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SafeStreets

Marco Premi (941388)

`marco.premi@mail.polimi.it`

Fabrizio Siciliano (939895)

`fabrizio.siciliano@mail.polimi.it`

Giuseppe Taddeo (928360)

`giuseppe.taddeo@mail.polimi.it`

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DD

Design Document

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Reference professor:

Matteo Giovanni Rossi
`matteo.rossi@polimi.it`

Contents

1	Introduction	3
1.1	Purpose	3
1.2	Scope	3
1.3	Definitions, Acronyms, Abbreviations	3
1.3.1	Definitions	3
1.3.2	Acronyms	3
1.3.3	Abbreviations	3
1.4	Revision history	3
1.5	Reference Documents	3
1.6	Document Structure	3
2	Architectural design	5
2.1	Overview	5
2.2	High-level architecture	5
2.3	Component view	5
2.4	Deployment view	5
2.5	Run-time view	5
2.5.1	Synchronization	5
2.5.2	Request data regarding a group of people	5
2.5.3	Request data regarding a particular user by providing his/her UUID	5
2.6	Component interface	5
2.7	Selected architectural styles and patterns	5
2.7.1	Design Patterns	5
2.8	Other design decisions	5
3	User interface design	6
3.1	Interface mockups	6
3.2	UX Diagrams	6
3.2.1	Mobile application	6
3.2.2	Web application	6
4	Requirements traceability	7

5	Implementation, integration and test plan	8
5.1	Implementation plan	8
5.2	Integration and testing	8
5.2.1	Entry criteria	8
5.2.2	Elements to be integrated	8
5.2.3	Integration testing strategy	8
5.2.4	Sequence of component/function integration	8
6	Effort spent	9

1 | Introduction

1.1 Purpose

1.2 Scope

1.3 Definitions, Acronyms, Abbreviations

1.3.1 Definitions

1.3.2 Acronyms

1.3.3 Abbreviations

- $\langle \mathbf{G}_i \rangle$: i -th goal
- $\langle \mathbf{D}_i \rangle$: i -th domain assumption
- $\langle \mathbf{R}_i \rangle$: i -th functional requirement

1.4 Revision history

1.5 Reference Documents

1.6 Document Structure

Chapter 1 - Introduction

Gives an introduction of the design document. It contains the purpose and the scope of the document, as well as some abbreviation in order to provide a better understanding of the document to the reader.

Chapter 2 - Architectural design

Deals with the architectural design of the application. It gives an overview of the architecture and it also contains the most relevant architecture views:

component view, class view, deployment view, run-time view and it shows the interaction of the component interfaces. Some of the used architectural designs and designs patterns are also presented here, with an explanation of each one of them and the purpose of their usage.

Chapter 3 - Algorithm design

Presents the algorithm design. It includes the most critical parts of the application and the algorithms designed to deal with them. All of the algorithms are written in pseudo code in order not to make any restriction on the implementation language and stay focused on the most important parts.

Chapter 4 - User interface design

Refers to the mock-ups already presented in the RASD document.

Chapter 5 - Requirements traceability

Explains how the requirements that have been defined in the RASD map to the design elements that are defined in this document.

Chapter 6 - Implementation, integration and test plan

Identifies the order in which it is planned to implement the sub-components of the system and the order in which it is planned to integrate such sub-components and test the integration.

Chapter 7 - Effort spent

Shows the effort spent by each group member while working on this project.

Chapter 8 - References

Includes the reference documents.

2 | Architectural design

2.1 Overview

2.2 High-level architecture

2.3 Component view

2.4 Deployment view

2.5 Run-time view

2.5.1 Synchronization

2.5.2 Request data regarding a group of people

2.5.3 Request data regarding a particular user by providing his/her UUID

2.6 Component interface

2.7 Selected architectural styles and patterns

2.7.1 Design Patterns

Sensor Aggregation

Model View Controller (MVC)

Observer

2.8 Other design decisions

3 | User interface design

3.1 Interface mockups

3.2 UX Diagrams

3.2.1 Mobile application

3.2.2 Web application

4 | Requirements traceabil- ity

5 | Implementation, integration and test plan

5.1 Implementation plan

5.2 Integration and testing

5.2.1 Entry criteria

5.2.2 Elements to be integrated

5.2.3 Integration testing strategy

5.2.4 Sequence of component/function integration

6 | Effort spent

Marco Speziali

Chapter	Effort (hours)
Chapter 1 - Introduction	1
Chapter 2 - Architectural design	15
Chapter 3 - User interface design	3
Chapter 4 - Requirements traceability	3
Chapter 5 - Implementation, integration and test plan	3
Total (hours)	22

Qi Zhou

Chapter	Effort (hours)
Chapter 1 - Introduction	1
Chapter 2 - Architectural design	15
Chapter 3 - User interface design	3
Chapter 4 - Requirements traceability	3
Chapter 5 - Implementation, integration and test plan	3
Total (hours)	22