Politecnico di Milano

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DD – Design Document

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1. **Introduction**

1.1 Purpose

The purpose of this document consists of giving more technical details than the RASD concerning the TrackMe application.

Indeed, if the RASD has as its objective to provide a more abstract view of the system with its functionalities, the Design Document goes deeper into detail about the implementation, providing an overall guidance to the architecture of the project. Here all the components forming part of the system are described, with the related run-time processes, the algorithms which are the basis of the application are explained and all the implementation choices are listed and motivated.

In particular, the following topics are touched by the document:

* The high level architecture;
* The main components and their interfaces;
* The runtime behavior;
* The design patterns;
* The algorithms’ design for the most crucial ones;
* Implementation plan;
* Integration plan;
* Testing plan.

1.2 Scope

<here goes more or less the same general purpose/scope which is in the RASD>

1.3 Definitions, acronyms, Abbreviations

1.3.1 Definitions

<TODO>

1.3.2 Acronyms

* API: Application Programming Interface
* GPS: Global Positioning System
* DD: Design Document
* RASD: Requirements Analysis and Specifications Document

1.3.3 Abbreviations

* Gn = nth goal
* Rn = nth requirement

1.4 Revision history

* Version 1.0:
  + First Release

1.5 Reference documents

<TODO>

1.6 Document Structure

**Chapter 1** is an introduction to the design document. Its goal is to explain the purpose of the document and to highlight the differences with the RASD, whilst showing the link between them.

**Chapter 2** aims to provide a description of the architecture design of the system. More precisely, this section is divided in the following parts:

* Overview
* Component view
* Deploying view
* Runtime view
* Component interfaces
* Chosen architectural styles and patterns
* Other design decisions

**Chapter 3** describes the design of the algorithms which represent the core of the application’s functions. In order to remain above the implementation’s details, they are outlined with pseudocode, also to facilitate greater understanding.

**Chapter 4** specifies the user interface design. Actually, this part is already contained in the RASD in the mockups’ section, so here will be added only additional behaviors.

**Chapter 5** provides the requirements traceability, namely how the requirements identified in the RASD are linked to the design elements defined in this document.

**Chapter 6** includes the description of the implementation plan, the integration plan and the testing plan, specifying how all these phases are thought to be executed.

**Chapter 7** shows the effort which each member of the group spent working on the project.

1. **Architectural Design**

2.1 Overview