



Faculty of Computer Science and Information Technology

Moon Time: Online Store For Menstrual Products

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MOON TIME: ONLINE STORE FOR MENSTRUAL PRODUCTS

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requirements for the degree of
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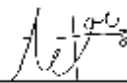
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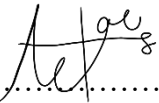
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ABSTRACT

Accidental period leaks can occur when a woman is caught off guard by her menstrual cycle and does not have an extra sanitary pad. Women who experience this incident often go to pharmacies or shops to buy menstrual products before going to the public restroom. They may also use delivery apps to deliver products to them, but these apps do not clearly show the location of nearby shops on a map, making it hard for them to pick up their orders. The menstrual products sold in online grocery stores are often mixed with other items on the menus, delaying their time to search for sanitary pads. Hence, this proposed project offers a solution to solve this situation. Moon Time: Online Store For Menstrual is an online store that sells and delivers sanitary pads specifically to girls and women who have accidental period leaks in public without bringing an extra. The main features included are selling specific product focus, locating the nearest store that sells menstrual products, and offering same-day delivery and pick-up service. With this project, women can purchase sanitary pads without the need to move a lot, saving time and effort when using delivery services. For pick-up, women can access menstrual products in public in a shorter time by picking the nearest store that the system locates. This project utilises the Rapid Application Development (RAD) methodology, which allows for the rapid creation of a prototype and an iterative approach to delivering software.

ABSTRAK

Kebocoran haid yang tidak disengajakan boleh berlaku apabila seorang wanita tidak peka dengan kitaran haidnya dan tidak mempunyai tuala wanita tambahan. Wanita yang mengalami situasi ini sering pergi ke farmasi atau kedai untuk membeli produk haid sebelum ke tandas awam. Mereka juga mungkin menggunakan aplikasi penghantaran untuk menghantar produk kepada mereka, tetapi aplikasi tersebut tidak menunjukkan dengan jelas lokasi kedai berdekatan pada peta menyebabkan mereka sukar untuk mengambil pesanan mereka. Produk haid yang dijual di kedai runcit atas talian sering dicampur dengan item lain dalam menu. Hal yang demikian melambatkan masa mereka untuk mencari tuala wanita. Justeru, projek yang dicadangkan ini menawarkan penyelesaian untuk menyelesaikan situasi ini. Moon Time: Online Store For Menstrual adalah kedai atas talian yang menjual dan menghantar tuala wanita khusus kepada gadis dan wanita yang mengalami kebocoran haid secara tidak sengaja di khalayak ramai tanpa membawa tuala wanita tambahan. Ciri utama yang disertakan ialah menjual fokus produk tertentu, mencari kedai terdekat yang menjual produk haid, dan menawarkan perkhidmatan penghantaran dan pengambilan pada hari yang sama. Dengan projek ini, wanita boleh membeli tuala wanita tanpa perlu banyak bergerak sekali gus menjimatkan masa dan tenaga semasa menggunakan perkhidmatan penghantaran. Untuk pengambilan pesanan, wanita boleh mengakses produk haid di tempat awam dalam masa yang lebih singkat dengan memilih kedai terdekat yang terdapat sistem. Projek ini menggunakan metodologi Pembangunan Aplikasi Rapid (RAD) yang membolehkan penciptaan pantas prototaip dan pendekatan yang berulang untuk penyampaian perisian.

CHAPTER 1: INTRODUCTION

1.1 Introduction

Menstruation, also known as period, is the periodic shedding of the lining of a woman's uterus (Idoko et al., 2022). It is a natural process in the female reproductive system that repeats monthly from menarche, the first menstrual bleed, to menopause. The typical length of time between the first day of one period and the first day of the next is 21 to 45 days in young women. In adults, the range is between 21 and 31 days, with the average being 28 days (Diaz et al., 2006). Bleeding usually lasts around 2 to 7 days. During menstruation, women usually use menstrual products such as sanitary pads, tampons, or sometimes a menstrual cup to absorb the menstrual blood. However, there are times when women come in unprepared when menstruating in public. According to a survey that is conducted by Free the Tampons, majority women create a temporary sanitary pad using tissues, followed by going to the nearest shop to buy menstrual products, asking friends, family and strangers nearby them for a sanitary pad and obtaining supplies from a sanitary pad dispenser. The last resort is for them to return home to get feminine supplies if there are no available menstrual products nearby. Hence, this project is another easy alternative for women to retrieve menstrual products.

1.2 Problem Statement

Women who come unprepared when accidental period leaks in public would go to pharmacies or shops to buy menstrual products before going to restrooms. If blood stains are visible on their clothes in public, they would order menstrual products to be delivered to them using an e-commerce grocery delivery application like Foodpanda. However, women can only see the shop's location if they want more information about the shop. Since most shops that sell

menstrual products besides pharmacies are supermarkets or grocery stores, women's products often get mixed up with other items on the menu. Women need to search specific keywords or search for a label where all menstrual products are in the online menu. Thus, the time taken to access menstrual products is longer.

1.3 Project Scope

This proposed system targets individuals, focusing more on women who require menstrual products in public and sellers that own shops, particularly in shopping malls throughout Malaysia. Customers can locate the nearest shop that sells menstrual products, search for specific menstrual products and order products for delivery or pick-up. The seller can view and manage orders and product inventory in the system. Delivery staff can view and manage order deliveries assigned by the seller.

However, the limitation of this project is that the system is not equipped with a built-in payment gateway. Customers will need to make payment arrangements directly with the seller or delivery staff. The first payment arrangement includes the customer manually banking into the seller's bank account provided on the checkout page when checking out the order. The other available payment arrangement is for the customer to pay cash to the seller or delivery staff before retrieving the order. The system only covers the area inside the shopping mall and shops nearby the walking distance from the shopping mall.

1.4 Objectives

The objectives to be achieved in this project are as follows:

- To design and develop a web-based system application entitled Moon Time: Online Store For Menstrual Products.

- To provide a shorter time for women to access menstrual products in public by providing real-time information on the availability and location of menstrual products in nearby shops, allowing customers to quickly and easily locate the nearest store to purchase products.
- To evaluate the time effectiveness of web-based system application based on the reduction in the time it takes for customers to access menstrual products compared to traditional methods such as going to the stores, the data collected will be analysed to determine the system's effectiveness.
- To evaluate the web-based system application.

1.5 Brief Methodology

The software development methodology that will be used throughout the project is Rapid Application Development (RAD). RAD emphasises the development cycle in a short time (Adhityarahman et al., 2021). This methodology evolved from rapid prototyping approaches and was originally formalised by James Martin, who believed it referred to a development life cycle meant for high-quality systems with faster development and cheaper costs than the traditional life cycle provided (Berger et al., 2004).

This methodology is chosen because it has the flexibility to make changes to the requirements and is effective in developing a project with a limited amount of time. The four phases of Rapid Application Development are:

1.5.1 Analysis and Quick Design

During this phase, the target user will be given a questionnaire to obtain information about the project. The questionnaire results and output will be

analysed to identify problems, requirements and project scope. Requirements are further identified by comparing the proposed system with existing systems.

1.5.2 Prototype Cycles

After the analysis and quick design phase, the working prototype is built in its first version. Client feedback is collected and analysed. The prototype is then improved based on the client's feedback. This process will continue until the client is satisfied with the finalised prototype.

1.5.3 Testing

After the current prototype is finalised, the product must be tested in terms of User Interface Design and User Experience testing and functional testing to identify any errors, bugs or malfunctioning components.

1.5.4 Deployment

In this last step, the functional model will be deployed, followed by data conversion by the developer and user training sessions to familiarise users with the product. Any essential maintenance work will be completed to create an end result that meets the end user's expectations for the web application.

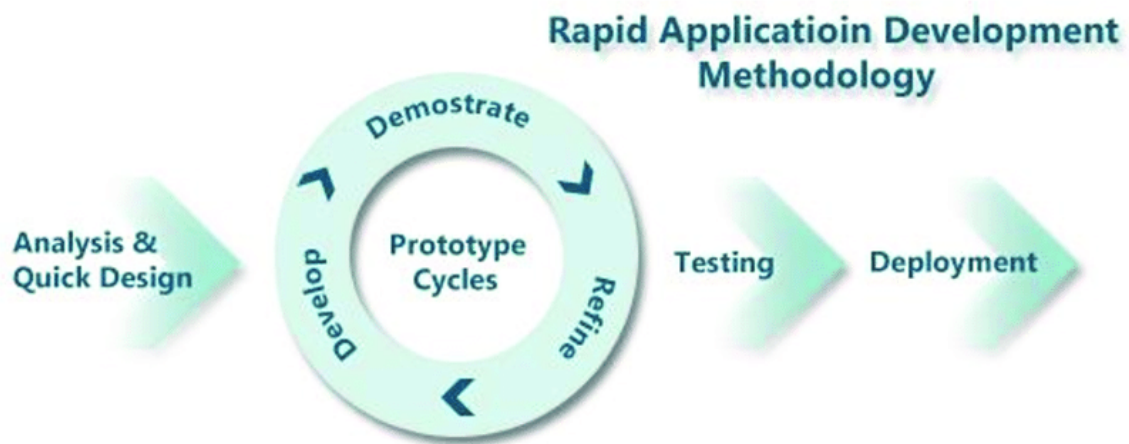


Figure 1. 1 Rapid Application Development (RAD) (Abd Ghadas et al., 2015)

1.6 Significance of Project

When the web-based application system is completed, women, who are the customers, can order menstrual products and retrieve the products through delivery or pickup. The seller, also the admin, can view the orders in real time and update the inventory of menstrual products.

1.7 Project Schedule

The project schedule is essential in showing tasks in the project that are needed to be done and when the project is due. The project schedule will be displayed using a Gantt chart.