UNIVERSITI TEKNOLOGI MARA

PICE
Public Interest Centre
of Excellence

International Teaching Aid
Competition 2023
Reconnoitering Innovative Ideas in Postnormal Times

iTAC
2023

iTAC 2023
INTERNATIONAL TEACHING AID COMPETITION
E-PROCEEDINGS

PREFACE

iTAC or International Teaching Aid Competition 2023 was a venue for academicians, researchers, industries, junior and young inventors to showcase their innovative ideas not only in the teaching and learning sphere but also in other numerous disciplines of study. This competition was organised by the Special Interest Group, Public Interest Centre of Excellence (SIG PICE) UiTM Kedah Branch, Malaysia. Its main aim was to promote the production of innovative ideas among academicians, students and also the public at large.

In accordance with the theme "Reconnoitering Innovative Ideas in Post-normal Times", the development of novel ideas from the perspectives of interdisciplinary innovations is more compelling today, especially in the post-covid 19 times. Post-pandemic initiatives are the most relevant in the current world to adapt to new ways of doing things and all these surely require networking and collaboration. Rising to the occasion, iTAC 2023 has managed to attract more than 267 participations for all categories. The staggering number of submissions has proven the relevance of this competition to the academic world and beyond in urging the culture of innovating ideas.

iTAC 2023 committee would like to thank all creative participants for showcasing their innovative ideas with us. As expected in any competition, there will be those who win and those who lose. Congratulations to all the award recipients (Diamond, Gold, Silver and Bronze) for their winning entries. Those who did not make the cut this year can always improve and join us again later.

It is hoped that iTAC 2023 has been a worthy platform for all participating innovators who have shown ingenious efforts in their products and ideas. This compilation of extended abstracts published as iTAC 2023 E-Proceedings contains insights into what current researchers, both experienced and novice, find important and relevant in the post-normal times.

Best regards,

iTAC 2023 Committee
Special Interest Group, Public Interest Centre of Excellence (SIG PICE)
UiTM Kedah Branch
Malaysia

I-PARKING

Muhammad Haikal Hakim Mohd Azizul Bin Abdullah
Faculty Business and Management, UiTM Bandaraya Melaka
haikalhakima@gmail.com

Muhammad Fadzriq Bin Nazrin
Faculty Business and Management, UiTM Bandaraya Melaka
fadzriq0115@gmail.com

Saqif Hazim Bin Zaihariyem
Faculty Business and Management, UiTM Bandaraya Melaka
saqifzaihariyem@gmail.com

Muhamamd Arham Mirza Bin Mohd Sahib
Faculty Business and Management, UiTM Bandaraya Melaka
arhammirza54@gmail.com

Nor Aizan Bt Mohamed
Faculty Business and Management, UiTM Bandaraya Melaka
aizanrahim@uitm.edu.my

ABSTRACT
Finding a parking spot can be a frustrating experience, especially at malls and parking lots. Drivers often have to circle the lot for several minutes before finding a spot, and even then, they may not be able to find a spot that is close to their destination. This can be a waste of time and fuel, and it can also be frustrating. The problem is the difficulty of finding a parking spot at busy malls and parking lots. Though there are some empty parking available but most of the time it is always reserved by rich people who booked the parking but never show up. The main objective of i-Parking is to make it easier for drivers to find parking spots at busy malls and parking lots. Another objective is to save time for drivers from circling the parking with hope though there is no parking space available. This app is unique because it uses real-time data to show drivers the availability of parking spots in the area. This is different from other apps that simply show drivers the location of parking lots. i-Parking will benefit society by reducing the amount of time that drivers spend looking for parking spots. This will save drivers time and fuel, and it will also reduce traffic congestion. Additionally, this app will reduce frustration and stress for drivers, which will improve their overall quality of life. i-Parking has the potential to be commercialized in a few ways. I-Parking could be sold to businesses that own or manage parking lots. Advertising companies could also use data from i-Parking to target their ads to

drivers who are looking for parking. Additionally, i-Parking could be used by government agencies to manage parking in crowded cities.

BACKGROUND

i-Parking was introduced as a solution to the increasing barrier faced by husbands, fathers, workers and other drivers in finding parking spaces in urban areas. It took a lot of investigation into user behaviour, technical developments, and the state of the parking infrastructure to design the i-Parking software. Our team understood the necessity for an all-encompassing parking solution that uses real-time data, sophisticated algorithms, and intuitive user interfaces to answer the drivers' complaints. It took a lot of investigation into user behaviour, technical developments, and the state of the parking infrastructure to design the i-Parking software. The team understood the necessity for an all-encompassing parking solution that uses real-time data, sophisticated algorithms, and intuitive user interfaces to answer the drivers' complaints. The i-Parking app's potential for commercialization was also taken into account. To secure the app's longevity and viability in the market, they developed revenue streams like advanced reservations, agreements with parking lot operators, data monetization, and collaborations with relevant companies. The i-Parking app is the result of a multidisciplinary effort to alleviate the parking issues that drivers confront and enhance urban mobility in general. It seeks to advance sustainability and improve neighbourhood quality of life by revolutionising how drivers locate, reserve, and find their way to parking places. The team started off with a clear concept in mind and designed and prototyped the app. The app's user experience and interface were carefully considered in order to make it simple to use, accessible to a variety of users, and intuitive. Through beta testing, the team solicited input from potential users and integrated their suggestions to enhance the app's usability and functionality. During the development process, cooperation with parking lot operators and local officials was also essential. In order to comprehend their needs, adhere to rules, and ensure that the app seamlessly interacted with the current parking infrastructure, the team worked closely with these stakeholders. Parking lot operators saw the app as a way to draw in more consumers and maximise the use of their parking spaces, which helped to forge a partnership that was mutually beneficial. The group understood the i-Parking app's commercial potential. They discovered a variety of income sources, such as advanced reservations, joint ventures with parking lot owners, data monetization, and brand alliances. These tactics made sure the software would last and allowed for ongoing development and enhancements.

PROBLEM STATEMENT

Parking availability frequently falls short of demand, particularly in crowded urban areas, business centres, and tourist hotspots. Due to the lack of available spots, some drivers circle or spend an excessive amount of time looking for one. The management of parking spaces is

another issue that plagues many parking lots, which results in inefficient use of available space. Finding parking might be challenging due to poorly defined or confusing parking places, a lack of effective organisation, or an inefficient distribution of spaces. There is frequently no real-time information available to drivers about parking availability in particular lots. They are unable to choose the best parking facility because of the lack of trustworthy information, which causes them to spend time and get more frustrated. Parking rules vary depending on the lot or region, such as time restrictions, permit requirements, or payment options. These regulations may be confusing for drivers to interpret and comprehend, which could result in infractions. Drivers may have trouble locating open spaces in parking lots if there is insufficient signage, particularly in bigger or multi-level facilities. Finding adequate parking takes more time and effort when there are no clear directions or navigational aids. Ineffective parking search behaviours result in more clogged roads, needless fuel use, and higher greenhouse gas emissions.

NOVELTY

Drivers may receive the most recent information on available parking spaces thanks to the app's real-time data on parking availability. It differs from conventional parking apps that rely on static or out-of-date data due to its real-time component, which offers a more accurate and dependable parking search experience. The i-Parking software uses clever algorithms to direct vehicles to the most appropriate and practical parking spaces. It optimises the parking search process and raises customer happiness by taking into consideration variables including proximity to the destination, parking rates, and user preferences. The i-Parking software employs deft algorithms to guide cars to the most suitable and advantageous parking spots. By taking factors like proximity to the location, parking prices, and user preferences into account, it optimises the parking search experience and increases customer contentment.

COMMERCIALIZATION POTENTIALS

The i-Parking app has a lot of potential for commercial success. It can draw a sizable user base and generate income through a variety of sources by providing a full parking solution. The app may use a freemium business model, giving away the most basic parking search tools for nothing while charging for subscriptions or one-time purchases that unlock premium features or ad-free experiences. The app can also work with parking lot owners to facilitate reservations and transactions in exchange for a commission or partnership fee. Additionally, collaborations with neighbourhood businesses and targeted advertising with the aim of pushing sales or discounts to app users are possibilities. For the goal of managing parking and managing urban growth, the app's data can be used to gain insights and sold to urban planners, parking companies, or transit authorities. Overall, the i-Parking software delivers appealing business

opportunities in the parking and urban mobility markets thanks to its cutting-edge features, user-centric philosophy, and potential for monetization.

BENEFIT TO COMMUNITY

The i-Parking app provides many advantages to the neighbourhood, such as lessening traffic congestion, reducing fuel use and greenhouse gas emissions, displaying information about parking availability in real-time, and maximising the use of parking spaces. These features help to improve community mobility, lessen environmental impact, and make parking more effective and user-friendly.

FEEDBACK FROM COMMUNITY

The i-Parking app has received favourable comments from the local community. Users like the app's real-time parking availability data, which has drastically cut down on the amount of time spent looking for parking places. They have complimented the app for its simple navigation and user-friendly interface, which make it simple to use for drivers of all ages and technological backgrounds. The potential of the software to lessen traffic congestion and enhance general traffic flow in the area has also been praised by locals. By reducing fuel use and emissions, the app's commitment to a more sustainable environment has garnered positive feedback. The community appreciates the i-Parking app for its ability to solve the parking issue, improve user experience, and increase community mobility and convenience.

Does i-Parking help you solve the problem with finding parking?
50 responses
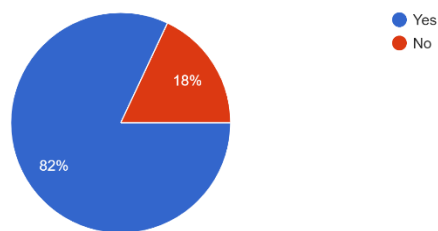
CONCLUSION AND REFLECTION

i-Parking app provides a valuable solution to the problem of parking spaces, offering benefits such as improved user experience, reduced time and fuel wastage, enhanced traffic flow, and a more sustainable community. The i-Parking software serves as an example of how technology may be used to solve common problems experienced by drivers. Drivers are given the tools they need to make wise decisions and go through the parking procedure more quickly thanks to its capacity to maximise parking spot utilisation and deliver real-time information. This not

only enhances the experience of the individual, but it also benefits the community. The programme also creates useful data that may be used for decision- and planning-making in the future. This information can be used by city planners and transportation authorities to analyse parking demand, pinpoint problem locations, and come to informed conclusions about parking infrastructure and regulations. This data-driven strategy aids in building a community that is more sustainable and better thought out. There is opportunity for greater innovation in parking options as technology develops. Parking apps like i-Parking can perform more efficiently and effectively by integrating smart city efforts like connected automobiles, IoT sensors, and advanced analytics. Future parking experiences could be even more effective and user-focused thanks to the continual development and improvement of such technology. The i-Parking software offers a lot of advantages, but it's important to think about how everyone can utilise it. To maximise the app's influence and reach within the community, it is crucial that it be user-friendly, accessible across a variety of platforms and devices, and available to people with a variety of requirements.

REFERENCES

"Figure 2 Number of people facing a problem in searching for a parking..." *ResearchGate*, https://www.researchgate.net/figure/Number-of-people-facing-a-problem-in-searching-for-a-parking-spot-inside-a-mall_fig4_304529541.

"Parking Space Problem at Retail Centers." *Theintactone.com*, 29 September 2021, https://theintactone.com/2021/09/29/parking-space-problem-at-retail-centers/.

e-proceedings

International Teaching Aid
Competition 2023
Reconnoitering Innovative Ideas in Postnormal Times

iTAC 2023