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.

[G4]: Allows authorities to increase the security of the city.

[G5]: Allows end users to mine information on traffic violations that has been received and build some statistics.

[G6]: Allows authorities to mine information on traffic violations that has been received and build some statistics.

[G7]: Allows to cross information analysis to improve reliability of the service and suggest to municipality possible interventions.

[G8]: Allows municipality(in particular local police) to retrieve traffic violations in order to generate relative traffic tickets.

[G9]: Build statistics using information related to emitted traffic tickets.

REQUIREMENTS:

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

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

[R2] – During the Registration Process, Visitor have to be asked from the system for filling with his personal data (name, surname, address, gender, age, email, and fiscal code) a specific form.

[R3] – The system must reject the signup by a Visitor if the provided fiscal code is already associated to another existing account.

[R4] – The system must verify coherence between fiscal code inserted in the registration process form, and personal data provided by the user.

[R5] – The signup must include a completion process in order to verify the correctness of the user’s registration and enable the user to access to the software.

R5\* - In order to complete Registration Process, the system will ask for an identity confirmation of the Visitor through an e-mail/code sent via SMS.

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

[R6]: Each authority, belonging to a town in which Safe Streets’ services are active, must be registered in order to lets its employee be notified by the users.

[R7]: During the Registration Process the system must ask to the Authority for its formal force name (Police, Carabinieri, Local Police District), a reference station in terms of address and a list of its employee (and for each of them provide at least name, surname, institutional email and an unique code).

[R8] – System one taken employees’ list must create an account for each of them.

[R3] – The system must reject the signup by an Authority if the provided couple (formal name, address) is already associated to another existing one.

[D0] - Authorities correctly insert address of reference station.

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**[G3]: Authority members can be uniquely identified, thanks to the completion of Registration Process.**

[R] – System must allow authority member to activate his/her own account providing the unique code that reference Authority Department has assigned to him/her.

[R5] - The signup must include a completion process in order to verify the correctness of the user’s registration and enable the user to access to the software.

[R14]: Software permits to authority member to specify their availability status.

[D7]: Authority members specify correctly their availability status.

[D1] - Each authority member must have an uniquely identifiable code.

**[G4]: Allows users to notify authorities when traffic violations occur.**

[R7] – Users must provide their credentials, into the form of login page, to access to their personal area.

[R8] – If credentials do not match with the stored ones, the system must reject the request of login prompting an error.

[R9] – The mobile application must provide a section where the users can fill a form and upload images about the occurred traffic violations. In order to better organize force displacement user specifies to which Authority notify the violation.

[R10] – The mobile application must provide a section where users can find all his past notifications.

[D2]: Devices used by end users are supposed to have a camera and an integrated and enabled GPS sensor.

[R11]: Should allow end users to share the traffic violation’s position.

[D4]: Sent position is assumed to be reliable and precise.

[R12]: Data and time are directly taken from end users’ device.

[D5]: System is supposed to be well integrated with reading plate algorithm that has been already designed and is correctly working.

[D6]: Each already uploaded notification of violation is every time correctly received and stored by the software system.

**[G5]: Allows authority member to receive the notifications about traffic violations in order to increase the local security.**

[R13]: Software system dispatches notifications in turn to the nearest authority, to which user requested an intervention, member until one handle it.

[R14]: Software permits to each authority member to specify their availability status.

[D7]: Authority members specify correctly its availability status.

[D6]: The internet connection works properly without failure.

[R15]: Authorities must provide their personal code, into the form of login page, to access their personal view.

[D] – Every time an authority member start his/her working hours, logs into the application setting properly their availability status.

[R16]: System must be able to recognize license plate from images.

[R X]: System must be able to recognize any possible kind of altered information contained in a traffic violation sent by a user.

[D5]: System is supposed to be well integrated with reading plate algorithm that has been already designed and is correctly working.

[D8]: Authority members knows the local traffic laws and the related fines.

[D9]: Authority member that accept to provide an intervention must check the correctness of traffic violations notified and signals to Safe Streets.

**[G6]: Allows end users to mine information on traffic violations that has been received and build some statistics.**

[R7] – Users must provide their credentials, into the form of login page, to access their personal view.

[R17]: Software system can show statistics related to unsafe areas thanks to the highest number of traffic violations in that zone.

[R18]: Statistics must be updated each month.

[R19]: Software system can show statistics related to vehicles that commit the most violations.

**[G7]: Allows authorities to mine information on traffic violations that has been received and build some statistics.**

[R20]: Software system show which kind of traffic violations occurs more frequently for each area.

[R17]: Software system is able to show statistics related to unsafe areas thanks to the highest number of traffic violations in that zone.

[R18]: Statistics must be updated each month.

[R19]: Software system is able to show statistics related to vehicles that commit the most violations.

[R15]: Authorities must provide their credentials, into the form of login page, to access their personal view.

**[G8]: Allows to cross information analysis to improve reliability of the service and suggest to municipality possible interventions.**

[R22]: Software system must be able to retrieve information from municipality service and generate their relative statistics.

[D11]: Municipality service is well integrated with SafeStreets.

[R23]: SafeStreets provides an algorithm able to cross information which derives from its own statistics and municipality’s statistics.

[R21]: Permits to suggest to municipality how to improve the security.

[R24]: SafeStreets is able to communicate suggestion through e-mail.

[D12]: Municipality has an active mail system and it is periodically checked by its own employee.

[D10]: Municipality can fulfill the improvements suggested by the software.

**[G9]: Allows municipality (in particular local police) to retrieve traffic violations in order to generate relative traffic tickets.**

**[R X]: System has to be able to avoid any possible kind of altered information contained in a traffic violation sent by a user.**

[R16]: System must be able to recognize license plate from images.

[R25]: Provides personal data of the vehicle’s owner that committed an infraction to authorities, retrieved by an external service(FindOwnerPlate).

[D13]: External service(FindOwnerPlate) is well integrated with SafeStreets that permits to retrieve personal data of the vehicle’s owner.

[D5]: System is supposed to be well integrated with reading plate algorithm that has been already designed and is correctly working.

[D8]: The authority knows the local traffic laws and the related fines.

[R26]: SafeStreets is able to send all informations related to traffic violations to the nearest local police station that will handle ticket generation process assigning a member available in the zone.

[R27]: SafeStreets stores position of all local police centers in the city where SafeStreets works.

**[G10]: Build statistics using information related to emitted traffic tickets.**

[R25]: Provides personal data of the vehicle’s owner, who committed an infraction, to authorities retrieved by an external service.

[D13]: External service (FindOwnerPlate) is well integrated with SafeStreets that permits to retrieve personal data of the vehicle’s owner.

[R28]: SafeStreets is able to store all infractions sent to local police station and generate their relative statistics by mean of an algorithm.

[R29]: SafeStreets provides to local police a ranking of the most offenders in their relative area.

[R30]: SafeStreets provides to users statistics concerning the improvement brought by SafeStreets initiative.

Il comune viene lasciato sempre esterno nell advanced functionality 1, mentre, nel advanced funzionality 2 manda le traffic violations solamente ai dipendenti che appartengono alla local police piu vicina e pertinente.