Introduction

SafeStreets is a mobile application that relies on the help of lawful citizens to make life in the streets less stressful and more organized, as traffic violations are a problem people are forced to face in their everyday life, especially in big cities, whether they proactively take part in the traffic itself or not. The purpose of this document is to describe in depth SafeStreets in terms of functional and nonfunctional requirements, so as to help customer and developer be on the same page.

The goal of the application is to make traffic regulation more efficient and complete, by allowing users to report and notify violations, e.g. vehicles parked in the middle of bike lanes, or in spots reserved to disabled people, to the designated authorities. In particular, users should be able to send pictures as proof of vehicles parked illegally and attach additional information to provide authorities with a starting point they can work with, such as the date, the time, the type of violation which is to be reported and the place in which it has occurred, which can be retrieved through the geographical position of the user itself. SafeStreets stores such information in its database and employs it by running an algorithm on the picture to recognize the license plate number. The stored data can then be elaborated by both end users and authorities to highlight the zones with the highest amount of violations.

Furthermore, SafeStreets wants to exploit its own data by combining it with information about accidents provided by the municipality, if the latter has the resources to do so, and analyzing it in order to identify zones or streets whose safety could be improved by making interventions, possibly suggesting viable solutions as well.

Lastly, SafeStreets strives to assist the local police in generating traffic tickets, and possibly build various statistics. To ensure the effectiveness of this service, it is necessary that the exchange of sensible data which must occur between SafeStreets and the third party (municipality) cannot be tampered with in any way, e.g. modifying the picture of the violation at hand.

Goals

Users:

[G1] Users can register its own account;

[G2] Users can send pictures, date, time and position and the type of violation;

[G3] Users can mine information to visualize areas with most violations;

[G4] If the municipality offers the possibility, users can notify accidents occurred on the municipality’s territory;

[G5] Users receive a notice which inform them if their notification has been approved or rejected.

Municipality:

[G6] Municipality can access to application data;

[G7] Municipality receives a notification if a violation has been reported;

[G8] Municipality can accept or refuse an user request;

[G9] Municipality can generate traffic tickets;

[G10] Municipality can consult statistics built by Safestreets.

Domain assumptions

[D1] An user notification is evaluated by municipality within a week;

[D2] An user sends information to Safestreets in the same time he notes the violation;

[D3] An user inserts right information (position and date) about the violation;

[D4] An user notify accidents which are really occurred;

[D5] An user reports a certain violation once;

[D6] Reporting about a violations already evaluated are rejected;

[D7] The Local Police has tools for assessing if a reporting is a violation or not;

[D8] The Local Police generates traffic tickets only for actual violations;

[D9] The Local Police is able to find the owner of the car by the target license, which is unique to each car vehicle;