

# Study Buddies: Peer Support for Students

## Proposal

### Overview

Starting university can be a challenging transition for first-year students. **Study Buddies** is a collaborative web application designed to help students connect with peers for academic and social support. By fostering collaboration, providing access to resources, and promoting peer mentorship, this platform aims to enhance the university experience and support students' academic success and personal growth.

This project involves building a **CRUD web application** from scratch, incorporating modern technologies and project management practices to deliver a robust and user-friendly platform.

### Goals

1. Develop a web application that connects students based on shared academic interests and study habits.
2. Facilitate the formation of study groups, enabling students to collaborate on their academic goals.
3. Introduce features like resource sharing, event scheduling, and mentorship opportunities to encourage teamwork and peer support.
4. Ensure the application is user-centred, secure, and accessible for students from diverse backgrounds.

# Core Features

- **Profile Matching:** Match students based on their courses, interests, and study preferences to build meaningful connections.
- **Study Group Formation:** Enable students to create or join study groups tailored to their academic goals and availability.
- **Event Scheduling:** Provide an integrated calendar for organizing study sessions, meetups, and events.
- **Resource Sharing:** Offer a centralized hub for sharing notes, links, and other academic tools.
- **CRUD Functionality:** Allow users to create, read, update, and delete profiles, groups, events, and resources within the platform.

# Technologies and Tools

## Technologies

- **Frontend:** HTML, JavaScript (for dynamic and interactive features).
- **Backend:** Node.js with Express.js to handle server-side logic.
- **Templating Engine:** PUG for generating dynamic HTML templates.
- **Database:** MySQL to manage relational data for user profiles, groups, and resources.

## Tools

- **Version Control:** Git for tracking changes and facilitating collaboration.
- **Docker:** For building and maintaining standardized development environments.
- **CI/CD:** GitHub Actions for continuous integration and deployment workflows.

# Project Management

- Utilize agile methodologies, including Kanban boards, to manage tasks and track progress.
- Conduct regular team meetings to discuss updates, challenges, and plans.
- Document the project with a **UML specification** to visualize and communicate system design.

## Testing

- Perform unit testing, integration testing, and user acceptance testing to ensure application functionality, usability, and reliability.
- Implement automated testing pipelines using GitHub Actions to maintain code quality.

## User Research

- Conduct interviews and surveys with first-year university students to gather insights into their needs and challenges.
- Use feedback to refine the application's design and features, ensuring a user-centred approach.

## Ethical Considerations

1. **Data Privacy and Security:** Securely store user data with encryption and implement authentication mechanisms to ensure privacy and GDPR compliance.
2. **Content Moderation:** Prevent misuse by moderating user interactions and providing reporting tools for inappropriate behaviour.
3. **Inclusivity:** Design the platform to accommodate users from diverse academic, cultural, and personal backgrounds.

# Conclusion

The **Study Buddies** platform is an innovative solution to support first-year university students in their academic and personal journey. By combining advanced technologies, user-centred design, and ethical practices, this project aims to deliver a web application that fosters collaboration, mentorship, and academic success. This project also serves as an opportunity to apply and refine technical and project management skills, ensuring a meaningful and impactful outcome.