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UNIVERSITI
TEKNOLOGI
MARA



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



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

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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 (JIIICaS 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-SS039) SMARTSECURE WALLET: REDEFINING EVERYDAY CARRY

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ABSTRACT

The SmartSecure Wallet is an innovative personal accessory that goes beyond the traditional concept of a wallet, providing a complete answer for contemporary living. The SmartSecure Wallet revolutionizes the idea of ease and security in daily products by including advanced technologies like GPS tracking, biometric thumbprint security, and a streamlined card organization system. The creation of the SmartSecure Wallet was driven by a user-focused methodology, influenced by thorough research and iterative design methods. An extensive market analysis and user surveys have revealed the typical difficulties connected with traditional wallets. This has led to the development essential features that specifically target these concerns. During the prototyping and testing stages, we thoroughly assessed the feasibility and efficiency of each feature, with a specific emphasis on enhancing user experience and ensuring security. A notable characteristic of the SmartSecure Wallet is its smooth incorporation with cell phones through Bluetooth communication. Users may easily manage their possessions and utilize enhanced security measures directly from their mobile devices. Users can have unrivaled peace of mind by tracking the real-time location of their wallet or unlocking it effortlessly with their thumbprint, ensuring the constant security of their essentials. SmartSecure Wallet combines innovation, usability, and security to transform the way people protect and organize their belongings. The user-centric design and advanced functions make it essential for individuals who value ease, peace of mind, and compatibility with contemporary lifestyles.

Keywords: Smart wallet, GPS tracking, Thumbprint security, Convenient card storage.

1.0 INTRODUCTION

Introducing SmartSecure Wallet, the smart wallet for modern convenience. In today's world, regular wallets can be easily lost or stolen, causing a lot of hassle. Plus, finding stuff inside them can be a pain. SmartSecure Wallet solves these problems by adding some cool features. Regular wallets often get misplaced or stolen, leaving people worried about their stuff. Also, digging through a wallet to find what you need can be frustrating. SmartSecure Wallet fixes these issues by using new technology to make wallets smarter. With a SmartSecure Wallet, you can easily track it if it gets lost. It connects to your phone, so you can see where it is at any time. To unlock it, you just use your fingerprint, so there is no need for passwords or extra apps. No more struggling to find your cards or cash. SmartSecure Wallet has a special space for your cards that slides out, making it easy to get what you need quickly. SmartSecure Wallet is all about making life easier and safer.

2.0 OBJECTIVE

2.1 Enhance Security:

Ensure the safety of personal belongings by implementing biometric thumbprint security, minimizing the risk of theft or unauthorized access.

2.2 Maximize Convenience:

Streamline daily routines by offering features such as GPS tracking and easy access to cards, reducing the time and effort required to manage essentials.

2.3 Promote Peace of Mind:

Provide users with the assurance that their wallet's location can be easily tracked in case of loss or theft, offering a sense of security and reassurance.

2.4 Encourage Adoption:

Promote widespread adoption of smart wallet technology by emphasizing the user-friendly design and seamless integration with smartphones, making it accessible to a wide range of users.

2.5 Drive Efficiency:

Improve efficiency in managing personal belongings by offering innovative solutions such as the sliding card space, and optimizing organization and accessibility.

3.0 METHODOLOGY

The development of this SmartSecure Wallet utilized a comprehensive approach to tackle important user problems and improve usability and security. The initial phases involved conducting extensive market research and customer surveys to uncover prevalent issues connected with conventional wallets, including loss, theft, and inconvenience. To expand on this groundwork, a sequence of collaborative idea-generating sessions and design revisions were carried out to conceive and enhance the fundamental characteristics of the SmartSecure Wallet. The prototyping and testing phases encompassed the development of functioning prototypes to assess the feasibility and efficacy of the proposed features. Feedback was collected and design aspects were refined through user testing sessions to provide an optimal user experience. In addition, thorough testing was carried out to verify the effectiveness and dependability of the security elements, which included biometric thumbprint authentication and GPS tracking. Our confidence is bolstered by extensive market research and user feedback. We have conducted thorough analyses to identify gaps in the market and understand the pain points of users when it comes to traditional wallet management. By listening to the needs and preferences of our target audience, we can tailor our product to meet and exceed their expectations.

Features	Functionality, Usefulness, and Practically
Visual aids and video	The setup process is straightforward with clear instructions provided to ensure a hassle-free experience. To ensure users can easily configure and use its features.
Bluetooth	Pairing the SmartSecure Wallet with a smartphone via Bluetooth. Users can easily locate their wallets using their phones.
GPS tracking	Enabling GPS tracking and thumbprint security directly from the phone's settings. Users can track the location of their wallets.
Thumbprint	Only authorized individuals can access its contents. Unlock the wallet with a simple touch, saving time compared to entering a password or pin
The sliding card space	Allows users to organize and access their cards efficiently. Users can quickly retrieve the desired card without fumbling through a disorganized wallet.

Table 1: Table 1 shows the features, functionality, usefulness, and practically about The SmartSecure Wallet

The concluding stage centered on optimizing the product design, packaging, and marketing methods to guarantee extensive adoption and user approval of the SmartSecure Wallet. During the development process, we prioritized user-centric design concepts and incorporated feedback from target customers to build a product

that easily integrates into their daily routines while providing improved security and convenience.

An example of a Figure is given below.

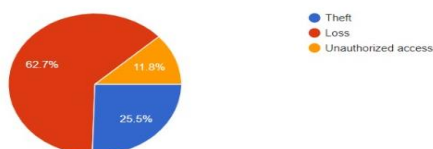


Figures 1 and 2: SmartSecure Wallet with Bluetooth, GPS, Thumbprint, and sliding card space

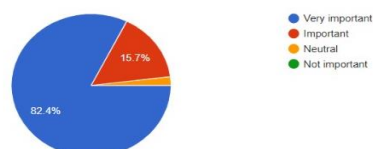
4.0 RESULTS

In a recent survey addressing personal security concerns related to wallet management, the majority of respondents cited loss as their primary worry, with 62.7% expressing concern about misplacing or losing their wallet. Additionally, 25.5% of participants are concerned about theft, emphasizing the fear of having their wallet stolen. Furthermore, 11.8% expressed worries about unauthorized access, indicating a concern for protecting sensitive information and belongings from unwanted intrusion. Because of that, an overwhelming majority of respondents, 82.4% indicated that having features like GPS tracking and biometric security in their wallet was very important.

2. What are your main concerns regarding the security of your wallet and its contents?
51 responses



3. How important is it for you to have features like GPS tracking and biometric security in your wallet?
51 responses



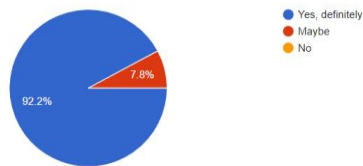
Figures 3 and 4: respondent's main concerns regarding the security of their wallet and how important for them to have features like GPS tracking and biometric security in their wallet

Next, results indicated that 92.2% of respondents expressed interest in upgrading to a smart wallet equipped with advanced security features and convenient functionalities. This indicates a growing inclination towards embracing technology-driven solutions that offer greater peace of mind and efficiency in everyday life. For other results, 74.5% of respondents found GPS tracking to be appealing. This feature likely resonates with

people who are concerned about losing their wallets or want an added layer of security through location tracking. 19.6% of respondents were drawn to the biometric thumbprint security feature.

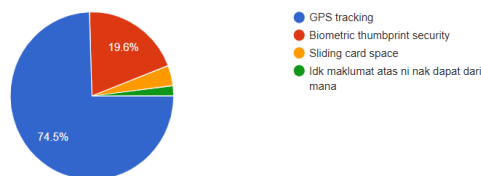
5. Would you be interested in upgrading to a smart wallet like SmartSecure Wallet for added security and convenience?

51 responses



7. Which features of SmartSecure Wallet appeal to you the most?

51 responses



Figures 5 and 6: results show how interested respondents are in upgrading to a SmartSecure Wallet and what features appeal to them the most

Results from user surveys and market research indicate a strong demand for innovative solutions addressing security concerns related to wallet management. The majority of respondents expressed significant interest in upgrading to a smart wallet equipped with advanced security features, highlighting the potential market for products like SmartSecure Wallet. Furthermore, features such as GPS tracking and biometric thumbprint security were identified as key factors influencing purchasing decisions, indicating a growing preference for technologically advanced solutions that offer convenience and peace of mind. Overall, the positive response from users underscores the potential impact of SmartSecure Wallet in reshaping the personal accessories market and redefining the way individuals manage their essentials.

5.0 CONCLUSION

Ultimately, SmartSecure Wallet stands out as a revolutionary innovation in the field of personal possessions organization. By integrating cutting-edge technology with user-friendly design, it provides customers with a complete solution to protect their important items and simplify their daily tasks. By incorporating technologies like GPS tracking and biometric verification, security is significantly improved, giving consumers a sense of reassurance that their belongings are safeguarded. In the age of smart accessories, the SmartSecure Wallet is a necessary companion that empowers users to confidently and conveniently navigate their busy lives.

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