Project Plan Phase 2

Cpts 484 - Software Requirements

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1. Overview

Blind and visually impaired people should be able to navigate indoors, from one location in a building to another location in the same building, or a different one. For instance, a blind student or a blind visitor may need to go from one classroom to another, from an office to a lab, then to a classroom, restroom, etc. In order to reach the destination location, a blind person may need to figure out where their current location is, which direction in the hallway they should go, when to turn at the right place, continue for how long, and when to stop when they reach their destination. Various concerns may need to be addressed during such navigation. First of all, safety would be an important concern, which implies, for example, detecting obstacles and avoiding collisions is necessary. The time it takes to reach the destination might also be a concern, especially when they must reach the next class in another corner of the campus. Familiarity with the route might be taken as another concern. Our team is going to build a smartphone app aiming to help blind people navigate indoors.

1.1. Project Deliverables

Below are our current set of Deliverables we are to meet by 12/08/2024:

1. Project Phase 2: Final Submission/Presentation
    a. WRS Phase 2
    b. Revised Project Plan
    c. Presentation
    d. Vision Document
    e. Process Specification

1.2 Evolution of this document

This preliminary project documentation includes our updated project plan after completing the WRS documentation and updating our requirements.

2. Project Organization

2.1. Process Model

The team will be using the agile process model to increase the development speed while utilizing stakeholder feedback. The team will implement two week sprints each focused on documentation and prototype development of the demo.

2.2. Organizational Structure

Members of this development team include: Jason Nguyen, Justin Lawrence, Kevin Manoukian, Nasen Wilson and Nhan Nguyen. Each team member will share equal responsibility for the development process and documentation.

2.3. Roles and Responsibilities

Project Deliverable	**Owner**
Basic User Manual	Jason Nguyen
Preliminary & Updated Project Plan	Nasen Wilson
Section RS (From the WRS Document)	Justin Lawrence
Presentation AS-IS Statements	Nhan Nguyen
Project Design Mockup	Kevin Manoukian
Issues Breakdown	Nasen Wilson
Section W (From the WRS Document)	Nasen Wilson
Blind Device Comparison for Presentation	Nasen Wilson
WRS Document Finalization and Review	Justin Lawrence
Creeping Rate Calculations (Presentation)	Nhan Nguyen
“Why use THEIA?” Overview (Presentation)	Nhan Nguyen
WRS Phase 2	Nasen Wilson
Kaos Models	Justin Lawrence
Vision Document	Kevin Manoukian

Process Specification	Nhan Nguyen
Presentation	Nhan Nguyen
Prototype	Nasen Wilson

2.4. Organizational Boundaries and Interfaces

Communication between team members will be done mainly using Discord and in person meetings. Communications between mentors and primary stakeholders will mainly be done by the project liaison, but also available to other team members as well. File sharing and logging will be done by using GitHub and Discord.

3. Managerial Process Plans

3.1. Management Meeting Records

Date	Members Attended	Topic of Discussion	Output from Meeting
9/5	Nasen Wilson, Justin Lawrence, Kevin Manoukian, Nhan Nguyen, Jason Nguyen	Phase 1 Document Overview and Initial Role Breakdown	Roles and responsibilities for each member of the team
9/10	Nasen Wilson, Justin Lawrence, Kevin Manoukian, Nhan Nguyen, Jason Nguyen	Preliminary Plan	Progress on the Preliminary Plan
9/12	Nasen Wilson, Justin Lawrence, Kevin Manoukian, Nhan Nguyen, Jason Nguyen	Preliminary Plan	Completion of Preliminary Plan
9/19	Nasen Wilson, Justin Lawrence, Kevin	Phase 1 Document Issues	An organized document of the

	Manoukian, Nhan Nguyen, Jason Nguyen		problems the team found with each section of the Phase 1 Document Requirements
9/23	Nasen Wilson, Justin Lawrence	WRS Issues Section	Progress on Issues Section of the WRS
9/24	Nasen Wilson, Justin Lawrence	WRS Issues Section	Completion of the Issues Section of the WRS (Besides Options for Solutions)
9/26	Nasen Wilson, Justin Lawrence, Nhan Nguyen, Jason Nguyen	WRS Issues Section Options	Resolved WRS Issues Options
9/26	Nhan Nguyen, Kevin Manoukian	Presentation and Prototype	Presentation and Prototype Initial Work
10/01	Nasen Wilson, Justin Lawrence	W Section of WRS	Completion of Problems and Goals Sections
10/02	Nasen Wilson, Justin Lawrence	W Section of WRS	Completion and Review of W Section of WRS
10/05	Kevin Manoukian, Jason Nguyen	Prototype and User Manual	Prototype Design and Corresponding User Manual Features
10/10	Nasen Wilson, Justin Lawrence	RS Section of WRS	Functional RS Section Completion
10/11	Nasen Wilson, Justin Lawrence	RS Section of WRS	Completed NFS Section and Totality of WRS.
10/12	Kevin Manoukian, Jason Nguyen	Prototype and User Manual	Finalized Initial Prototype Design and Initial User Manual
10/12	Nasen Wilson, Nhan Nguyen	Presentation	Review and Update of AS-IS/TO-BE Section

11/15	Kevin Manoukian	Vision Document	Started work on the Vision Document
11/20	Kevin Manoukian	Vision Document	Finished the Vision Document
11/21	Nhan Nguyen	Presentation	Began and finalized the updates to the Presentation
11/22	Nasen Wilson, Justin Lawrence	WRS Phase 2	Updated WRS to meet new criteria
11/23	Nasen Wilson, Justin Lawrence	WRS Phase 2 / Kaos	Began work on the Kaos Models
11/27	Nasen Wilson, Justin Lawrence	WRS Phase 2 / Kaos	Finished and implemented Kaos Models and WRS Phase 2 Document
11/28	Nasen Wilson	Prototype	Began research and implementation of Prototype
11/30	Nhan Nguyen	Process Specialization	Created Model of the Process Specialization
12/02	Nasen Wilson	Prototype	Completed Prototype

3.2. Management objectives and priorities

Management objectives will be broken down into documentation deliverables where each team member will focus on a specific documentation task. Utilizing the project's organizational structure, each team member will be assigned a specific task to helm during each phase of the project. Team meetings will occur on a weekly basis throughout the documentation process whether they be in person, or communication software such as Microsoft Teams, Discord or email.

Documentation reviews will be done to allow the team to evaluate the progress of the tasks assigned to each team member. Each member of the team will be expected to contribute to the documentation in a timely manner to ensure effective collaboration. This will allow for the team to meet all documentation requirements with a high degree of accuracy.

3.3. Risk management

No.	Risk	Type	Likelihood	Description
1	Inappropriate versioning and incompatible versions of packages.	Technical	Likely – High potential impact	The versioning of the app itself and its packages and components are incompatible with each other or are versioned incorrectly.
2	Failure to meet deadlines for deliverables.	Managerial	Unlikely – High potential impact	There is a failure to come up with a deliverable on schedule.
3	Unavailability of the resources	Managerial	Unlikely – High potential impact	Resources (including team members) required to complete the project on time may not be available or are scarce.
4	Lack of commitment from team members.	Managerial	Likely – High potential impact	A member of the team does not commit time and resources necessary to deliver desired work on schedule.
5	Loss of project files.	Technical	Unlikely - High potential impact	A piece or the entirety of the project files are lost due to a crash, damaged repositories, and/or incorrect usage of git.
6	Requirements change	Technical	Unlikely - High potential impact	The requirements for the project are unlikely to be subject to change.

Table 2: Potential Risks and Descriptions.

3.3 Monitoring and controlling mechanisms

No.	Risk	Monitoring and Controlling
1	Inappropriate versioning and incompatible versions of packages.	● Keep one branch for main and the other branches for new features/developments. ● Check at each addition to see if builds run.

2	Failure to meet deadlines for deliverables.	● Have meetings to scope out project timelines and expectations on deliverables.
3	Unavailability of the resources	● Scope out the necessary resources required to start/develop/finish the project and its deliverables
4	Lack of commitment from team members.	● Hold consistent meetings to encourage team members to not fall behind. ● Give disciplinary actions to members with commitment issues.
5	Loss of project files.	● Have a backup of project files in multiple, secure, locations. ● Keep different branches for different software modifications, with one being the main. ● Rebuild software that has been lost. ● Educate team members with git repositories and how to handle the project safely.
6	Requirements change	● Reassess descriptions, requirements, deliverables, and others to effectively build a new project plan.

4. Technical Process Plans

4.1. Methods, tools, and techniques

We will be using the documentation methods and tools that we have learned in past classes to document our requirements and plans. We will use Discord to keep in contact with group members, and Google Docs to share and work on documentation together simultaneously. We will use templates on Google Docs or Word Online to create our simple user manual and applications such as StarUML to create our mockup of what the UI looks like.

4.2. Software documentation

We will be using the documentation given to us such as the WRS documentation to keep track of our decisions and problems we found with the document. As we further develop the application we will document our requirements in additional documentation and update this section.

5. Work Elements & Schedule

Our current work elements that we need to complete by the deadline of December 8th, 2024 are as follows:

- Project Plan Update
- WRS Phase 2 Update
    - New Criteria Update
    - Kaos Model Implementation
- Project Mockup V2
- Prototype Creation
- Project Presentation
    - AS-IS/TO-BE
    - Comparison
    - Creeping Rate
    - Product Advantages
- Process Specialization

We will meet each week to update all group members on our respective progress and areas where we believe we need to focus in order to complete all deliverables by the deadline. Our role owners will take lead on their respective section of the deliverable, but all of the work for every deliverable will be equally divided to every team member.

Planned Schedule for Requirement Completion

Deliverable	Planned Completion Date	Completion Date
Project Plan	10/10	10/13
WRS Document (Issues)	9/25	9/26
WRS Document (W)	9/27	10/01
WRS Document (RS)	9/31	10/10
Project Mockup	10/01	10/08
User Manual	10/01	10/12
Presentation (AS-IS/TO-BE)	10/05	10/05
Presentation (Comparison)	10/05	10/08
Presentation (Creeping Rate)	10/10	10/08
Presentation (Product Adv.)	10/11	10/09

WRS Update	12/8	12/1
Kaos Models	12/8	12/2
Prototype	12/8	12/3
Process Specialization	12/8	12/4
Vision Scope Doc	12/8	12/5
Presentation	12/8	12/6