

# SFWRENG 2XB3 Final Project

## Requirements Specification

Department of Computing and Software  
McMaster University

Group 8

Project Name: NavSafe

Arkin Modi - 400142497

Benson Hall - 400129627

Joy Xiao - 400125285

Leon So - 400127468

Timothy Choy - 400135272

Last updated: March 7, 2019

# Contents

<b>1</b>	<b>Project Domain</b>	<b>3</b>
1.1	Purpose and Objective of the Project . . . . .	3
1.2	General Description . . . . .	3
1.3	Stakeholders . . . . .	3
1.3.1	The Client . . . . .	3
1.3.2	The Users . . . . .	3
1.3.3	Other Stakeholders . . . . .	3
<b>2</b>	<b>Functional Requirements</b>	<b>4</b>
<b>3</b>	<b>Non-Functional Requirements</b>	<b>4</b>
3.1	Reliability . . . . .	4
3.2	Accuracy of Results . . . . .	4
3.3	Performance . . . . .	4
3.4	Human-computer Interface Issues . . . . .	4
3.5	Constraints . . . . .	4
3.5.1	Operating Constraints . . . . .	4
3.5.2	Physical Constraints . . . . .	4
3.6	Portability Issues . . . . .	4
<b>4</b>	<b>Development and Maintenance Process</b>	
	<b>Requirements</b>	<b>4</b>
4.1	Quality Control Procedures . . . . .	4
4.2	System Maintenance Procedures . . . . .	4

# **1 Project Domain**

## **1.1 Purpose and Objective of the Project**

The purpose of NavSafe is to help drivers and pedestrians travel from one destination to the next in the shortest and safest route evaluated based on past collision data.

## **1.2 General Description**

NavSafe is a mobile application brings a new, innovative navigation system which focuses on safety. Vehicle collisions are major concern, especially those which result in injury or death. There are many high-risk intersections which collisions are more likely to occur due to the design of the intersection, as well as other factors out of the traveler's control. This application allows both drivers and pedestrians, such as foot-pedestrians and bicyclists, to travel safer through mapping a navigation route which reduces the likelihood of collisions based on past collision data obtained from Seattle GIS Open Data. The application also considers specific travelling conditions such as weather, road, and daylight conditions to assign a specific weight to a route for a specific time and location.

## **1.3 Stakeholders**

### **1.3.1 The Client**

The clients of NavSafe consist of the Professor, Dr. R. Samavi, and the teaching assistants of SFWRENG 2XB3.

### **1.3.2 The Users**

The targeted users of NavSafe consist of drivers, cyclists, and pedestrians who seek a safer way to navigate from one destination to another.

### **1.3.3 Other Stakeholders**

The other stakeholders this application will impact are the general population of the area where this app is used.

## **2 Functional Requirements**

## **3 Non-Functional Requirements**

### **3.1 Reliability**

### **3.2 Accuracy of Results**

### **3.3 Performance**

### **3.4 Human-computer Interface Issues**

### **3.5 Constraints**

#### **3.5.1 Operating Constraints**

#### **3.5.2 Physical Constraints**

### **3.6 Portability Issues**

## **4 Development and Maintenance Process Requirements**

### **4.1 Quality Control Procedures**

### **4.2 System Maintenance Procedures**