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1. **Introduction**
   1. **Purpose**

The DD purpose is to give an overall description of Safestreet architecture, in terms of computational components and interactions among those components.

Unlike the RASD it presents in more detail the backend of the application by describing aspects of the application such as the high-level architecture, the runtime behavior and the algorithm design.

* 1. **Scope**

SafeStreets is an application designed to report violations committed by vehicles on the road. The violations reported by the users are stored in a map obtained from GoogleMaps API, which can be seen only by registered users.

This functionality is the core of the application, in fact users can filter date and type of the violation (parking, traffic lights, accident, speed) in order to be updated on the violation flows of their city. Also, authorities such as the municipal police actively participate in the application. Not only do they send reportings, but there is a data crossover service between them and SafeStreets. Authorities send to SafeStreets accident reportings and receive parking violation reportings.

* 1. **Definitions, acronyms, Abbreviations**

Definitions:

Acronyms:

* RASD: Requirement Analysis and Specification Document
* DD: Design Document
* CPU: Central Processing Unit
* DB: Database
* DBMS: Database Management System
* GPS: Global Position System
* API: Application Programming Interface

Abbreviations:

* [Gn]: n-th goal
* [Rn]: n-th functional requirement
  1. **Document conventions**
  2. **Reference documents**
  3. **Document structure**
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1. **Architectural design**
   1. **Overview**
   2. **High level components and their interaction**
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   6. **Component interfaces**
   7. **Selected architectural styles and patterns**
   8. **Other design decisions**
2. **Algorithm design**
   1. **License plate recognizing algorithm**
   2. **Making suggestions algorithm**
3. **User Interface design**

The application UI mockups were presented in the RASD document, section 3.1.1 User Interfaces.

Below are presented two diagrams related to both privates and authorities front end application, in particular they expose the flow of the main menu that the user can navigate from their devices. The application windows are represented as colored rectangles half blue and half white, while the available actions in the windows and the credential recovery as a simple rectangles. The action to return to the previous menu is omitted for clarity.

Finally, the small green rectangle (success) represents the access to the application servers and the recognition of the user's activity ,the red one (logout) represents the logout from the application.

Immagine che contiene mappa

Descrizione generata automaticamente

**Immagine che contiene screenshot

Descrizione generata automaticamente**

* 1. **Mock-ups**
  2. **UX diagrams**
     1. **Private mobile app**
     2. **Authority mobile app**
  3. **BCE diagrams**
     1. **Customer mobile app**

1. **Requirements traceability**