POS System for Small Entrepreneur

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A Project Proposal

Submitted to

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1.0 Introduction

Satay Pandan, which operates without the opulence of large restaurants, has carved out a space for itself in the world of small-scale culinary enterprise. Inspired by the owner's idea, Muhammad Fairus bin Duladim, this proposal aims to improve the tiny satay stalls' operational efficiency by implementing a Point of Sale (POS) system that was exclusively built for them. Through inventory management alignment, sales process simplification, the program aims to improve the daily operations of the stalls. The decision to pursue this initiative goes beyond simple technology improvements, rather, it is a calculated reaction to the difficulties small enterprises in the current market face.

This project's importance is highlighted by the requirements of Satay Pandan's business model. The suggested POS System is made to specifically fit their booths' needs. Our preliminary research makes this requirement clear by showing how few effective POS options there are for small companies like Satay Pandan. Thus, this project is a purposeful attempt to meet present business needs rather than only bringing about technology advancements.

The man behind Satay Pandan's concept, Muhammad Fairus bin Duladim, is leading the charge on this project. This joint venture takes place at the vibrant hub of Satay Pandan's activities, fusing technology innovation with culinary experience.

2.0 Problem Statement

1. **Inefficient Operational Processes**

   Due to Satay Pandan's present manual inventory management and sales processing practices at its small stalls, there is a greater chance of errors in inventory tracking.

2. **Limited Scalability and Growth**

   Scalability is limited by the lack of a Point of Sale (POS) system made especially for tiny installations like Satay Pandan's stalls. Their capacity to meet the growing demand and look for business expansion prospects is being hampered by this.

3.0 Project Objective

1. To simplify inventory management and sales procedures for Satay Pandan through the introduction of a customized point-of-sale system. This initiative aims to mitigate the likelihood of encountering issues in inventory tracking. Also, easy sales reconciliation.

2. To involves crafting and implementing a POS system web application which is easy to use minimum hardware requirement for example Smartphone with flexibility, specifically catering to the unique requirements of small stalls. This endeavours positions Satay Pandan to adeptly handle an expanding customer base, setting the stage for future business success.

4.0 Project Scope

4.1 Product Scope

For this project, we'll be focusing on creating a customized Point of Sale (POS) System tailored specifically to meet the needs of Satay Pandan's small stalls. The main goal is to develop a user-friendly interface that streamlines inventory management, and sales processing. We aim to seamlessly integrate this system into their current operations, ensuring a smooth transition from manual processes to an automated system. The features we're looking to include encompass real-time inventory tracking, detailed sales analytics to significantly improve overall operational efficiency.

4.2 Project Scope

The project scope covers all tasks associated with the plan, design, development, testing, and release of the POS System for Satay Pandan. This involves gathering requirements, coding the software, integrating it into the existing system, providing user training, and offering post-implementation support. We're committed to executing the project within the defined timeframe and budget. Regular progress assessments will be conducted to make sure that our efforts align with the operational needs of Satay Pandan. Throughout the project, we will collaborate closely with the stakeholders of Satay Pandan to ensure the successful delivery of the POS System, meeting both functional and operational requirements.

5.0 Target User

The primary users for the proposed Point of Sale (POS) System at Satay Pandan are the owners of the small stalls, encompassing both the husband and wife who manage the day-to-day operations. As the sole individuals overseeing the business, their roles include:

Owners: Responsible for processing customer orders, managing sales transactions, handling payment processing, tracking, and updating inventory, ensuring stock availability, and overseeing administrative tasks such as report generation and sales data analysis.

6.0 Project Requirement

6.1 Software Requirements

SOFTWARE	DESCRIPTION
Visual Studio Code	Visual Studio Code is used to do the coding and run the system.
PhpMyAdmin	PhpMyAdmin is used to store the data in the database.
Apache	Apache is used to host the application

Table 1: Software Requirements

6.2 Hardware Requirements

HP Pavilion Laptop 13

Operating System	Windows 11 Home Single Language
Processor	Intel(R) Core(TM) i5-8265U CPU @ 1.60GHz 1.80 GHz
Installed RAM	4.00 GB (3.89 GB usable)
Storage	239GB SSD
System type	64-bit operating system, x64-based processor

Table 2: Hardware Requirements

7.0 Project Planning and Methodology

Agile is the method we're using for developing this online system since it helps us stay on time. In addition, it enhances communication with the product owner, which makes it an excellent choice for managing risks in intricate projects.

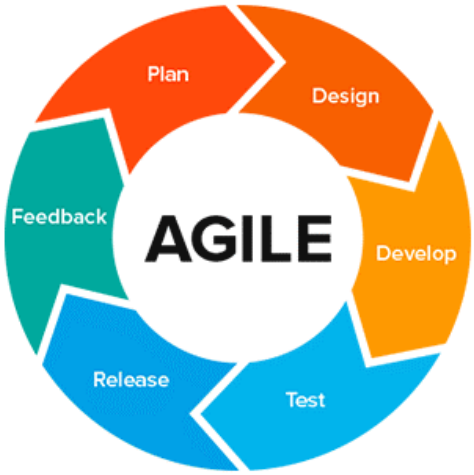


Figure 1: SHOW AGILE METHODOLOGY

Phase	Activities
Plan	• Establish the project by defining detailed goals and scope. • Create a task schedule, allocate necessary resources, and identify potential risks. • Collaborate with the product owner to outline the first iteration and basic requirements.
Design	• Develop the user interface (UI) based on product owner input and requirements. • Structure the database and establish necessary data relationships. • Seek approval from the product owner before moving into the development phase.
Develop	• Begin coding based on the approved design. • Implement security measures to protect the data.

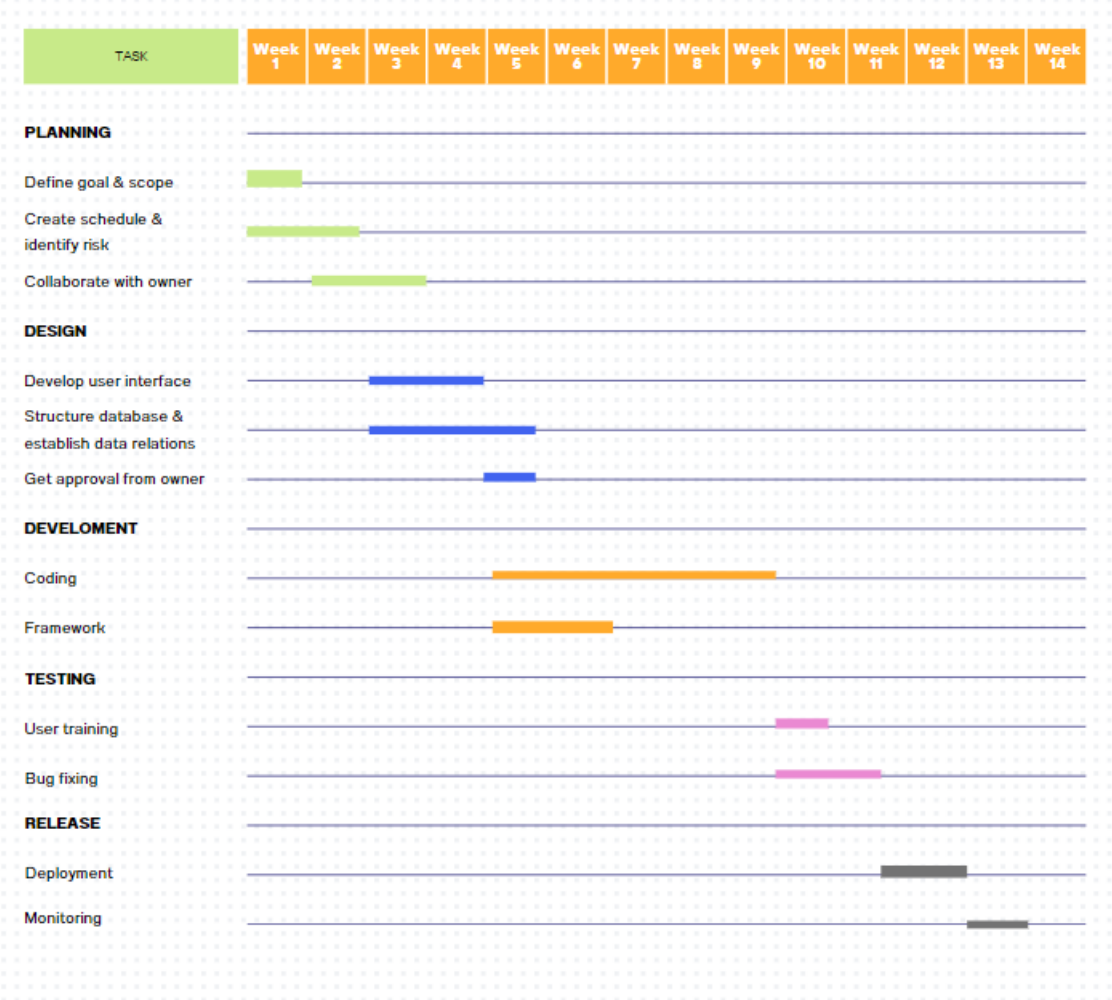
Test	• Conduct comprehensive testing, including unit testing, integration testing, and user acceptance testing. • Address and fix any bugs or issues identified during testing. • Gather feedback from the product owner and make necessary adjustments.
Release	• Deploy the POS system into Satay Pandan's operational environment. • Conduct training sessions for the shop owners on system usage. • Monitor and address any post-launch issues.
Feedback	• Establish mechanisms for continuous feedback from the product owner. • Utilize feedback for ongoing improvements and adjustments to the system.

8.0 Conclusion

To sum up, the POS System for Satay Pandan concept emphasizes a focused effort to increase operational efficiency through the creation and deployment of a unique point-of-sale (POS) system. This strategic project, which has its roots in Agile methodology, aims to address the unique difficulties that Satay Pandan's small stalls encounter. The process of collaborating with the owners during the phases of planning, design, development, and testing is essential to creating a system that effectively meets the requirements of their small stalls. Hope is great for the POS system's successful implementation, which would be a big step toward improving day-to-day operations and promoting Satay Pandan's future expansion and prosperity.

9.0 Gantt chart

POS SYSTEM WEB APPLICATION GANTT CHART



10.0 References

1. olanipekun (DproductGuy), T. (2023). *What is agile methodology?* [online] Medium. Available at: https://medium.com/@temitopeolanipekun12/what-is-agile-methodology-713c9e29361a.

2. Eggert, B. (2020). *Top 5 Methodologies Used In Mobile App Development*. [online] 5280 SOFTWARE. Available at: https://www.5280software.net/blog-post/top-5-methodologies-used-in-mobile-app-development/.

3. Fernandes, B. (2023). *POS Systems for Small Businesses: Cost-Effective Solutions*. [online] technology-insider. Available at: https://medium.com/technology-insider/pos-systems-for-small-businesses-cost-effective-solutions-ce20730e482d [Accessed 21 Jan. 2024].

4. Usability Geek. (2018). *User Experience Barriers In POS Systems*. [online] Available at: https://usabilitygeek.com/user-experience-barriers-pos-systems/.

5. NerdWallet. (2023). *What Is a POS System and How Does It Work?* [online] Available at: https://www.nerdwallet.com/article/small-business/what-is-a-pos-system#:~:text=THISSmall%20Business-.

6. olanipekun (DproductGuy), Temitope. “What Is Agile Methodology?” *Medium*, 15 Nov. 2023, medium.com/@temitopeolanipekun12/what-is-agile-methodology-713c9e29361a.