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"Flourish and Nurturing Sustainable Innovation for a Prosperous Nation"

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Editorial Board

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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)
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(A-ST126) SIMPLY BOOK SERVICE: A COMPREHENSIVE MOBILE APPLICATION FOR ON-DEMAND HOUSEHOLD SERVICE

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ABSTRACT

The proposed system, Simple Book Service: A Comprehensive Mobile Apps for On-Demand Household Service, is a service provider platform designed to offer efficient and reliable solutions for marginalized groups facing household problems. This ongoing project aims to provide a systematic approach to requesting essential services, specifically focusing on plumbing work, electrical wiring tasks, gardening, and running errands. Based on observations and interviews with potential users, these four services were identified as critical needs. Previously, when needing these services, users had to search for providers through conventional means, such as advertisements. The drawback of this method was that the legitimacy of the services offered was questionable. By using the proposed mobile app, all required services are offered within a single application, where users can find the necessary services based on their location. Additionally, the legitimacy of the services offered is guaranteed, as the system admin verifies the service company's ID before vendors can advertise their services. Users can also write reviews about the services after using them. This app is also equipped with a security feature that includes an in-app emergency button; if the user triggers this function, all emergency contacts will receive an SMS alert simultaneously. This feature is essential to protect users who live alone while repair work is being carried out. The app also caters to those with limited time or physical ability, offering gardening and errand services tailored to user needs. By utilizing Simply Book Service, users gain access to secure and trusted services, effectively addressing their household challenges. The app's software project development follows the Waterfall Model. The implementation of such a service provider system utilizes modern programming frameworks like Flutter, Laravel, MySQL, and Bootstrap to develop this app. In conclusion, the Simply Book Service offers a comprehensive, secure, and user-friendly solution for accessing essential household services, significantly enhancing the quality of life for marginalized groups.

Keywords: Household Service, Mobile Applications, Service Provider Platform

1.0 INTRODUCTION

The proposed system, Simple Book Service: A Comprehensive Mobile Apps for On-Demand Household Service is an on-demand home services mobile app systems aimed at providing an efficient and trusted process to help marginalized groups to solve their problems that might encounter at home. This system provides a more systematic approach to requesting services from the system.

The times are constantly changing, and with the pace of technological advancement, people's stress levels have increased. Thus, this app is useful for those who living alone. When they find themselves in need of assistance while alone at home, there is often no one to turn to, and they may be hesitant to seek help from strangers because of security issues. Therefore, it is necessary to create a service provider system to address common issues that they might encounter at home, such as plumbing and electrical repairs, gardening management, and errand services. The implementation of such a service provider system utilizing modern programming frameworks like Flutter, Laravel, MySQL, and Bootstrap to develop this system. The project uses a waterfall model, starting with communication and planning, moving through design, development, and testing, and finally to user acceptance and deployment.

The goal of this system is to assist marginalized groups in society, such as individuals living alone, people with disabilities, and the elderly, in obtaining more reliable assistance. Administrators will verify all the services registered in the proposed system where only reliable service providers able to register as the vendor. This process may include background checks, verification of licenses or certifications, and screening for any previous complaints or malpractice. A review or feedback session also included in this system. Genuine reviews often contain specific details about the service provided, the interactions with the service provider, and the overall experience. This is to ensure that review and feedback are authentic, thus providing users with valuable insights to make decisions to choose vendors.

Thus, it can guarantee the safety of users and mitigate the risk of robbery. By requiring service providers to undergo comprehensive background checks and verifying their identities, the system establishes a foundation of trust and accountability. Additionally, the platform incorporates GPS tracking and a check-in/check-out system to monitor service providers during interactions with users. This mobile app system also offering insurance coverage. Furthermore, a blog space allows users to share experiences and warn others about potential safety risks, creating a supportive environment where individuals can access reliable assistance without feeling threatened.Numerous services can help those people in need. However, based on the observation and interview session, people voted for four main mandatory services. Therefore, after thinking twice, this system will provide four main services which are plumbing, servicing electrical maintenance, and gardening. This is also where the system name comes from.

By considering security and trustworthiness in this system, an emergency button is provided for users to click on when they are feeling insecure. When using the services, there will be the possibility of occurring accidents. So, users can ask for help using that button. Once the emergency button is clicked, the system administrators will receive the notification and contact the police. The application system will also start to record a 1-minute audio recording and submit it through the system. The recording will then be forwarded to the police station. Thus, users’ security will be assured.

2.0 OBJECTIVE

The objective of this project is to identify the key features of on-demand home services mobile applications, specifically those that integrate essential home services such as plumbing, electrical maintenance, and gardening. Following this, the project aims to design a mobile application that effectively incorporates these on-demand services. Finally, the project will focus on developing and validating the mobile application system to ensure it meets the proposed requirements for on-demand home services.to identify the features of on-demand home services mobile app systems that integrate home services such as plumbing, servicing electrical maintenance, and gardening.

3.0 METHODOLOGY

Figure 1 shows the general flow of the waterfall model. According to Bassil (2012), the Waterfall SDLC model is a sequential software development process in which progress is regarded as flowing increasingly downwards (similar to a waterfall) through a list of phases that must be executed in order to successfully build a computer software. It consists of five main phases which is communication, planning, design, development, and deployment. Each phase is responsible for different software engineering activities. In the waterfall model, all the phases must be done one after another.

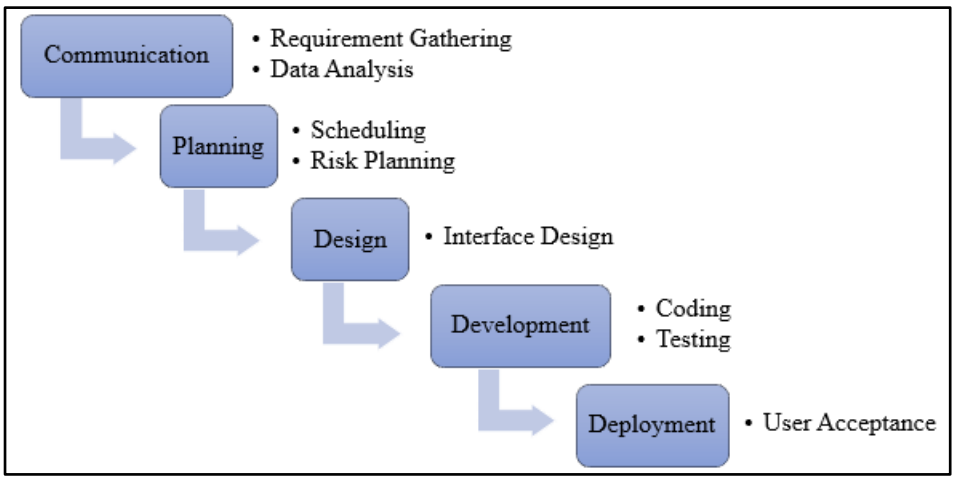

Figure 1: Waterfall Model

There are a few reasons why we chose this process model. First of all, the most important prerequisite for using the waterfall process model is clear. Another factor is this proposed system is a big and complex project. With this waterfall process model, it provides good preparation and planning before starting the process. Thus, in increase the chances for the system to have 100% correctness. It can ensure the project output is consistent and complete. Besides, it is more stable and has a longer operational life. It is because a project under the waterfall process model is produced phase by phase. Enhancements may make in the future. The waterfall process model also allows to incorporate new features and adapt to changing customer preferences.

In the communication phase, the main objective is communicating with all the stakeholder involved to generate the system requirement. All system details must be carefully analysed to ensure that a proper system requirement is produced and agreed by all party involve. In this phase, all data and functionality of the system must be

analysed deeply to ensure the feasibility of the system. Therefore, a questionnaire is distributed to potential users to gather their opinions. This survey also helps to decide the mandatory services needed in this system.

In the planning phase, the main objective is to generate a systematic plan for all the software development process. Software developers must identify the resources needed for the system development such as how much manpower was require, what is the skill capacity of the developers, what are the hardware and software requirement and how much time needs to be allocated to each phase of development. So, the developer needs to generate a schedule based on these aspects. In this phase, the risk of the system also needs to be analyzed and generate risk planning. During the design phase, the main object is to create a general design of the system interface and function. Software developers must generate an interface design and the flow of the interface for the system. Also, the UML diagram such as the use case diagram, activity diagram, sequence diagram, traceability matrix, and entity relational diagram are illustrated to use as a reference.

In the development phase, the main object is to develop the system based on the requirement, design, and planning from the previous stages. The report is prepared and written at this phase. A presentation about the proposed system was also conducted. After that, the quality of system is evaluated during this phase via various types of testing activities to ensure system performs with high quality.

4.0 CONCLUSION

In conclusion, the Simple Book Service: A Comprehensive Mobile App for On-Demand Household Services is a thoughtfully designed system aimed at addressing the unique challenges faced by marginalized groups, such as those living alone, the elderly, and people with disabilities. By integrating essential services like plumbing, electrical maintenance, and gardening within a secure and user-friendly platform, the app offers a reliable solution for individuals who may struggle to find trusted assistance. The use of modern programming frameworks ensures that the system is robust and scalable, while the adoption of the Waterfall model provides a structured approach to its development.

The app’s emphasis on security and trustworthiness is particularly noteworthy. Through thorough background checks, GPS tracking, and an emergency response feature, the system prioritizes the safety of its users, making it a trustworthy resource for those in need of home services. Additionally, the inclusion of user reviews, insurance coverage, and a community blog space fosters a supportive environment where users can make informed decisions and share their experiences.

Overall, the Simple Book Service app not only provides essential home services but also establishes a secure and reliable platform that enhances the quality of life for its users. By addressing both practical needs and safety concerns, this system stands out as a vital tool for marginalized individuals seeking dependable assistance in their daily lives.