

Organised by :



RICAEN
Research Industry Community
Alumni Entrepreneurship Network

Programme by :

INSPIRED | 2024
IPOH INTERNATIONAL SUMMIT ON
PROFESSIONALISM, RESEARCH & EDUCATION

In Collaboration With :

BITCOM
BUSINESS INNOVATION & TECHNOLOGY COMMERCIALIZATION CENTRE

MRM
MAJLIS REKABENTUK MALAYSIA

MDECTM



13TH INDES 2024

ENVIRONMENTAL • SOCIAL • GOVERNANCE

THE 13TH INTERNATIONAL INNOVATION, INVENTION & DESIGN COMPETITION 2024

EXTENDED ABSTRACTS

e-BOOK

EXTENDED ABSTRACTS e-BOOK

THE 13th INTERNATIONAL
INNOVATION, INVENTION &
DESIGN COMPETITION 2024



Organized by:
Office Of Research, Industry,
Community & Alumni Network
UiTM Perak Branch

© Unit Penerbitan UiTM Perak, 2024

All rights reserved. No part of this publication may be reproduced, copied, stored in any retrieval system or transmitted in any form or by any means; electronic, mechanical, photocopying, recording or otherwise; without permission on writing from the director of Unit Penerbitan UiTM Perak, Universiti Teknologi MARA, Perak Branch, 32610 Seri Iskandar Perak, Malaysia.

Perpustakaan Negara Malaysia

Cataloguing in Publication Data

No e- ISBN: 978-967-2776-31-4

Cover Design: Dr. Mohd Khairulnizam Ramlie
Typesetting : Zarinatun Ilyani Abdul Rahman

EDITORIAL BOARD

Editor-in-Chief

ZARINATUN ILYANI ABDUL RAHMAN

Managing Editors

NUR FATIMA WAHIDA MOHD NASIR

SYAZA KAMARUDIN

Copy Editors

ZARLINA MOHD ZAMARI

DR NURAMIRA ANUAR

NORLINDA ALANG

DHAYAPARI PERUMAL

WAN FARIDATUL AKMA WAN MOHD RASHIDI

HALIMATUSSAADIAH IKSAN

NURDIYANA MOHAMAD YUSOF

ONG ELLY

NURSHAHIRAH AZMAN

MUHD SYAHIR ABDUL RANI

DR PAUL GNANASELVAM A/L PAKIRNATHAN

AMIRUL FARHAN AHMAD TARMIZI

SYAREIN NAZRIQ MARIZAM SHAHRULNIZAM

NAZIRUL MUBIN MOHD NOOR

NOR NAJIHAH NORAFAND

INTAN NOORAZLINA ABDUL RAHIM

AZIE AZLINA AZMI

NOORAILEEN IBRAHIM

IZA FARADIBA MOHD PATEL

PENANG PEDESTRIAN WAYFINDING AND BIKING

Muhamad Najib Bin Khaironi¹, Nur Athirah Amani Binti Faizal², Raja Zuhnun Al-Misri Bin Raja Harun Al-Rashid³, Nur Hazwani Binti Othman⁴, Noorsazwan Bin Ahmad Pugi⁵

^{1,2,3,4,5}Universiti Teknologi Mara Perak Branch, 32610 Seri Iskandar

2023167143@student.uitm.edu.my, 2023300679@student.uitm.edu.my, 2023114777@student.uitm.edu.my,
2023104101@student.uitm.edu.my, noors240@uitm.edu.my

ABSTRACT

Today, cycling has become a trend among Malaysians, and the safety issues surrounding it have drawn attention towards the development of our application. More than 90% of cyclists ride for leisure, physical sports activities, or traveling. Previous studies have shown that over 40% tend to cycle on main roads and road shoulders. Inconsistent pedestrian pathways and locations that can hinder movement and lead to minor accidents. Penang is chosen because it is one of the tourist attractions in the country. Tourists and locals often use pedestrian walkways and cycling routes to get around. The purpose of this application is to provide directional guidance for pedestrians and cyclists. In addition, we provide suitable routes for use, finding parking and nearby facilities. In conclusion, this application is to address the common safety issues experienced by pedestrians and cyclists.

Keyword: mobile application, transportation, pedestrian, cyclist, safety

1. INTRODUCTION

Pedestrian wayfinding and biking application provides real-time guidance, personalized recommendations, and safety alerts, in the palm of your hand. The application aims to provide suitable routes for pedestrians and cyclists, facilitating users to find parking and nearby facilities.

2. OBJECTIVES

- I. To provide suitable routes for pedestrians and cyclists
- II. To facilitate users to find bicycle parking and nearby facilities

3. METHODOLOGY

Data was collected in Georgetown, Penang. Various digital tools were utilized such as Google Maps, Google Earth Pro, and Street View for an initial assessment. On-site surveys were conducted to assess the practicality of selected routes. ArcGIS was utilized to map out findings to ensure comprehensive coverage and accuracy. ArcGIS Pro was leveraged to construct a detailed map outlining our chosen routes. Android Studio was used for programming, crafting a user-friendly mobile application tailored to the project specifications. Before the official app launch, extensive testing was conducted to confirm functionality to guarantee a flawless user experience.

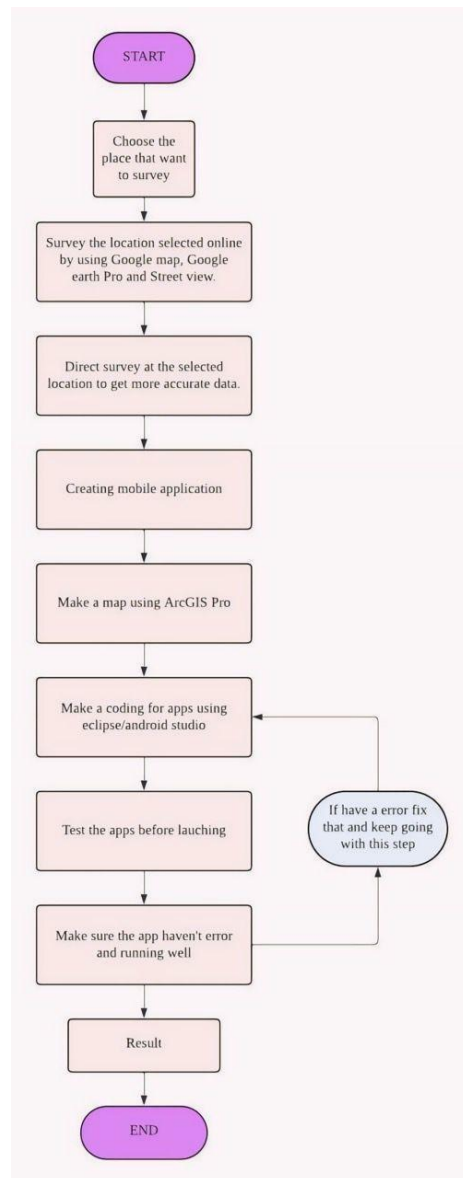


Figure 1 Flowchart of the methodology

4. EXPECTED OUTCOMES

The application created is user-friendly. It serves as a guide to a desired destination. In addition, the aim is to reassure users that the application provides the right and easy path for walking and cycling. Other applications like Google Maps, Waze, and Street View do not offer specific paths for pedestrians. Hence, the creation of this application is to prevent them from using roads that are frequently used by vehicles such as cars, motorcycles, and trucks. Thus, the accident rate among pedestrians and cyclists can be significantly lowered. It is hoped that this application has a positive impact on all age groups and is supported by all parties.



Figure 2 logo mobile application

5. CONCLUSION

In conclusion, the mobile application in pedestrian wayfinding and biking represents a transformative leap forward in urban mobility. By integrating cutting-edge technology with user-friendly design, individuals are empowered to navigate cities with unprecedented ease, safety, and enjoyment, this application can lower road accidents involving pedestrians and cyclists. This can pave the way towards smarter, more accessible urban environments where every step and pedal stroke leads to a brighter, more connected future.

REFERENCES

- T-Kartor USA Team (2024). *How geospatial data is transforming the transportation industry*. Retrieved from: <http://www.t-kartorusa.com/blogs/how-geospatial-data-is-transforming-the-transportation-industry/>
- Nur Humairah Kamarudin, Mazdi Marzuki, Rosmiza M.Z., Jabil Mapjabil (2020). *Tahap keselamatan pejalan kaki untuk perjalanan ke sekolah*. GEOGRAFIA Online, Malaysian Journal of Society and Space, 16(4) p.197-212. Retrieved from: <http://journalarticle.ukm.my/17040/1/39984-143351-1-PB.pdf>
- Fahmy A. Rosli (2020). *Kaji isu berbasikal di jalan raya, elak musibah*. Berita Harian Online. Retrieved from: <http://www.bharian.co.my/berita/nasional/2020/12/769087/kaji-isu-berbasikal-di-jalan-raya-elak-musibah>

Surat kami : 700-KPK (PRP.UP.1/20/1)

Tarikh : 20 Januari 2023

Prof. Madya Dr. Nur Hisham Ibrahim
Rektor
Universiti Teknologi MARA
Cawangan Perak



Tuan,

**PERMOHONAN KELULUSAN MEMUAT NAIK PENERBITAN UiTM CAWANGAN PERAK
MELALUI REPOSITORI INSTITUSI UiTM (IR)**

Perkara di atas adalah dirujuk.

2. Adalah dimaklumkan bahawa pihak kami ingin memohon kelulusan tuan untuk mengimbas (*digitize*) dan memuat naik semua jenis penerbitan di bawah UiTM Cawangan Perak melalui Repositori Institusi UiTM, PTAR.

3. Tujuan permohonan ini adalah bagi membolehkan akses yang lebih meluas oleh pengguna perpustakaan terhadap semua maklumat yang terkandung di dalam penerbitan melalui laman Web PTAR UiTM Cawangan Perak.

Kelulusan daripada pihak tuan dalam perkara ini amat dihargai.

Sekian, terima kasih.

“BERKHIDMAT UNTUK NEGARA”

Saya yang menjalankan amanah,

SITI BASRIYAH SHAIK BAHARUDIN
Timbalan Ketua Pustakawan

nar

Setuju.

27.1.2023

PROF. MADYA DR. NUR HISHAM IBRAHIM
REKTOR
UNIVERSITI TEKNOLOGI MARA
CAWANGAN PERAK
KAMPUS SERI ISKANDAR