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“Optimizing Innovation in Knowledge, Education and Design”

EXTENDED ABSTRACT



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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)

MUDAHTRAVEL MOBILE APP

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ABSTRACT

MudahTravel provides on-demand services featuring a user-friendly interface and real-time data integration. This application conveniently provides public transportation showtimes and ticket bookings, including bus, taxi, Light Rapid Transit (LRT), MASS Rapid Transit (MRT), trains, public bicycle, beam, e-hailing and car rental, to ease users' access to accurate and up-to-date public transport showtime information. MudahTravel utilizes the existence of Global Positioning System (GPS) technology and data feeds to enable users to instantly access the arrival and departure times of public transport. It gives users an idea of how to plan a daily journey by knowing the routes, stations, or stops when using public transport. Besides that, it gives the opportunity beyond just giving the transport showtimes to also provide real-time data of delays, cancellation, disruptions, or changes to the public transport services to keep users informed of the current situation. There are also additional features on this application, such as bookings and e-payment. Users can book tickets for apps by following the timetable displayed and connecting with online banking to confirm the bookings. Every purchase made will be rewarded with vouchers and points to be redeemed for future bookings. Another feature of MudahTravel is e-card, where it features a mobile mode card to be used for scanning for the transport that needs to replace coins and physical cards, such as LRT stations, MRT stations, and commuter stations. This method is more convenient because it can be done within an application. With the help of this app, commuters should be more capable of making decisions and planning their routes. MudahTravel combines comfort, dependability, and accurate information to give users a seamless and stress-free experience.

Keywords: seamless mobility, responsiveness, cashless payment method, public transport system, on-demand service.

INTRODUCTION

Experience an effortless travel with MudahTravel mobile app, which this innovative application is the ultimate companion for hassle-free public transportation. By offering a user-friendly interface and real-time data integration, MudahTravel puts accurate showtimes, ticket bookings, and live updates right at your fingertips. From buses to trains, taxis to trams, and everything in between, this all-in-one solution empowers you to plan your daily journeys, stay informed about disruptions, and even earn rewards for your bookings. Leveraging GPS and data feeds, users can rapidly obtain arrival and departure times, schedule their daily travels, and remain updated on any delays or service interruptions in the public transportation system. With the existence of convenience of e-payment and a mobile mode e-card, there are no more used coins and physical cards. Experience comfort, reliability, and a seamless commute with MudahTravel, where every ride becomes an adventure.



Figure 1. MudahTravel logo

PROBLEM STATEMENT

For commuters, figuring out public transport can be a challenging and time-consuming work. Delays, missed connections, cancellation, and dissatisfaction are frequently caused by a lack of precise and current information. As stated in New Straits Times, several netizens complained about the delayed public transport or it just never came because it is too unpredictable where it took them to wait for longer time (Teoh, 2022). The hassle of having to carry physical cash or cards for payment only makes the commuter's problems worse. Anthony Loke, Malaysian Transport Minister mentioned in an interview that he has received complaints from the public that there are limited choices of payment options. For example, you can only pay using a Touch 'n Go card or a token at the Light Rail Train (LRT) gantry entrance, but this will soon change (Muhammad, 2023). MudahTravel addresses these problems by offering easy access to real-time transit information, convenient booking options, and a reliable payment system. By providing a user-friendly interface, integrating real-time data, and keeping commuters informed of updates, MudahTravel aims to enhance the travel experience.

OBJECTIVES

1. To provide a seamless access to accurate and up-to-date information for various modes of public transportation, including showtimes, routes, stations, and stops.
2. To eliminate the necessity for manual searching and offer an intuitive user interface for simple navigation.
3. To provide comfort, dependability, and accurate data to enhance the overall commuting experience and reduce stress.

4. To enhance the overall user experience and provide added value to loyal users.

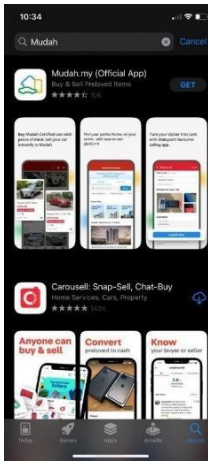
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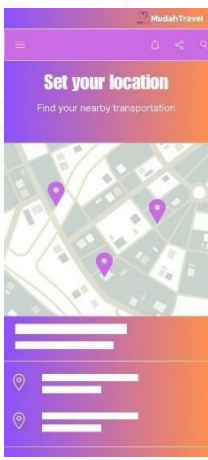
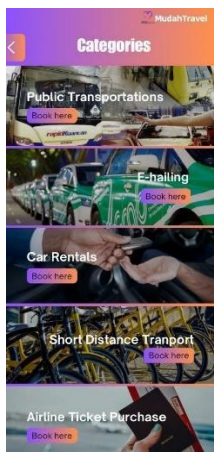
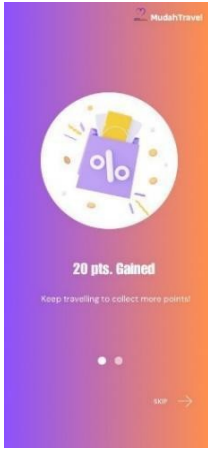
This application aims to bring a smooth experience of traveling for tourists since people have different preferences in their methods of traveling, this application features bookings of different methods of transportation according to tourist's preferences. Be it public transportation, e-hailing, or simply renting a bike, they are able to book their spot all in one place. Public transportation booking can be a hustle as you need to go to counters and wait in line to buy tickets while e-hailing can be dangerous as there are many risks of assaults happening. Thus, this app will help tourists to choose their method of transportation according to their likings, all on their fingertips, wherever they are. Besides that, this application also rewards the tourist as they gain points when they are using the services provided through the app. Tourists are able to claim their points in exchange for discount vouchers for their transportation tickets.

METHOD

This application focuses on giving tourists the opportunity to explore on their own according to their preferences without having to worry about how to travel from one place to another place.

Table 1. MudahTravel App Method

STEP	DESCRIPTION		STEP	DESCRIPTION	
1	Download the application through an App store or Google Play Store by searching 'MudahTravel'.		2	Fill in your information to sign up for the app such as name and phone number.	

3	Set your current location to track nearby transportation available.		4	Choose your desired method of transportation	
5	Collects points upon the arrival of your destination through the app.		6	Users are requested to give feedback regarding their rides to improve services as well as the use of applications.	

PRODUCT COMMERCIALIZATION

MudahTravel commercialization entails a variety of strategies to bring it to market and generate revenue. First, the application can be made available for installation on popular mobile platforms, such as the Apple App Store and Google Play Store, in order to reach a large number of users. It may be promoted via digital channels, social media advertising, and partnerships with transportation authorities and service providers to increase its visibility and attract users. Ticket purchasing fees, partnerships with transportation service providers for commission-based transactions, and targeted advertising within the application are all viable revenue streams. Plus, the application may provide premium features or subscription models for enhanced functionality and ad-free usage. Strategic partnerships with financial institutions for integration of e-payments can also generate revenue streams. Also, the commercialization of the product may involve partnerships with businesses that offer loyalty programmes that enable users to earn rewards and discounts for their transportation use. Through strategic marketing, revenue diversification, and partnerships, the product commercialization of MudahTravel intends to monetize its features and services while providing users with value and convenience.

IMPACT & USEFULNESS

MudahTravel has a significant impact on the economy, society, and environment, and provides multiple levels of utility.

□ Economic Impact:

It benefits the economy by encouraging the use of public transportation services, which may contribute to job creation and economic growth in the transportation industry.

□ Social Impact:

It enhances the commuting experience by improving accessibility, convenience, and dependability, thereby making public transportation a more appealing option. This decreases traffic congestion, resulting in a more efficient flow of traffic and shortened travel times. Moreover, by providing real-time updates on delays and disruptions, it enables commuters to make informed decisions, thereby improving their safety and reducing their tension.

□ Environmental Impact:

It makes the conveyance system more sustainable by reducing greenhouse gas emissions and air pollution. Increased use of public transport and optimized travel routes result in fewer automobiles on the road, thereby reducing the carbon footprint and enhancing air quality.

RESULTS & FINDINGS

The outcome and findings of this product innovation have been extremely beneficial and influential. It has been observed that the application has substantially enhanced users' commutes. Beyond that, it allows users to save time and money by efficiently arranging their journeys based on real-time and accurate public transportation schedule information. The user-friendly interface and exhaustive integration of various modes of transport have been praised for their convenience and accessibility. The real-time updates and alerts on delays, disruptions, and changes in public transport services have enabled users to modify their plans accordingly, thereby minimizing inconveniences and delays. The rewards system has increased application engagement and nurtured user loyalty. Moreover, the streamlined payment procedure and the introduction of the mobile mode card have simplified transactions and boarding procedures, thereby enhancing the user experience. MudahTravel has a significant positive impact on users, enhancing their commuting experience, providing valuable information, and fostering a more efficient and seamless transportation system.

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