



# **MALAYSIA-JAPAN INTERNATIONAL INSTITUTE OF TECHNOLOGY (MJIIT)**

**SEMESTER 1-2024/25**

## **SOFTWARE ENGINEERING**

**COURSE CODE: SECJ 2203; SECTION – 16**

**LECTURER: DR ROZANA ISMAIL**

### **PROJECT PROPOSAL**

**Group - 6**

<b>GROUP MEMBERS</b>	<b>MATRIC NUMBER</b>
<b>TAHIYA NUZHATH KHAN (LEADER)</b>	<b>A23MJ4025</b>
<b>PASHMIA BINTE WALID (TESTER)</b>	<b>A23MJ4023</b>
<b>SAUMIK HASAN ARPON (DESIGNER)</b>	<b>A23MJ3009</b>
<b>ZABIR MUHAMMAD SALEH (DEVELOPER)</b>	<b>A22MJ9161</b>

# Contents

<b>Introduction .....</b>	<b>3</b>
<b>Existing System Analysis .....</b>	<b>4</b>
<b>Proposed System.....</b>	<b>5</b>
<b>Software Process Model.....</b>	<b>5</b>
<b>Project Schedule .....</b>	<b>6</b>
<b>References .....</b>	<b>7</b>
<b>Appendices .....</b>	<b>7</b>

# Introduction

<b>Need (N)</b>	In the current era of climate change and environmental concerns, universities play a pivotal role in driving sustainability and promoting eco-friendly practices. The MyGreen UTM App addresses this need by encouraging students and staff to participate in green initiatives. However, the app in its current state does not fully utilize modern engagement techniques, leaving substantial room for improvement in usability and user engagement.
<b>Approach (A)</b>	Our approach focuses on enhancing the current app by introducing advanced features, modernizing the user interface, and expanding functionality to ensure greater adoption. New features such as gamification, carbon footprint tracking, real-time notifications, and data visualization will improve user engagement. Additionally, the app will be made accessible on both Android and iOS platforms, enhancing its reach and usability.
<b>Benefit (B)</b>	The enhanced app will: <ul style="list-style-type: none"><li>• Significantly increase participation in UTM's sustainability programs.</li><li>• Provide insights into individual and collective environmental impacts.</li><li>• Strengthen UTM's reputation as a leader in environmental conservation.</li><li>• Promote a culture of sustainability within the university community.</li></ul>
<b>Competitor Analysis (C)</b>	While competing apps like Ecosia and JouleBug promote general sustainability, the MyGreen UTM App stands out by catering specifically to UTM's green initiatives, fostering localized engagement, and rewarding users for campus-specific eco-friendly behaviors.

# Existing System Analysis

## Current Features:

The existing MyGreen UTM App includes:

- QR Code Scanning for participation in sustainability events.
- Leaderboard to rank participants based on points earned.
- Green Sustainability Program Categories: Awareness, Education, Energy, Transportation, Water, Trash, and Wellbeing.

## Limitations:

- Lack of gamification features to enhance user engagement.
- Limited to Android, restricting accessibility for iOS users.
- Absence of tools for real-time monitoring and carbon footprint tracking.
- Basic user interface lacking modern design principles.

## Feature Comparison Table:

Feature	Current App	Competitor Apps	Proposed Enhancements
Gamification	No	Yes	Yes
Cross-Platform Availability	No	Yes	Yes
Real-Time Notifications	No	No	Yes
Carbon Footprint Tracking	No	No	Yes
Data Visualization of Impact	No	No	Yes

# Proposed System

The new and improved MyGreen UTM App will include:

## Key Features:

1. **Carbon Footprint Tracker:** Allows users to calculate and monitor their environmental impact based on their activities.
2. **Gamification:** Introduces rewards, badges, and milestones to boost user motivation and retention.
3. **Real-Time Notifications:** Provides updates about ongoing eco-events and tips on sustainable practices.
4. **Data Visualization:** Displays user contributions and university-wide sustainability metrics through charts and graphs.
5. **Cross-Platform Accessibility:** Ensures availability on both Android and iOS devices.

## Stakeholder Roles:

- **Students & Staff:** Engage with the app by participating in green activities, earning points, and monitoring their contributions.
- **Administrators:** Manage programs, monitor user participation, and generate sustainability reports.

# Software Process Model

We propose using the **Agile Software Development Methodology** due to its iterative approach and focus on user feedback. This methodology will ensure continuous improvement and alignment with user needs.

## Phases and Deliverables:

- i. **Requirement Gathering (Weeks 1–2):**
  - Deliverables: User stories, feature requirements, and technical specifications.
- ii. **Design (Weeks 3–5):**
  - Deliverables: UI/UX prototypes, architectural diagrams.

iii. **Development (Weeks 6–11):**

- Deliverables: Functional app prototypes for Android and iOS.

iv. **Testing (Weeks 12–13):**

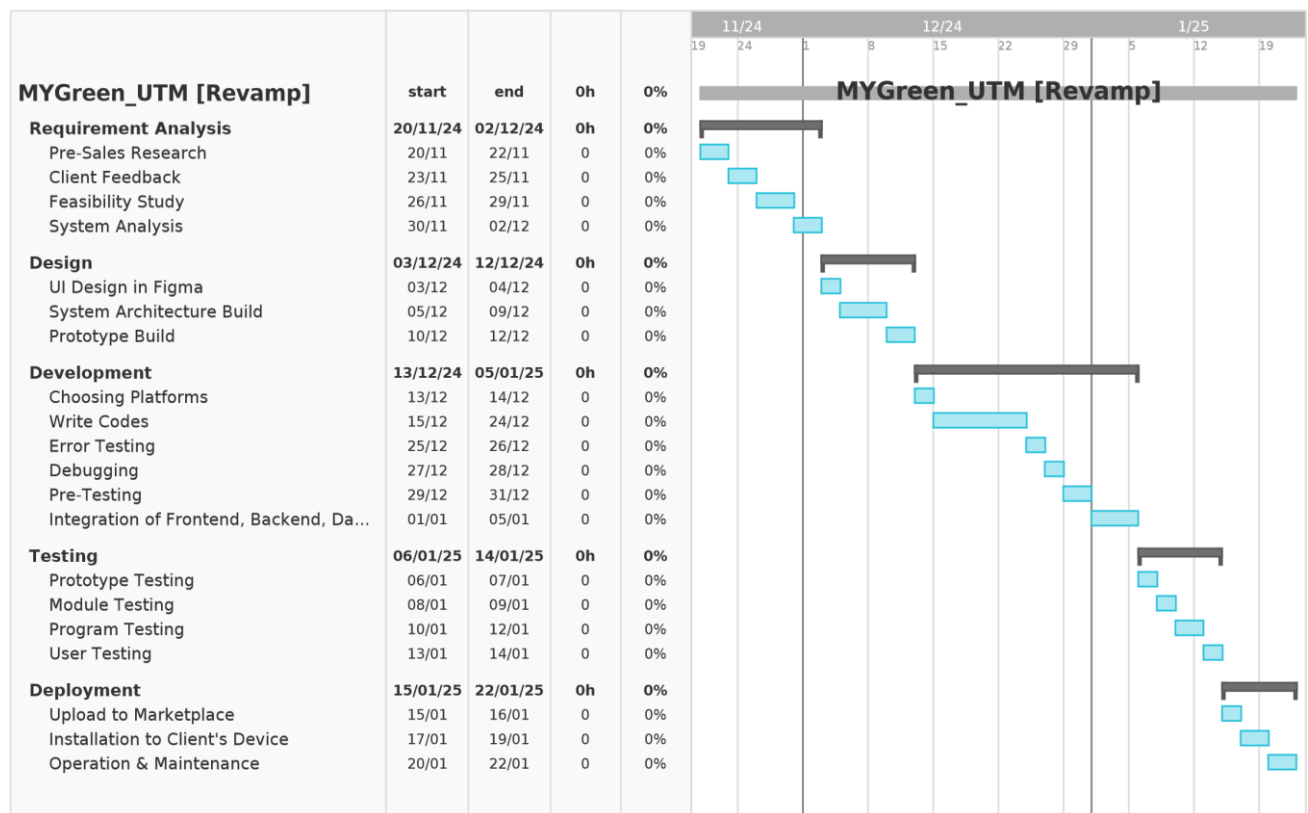
- Deliverables: Bug reports, usability testing outcomes, and performance metrics.

v. **Deployment & Feedback (Week 14):**

- Deliverables: Deployed app and user feedback report.

# Project Schedule

## Gantt Chart:



# References

1. Sommerville, I. (2016). *Software Engineering*, 10th Edition. Pearson Education.
2. JouleBug App. (2024). Retrieved from [www.joulebug.com](http://www.joulebug.com).
3. Agile Alliance. (2024). Retrieved from [www.agilealliance.org](http://www.agilealliance.org).

# Appendices

## Appendix A: Tools Used

- **Generative AI Tools:** OpenAI's ChatGPT for drafting.
- **Design Tools:** Figma for wireframes and UI/UX design prototypes.
- **Development Tools:** Android Studio, Xcode, and Firebase.