Use case descriptions

1. Registration Process – User (Citizen)

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| Actor | Visitors |
| Goal | G1 |
| Input condition | There are no entry conditions. |
| Event flow | 1. The Visitor, after downloaded the mobile application, comes to the view of the mobile app and clicks on the Sign In button to start Registration Process 2. The Visitor from a first panel choose button labelled “Citizens” 3. The Visitor fills all personal mandatory fields (name, surname, address, gender, birth date, e-mail, phone number and fiscal code). 4. The Visitor clicks the Confirmation button. 5. The system saves and check correctness of provided data. 6. The system asks for the user a favourite communication method (SMS or e-mail) 7. The system sends, accordingly to the user’s choice, a confirmation link. 8. The Visitor clicks on the confirmation link to correctly enable his account. |
| Output condition | The Visitor successfully ends the registration process, becoming a User. Since now, he/she can log into the application with his/her e-mail and password. |
| Exception | 1. The Visitor does not specify at least one mandatory field. 2. The Visitor inserts invalid information in at least one field (data-type not respected, no match between personal information and provided fiscal code, invalid e-mail provided). 3. The Visitor specifies an email which has already been associated with an existing account. 4. The Visitor specifies a fiscal code which has already been associated with an existing User. 5. All exceptions are handled notifying the issue to the Visitor and taking back to the Event Flow to the point 3. |

2. Registration Process – Authorities

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| Actor | Visitors |
| Goal | G2 |
| Input condition | There are no entry conditions. |
| Event flow | 1. The Visitor, after downloaded the mobile application, comes to the view of the mobile app and clicks on the Sign In button to start Registration Process 2. The Visitor from a first panel choose button labelled “Authority District” 3. The Visitor fills mandatory fields: formal force name (Polizia, Carabinieri, Local Police District), reference address for that station, city name and an institutional mail address. 4. The Visitor upload a list of its employee (for which is needed to specify name, surname, institutional e-mail and a unique code) that match required file extension. 5. The Visitor clicks the Confirmation button. 6. The system saves and check correctness of provided data. 7. The system, in an automatic way, create an account for each Authority Member belonging to that District. 8. The system sends a mail containing a confirmation link and a randomly generated password. 9. The Visitor clicks on the confirmation link to correctly enable his account. |
| Output condition | The Visitor successfully ends the registration process, becoming an Authority. Since now, an employee assigned to this role for that District, can log into the application using institutional district’s e-mail and password. |
| Exception | 1. The Visitor does not specify at least one mandatory field. 2. The Visitor inserts invalid information in at least one field. 3. The Visitor specifies a triple (formal name, address, city) which has already been associated with an existing District. 4. The Visitor specifies an e-mail address already associated to an existing District. 5. The Visitor do not upload any attachment related to employees list. 6. The Visitor upload a file with not allowed extension. 7. Exceptions 1-4 are handled notifying the issue to the Visitor and taking back to the Event Flow to the point 3. 8. Exceptions 5-6 are handled notifying the issue to the Visitor and taking back to the Event Flow to the point 4. |

3. Activating Account Process – Authority Members

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| Actor | Authority Members |
| Goal | G3 |
| Input condition | There are no entry conditions. |
| Event flow | 1. The Visitor, after downloaded the mobile application, comes to the view of the mobile app and clicks on the Sign In button to start Registration Process 2. The Visitor from a first panel choose button labelled “Authority Member” 3. The Visitor after specifying information about District of belonging, insert the unique code provided to him/her. 4. The system retrieves personal data associated to that code and show them to the Visitor. 5. The Visitor check data correctness (in case something is wrong modifies identified fields) and then clicks the Confirmation button. 6. The system sends a mail containing a confirmation link and a randomly generated password. 7. The Visitor clicks on the confirmation link to correctly enable his account. |
| Output condition | The Visitor successfully ends the activating account process, becoming an Authority Member. Since now, he/she can log into the application with his/her institutional e-mail and password. |
| Exception | 1. The Visitor inserts a wrong unique code, or one not associated to specified District of belonging 2. The Visitor whose choose to modify some field inserts invalid information in at least one of them (data type not respected, invalid e-mail provided). 3. Exception 1 is handled notifying the issue to the Visitor and taking back to the Event Flow to the point 3. 4. Exception 2 is handled notifying the issue to the Visitor and taking back to the Event Flow to the point 5. |

4. Login Process – All

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| Actor | Users, Authorities and Authority Members |
| Goal | G1, G2, G3 |
| Input condition | The Actor in play has correctly performed the Sign In process, accordingly to the rules specified for its role in the application. |
| Event flow | 1. The Actor comes to the view of the mobile app and clicks on the Log In button. 2. The Actor insert its credential: (institutional) e-mail and password. 3. The system check correctness of inserted data. 4. The system allows to the Actor to access to its personal profile. |
| Output condition | The Actor successfully log into the application and can now perform all possible action accordingly to the role of the Actor in the application. |
| Exception | 1. The Actor does not specify at least one mandatory field. 2. The Actor inserts invalid information in at least one field. 3. All Exception are handled notifying the issue to the Actor and taking back to the Event Flow to the point 2. |

5. Notify Authority – User

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| Actor | User |
| Goal | G4 |
| Input condition | User has correctly performed the login operation. |
| Event flow | 1. The User comes to the view of the mobile app and clicks on specific panel to start upload a violation’s report. 2. Only first time, the User allows to SafeStreets usage of camera and GPS sensor. 3. The User fills a form about the occurred traffic violations. Required fields are type and image of violation, where violation occur and to which Authority notify the violation. 4. The User can optionally type additional notes to improve accuracy of report. 5. The User clicks the Confirmation button. 6. The system runs the Reading Plate algorithm and adds as metadata, the result of this elaboration. 7. The system saves and check correctness of provided data, recognizing possible altered information contained in the traffic violation’s report. 8. The system performs some elaboration through designed algorithm in order to extract essential information from the report. 9. The system makes result of that elaboration part of the statistics. 10. The system displays an image that let the User know process is correctly ended. |
| Output condition | The User successfully notified Authorities for the violation. Since now, he/she can follow the progress of (this and also past) notifications handling into the specific section of SafeStreets’ application. |
| Exception | 1. Devo aggiungere il caso in cui non avviene correttamente il login? O predispongo un altro use case e rimando a quello? 2. The User does not specify at least one mandatory field. 3. The User inserts invalid information in at least one field. 4. The User do not allow requested authorization. 5. The system, after run Reading Plate algorithm, cannot find a clear match with provided image. 6. The system recognizes in the user report an attempt to data alteration. 7. All exceptions are handled notifying the issue to the User and taking back to the Event Flow to the point 3. |

6. Authority Member handle violation report

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| Actor | Authority Member |
| Goal | G5 |
| Input condition | * Authority Member has correctly performed the login operation. * Authority Member has set as “Available” his/her availability status. |
| Event flow | 1. The system as soon as a new violation’s report is uploaded by a user, dispatch to the closest, available Authority Member belonging to the chosen Authority, the request of intervention. 2. The Authority Member is notified by SafeStreets about the violation. 3. The Authority Member start handling the request and goes to the place where violation occurs. 4. The system updates the history of that notification as “Taken in charge”. 5. The system automatically set as “Unavailable” Authority Member status. 6. The Authority Member once there, verifies the truthfulness of the violation and apply proper sanctions accordingly with laws in force for that specific town. 7. The Authority Member fills on the application a police report. 8. The system performs some elaboration through designed algorithm in order to extract essential information from the report. 9. The system makes result of that elaboration part of the statistics. 10. The system updates the history of that notification as “Handled”. 11. The system attaches to User’s notification history the police report filled by Authority Member that has handled the request of intervention. 12. The system set again as “Available” Authority Member status. |
| Output condition | The Authority Member correctly handled the notified violation. Since now, he/she can check his/her own police report related to that violation into the specific section of SafeStreets’ application. |
| Exception | 1. Devo aggiungere il caso in cui non avviene correttamente il login? O menziono un use case precedente e rimando a quello? 2. The Authority Member once on the place of traffic offence isn’t able to verify the truthfulness of the violation. 3. The Authority Member don’t see notification of SafeStreets application. 4. . 5. . 6. Altre idee???? 7. . 8. . 9. Exception 2 is handled by the system, updating the history of that notification as “No violation observed”, aborting the Event Flow from point 7 on. 10. Exception 3 is handled by the system, notifying again the Authority Member and taking back to the Event Flow to the point 2 |