KULLIYYAH OF INFORMATION & COMMUNICATION TECHNOLOGY

INFO 3305 WEB APPLICATION DEVELOPMENT

SEMESTER 1, 2025/2026

SECTION 3

PROPOSAL FOR PROJECT DEVELOPMENT

LEAFE MART MAHALLAH BILAL WEB APPLICATION

GROUP 4

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1.1 INTRODUCTION

The Leafe Mart Mahallah Bilal Web Application is an e-commerce platform developed for the residents of Mahallah and students of IIUM. The application aims to transform the current purchasing activities into a convenient, modern, and user-friendly digital shopping experience.

Currently, most shopping within Mahallah Bilal relies on physical visits to the mart, a process that can be time-consuming, particularly during peak hours, exam seasons, or when students have tight schedules. This web application addresses this challenge by providing a solution for online purchasing.

This project will deliver a fully functional web application enabling users to browse products**,** check availability, view prices, and make seamless purchases online. The platform will feature a modern, clean visual design and a responsive layout to ensure an aesthetically pleasing and consistent experience on both mobile and desktop screens.

1.2 PROBLEM DESCRIPTION

1.2.1 Background of the problem

The students experience challenges like a tight class timetable, uncertain stock, and a long queue of people lining up especially when it comes to peak hours. There is no online platform for users to search for items available for purchase in advance and store information.

Because of the growing dependency on online services in IIUM campuses, as well as for the convenience of Mahallah residents, a web application will provide a way for Leafe Mart to upgrade and simplify their operation. This application would benefit users with an organized, accessible, and user-friendly means of dealing with the store without requiring their presence.

1.2.2 Problem Statement

1- No Online Product Visibility

Users cannot check for the product availability, view prices, or categories without physically visiting the store.

2- Limited Operating Hours Information

Students Cannot know if the store is open or closed without checking physically.

3- No Order or Reservation System

Students Cannot order or reserve items, which could lead to disappointment when the items run out.

4- Inefficient Inventory Updates

Staff operators manually track the stock, which may cause some errors and delays.

5- Long Queues and Congestion

During peak hours, the store gets crowded, causing slow checkout and inconvenience.

1.3 PROJECT OBJECTIVE

The project objectives are as follows:

1) To make shopping process digitalized

   By giving students an easy-to-use online platform to browse products, check prices, and see stock availability.

2) To assist Leafe Mart staff in managing operations

   Provide an admin dashboard for managing products, categories, stock, orders, and announcements in a systematic manner.

3) To enhance user experience

   Develop a modern, responsive, and user-friendly interface accessible on both mobile and desktop devices.

4) To reduce long queues and overcrowding

   By offering an online alternative that allows students to check items and place simulated orders without physically visiting the mart during peak hours.

5) To improve communication with customers

   By providing clear and timely updates, operational hours and announcements directly through web applications.

1.4 PROJECT SCOPE

1.4.1 Scope

The scope of the Leafe Mart Mahallah Bilal Web Application focuses on digitalizing the current purchasing experience and improving operational efficiency. The system will include essential customer-facing features for browsing and purchasing, as well as internal administrative module to help staff manage products and inventory more effectively.

Customer Module

- User registration & login
- Browse and search products
- Add to cart, checkout, payment simulation
- Order tracking
- View order history
- Notifications & announcements

Admin Module

- Admin authentication
- Product management (CRUD)
- Category management
- Inventory management (stock in/out)
- Order management
- Sales and inventory reports
- Announcement module

The application will follow the Laravel MVC architecture, ensuring proper separation of concerns and maintainability. The design will be responsive to provide a consistent user experience on both mobile and desktop devices.

1.4.2 Targeted User

Target users by User Group, Description, and Age Range.

User Group	Description	Age Range
Students	Primary customers who browse products and place orders	19-25
Leafe Mart Management	Store Manager and Mahallah Administrator responsible for overseeing operations	30-55
Leafe Mart Staff	Cashiers and stock handlers managing daily operations	25-50

These users represent the key stakeholders who will directly benefit from improved efficiency, reduced congestion, and organized product management.

1.4.3 Specific Platform

The development and deployment of the Leafe Mart web application require the following infrastructure:

Software Requirements

1. Laravel 10
2. PHP 8.2
3. MySQL database
4. Composer
5. Apache Web Server
6. HTML, CSS, JavaScript
7. GitHub for repository and version control

Hardware Requirements

1. A standard PC/Laptop with at least 8GB RAM and 128GB storage
2. Localhost or shared hosting server for application deployment

Network Requirements

1. Stable internet connection
2. Browser access (Chrome, Firefox)

Addressing Infrastructure Limitations

If the Kulliyyah does not provide a hosting server, the project will be demonstrated on a localhost to ensure smooth execution. Alternatively, free hosting options or temporary educational hosting platforms may be considered to allow online deployment for presentation purposes. This approach ensures that the development continues without interruption despite any institutional limitations.

1.5 CONSTRAINTS

The development of the Leafe Mart web application is subject to several limitations that may affect the design, functionality, and timeline of the project. These constraints include:

1. Technical Constraints

- No real-time connection to the physical store's actual inventory, stock updates depend on manual input from staff.
- Payment gateway integration may not be implemented due to time and budget restrictions, transactions may be simulated.
- The system relies on the team's understanding of Laravel, which may require additional learning time.
- Deployment is limited to available resources, such as localhost if hosting is unavailable.

2. Time Constraints

- Development must fit within the semester timeline.
- Team members must manage workload across multiple courses.
- Only essential features will be prioritized to ensure timely completion.

3. Resource Constraints

- Access to verified product images, stock data, and pricing depends on cooperation from Leafe Mart staff.
- Limited access to advanced UI/UX tools may restrict interface design options.
- Communication among team members may be affected by scheduling conflicts.

4. Scope Constraints

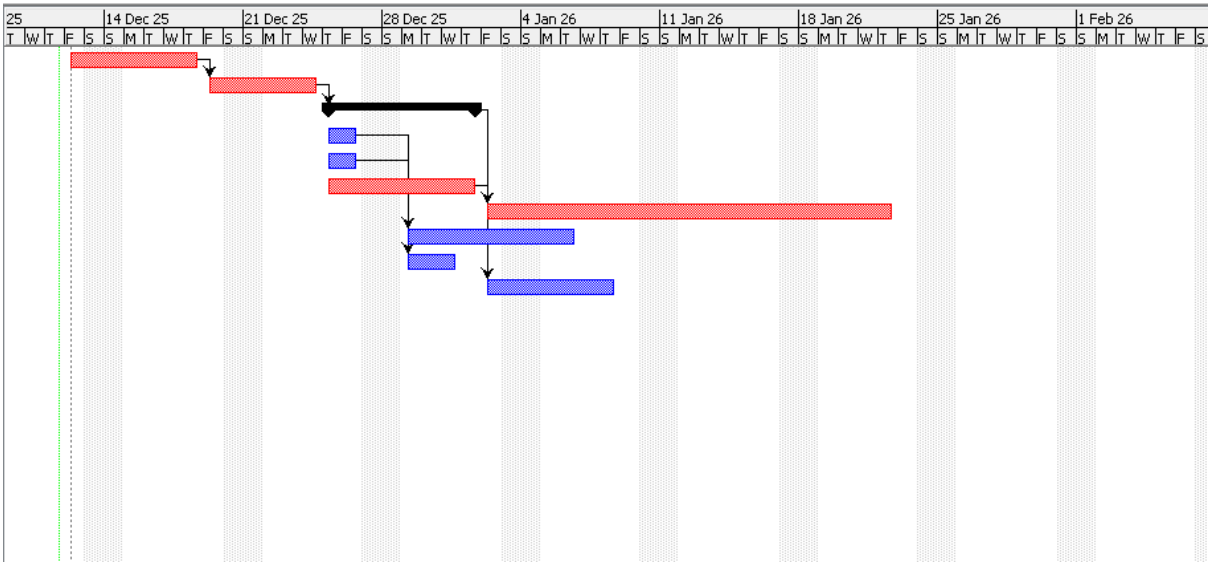
- Some advanced features (real-time stock integration, automated purchasing) may not be included in the initial prototype.
- Only key modules will be fully implemented: product browsing, announcements, admin management, and simulated ordering.

5. Operational Constraints

- The system may not fully reflect actual store behavior unless data is manually provided.
- Internet connectivity issues may affect development or testing sessions.

1.6 PROJECT STAGES

	Name	Duration	Start	Finish	Predecessors
1	Requirement Gathering	5 days	12/12/25, 8:00 AM	12/18/25, 5:00 PM	
2	System Design	4 days	12/19/25, 8:00 AM	12/24/25, 5:00 PM	1
3	**Front-End Development**	**6 days**	**12/25/25, 8:00 AM**	**1/1/26, 5:00 PM**	**2**
4	HTML structure	2 days	12/25/25, 8:00 AM	12/26/25, 5:00 PM	
5	CSS	2 days	12/25/25, 8:00 AM	12/26/25, 5:00 PM	
6	JS	6 days	12/25/25, 8:00 AM	1/1/26, 5:00 PM	
7	Back-End Development	15 days	1/2/26, 8:00 AM	1/22/26, 5:00 PM	3
8	Integration & Testing	7 days	12/29/25, 8:00 AM	1/6/26, 5:00 PM	4
9	Deployment	3 days	12/29/25, 8:00 AM	12/31/25, 5:00 PM	5
10	Report Writing & Presentation	5 days	1/2/26, 8:00 AM	1/8/26, 5:00 PM	6



1.7 SIGNIFICANCE OF THE PROJECT

For Students (19–25 years old)

1. Provides a convenient way to browse products, check prices, and view stock availability anytime.
2. Reduces long queues and unnecessary trips to the mart during peak hours.
3. Helps students plan their purchases better with updated information and announcements.
4. Offers a smoother and more modern shopping experience through a responsive interface.

For Leafe Mart Staff (25–50 years old)

1. Simplifies daily tasks with an organised admin panel for product and inventory management.
2. Reduces errors caused by manual stock tracking or inconsistent updates.
3. Saves time by reducing repeated customer enquiries about item availability or pricing.
4. Improves workflow through a systemised order and category management process.

For Leafe Mart Management / Administrator (30–55 years old)

1. Provides clear sales and inventory reports that support better decision-making.
2. Improves overall store efficiency through streamlined digital processes.
3. Enhances service quality and modernises the mart's operations in line with campus digitalisation goals.
4. Makes communication with students easier through online announcements and updates.

1.8 SUMMARY

This proposal outlines a complete Laravel MVC web application designed to digitalize Leafe Mart Mahallah Bilal's operations. The system addresses key problems such as lack of online product visibility, long queues, manual stock tracking, and limited operational information.

The project aims to create a user-friendly platform where students can browse items, check stock, and place simulated orders, while staff and management benefit from organized product, inventory, and announcement management. By the end of the project, the team will deliver a responsive, modern, and efficient e-commerce application that enhances convenience for students and improves operational workflow for Leafe Mart.

1.9 REFERENCES

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