POLITECNICO
MILANO 1863

Travlendar+ project YOUR NAMES

Requirement Analysis and Specification Document

Deliverable:	RASD
Title:	Requirement Analysis and Verification Document
Authors:	YOUR NAMES
Version:	1.0
Date:	31-January-2016
Download page:	LINK TO YOUR REPOSITORY
Copyright:	Copyright © 2017, YOUR NAMES – All rights reserved

Contents

List of Figures

List of Tables

1 Introduction

This document has been prepared to help you approaching Latex as a formatting tool for your Travlendar+ deliverables. This document suggests you a possible style and format for your deliverables and contains information about basic formatting commands in Latex. A good guide to Latex is available here https://tobi.oetiker.ch/lshort/lshort.pdf, but you can find many other good references on the web.

Writing in Latex means writing textual files having a `.tex` extension and exploiting the Latex markup commands for formatting purposes. Your files then need to be compiled using the Latex compiler. Similarly to programming languages, you can find many editors that help you writing and compiling your latex code. Here https://beebom.com/best-latex-editors/ you have a short oviewview of some of them. Feel free to choose the one you like.

Include a subsection for each of the following items[1]:

- Purpose: here we include the goals of the project
- Scope: here we include an analysis of the world and of the shared phenomena
- Definitions, Acronyms, Abbreviations
- Revision history
- Reference Documents
- Document Structure

Below you see how to define the header for a subsection.

1.1 Purpose

The main goal of Safestreets is to provide authorities with a tool to control the traffic violations and, in particular, parking violations. The role of citizens is crucial because they send pictures of violations using the system. Safestreets have to store these information and elaborate it before notify authorities. The elaboration of the information is focused on retrieving some specific data such as:

- the license plate of the cars involved in the violations
- the addresses of the events
- the streets and the cars with the highest number of violations
- the most unsafe areas and the possible solutions to improve the situation

In addition Safestreets offers to the municipality the data in order to generate traffic tickets. Furthermore the traffic tickets informations are used to build statistics regarding the effective impact of this initiative. An other important aspect is that the application need to ensure the chain of custody of the information coming from the user.

1.2 Scope

The scope where Safestreets works is tipically the town enviroment. The main events caused by the world are violations, authorities requiring for statistics and accidents. The shared phenomena are the photos arriving form users, the notification sending, the presentation of information and statistics and the municipality sending accindents information. The main actors that interact with the application are users, municipality and authorities in general

[1] By the way, what follows is the structure of an itemized list in Latex.

2 Overall Description

2.1 Product perspective

cava

2.2 Product functions

Considering the objectives requested by SafeStreets

2.2.1 Notify Traffic Violations

The main requirement of the application is to provide users a smart and effortless tool to authorities when traffic violations occur.

Users are able to select the type of violation, providing the name of the street and upload a picture containing the license plate that will be read by an algorithm.

2.2.2 License Plate Recognition

License plate recognition functionality is crucial for SafeStreets. The fact that there isn't a human being responsible for manually recognizing license plates is important for the scalability, when the application will be used on a large scale.

Automatic number-plate recognition (ANPR) technology consists in seven primary algorithms that the software requires: Plate localization, Plate orientation and sizing, Normalization, Character segmentation, Optical character recognition, Geometrical analysis, Averaging of the recognised values to produce a more reliable or confident result.

Due to the fact that the image will be widely analyzed, it must be in high resolution with no blur and in a good lighting context.

2.2.3 Data Collection

Due to the fact that data is the most valuable asset of modern industry, data collection is important for all statistics and information SafeStreets provide.

2.2.4 Data Sets Analysis

The functionality of data analysis is crucial for finding patterns in data sets.

2.2.5 Information Integrity

Thanks to "Notify Traffic Violations" functionality and ensuring that data are correct and information are never altered. Local police could take the information about the violations coming from SafeStreets, and generate traffic tickets from it.

3 Specific Requirements

Organize this section according to the rules defined in the project description.

4 Formal Analysis Using Alloy

Organize this section according to the rules defined in the project description.

5 Effort Spent

Provide here information about how much effort each group member spent in working at this document. We would appreciate details here.

References