Chapter 1

1.1 Purpose:

The aim of this document is to give an overview of the requirements and specifications of the system to be developed. The goal of the document is to describe in detail all functional and non-functional requirements of the system, analysing the needs of the customer and explaining common use case scenarios. It will set a baseline for project planning and cost es- timation, giving a detailed insight to all stakeholders which include the SafeStreets Investors and engineers (present and future) involved in development, testing and maintenance.

Definition:

Customers refer to user and authorities.

GOAL SECTION:

SafeStreets should accomplish these following goals:

[G1]: Users can be uniquely identified, thanks to the completion of the Registration Process.

[G2]: Authority can be uniquely identified, thanks to the completion of Registration Process.

[G3]: Allows users to notify authorities when traffic violations occur and in particular parking violations.

[G4]: Guarantees that the request sent by the user is not made with false personal data.

[G5]: Allows users to notify traffic violations with pictures.

[G6]: Allows authorities to receive all the notifications about traffic violations.

[G7]: Allows to notify unsafe areas and suggest possible interventions to authorities.

[G8]: Allows end-users to have detailed information about dangerous streets’ location.

[G9]: Is able to manage and retrieve information from pictures taked by a user.

[G10]: Allows municipality or in particular the local police to receive not altered information in the pictures taked by the users.

[G11]: Is able to build statistics about the effectiveness of the SafeStreets initiative and about the most egregious offenders.

**Requirements**

**[G1]: Users can be uniquely identified, thanks to the completion of the Registration Process**

[R1] - Visitors must be able to begin the Registration Process into the login page.

[R2] – During the Registration Process the system must ask to the Visitor for his private data (name, surname, address, gender, age, email, and fiscal code) through a specific form.

[R3] – The system must accept the signup by a Visitor if the provided fiscal code is not associated to another existing account.

[R4] – The system must accept the signup by a Visitor if and only if the fiscal code is coherent with the private data inserted by the customer.

[R5] – The system must verify the coherence between the fiscal code inserted in the Registration Process form, and the personal data of the user with an algorithm.

[R6] – At the same time as the Visitor apply for signing up, the system must send an e-mail with a confirmation link and a randomly generated password to the email address specified during the Registration process.

[R7] – To complete the signup process, the Visitor must click the confirmation link, before the first signup in the application.

**[G2]: Authority can be uniquely identified, thanks to the completion of Registration Process.**

[R8] – Authority must be able to begin the Registration process into the login page. During the process, the system must ask the Authority for his private data (name, surname, username, address, gender, age, email address, thelephon number, fiscal code and the specific municipality for which he works) through a specific form of registration.

[R9] – The system must accept a signup request if and only if the provided fiscal code is not already associated with another authority.

[R10] - confirmation email

[R11] – click on link before fist signup.

**[G3]: Allows users to notify authorities when traffic violations occur and in particular parking violations.**

[R12] – Users, and authorities must provide their credentials, into the form of login page, to access their personal view.

[R13] – If the credentials does not match with the stored ones, the system has to reject the request of login prompting an error.

[R14] – The mobile application must provide a section where the users can fill a form and upload images about the occurred traffic violations.

[R14] – Users can choose the nearest municipality to send the information about the traffic violations through a search bar.

[R15] – The mobile application must provide a section where authorities can find all notifications from the users about the occurred traffic violations.

**[G4]: Guarantees that the request sent by the user is not made with false personal data.**

[R16] – System must have an algorithm that can test the fiscal code, crossing the information

obtained from the user's personal credentials

[R17] – The System must control that in the Registration Process all the personal credentials are coherent with what is asked (like name is composed by characters, birth date is a date ec…)

[R18] – If the informations sent by the user is not correct, the system will present an error Registration Process and the user will be able again to re-do the Registration Process in the login page.

[R19] – After the first Registration Process failure, the system will present a CAPTCHA control, to to avoid bots trying to register

**[G5]: Allows users to notify traffic violations with pictures.**

[R20] - (Log in page)

[R21] – rejecting login if wrong credentials

[R22] – Web Application must allow the user to upload the picture through an apposite section of main page.

[R23] - After the full fill of form request and pictures uploaded, the System will notify to the user that his request has been sent correctly to the authorities.

**[G6]: Allows authorities to receive all the notifications about traffic violations.**

[R24]

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**[G7]: Allows to notify unsafe areas and suggest possible interventions to authorities.**

[R28]