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TFB1033 Object Oriented Programming

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1.0   Introduction

1.1   Project background

The Kampung Manage Website is an initiative aimed at addressing the operational inefficiencies encountered by small businesses and community organizations in Malaysian Kampung. In this traditional setting, many local enterprises, including grocery stores, small retail shops, and community groups, rely heavily on manual progresses to manage their day – to – day operations. These processes often involve paper-based record-keeping, informal tracking systems, and manual coordination of tasks, which can lead to range of issues such as misplaced information, inefficient workflows, and difficulties in monitoring and planning.

The traditional ways of managing tasks and storing records is not only time-consuming but also prone to errors and inconsistencies. Businesses struggle with maintaining accurate records, planning and coordinating tasks among staff. These inefficiencies can hinder their ability to provide quality service, manage resources effectively, and respond to the dynamic needs of the community.

To address these challenges, the Kampung Manage Website aims to develop a robust digital platform that integrates essential management tools into a single, user-friendly interface. The website will provide a centralized hub for local businesses and organizations to streamline their operations and enhance their overall efficiency. The visual representation of the Gantt Chart will track the project timelines and staff contribution along the project. By digitizing and automating these processes, the website will help local enterprises to reduce manual errors, save time and improve their ability to responds to both routine and unexpected challenges.

Therefore, Kampung Manage aims to foster a more connected and resilient to local economy by enabling businesses and community organizations to operate more efficiently and effectively, by providing a modern digital tool that integrates essential management functions. The Kampung Manage website will help local enterprises overcome existing challenges and adapt to new opportunities.

1.2   Project Objectives

The objective of developing the Kampung Manage Website is to establish a centralized and intuitive dashboard that provides a comprehensive overview of store's operations. Dashboard's page on the website will serve as a crucial tool for the store owner and staff by consolidating key information into a single, user-friendly interface. The goal is to provide real-time summaries of ongoing projects and critical task deadlines that will enhance visibility to enable more informed decision-making.

Another key objective is to improve the project planning and scheduling capabilities. The website will feature Gantt charts to visualize timelines and staff contribution along the project to facilitate better planning and coordination. These charts will provide a clear representation of how tasks overlap and progress over time, helping to identify potential bottlenecks and ensure that projects stay on track. By implementing these planning tools, website aims to streamline project management, reduce manual errors, and enhance overall operational efficiency.

Furthermore, the platform will support file uploads capabilities, enabling user to store project's proposal documents and proof of payment. This feature will facilitate easy retrieval of important documents, ensuring that all relevant information is readily accessible when needed. In terms of task management, the website will offer advanced tools for creating, assigning, and tracking tasks across various project. User will be able to define specific tasks and monitor their progress through a user-friendly interface. Additionally, the task management functionality will help small business owner to create and track task for each project involve. Through these functionalities, the Kampung Manage website seeks to reduce manual errors, boost productivity, and support the sustainable growth of small business.

2.0 Research on similar tools

2.1 Overview of the Competitors

In the project management space, several established tools cater to the needs of small businesses. Trello, Asana, Monday.com, and Zoho Projects are among the most widely used platforms, each offering comprehensive solutions with unique features suited to different user requirements.
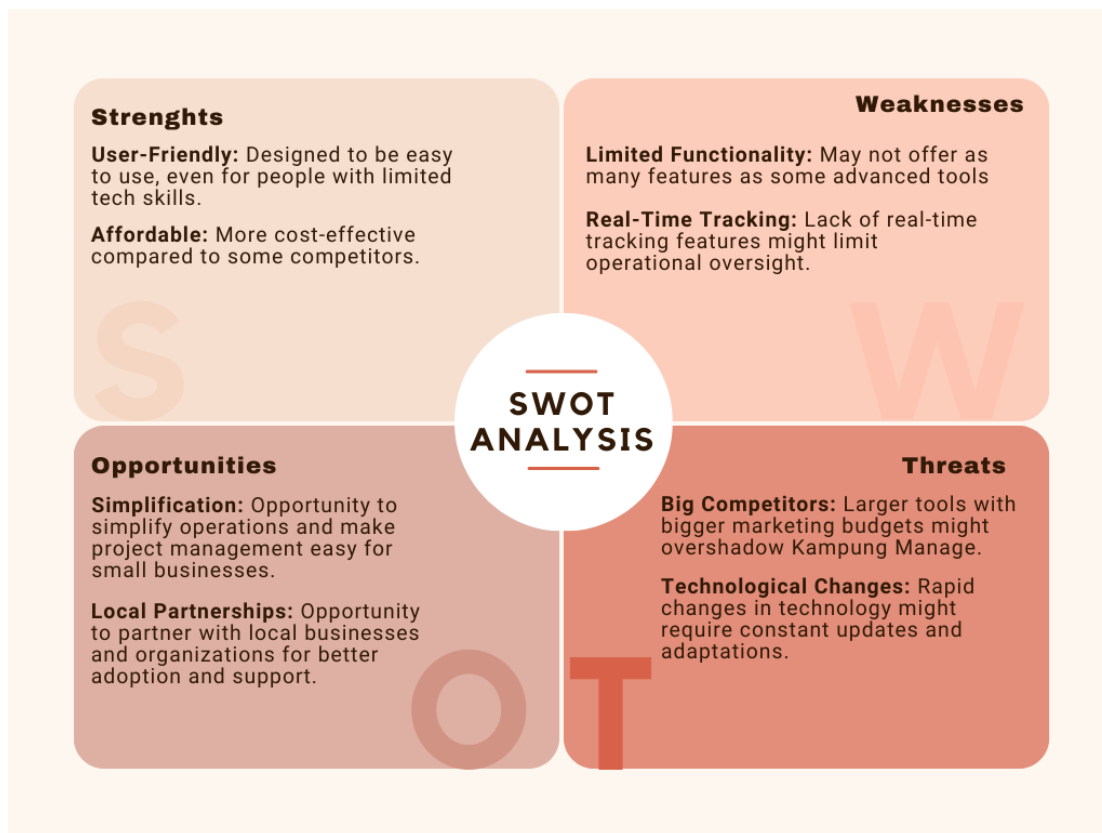
Competitors	Overview
Trello	Known for its simplicity and visual task management with boards and cards, Trello is ideal for teams needing an easy-to-use platform. However, it primarily supports basic task management and may not handle complex projects well.
Asana	Offers a robust suite of features including task assignments, project tracking, and timelines. Asana is suitable for handling complex projects but may be overly comprehensive for smaller businesses.
Monday.com	Provides extensive customization options for task management, project tracking, and resource allocation. It is versatile but tends to be more expensive and better suited for larger teams.
Zoho Projects	Affordable and includes essential tools like Gantt charts and document storage. While comprehensive, its complexity might be challenging for smaller businesses seeking a simpler solution.

Project management tools such as Trello, Asana, Monday.com, and Zoho Projects provide comprehensive solutions but are typically designed for larger teams or more complex needs. What distinguishes Kampung Manage is its emphasis on simplicity and ease of use, tailored specifically for small businesses in rural Malaysian kampungs. By offering a streamlined, user-friendly interface, Kampung Manage ensures that users with limited technical expertise can effectively manage their operations without being overwhelmed by advanced features.

2.2 Key Features of Competitors

Competitor	Key Features
Trello	**Visual Task Management**: Uses boards, lists, and cards to organize tasks visually. **Drag-and-Drop Interface**: Easy to move tasks between lists. **Collaboration Tools:** Allows comments, attachments, and due dates on tasks. **Integrations**: Connects with various third-party apps for enhanced functionality.
Asana	**Task Assignments and Tracking:** Assign tasks to team members and track their progress. **Project Timelines:** Visualize project schedules with timelines and Gantt charts. **Workspaces and Projects:** Organize work into different projects and teams. **Advanced Reporting:** Provides insights and reporting on project progress and team performance.
Monday.com	**Customizable Workflows:** Highly flexible with customizable boards and columns. **Task Management and Tracking: Manage** tasks, set priorities, and track progress. **Resource Allocation:** Allocate resources and manage workloads. **Automation:** Automate repetitive tasks and workflows. **Reporting and Dashboards:** Create custom reports and dashboards for project insights.
Zoho Projects	**Gantt Charts**: Visualize project timelines and dependencies with Gantt charts. **Task Management**: Create, assign, and track tasks with detailed progress updates. **Document Management**: Store and manage project-related documents. **Time Tracking**: Track time spent on tasks and projects. **Budgeting and Invoicing**: Manage project budgets and generate invoices.

2.3 SWOT Analysis

Strenghts

User-Friendly: Designed to be easy to use, even for people with limited tech skills.

Affordable: More cost-effective compared to some competitors.

Weaknesses

Limited Functionality: May not offer as many features as some advanced tools

Real-Time Tracking: Lack of real-time tracking features might limit operational oversight.

SWOT ANALYSIS

Opportunities

Simplification: Opportunity to simplify operations and make project management easy for small businesses.

Local Partnerships: Opportunity to partner with local businesses and organizations for better adoption and support.

Threats

Big Competitors: Larger tools with bigger marketing budgets might overshadow Kampung Manage.

Technological Changes: Rapid changes in technology might require constant updates and adaptations.

3.0 Proposed Features

3.1 Core Features & Functionality

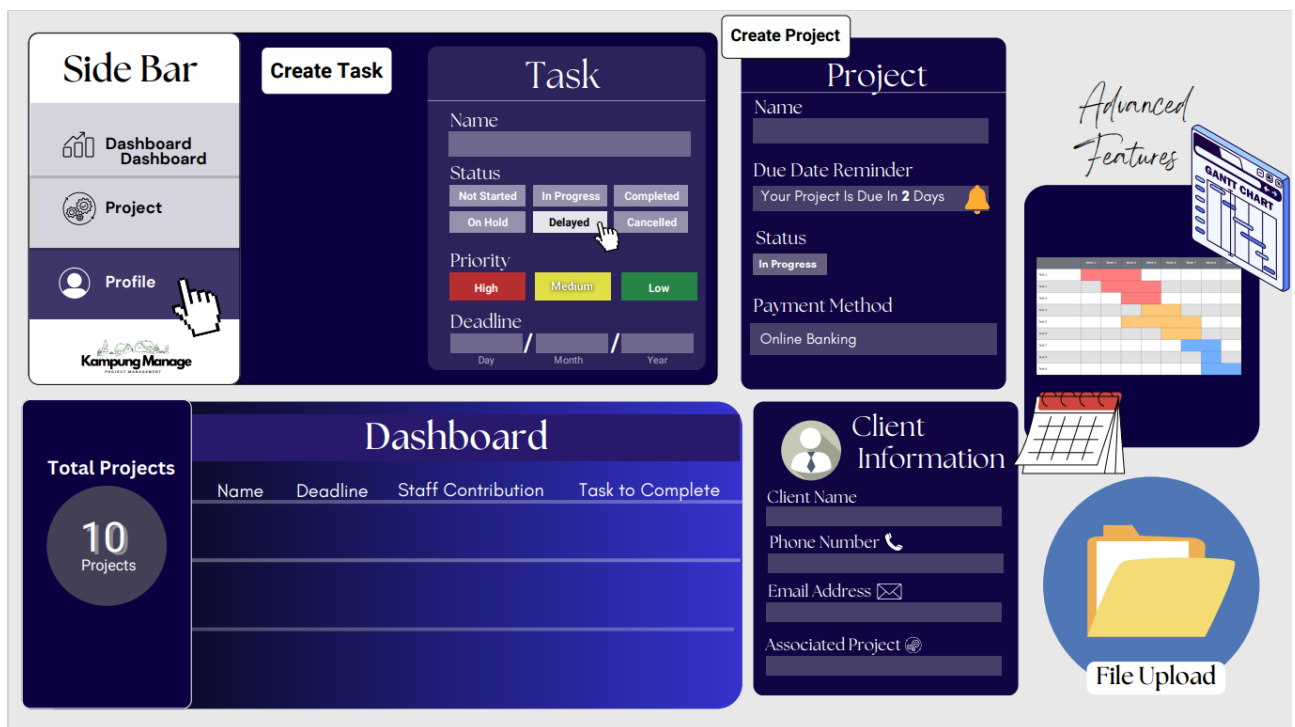| Features	Content	Functionality
Side-bar Tab	- Dashboard - Project - Profile	Easy navigation for small businesses to check their project
Task Management	- Create task - Task status - Priority - Dateline	For small businesses owner to create and track task for each project involve. Each task must be associated to a project
Project Creation & Tracking	- Create project - Duedate reminder - Project status - Payment method	Keep track of all project involve and their status
Client detail	- Client info - Associate project	Storing the customer detail and associate it to a project
Dashboard	- On-going project and dateline - Staff contribution - Task to complete	Summary of project to be done and task to complete

3.2 Advanced Features

Features	Functionality
Gantt Chart	Visual representation of project timelines and staff contribution along the project.
Files Upload	Save project's proposal documents and proof of payment for retrieving purposes.

4.0 Design and Implementation

4.1 Wireframing

4.2 Front-end development

The front-end development of the project management website aims to create an intuitive and user-friendly interface for small business owners. This interface will support key functions such as project tracking, task management and client detail storage, using HTML, CSS and JavaScript.

Features	Implementation
Side-Bar Tab	**HTML**: Structure of the sidebar. **CSS**: Responsive styling for user-friendly navigation. **JavaScript**: Manages interactive elements, such as active tab highlighting and smooth transitions.
Task Management	**HTML:** Creates forms for task input, allowing users to specify task details like priority, status and deadlines. **JavaScript:** Manages task updates, priority settings and deadline tracking.

Project Creation & Tracking	• **HTML**: Forms for project details such as due dates and payment methods. • **JavaScript**: Handles due date reminders and project status updates.
Dashboard	• **HTML:** Defines the layout and styling of the dashboard to offer a clear and organized overview of ongoing projects, deadlines and tasks. • **JavaScript**: Provides updates on projects, deadlines, staff contributions and tasks.
Client Details	• **HTML:** Structures forms to capture client information and link it with relevant projects. • **JavaScript:** Manages the dynamic linking between clients and their associated projects and updates client information.

Advanced Features	Implementation
Gantt Chart	• **HTML:** Define the container for the Gantt chart. • **CSS:** Style the chart to match the website's design. • **JavaScript:** Use libraries like Chart.js or Google Charts
File Upload	• **HTML:** Creates file upload forms for submitting project files. • **JavaScript:** Implements client-side validation for file formats and associates uploaded files with specific projects.

4.3 Back-end development

The back-end development of the project management website will focus on implementing the server-side logic required to manage data, handle business processes and interact with the database. The back-end will utilize **C#** for server-side logic and **SQL** for database interactions.

Features	Implementation
Task Management	**SQL Tables:** Designed to store task details, including TaskID, Name, Status, Priority and Deadline. **SQL Scripts:** Handle data creation, updates, retrieval, deletion, and manage relationships between tasks and projects.
Project Creation & Tracking	**SQL Tables:** Defined with fields such as ProjectID, Name, DueDate, Status and PaymentDetails. **SQL Scripts:** Manage project data, due date reminders and payment processing.
Client Details	**SQL Tables:** Store client information and establish associations with projects. **SQL Queries:** Manage data storage and relationships.
Dashboard	**SQL Queries:** Gather project and task data. **C# Methods and API Endpoints:** Summarize and present the data

Advanced Features	**Gantt Chart:** SQL queries prepare project timeline data for visualization using Chart.js or Google Charts. **File Upload:** SQL will store file metadata, while C# handles file upload endpoints.

5.0 Conclusion

The Kampung Manage Website is an essential step toward modernizing and optimizing the operations of small businesses and community organizations for Malaysian living in small villages. By addressing the operational inefficiencies caused by manual processes, the platform will streamline day-to-day management tasks such as inventory control, project planning, task scheduling, and document storage. The integration of features like a centralized dashboard, Gantt charts for project planning, task management tools, and file upload capabilities ensures that businesses can improve workflow efficiency, minimize errors, and make better-informed decisions.

Through its user-friendly design and comprehensive functionalities, the Kampung Manage Website aims to empower local enterprises by providing them with the tools to enhance their operational effectiveness. This initiative not only supports the growth and sustainability of small businesses but also strengthens the broader community by fostering better coordination and resource management. Ultimately, Kampung Manage will play a pivotal role in advancing the local economy, enabling Kampung businesses and organizations to thrive in an increasingly digital world.

Beyond its direct benefits to individual businesses, Kampung Manage also plays a crucial role in strengthening the broader community. By fostering better coordination and resource management among local organizations, the platform contributes to a more cohesive and resilient community. Ultimately, Kampung Manage emerges as a catalyst for economic development, enabling Kampung businesses and organizations to thrive in the digital age and contribute to the overall prosperity of their local communities.