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 is able to 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.

[R6] - In order to complete Registration Process, the system will ask for an identity confirmation of the Visitor thanks to a code sent via SMS or e-email.

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

[R7]: 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.

[R8]: After the Registration Process, Authority can manage the list of Authority Members adding or delete employees from the list.

[R9]: During the Registration Process, finalized by an Authority member, the system asks for the information about the physical information about the Authority, its formal force name (Police, Carabinieri, Local Police District), the address of reference station and a list of its employee (and for each of them provide name, surname, institutional email and an unique code).

[R10] – System when have the complete employees’ list, create an account for each of them.

[R11] – The system must reject the registration by an Authority if the provided couple (formal name, address) is already associated to another existing one.

[D1] - Authorities correctly insert address of reference station.

[D2] – Authorities must provide to its employees the unique code.

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

[R12] – System must allow authority member to activate his/her own account providing the unique code that reference Authority Department has assigned to him/her.

[R13] - The sign up 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 allows authority member to specify their availability status.

[D3]: Authority members specify correctly their availability status.

[D4] - Each authority member must have an uniquely identifiable code.

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

[R15] – Users must provide their credentials, into the form of login page, to access to their personal area.

[R16] – If credentials do not match with the stored ones, the system must reject the request of login prompting an error.

[R17] – 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.

[R18] – The mobile application must provide a section where users can find all his past notifications.

[D5]: Devices used by end users are supposed to have a camera and an integrated and enabled GPS sensor.

[R19]: Allows end users to share the traffic violation’s position.

[D6]: Sent position is assumed to be reliable and precise.

[R20]: Data and time are directly taken from end users’ device.

[D7]: System is supposed to be well integrated with reading plate algorithm that has been already designed and is correctly working.

[D8]: 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.**

[R21] – Authorities member must provide their credentials, into the form of login page, to access to their personal area.

[R22] – If credentials do not match with the stored ones, the system must reject the request of login prompting an error.

[R23]: Software system dispatches the notification about the incident to the nearest authority member, for which user requested an intervention. If the first authority member notified is busy, the notification will be passed to the next authority member always close to the incident.

[R24]: Software permits to each authority member to specify their availability status.

[D3]: Authority members specify correctly its availability status.

[D9]: The internet connection works properly without failure.

[D10] – Every time an authority member starts working, has to logs into the application and sets properly availability status.

[R25]: System must be able to recognize license plate from images.

[R 26]: System must be able to recognize any possible kind of altered information contained in a traffic violation sent by a user.

[D7]: System is supposed to be well integrated with reading plate algorithm that has been already designed and is correctly working.

[D11]: Authority members knows the local traffic laws and the related fines.

[D12]: 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.**

[R27] – Users must provide their credentials, into the form of login page, to access their personal view.

[R28]: Software system shows statistics related to unsafe areas thanks to the highest number

[R29] – System shows to the end users the statistics in a specific section of the software.

[R30]: Statistics must be updated each month.

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

[R31]: Software system show which kind of traffic violations occurs more frequently for each area.

[R32]: System shows the relate statistics in a specific section of the software.

[R33]: Software system is able to show statistics related to unsafe areas thanks to the highest number of traffic violations in that zone.

[R34]: Statistics must be updated each month.

[R35]: Software system is able to show statistics related to vehicles that commit the most violations.

[R36]: Authorities must provide their credentials, into the form of login page, to access their personal view.

**[G8]: Builds a cross information analysis between municipality’s data and its self data to improve reliability of the service and suggest to municipality possible interventions.**

[R37]: Software system must be able to retrieve information from municipality service and generate their relative statistics.

[D13]: Municipality service is well integrated with SafeStreets.

[R38]: SafeStreets provides an algorithm able to cross information which derives from its own statistics and municipality’s statistics.

[R39]: Permits to suggest to municipality how to improve the security.

[R40]: SafeStreets is able to communicate suggestion to the municipality through e-mail.

[D14]: Municipality has an active mail system and it is periodically checked by its own employee.

[D15]: 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.**

[R41]: System has to avoid any possible kind of altered information contained in a traffic violation sent by a user.

[R42]: System must be able to recognize license plate from images.

[R43]: Provides personal data of the vehicle’s owner that committed an infraction to authorities, retrieved by an external service(FindOwnerPlate).

[D16]: External service(FindOwnerPlate) is well integrated with SafeStreets that permits to retrieve personal data of the vehicle’s owner.

[D7]: System is supposed to be well integrated with reading plate algorithm that has been already designed and is correctly working.

[D11]: The authority member knows the local traffic laws and the related fines.

[R44]: 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.

[R45]: SafeStreets stores position of all local police centers in the city where SafeStreets works.

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

[R46]: Provides personal data of the vehicle’s owner, who committed an infraction, to authorities retrieved by an external service.

[D16]: External service (FindOwnerPlate) is well integrated with SafeStreets that permits to retrieve personal data of the vehicle’s owner.

[R47]: SafeStreets is able to store all infractions sent to local police station and generate their relative statistics by mean of an algorithm.

[R48]: SafeStreets provides to local police a ranking of the most offenders in their relative area.

[R49]: SafeStreets provides to users the 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.

[D1] - Authorities correctly insert address of reference station.

[D2] – Authorities must provide to its employees the unique code.

[D3]: Authority members specify correctly their availability status.

[D4] - Each authority member must have an uniquely identifiable code.

[D5]: Devices used by end users are supposed to have a camera and an integrated and enabled GPS sensor.

[D6]: Sent position is assumed to be reliable and precise.

[D7]: System is supposed to be well integrated with reading plate algorithm that has been already designed and is correctly working.

[D8]: Each already uploaded notification of violation is every time correctly received and stored by the software system.

[D9]: The internet connection works properly without failure.

[D10] – Every time an authority member starts working, has to logs into the application and sets properly availability status.

[D11]: Authority members knows the local traffic laws and the related fines.

[D12]: Authority member that accept to provide an intervention must check the correctness of traffic violations notified and signals to Safe Streets.

[D13]: Municipality service is well integrated with SafeStreets.

[D14]: Municipality has an active mail system and it is periodically checked by its own employee.

[D15]: Municipality can fulfill the improvements suggested by the software.

[D16]: External service(FindOwnerPlate) is well integrated with SafeStreets that permits to retrieve personal data of the vehicle’s owner.