, and offering budget tracking and data analytics. Techniques involved are UI/UX design, software development, and data analysis. Expected results are efficient project management, informed decision-making, and improved design experiences. In conclusion, this project aspires to revolutionize the home design industry, setting new standards for a seamless, data-driven, and collaborative design journey.

The project is developed in a systematic way. Requirements were gathered. Proper system analysis was taken into account and a software model based on the requirement was introduced. The development methodology used in Agile where the project was incrementally and iteratively developed. Adopting an agile methodology yielded the results of where the development of MyReno was characterized by continuous improvement, responsiveness to change, and a strong focus on delivering a product that not only meets but exceeds the expectations of clients and designers involved in the home renovation process.

Driven by the desire to completely transform the home remodeling industry, MyReno is an example of creative project management. With a multi-platform interface that is both safe and easy to use, MyReno aims to provide an unmatched user experience. The driving force behind this initiative is its dedication to giving customers and designers access to a special area where lines of communication are unobstructed, project management is simple, and the life-changing process of renovating a house becomes a joyful and cooperative endeavor. MyReno wants to be the spark that ignites a new chapter in home remodeling—one in which users approach their projects with confidence and excitement and where creativity and efficiency coexist.

1.0 INTRODUCTION

The **myReno web application** was developed to tackle common issues in the home interior design industry, such as fragmented communication and disorganized project management. By providing a centralized platform for all project-related activities, myReno aims to streamline the workflow, enhance collaboration between clients and designers, and ultimately improve the efficiency and satisfaction of the design process.

The idea came to rise due to the needs to address the challenges faced by homeowners and clients during the renovation process. Aspects like budget constraints, timeline pressures and client expectations are general problems that are faced by not just the client but in some cases the designer too as each of these challenges requires careful planning, adaptability and effective communication.(Tan, 2021)[1]. In most cases, customer journey towards deep renovation poses several challenges for homeowners such as lack of guidance and tracking. Building renovation is often perceived as a burden associated with time consuming planning, high uncertainty about reliability of professionals, process duration and value of energy efficiency measures (Greco and Olivadese) [2]. It is worth noting and can be deduced easily that the many challenges faced can be mitigated by properly communicating and always keeping track of the project.

2.0 OBJECTIVE

- To provide a centralized workspace for managing home interior design projects.
- To enhance communication and collaboration between clients and designers.
- To improve project management and organization.
- To increase efficiency and reduce project turnaround times.
- To enhance client satisfaction and overall user experience.

3.0 METHODOLOGY

The development of the **myReno web application** involved the integration of various features designed to meet its objectives. Key features include:

- **Project Management Tools:** Allow users to create, track, and update tasks and timelines.
- **Real-time Collaboration:** Supports messaging, file sharing, and feedback loops to facilitate seamless communication.
- **Design Resources:** Provides a library of templates, tools, and materials to assist in creating detailed and customized design plans.
- **User Interface:** Designed to be intuitive and user-friendly, simplifying the design process for both clients and designers.

Table 1: SWOT Analysis

S	Strength	Local Adaptation <ul style="list-style-type: none"> • Tailored for the Malaysian Market User - Centric Design <ul style="list-style-type: none"> • Intuitive and user-friendly interface
W	Weakness	Learning Curve <ul style="list-style-type: none"> • Users, especially those unfamiliar with digital project management tools may face some minor difficulties Internet Dependency <ul style="list-style-type: none"> • Reliance on stable internet connection
O	Opportunity	Local Adaptation <ul style="list-style-type: none"> • Growing demand for digital solutions in home renovation sector Collaborative Partnerships <ul style="list-style-type: none"> • Formation of partnerships with local businesses
T	Threats	Competitive <ul style="list-style-type: none"> • User acquisition might be difficult due to similar existing systems (Rekatone, Atap)

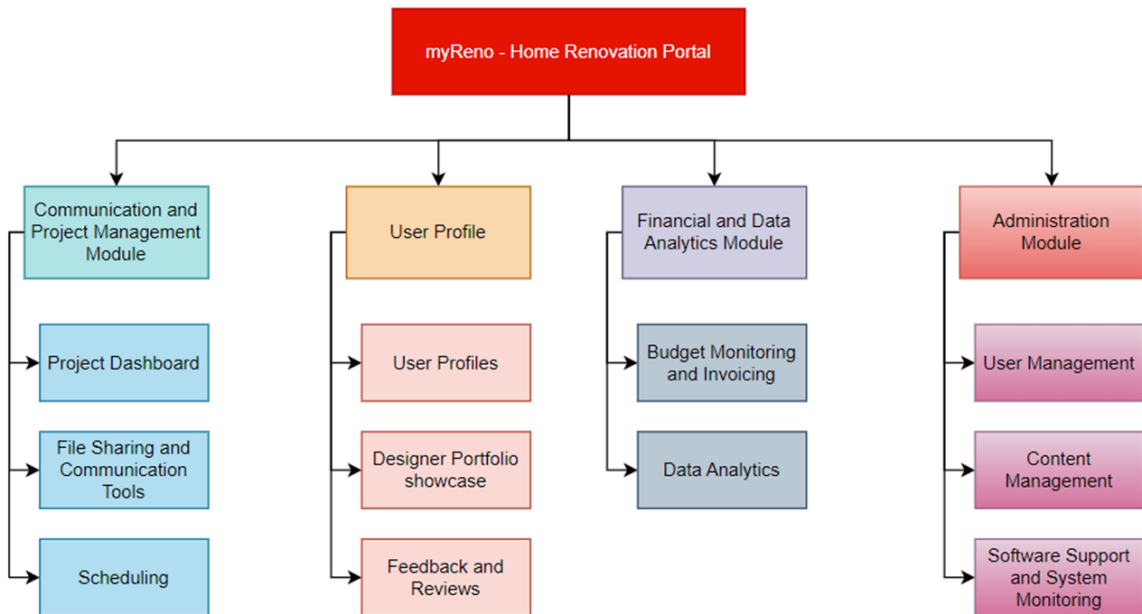


Figure 1: Breakdown of Modules

4.0 RESULTS

MyReno introduces a standout Communication and Project Management Module designed to simplify the renovation journey. The centralized Project Dashboard offers a bird's-eye view of the project's progress, ensuring both clients and contractors stay on the same page. Our File Sharing and Communication tools seamlessly connect clients and contractors in real-time, promoting efficient collaboration. With the Scheduling feature, setting project timelines becomes a breeze, helping coordinate tasks and appointments effortlessly. This user-friendly approach to communication and project management sets MyReno apart by making the renovation process not just organized but also stress-free.

The User Profile Module on MyReno prioritizes personalization for both clients and contractors. User Profiles allow individuals to manage their information and preferences, creating a tailored experience. The Designer Portfolio feature lets contractors showcase their expertise through past works, acting as a virtual portfolio to attract clients. The Feedback and Reviews section cultivates transparency, enabling clients to share their experiences. MyReno's focus on user profiles ensures that each interaction feels personalized, fostering a sense of connection and trust between clients and contractors.

In the Financial and Data Analytics Module, MyReno redefines financial transparency. The Budget Monitoring and Invoicing tool empowers clients with insights into expenses, ensuring transparent financial management. Data Analytics takes it a step further, allowing clients and designers to assess performance through system-generated analytics. MyReno's commitment to financial clarity and data-driven insights not only sets it apart in the industry but also empowers users with the tools to make informed decisions throughout the renovation process. Overall, MyReno's approach to financial management and data analytics stands as a unique feature, bringing a new level of transparency and control to the renovation experience.

5.0 CONCLUSION

The **myReno web application** offers a transformative solution for the management and execution of home interior design projects. By directly addressing common industry challenges such as fragmented communication, disorganized project management, and lack of transparency, myReno stands out as a powerful tool for both designers and clients. The platform's comprehensive features—ranging from real-time collaboration and project tracking to personalized user profiles and financial transparency—streamline the entire design process. This leads to improved efficiency, stronger client-designer relationships, and a more satisfying overall experience. MyReno's focus on user-centric design and data-driven insights ensures that every project is managed with precision and clarity, ultimately setting a new benchmark in the industry. As a result, myReno not only enhances project outcomes but also fosters trust, creativity, and collaboration, making the renovation journey more enjoyable and successful for all involved.