POLITECNICO
MILANO 1863

SAFESTREETS

DESIGN DOCUMENT

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1 Introduction

1.1 Purpose

This document outlines the SafeStreets service, both basic and advanced funcionalities, introduced in the corresponding RASD

1.2 Scope

SafeStreets is a service that basically allows users (k.a. normal citizens) to upload reports about violations. This reports are seen by authorities and investigated, if deemed appropriate, or dropped if not. Every user is also allowed to inspect data regarding violations w.r.t. the area interested by them, with limitations based on the type of user exploiting the service. In addition to the basic function, Safestreets can be used to acknowledge statistics about accidents in a fashion similar to that of the violations.

1.3 Definitions, Acronyms, Abbreviations

1.3.1 Definitions

- **Client:** Piece of software or hardware that can access services offered by a server in different forms.
- **Server:** Piece of software or hardware that offers different services (that can constitute a part or the entirety of an application) to one or more clients.

1.3.2 Acronyms

Acronym	Meaning
DB	Data Base
DBMS	Data Base Management System
API	Application Program Interface
UI	User Interface
UX	User Experience
OS	Operating System
RASD	Requirement Analysis and Specification Document
GPS	Global Positioning System
CNN	Convolutional Neural Network
OTP	One Time Password

1.3.3 Abbreviations

G.th : n-th Goal

D.th : n-th Domain Assumption

R.th : n-th Functional Requirement

1.4 Revision history

1.5 Reference Documents

- Project assignment specifications:[1]
- UML: [2]
- DD to be analyzed: [3]

1.6 Document Structure

- **Introduction:** summary of the concepts already expressed in the RASD document.
- **Architectural Design:** detailed description of the architectural design w.r.t components and design patterns.
- **User Interface Design:** addition details on the UI previously sketched in the RASD document by means of UX modeling.
- **Requirements Traceability:** analysis on the requirements of the RASD and how they are satisfied by the design choices of the DD.
- **Implentation, Integration and Test plan:** showing implementation and integration of subcomponents in the defined order and giving details on the subsequential testing for the integration.

2 Architectural Design

2.1 Overview

2.2 Component view

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2.4 Runtime view

2.5 Component interfaces

2.6 Selected architectural styles and patterns

3 User Interface Design

4 Requirements Traceability

5 Implementation, Integration and Test Plan

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References

[1] Di Nitto Elisabetta. Mandatory project: goal, schedule, and rules, 2019.

[2] The Object Management Group (OMG). Unified modelling language: Infrastructure, 2011. version 2.4.1. omg document: formal/2011-08-05. Technical report, , 2011.

[3] Unknown Students. Dd–design document, 2018.

