

Theia

An Indoor Navigation App for People with Visual Impairments

CS/SE 6361 – Advanced Requirements Engineering, Section 001
Spring 2019

Shuo Li, sxl134930@utdallas.edu
Chun Ping Yang, cxy180010@utdallas.edu

[Website](#)

University of Texas at Dallas

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Revision History

Version	Date	Comments	Author
1.0			

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Introduction

1.1 Project Overview

This document details the software planning activities for an ambulance dispatch

Author: C.H Yang

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Deliverable 0

system. The software, developed in Java, will reside on a computer server and will execute the functionality to satisfy the requirements of the system. The high level functionality of the system is:

- A person will call 911 and the operator/dispatcher that answers the call gets the details about location from the person.
- The dispatcher enters the location information on the system.
- A Timer is started counting down from 11 minutes.
- The system locates the nearest three ambulances and their availability, if no ambulance is available it will locate the next three nearest from the initial three and check availability, this will be repeated until one that is available is found.
- When an available ambulance is found, location details will be sent to the unit and will be instructed to go to location for pickup.
- The system will monitor ambulance's and person's locations for tracking purposes.
- When the ambulance reaches the destination the system will wait for confirmation from the ambulance that the objective has been reached.
- If Timer reaches zero and no ambulance was found available, an exception message will be generated and given to the dispatcher.

This project plan includes details as well about feasibility, critical path, risk analysis, cost analysis, development environment, acceptance criteria and budget.

1.2 Project Deliverables

Date	Deliverable
January 24, 2019	Preliminary project plan

1.3 **References**

- [1] Lawrence Chung, Advanced Requirements Engineering, CS/SE 6361 section 001, Spring 2019. <http://utdallas.edu/~chung/RE/syllabus.htm>
- [2] Bernd Bruegge, Allen H. Dutoit, Object-Oriented Software Engineering using UML, second edition. Prentice Hall, 2003.
<http://www.bruegge.in.tum.de/OOSE/>
- [3] Kathy Schwalbe, Information Technology Project Management, Thomson course technology, 2006.

1.4 **Definitions, Acronyms and Abbreviations**

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Project Organization

1.5 *Process Model*

The process model to be used for this project is the Waterfall model with the ability to accept change; i.e., we will be able to provide feedback to earlier phases and change documentation based on new information acquired during the present phase.

1.6 *Organizational Structure*

The team is formed of three members:

Chun Ping Yang

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XXXX

1.7 *Organizational boundaries and interfaces*

The team leader during each phase will be responsible for coordinating team meetings, updates, communications, and team deliverables

1.8 *Project responsibilities*

Ultimately the entire project team is responsible for the successful delivery of the product.

2 *Managerial Process*

2.1 *Management Objectives and Priorities*

2.2 *Assumptions, Dependencies and Constraints*

2.2.1 *Feasibility*

2.2.2 *Acceptance Criteria*

2.3 *Risk Management*

2.4 *Monitoring and Controlling Mechanism*

Each delivery phase will be lead by the corresponding phase lead. This person will initiate activities by:

- Providing details of each member's responsibilities for the phase, the due dates for individual work, and meeting time and place for review of final draft document.

- He/she will deliver an initial framework to be used as a base for other members to complete their part of the work.
- Receive and compile the individual work of all team members, as well as own, and send back for review.
- Receive review comments from team members, generate a final draft and send to team members for discussion during team meetings. (Team members must review this final draft before the meeting).
- An agenda is to be sent to the team and to the TA, indicating the time and place for the meeting and the items for discussion.
- Meet with team to discuss the final draft. Record minutes during the meeting and distribute to team and TA after meeting has been finalized.
- Generate final delivery phase document with inputs from meeting, upload to website and print out a copy for delivery during class on due date.

3 Technical Process

3.1 *Methods, Tools and Techniques*

3.1.1 Methods

Traceability is required between phases and documentation. In order to achieve this, explicit details of relationships between items in documents between phases has to be documented. This will be done using the following strategy:

- Each requirement will be numbered inside a corresponding section in the SRS.
- The analysis document and the SWA will specify the design and analysis as well as the architecture details stating what requirement(s) is(are) being satisfied by the specific solution(s).
- As well the code should contain comments that provide traceability back to the requirements, analysis, and architecture documents.
- The test plan and test cases will also contain references to the previous documents, as well as to the code.

3.1.2 Tools

The following tools are to be used for the development of documentation and code:

- The code development language is Java.
- Documentation is to be done using Microsoft Office tools.
- A website is to be available that serves as repository for the deliverables.
- A working group using *Google groups* is to be available for discussions and communication between team members.
- Student/Regular version of Rational Rose for Diagrams (Rational Rose Enterprise Edition)

3.1.3 Techniques

The software development will be used following a naming convention and a specific structure approach, and will be common between all members.

3.2 Software Documentation

The following software documents will be developed:

- Software Development Plan (This document)
- Requirements Specification
- Analysis
- Architecture Specification
- Code
- Test Plan
- Test Cases
- Test Report

3.3 Project Support Functions

4 Work Elements, Schedule and Budget

4.1 Work Breakdown Structure

4.2 Critical Path Analysis

4.3 Cost Analysis