

# Requirement analysis and specification document Safestreets

Luca Massini      Daniele Nicolò

release data to be defined

# 1 Introduction

The purpose of this document is to represent the Requirement Analysis and Specification Document (RASD). This document shows what are the goals and the requirements of the software. It has to represent how the application can be useful for the users that will use it and why they are fundamental to improve the quality of the service offered. Secondly, this document can be also used as a support for the testing of the system, for the verification activities and also the validation ones. The RASD can be used to also guide the changes in a already existing system.

## 1.1 Purpose

### 1.1.1 Descripton of the given problem:

SafeStreets is a software useful to help people to be safer when they are on the street.

The users can send to the municipality pictures of violation occurring in public streets: the reporting can concern violation on the road, in a parking and so on. The software allows the users to send detailed information about the violation, such as the hour, the date, the type of violation and the position (they can be captured with GPS).

Furthermore, the service can provide other information about the streets in which the user is around, such as the number of violations per street and consequently the level of danger of the street.

In addition, the user can have a different service based on the category to which he/she belongs.

The user can also find on the application the most “dangerous” vehicles, that are the ones with the highest number of reports from the users.

The service must be different in base of the type of user, such as motorists, motorcyclists, bikers, pedestrians, disabled people, etc, so it must be easy to use.

Finally, the users must be able to receive recommendations from the system to avoid using streets, parking lots that are risky in general or at a specific hour or date.

### 1.1.2 Goals:

- [goal1]: Users can be identified either as Single Users or as Third Parties.
  - [goal1.1]: The user can send a picture of the violation.
  - [goal1.2]: The user can specify the date and the hour when the violation has happened and the type of violation.
  - [goal1.2]: ) The system can catch the position of the violation using GPS signal.

- [*goal2*]: The service allows the users to have detailed information about the violations and the street safety
  - [*goal2.1*]: The users can know which are the most reported streets, areas or parking
  - [*goal2.2*]: The users can see which are the vehicles that commit the highest number Of traffic violations.
  - [*goal2.3*]: The users, in base of his/her position, can be recommended to use the safest streets/areas, etc or avoid the dangerous ones, that are highlighted in different ways on the map. In this way the user can
- [*goal3*]: The service offers different types of interfaces and accessibility in according to the type of user (biker, pedestrian, rider, driver, disabled person).
- [*goal4*]: The service allows the user to be registered in the system with a username and a password.
- [*goal5*]: A user can specify the category to which he/she belongs (motorcyclist, biker, pedestrian, car driver, disabled person).In order to improve the service quality.
- [*goal6*]: A driver or a motorcyclist can add to his personal profile the license plate of his vehicle.

### 1.1.3 Scope:

In this section is introduced the so called "world and machine phenomena".

We distinguish the world and the machine. The world is related to every phenomena that take place outside of the region of events that a given system to be developed (called machine) is able to control or eventually observe. Instead, the machine is related to phenomena which happen inside the machine. Some of the totality of the phenomena can be observed by the machine but they're controlled by the world. and viceversa. These are called shared phenomena.