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Module Code: PUSL2021	Module Name: Computing Group Project
Coursework Title: Group Project Proposal	
Deadline Date: 25 th oct 2023	Member of staff responsible for coursework: Mr. Pramudya Thilakarathane
Programme: BSc (Hons)Computer Networks BSc (Hons)Computer Science	
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Group Members (Group B61)

Index Number	Student Name	Project Role
10898720	H.M.I.G. Wijewardhane	Project and group Leader
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Project Proposal

- **Project Name** – “StudyStay Seeker” Accommodation Finder

- **Project Overview** –

An important turning point in a student's academic career is the adjustment to university life. It's an exciting and anticipated moment filled with a lot of new tasks and responsibilities. Finding acceptable housing close to their different universities is one of the most difficult problems that university students frequently encounter. The "Finding Boarding houses for University Students Project" was designed as a creative and prompt solution to this common problem. The goal of this project is to provide an online platform that improves university students' overall educational experience by reimagining and streamlining the process of obtaining boarding-houses and other lodging.

-The Challenge-

Making the adjustment to university life may be both thrilling and overwhelming. Finding cozy and reasonably priced accommodation close to their academic institutions is one of the most urgent issues facing university students, especially those who are relocating to new towns or nations. The present housing search process can be a complex and time-consuming undertaking, and it is frequently characterized by a lack of openness. Students are faced with coordinating property viewings, sorting through a plethora of property postings, and trying to determine the legitimacy and dependability of property owners. Stress and anxiety are frequently experienced during the ordeal, which can take away from the excitement of starting the next chapter of their scholastic adventure.

-The Solution-

In response to the difficulties involved in finding housing, the "StudyStay Seeker Project" is intended to be a revolutionary approach. The main goal of the project is to develop a web-based, user-centric platform that makes it easier to locate and book accommodations close to colleges. This platform will be made to provide students with an easy-to-use way to look up, compare, and assess the accommodations that are offered.

- Friendly User Interface: This project's main goal is to create an interface that is easy to use. We are committed to creating an experience that is both aesthetically beautiful and incredibly user-friendly, making it simple for students to move through the home search process.
- Extensive Selections for Filtering: We intend to include a wide range of filtering choices because we recognize that student demands vary widely. With the help of this feature, students will be able to tailor their search results to suit their own needs, including financial limitations, top locations, or preferred facilities.
- Listing for Owners of Boarding houses: Landlords and proprietors of boarding houses will be invited by the project to list their properties on the site. This will give property owners a priceless chance to highlight their lodgings to a broad and varied student population at universities.
- Ratings and Reviews from Users: Trust and transparency are essential in any housing hunt. With the help of our platform's strong user review and rating system, students will be able to obtain information from past renters and make wise judgments.
- Effective Notification Mechanism: It's critical to update students. A notification system that proactively informs users of new listings and updates pertaining to lodgings in which they have indicated interest will be incorporated into the project.
- Secure Payment System: The project will incorporate a secure payment system to guarantee the seamless completion of rental transactions. This ensures that all financial transactions are safe and hassle-free.

-The Effect-

The goal of the " StudyStay Seeker Project " is to transform living arrangements for students. The concept intends to reduce the anxiety and uncertainty that come with home searches by providing students with a one-stop shop for all of their housing needs. In addition, it gives property owners the ability to advertise their lodging to a wide range of college students.

-Summary-

The " StudyStay Seeker Project " is a bold solution to a problem that many college students encounter. The project aims to enhance students' entire housing experience by simplifying the house search process and adding more openness and trust into the mix. This will enable students to completely enjoy their next educational journey.

• Project Objectives –

1. Provide a User-Friendly Interface: To make it easier for university students to find lodging, create a user-friendly and visually appealing website.
2. Provide Extensive Filtering Options: Provide a broad array of filtering options so that students may focus their search for housing on specific preferences, financial limitations, location priorities, and amenities they want.
3. Invite Landlords and Boarding house Owners to List Properties: Provide a platform for property owners to exhibit their offers to a varied student audience by inviting landlords and boarding house owners to list their lodgings on the platform.
4. Establish User Reviews and Ratings: To improve transparency and trust, establish a strong system for user reviews and ratings. This will help students make educated selections by giving them access to information from past tenants.
5. Include an Effective Notification System: Provide a proactive notification system that informs consumers of new listings and updates pertaining to lodgings in which they have expressed interest.
6. Integrate a Secure Payment System: By incorporating a secure payment system for financial transactions, you may guarantee safe and trouble-free rental transactions.
7. Incorporate a "Find on Map" feature: To improve the user experience, include a map-based search function that lets users explore boarding sites visually on a map. This will help consumers better understand how close boarding locations are to local amenities and colleges.

8. Revolutionize the Student Housing Experience: By streamlining the application process, fostering transparency, and building trust, the project seeks to transform the student housing experience by lowering the anxiety and worry that come with looking for a place to live.
9. Empower Property Owners: Give landlords and property owners a chance to show off their lodging to a wide range of students, therefore broadening their exposure and reach.
10. Create a Mobile Application: To increase the project's visibility and accessibility to a wider range of students, develop a mobile application for the Android and platform.
11. Establish a One-Stop Shop: Provide a one-stop shop for all of your student housing needs. This will help students find appropriate housing more easily and free up their time to focus on their studies rather than worrying about housing.

All these goals work together to enhance university students' entire housing experience by making it more effective, transparent, and user centric.

• Target Users –

- College students looking for housing off campus.
- Landlords and property owners who are interested in renting out their homes to students.
- Guardians or parents helping students look for homes.
- University officials aiming to give their students information and resources on housing.
- Developers and real estate experts looking for opportunities in the student housing sector.

• Propose Technologies & Tools –

- † **IDE - Visual Studio Code**: We will use Visual Studio Code as our main Integrated Development Environment (IDE) for this project. It is a very well-liked and effective code editor that will make managing and developing the project's codebase easier.
- † **Front-end - Tailwind CSS, React**: We will utilize React, a popular JavaScript user interface toolkit, for front-end development. Tailwind CSS is a utility-first CSS framework that works with React to provide quick and highly configurable front-end design and development.
- † **Back-end - Express.js and Node.js**: Node.js, a server-side JavaScript runtime environment, will power our back end. Additionally, we'll use Express.js, a quick and simple Node.js web application framework, to build reliable and effective server-side functionality.
- † **Database - MongoDB**: Our NoSQL database system of choice is MongoDB because of its scalability and versatility. Property and user data will be efficiently stored and managed through the usage of MongoDB's document-based structure.
- † **MongoDB Database Connectivity - Mongoose**: An Object Data Modelling (ODM) module for Node.js, to communicate with MongoDB. Mongoose offers an organized approach to work with MongoDB and streamlines database processes.
- † **State Administration - Redux Toolkit**: We will use Redux Toolkit to manage states in our application in an efficient manner. We will be able to maintain data consistency between various components and pages by using it to manage global application states.
- † **Authentication - Google OAuth with JSON Web Tokens**: Authentication Using JSON Web Tokens (JWT), we will incorporate password and email authentication to further strengthen the security of our platform. We'll also provide Google OAuth connectivity, which enables users to log in safely and seamlessly by authenticating using their Google credentials.
- † **Mobile App Framework - Flutter**: Flutter is a well-liked and adaptable mobile app framework that can be used to create cross-platform apps. You can write code only once and have it work on iOS and Android devices.

- † **Deployment - Render Platform:** We will deploy our project on the Render platform to guarantee that it is user accessible. Render offers a scalable and dependable hosting solution that is perfect for online services and apps.
- † **Version Control - GitHub:** Throughout the project's development, Git will be used for version control. It enables effective code management, team member tracking of changes made to the codebase, and collaboration.

• Project Time Plan (GANTT Chart)–

Our goal is to complete our project in five months. We already have a schedule in place for project development. Our choice was to use the waterfall process. This mean that we can complete our task step by step.

