**2023-2024 SPRING SEMESTER**

**SE112 | INTRODUCTION TO SOFTWARE ENGINEERING**

**WHEELCHAIR GUIDANCE & ASSISTANCE APP**

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**Wheelchair Guidance and Assistance App**

***Project/Problem Description****:* The aim of the project is to help people with disabilities. It is a mobile application, designed specifically for people who use wheelchairs. The main purpose of this app is to make it possible for them to navigate around freely and determine an environment that makes it easier to traverse with a wheelchair. With the features of this app, users can see elevators, ramps on the road, paths that are available for them to take. They can also search for restaurants, cafes, and even apartments to see if they are wheelchair- friendly. Our app can also detect the small obstacles (such as holes, stones etc.) on the road with the help of the sensors and warn the user about them. Additionally, the app offers web-based assistance where users can contact our support and ask for help during an emergency or if they have any issues they have encountered. On top of that, users can also save the locations they searched to check them out later on. With the help of these features, people who use wheelchairs will be safer, more comfortable, and at ease while living their daily lives.

**PROJECT MANAGEMENT**

**Project Plan**

1. **Planning**

**-**Defining project objectives

-Establishing the timeline

1. **Gathering Data**

**-**Gathering the required data

-Taking feedback from the potential users

1. **Designing**

**-**Planning the user interface

-Planning the database structure

1. **Implementation**

**-**Writing code

1. **Testing and Integration**

**-**Bringing the software and system components together

-Testing the software

1. **Maintenance**

**-**Maintaining the software after it is launched

-Fixing any possible problems

-Addressing user request

**GANTT DIAGRAM**

**A graph with a green line

Description automatically generated**

**RISK MANAGEMENT PLAN**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Risk** | **Description** | **Probability** | **Severity** | **Actions to Minimize Risk** |
| **1)** | | | | |
| Financial problems | Identifying every obstacle, ramp, elevator etc. in a large region is a costly job. We need expensive equipment to scan the region, let alone our staff’s salary and our other expenses. | Certain | Major | We can inform the customer about extra expenses. We can start a GoFundMe campaign. As a last option, we can limit our other expenses to balance out the budget. |
| **2)** |  |  |  |  |
| The presence of new obstacles on the road | We are living in a rapidly changing environment. We may see various obstacles on the road every day and this situation may be challenging for our users. Moreover, we need to inform our users about the changes made by the government, or the business owners. | Certain | Major | Since our app uses a map as a source of information, we need to keep our map revised. We are planning to update our map every 3 months to avoid putting our users in a difficult situation. Additionally, we will put a warning sign in our app to alert our users about the last time our map was updated. |