PowerEnJoy
Software Engineering II

Design Document

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Contents

Section 1

Introduction

1.1 Purpose

The Design Document is intended to provide a deeper functional description of the *PowerEnJoy* system-to-be by giving technical details and describing the main architectural components as well as their interfaces and their interactions. The relations among the different modules are pointed out using UML standards and other useful diagrams showing the structure of the system.

The document aims to guide the software development team to the architecture of the project providing a stable reference and a single vision of all parts of the software itself and clearly defining how they work.

1.2 Definitions, Acronyms, Abbreviations

DD: Design Document

RASD: Requirements Analysis and Specification Document

1.3 Reference Documents

The details about the reference documents used to draw up the DD can be found in the **Bibliography**.

1.4 Document Structure

This document consists of five sections:

Section 1: Introduction. This section provides a general introduction and overview of the Design Document and the covered topics not previously taken into account by the RASD [1].

Section 2: Architectural Design. It shows the main system components together with sub-components and their relationship. This section is divided into different parts whose focus is mainly on design choices, interactions, architectural styles and patterns.

Section 3: Algorithm Design.

Section 4: User Interface Design. It provides an overview on how the user interface will look like and behave giving further information with respect to those contained in the RASD [1].

Section 5: Requirements Traceability. This section describes how the requirements defined in the RASD [1] are mapped to the design elements defined in this document.

At the end of the document are an **Appendix** and a **Bibliography**, providing additional information about the sections listed above.

Appendix A

Appendix

A.1   Software and tools used

- LaTeX, used as typesetting system to build this document.

- draw.io - `https://www.draw.io` - used to draw diagrams and mockups.

- GitHub - `https://github.com` - used to manage the different versions of the document and to make the distributed work much easier.

- GitHub Desktop, the GitHub official application that offers a seamless way to contribute to projects.

A.2   Hours of work

The absolute major part of the document was produced in group work. The approximate number of hours of work for each member of the group is the following:

- Giovanni Scotti:

- Marco Trabucchi:

NOTE: indicated hours include the time spent in group work.

Bibliography

[1] AA 2016/2017 Software Engineering 2 - *Requirements Analysis and Specification Document* - Giovanni Scotti, Marco Trabucchi

[2] AA 2016/2017 Software Engineering 2 - *Project goal, schedule and rules*

[3] IEEE Standard 1016:2009 *System design - Software design descriptions*