IN PARTNERSHIP WITH PLYMOUTH UNIVERSITY

Module Code: PUSL2021	Module Name: Computing Group Project
Coursework Title: Lecture Halls Identification System	
Deadline Date: 25th October 2023	Member of staff responsible for coursework: Mr. Pramudhya Thilakarathne
Programme: Computing Group Project	

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Signed on behalf of the group:

Individual assignment: ***I confirm that I have read and understood the Plymouth University regulations relating to Assessment Offences and that I am aware of the possible penalties for any breach of these regulations. I confirm that this is my own independent work.***

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Introduction

Institutions of learning are always looking for new ways to improve the general learning experience in a time when technology is changing quickly and educational success is becoming more and more important. One of the most important parts of this improvement is making it easier and faster to get around on university. In order to achieve this goal, we present the Lecture Hall Finding System, a state-of-the-art tool made to make it easy to find lecture halls on university grounds.

Finding your way around university, especially ones with big grounds and lots of buildings, can be hard and take a lot of time for students, lecturers, staff, and even guests. That being said, it can be hard to find the right lecture place, especially during the busy university day. These problems with finding your way are solved by the Lecture Hall Finding System, which works like a digital signal and is easy for anyone to use.

Our method is amazingly easy to use while still having a huge effect. The main feature is that it lets users type in the exact lecture hall number they are looking for. After the user enters this information, the system gives them exact directions to get where they want to go. It not only cuts down on the time and effort that are spent looking for lecture rooms, but it also makes the university setting much more efficient, stress-free, and productive.

The Lecture Hall Finding System's goals cover a wide range of important areas. The system's main goal is to make it easier for people to find their way around university. This is made easier by letting users get exact information by just typing in the lecture hall number. Users can save valuable time and stress by not having to worry about finding their class halls.

The system's ease of use is one of the most important things that went into making it. We want to make an easy-to-use interface that people with different levels of technology knowledge can all happily use. This way, the benefits of the system will be available to everyone.

It is also possible for university to add, change, or update information about lecture halls because the Lecture Hall Finding System is intended to be scalable. This makes sure that the method stays useful and effective even as the university setting changes.

Our goal users come from a wide range of university backgrounds. Students will benefit the most from this method because they have to travel between university every day to get to lectures. The faculty and staff also benefit, especially when they need to find certain lecture halls or are helping others find them. The method also makes it easy for tourists and guests to find their way around university, such as parents and guest speakers. This makes for a good first image of the university.

A group of cutting edge technologies and tools work together to support the Lecture Hall Finding System. Assuring usability for a wide range of users, we will create a mobile app that works on both Android and iOS. Strong database management will be at the heart of the system. It will store important data about lecture rooms, like where they are located, how many people can fit in them, and other information. Geolocation services will be used to give users accurate and up-to-date information, which will make the experience better. The user experience will be carefully thought out to be easy to use and look good, which will make it very easy to find your way around. Along with the mobile app, there will also be a computer site that users can view from a variety of devices.

As we start our journey to make campus travel easier and better, we need a clear plan for how we will spend our time. The project schedule is shown on the Gantt chart, which makes sure that each stage of development and execution is carried out correctly. This schedule covers starting the project, gathering objectives, designing and creating, developing, testing and quality assurance, deploying, teaching users and writing up instructions, and continued upkeep and changes.

There is a huge step forward in making schools more efficient and user-friendly with the Lecture Hall Finding System. Finding class places shouldn't be hard. We want to make university life easier for everyone so that students can focus on their studies, lecturers can focus on teaching, and everyone can get around easily. This project shows that we are dedicated to using technology to make schooling better and make sure that getting information is as easy and quick as possible.

Objectives of the Lecture Hall Finding System.

These are the goals of the Lecture Hall Finding System.

1. Simplify navigation

The main goal of the Lecture Hall Finding System is to make it easier to find your way around our university. The system will give users exact directions by letting them enter the lecture hall number. This will make it easier and faster to find specific lecture halls.

2. Saves Time

Our method tries to help students, lecturers, staff, and guests save time by giving them quick and accurate routes to lecture halls. Users will be able to find their places faster and with less stress, especially on sites that are big and complicated.

3. User-Friendly Interface

We are committed to making an interface that is easy to understand and use. This goal makes sure that the method is easy for people with different levels of technology knowledge to use. The user experience will be smooth and open to everyone, which will promote inclusion.

4. Scalability

The system is made to be expandable so that university can add, change, or update information about lecture halls as needed. Scalability makes sure that the system stays useful and can be changed to meet the needs of university as they change.

5. Accuracy and Reliability

The system's information and directions will be correct and dependable, so users can rely on it to get them where they need to go without any mistakes or confusion. To improve the user experience, precision is very important.

6. Integration With University Infrastructure

Our system is meant to work with the university infrastructure that is already there, like the way buildings are laid out, the emergency services, and the communication systems that are used across the whole university. This combination makes sure that the system fits in with and improves the university experience as a whole.

7. Cost-Effectiveness

Our goal is to come up with a solution that is both affordable and workable with the budgets of universities. Because of this goal, the method can be used on a lot of universities, both large and small.

8. Feedback Mechanism

To keep making the system better, we're going to add a way for users to report problems, make changes, and give us useful information. This feedback process will help the system get better and focus on the user even more.

9. Data Security And Privacy

The most important things are to keep user data safe and make sure privacy is respected. The system will protect personal information and user data by following the strictest data security rules.

10. Better Experience For Visitors

The method isn't just for students and staff ; it's also for guests and visitors. One of the goals is to make a good first impression on people by making it easy and quick for them to get around the university.

11. Adaption To The University Changes

Our method will change to fit the changes that happen on schools over time. This includes adding new information about lecture rooms, changing the plan of the school, and other changes that are important.

12. Effects On The Environment

Our method helps make university more sustainable by cutting down on pedestrian traffic and energy use by shortening the time students spend looking for lecture halls.

All of these goals show that we are dedicated to making it easier and better to navigate within university which will help make the whole educational environment more efficient and user-friendly.

Target Users of The System

The Lecture Hall Finding System is designed to carter to a diverse group of target users within university. These users include:

1. Students

The method works best for students anyway. They often go to different lecture halls for lessons and can use the system to quickly and easily get where they need to go. This can save students time and stress, so they can focus on their studies instead of looking for lecture rooms.

2. Faculty and Staff

Professors, lecturers, and office staff can also gain from the method. They often have to find specific lecture halls, like when they have to switch between halls for different lectures or show students and guests where to go. This process works better for lecturers and staff because of the method.

3. Guests and visitors

Our university often have a lot of different kinds of visitors, like parents, potential students, guest speakers, and more. These people might not know how the university is laid out, which could make it hard for them to find specific lecture halls. The method makes it easy for visitors to find their way around university, which is a good first impression of the university.

The Lecture Hall Finding System wants to make educational institutions more open and user-friendly by focusing on this wide range of users. It makes it easier for students to find their way around and also improves the experience for staff, guests, and various stakeholders within the university committee.

Application Features and Description

1. User Login: Personnel may enter their unique credentials, such as an email address or username and password, to log in.
2. Initiation of Users: Account creation requires the provision of requisite details, such as the user's name, email address, and a password.
3. Lecture Hall Search: Individuals have the ability to provide accurate directions to their intended location on campus by inputting the lecture hall's name or number.
4. Real-Time Geolocation: The application provides real-time location information and directions on a map via GPS technology.
5. An interactive campus map is available to users, which provides the location of lecture halls, facilitating the process of selecting one's intended destination.
6. Support and Feedback: Users have the ability to provide feedback, report concerns, or seek assistance, thereby fostering a cycle of continuous improvement.
7. Lecture Hall Specifics: Content pertaining to each lecture hall is accessible to users, encompassing details such as its whereabouts, seating arrangement, accessibility provisions, and any other pertinent information.

The Lecture Hall Finding System functions as an electronic compass, streamlining the process of navigating the campus, alleviating anxiety, and augmenting the overall scholastic journey. Equipped with functionalities that prioritize precision, usability, and inclusiveness, it serves as a highly beneficial resource for academic establishments dedicated to enhancing campus life. This application guarantees a streamlined and effective experience for all individuals, including students racing to class, faculty members assisting visitors, and guests navigating a new campus, when it comes to locating lecture halls.

Proposed Technologies and Tools

The successful implementation of the Lecture Hall Finding System relies on a range of technologies and tools to create a user-friendly, efficient and accurate solution. Here are the proposed technologies and tools for the system:

1. Mobile Application Development

Android and IOS Platforms : Developing dedicated mobile applications for Android and iOS platforms to provide accessibility to the majority of users. This application will serve as the primary interface for users input lecture hall numbers and recieve directions.

2. Web Portal Development

Web Technologies : Creating a web portal that completements the mobile application, allowing users to access the system from the various devices, including desktop computers. The web portal will synchronize with the mobile app and share relevant information and user data.

3. Database Management System

Relational Database: Relational Database Set up a strong relational database management system to keep and organize data about lecture halls. Information like lecture hall numbers, locations, capacities, and any other important information will be stored in this database.

4. Designing the User Interface (UI) and The User Experience (UX)

UI/UX Design Tools: Using UI/UX design tools and methods to make a user experience that is easy to use and looks good. The goal of this design is to make the user experience smooth, so it's easy to enter lecture hall numbers and move around in the app.

5. Application Programming Languages

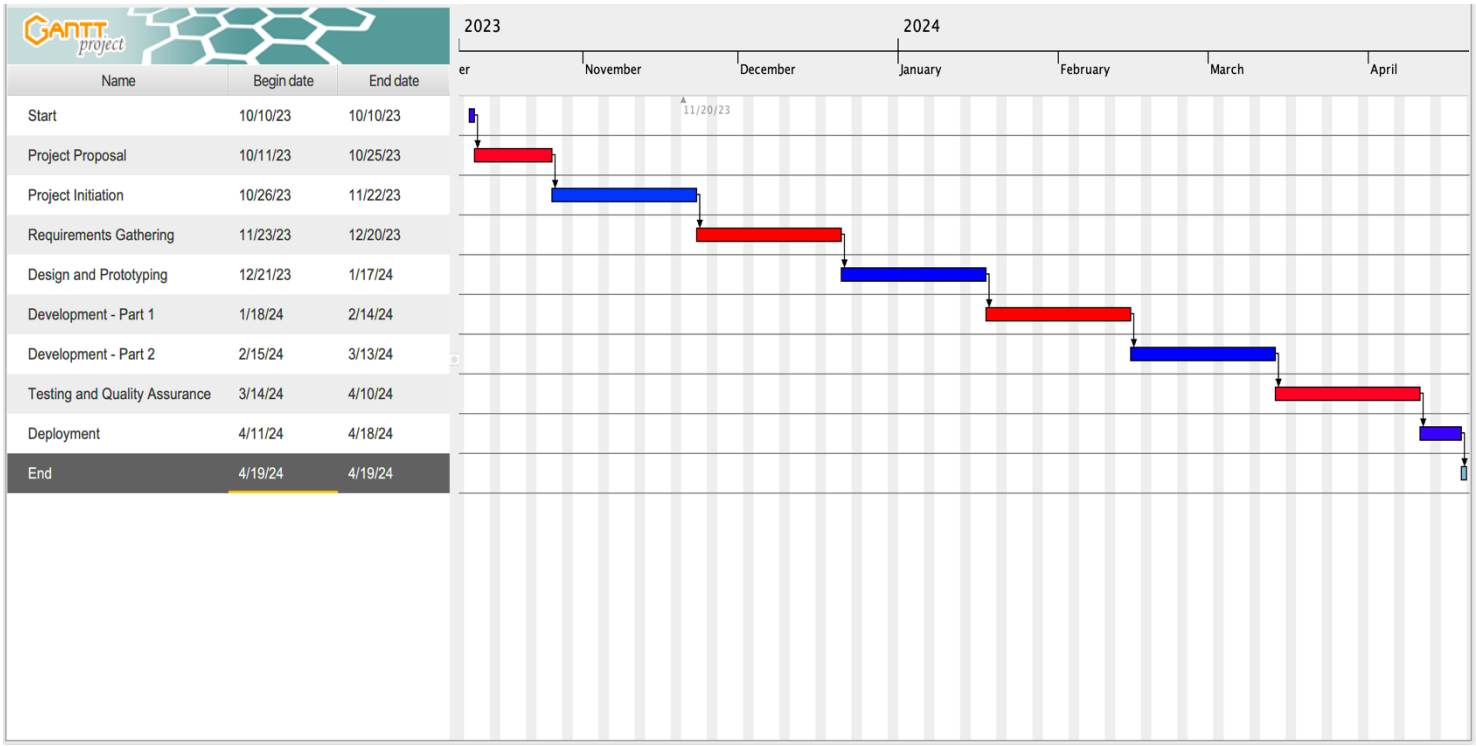
Frontend Development: Using computer languages and tools like JavaScript, React Native, or Flutter to build the front end of a web site or mobile app.

Backend Development: Using backend computer languages like Python, Ruby, or Node.js along with the right tools to control how the system works on the server.

These technologies and tools work together to make the Lecture Hall Finding System possible. It is a dependable, user-centered, and effective way to make campus navigation easier. The system is accurate and easy to use because it combines tracking services, information management, and user-friendly displays. This makes it a valuable tool for educational schools.

Gantt Chart

Certainly, here's a 6-month Gantt chart for the development of the Lecture Hall Finding System, starting from 10th October, 2023, to 21st of April, 2024



Name	Begin date	End date
Start	10/10/23	10/10/23
Project Proposal	10/11/23	10/25/23
Project Initiation	10/26/23	11/22/23
Requirements Gathering	11/23/23	12/20/23
Design and Prototyping	12/21/23	1/17/24
Development - Part 1	1/18/24	2/14/24
Development - Part 2	2/15/24	3/13/24
Testing and Quality Assurance	3/14/24	4/10/24
Deployment	4/11/24	4/18/24
End	4/19/24	4/19/24