(a) Start Up Interface   (b) Forgot Password

Figure 2: Sign Up form

0.1 External interface requirements

0.1.1 User Interfaces

The figures in this section are user interfaces of our S2B, in the DD chapter 3 we will also provide UX Diagrams in order to understand better the flow of events.

Figure 3: Logged User interface

Figure 4: Logged User Statistic interface

Figure 5: Logged Authority User Statistic interface

Figure 6: Validate Users interface

Figure 7: Validate Users interface

Figure 8: Traffic Violations interface

Figure 9: Generate Traffic Ticket tab

0.2 Functional requirements

0.2.1 Requirements

G1: Allow the users to send data about traffic violations

- R1: The system must allow the user registration

- R2: The system must save the violations reported by the registered users

- R3: The system must be able to identify each user univocally

- R4: The system must encode correctly the traffic violation information

- R5: The system must be able to run an OCR algorithm on the images sent by the user

- R6: The system must allow an user to confirm the data read by the OCR

G2: Allow the authorities to access to violation data

- R2: The system must save the violations reported by the registered users

- R7: The system must be able to recognize the user role

- R8: The system must provide the authorities only the violations under his jurisdiction

G3: Allow the authorities to see specific kind of statistics about traffic violations

- R2: The system must save the violations reported by the registered users

- R7: The system must be able to recognize the user role

- R9: The system must be able to cross the data stored in the system in order to create statistics for the authorities

- R10: The system has to allow the authorities to retrieve statistics filtered by location

- R11: The system has to allow the authorities to retrieve statistics filtered by type

- R18: After generating a traffic ticket the traffic violation is not discarded by our system in order to provide statistics about traffic violations

G4: Allow users to see specific kind of statistics about traffic violations

- R2: The system must save the violations reported by the registered users

- R7: The system must be able to recognize the user role

- R12: The system must be able to cross the data stored in the system in order to create statistics for the users

- R13: The system has to allow the users to retrieve statistics filtered by type of the vehicles

- R14: The system must show a graph generated with the statistic data

- R18: After generating a traffic ticket the traffic violation is not discarded by our system in order to provide statistics about traffic violations

G5: Allow the local police to use SafeStreets system in order to issue traffic tickets

- R2: The system must save the violations reported by the registered users

- R7: The system must be able to recognize the user role

- R15: The system must ensure the integrity of the data provided by the users

- R16:The system must allow the authority to provide information about the issued ticket (multa fatta un flag)

G6: Allow to exploit the traffic ticket statistics to check the effectiveness of SafeStreets

- R16:The system must allow the authority to provide information to the system about the issued ticket (multa fatta flag)

- R17:Allow the system to access the traffic ticket data stored by the municipality

0.3   Non-functional requirements

0.3.1   Performance

The system must be able to handle tens of thousands of registered users. The requests per minute are expected to be relatively low compared to the number of registered users but some computation intensive operations (e.g. OCR recognition) must be managed in reasonable time.

0.3.2   Reliability

The stored data are critical. The system must have an effective backup strategy that guarantees the integrity of the data. The system should be able to operate 24/7 but the uptime is not critical.

0.4   Security

Sensitive data is stored by the system. The credentials must be stored hashed and salted, the code must be checked to be immune to know vulnerabilities and the system storage must be encrypted.