Politecnico di Milano

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Software Engineering 2: “PowerEnJoy”

*Project Plan*

Marco Festa

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# Introduction

## Purpose and Scope

The aim of this document is to analyze the whole system complexity and provide a scheduled plan to guide all of the implementation phase. Along with the implementation strategy costs, effort and possible risks are estimated for a better resource allocation. All of this data is unified to propose an adequate and punctual budget request. To better generate the project schedule two main approaches are adopted:

* *Function Points* approach to calculate project size.
* *COCOMOII* approach to estimate project cost and effort.

PowerEnJoy aim is to provide a car-sharing service for multiple cities with the peculiar characteristic of deploying exclusively electric cars. The scope of our project is to build a new digital management system to the company in order to support the service operations. A better description of the different goals to achieve is available in previous redacted documents (**RASD** and **DD**).

## Definitions, Acronyms, Abbreviations

### Definitions

Since not all of the system’s aspects are mentioned in this document most of the definitions are omitted. For a better reference refer to previous documents (**RASD** or **DD**).

### Acronyms

* **RASD**: Requirement Analysis and Specification Document
* **DD**: Design Document
* **ITPD**: Integration Test Plan Document
* **FP**: Function Points
* **ILF**: Internal Logic File
* **ELF**: External Logic File
* **EI**: External Input
* **EO**: External Output
* **EQ**: External Inquiries
* **DBMS**: Database Management System
* **DB**: Database
* **UI**: user Interface
* **PGS**: Power Grid Station
* **API**: Application Programming Interface: a common way to communicate with other systems.
* **JEE**: Java Enterprise Edition
* **JPA**: Java Persistence API
* **JSP**: Java Server Pages
* **JDBC**: Java Database Connectivity
* **EUCARIS**: European Car and Driving License Information System

## Reference Documents

* PowerEnJoy RASD
* Specification document: “Assignments AA 2016-2017.pdf”
* IEEE Std. 1016-2009, “IEEE Standard for Information Technology – Systems Design – Software Design Descriptions”
* ISO/IEC/IEEE Std. 42010:2011, “Systems and software engineering – Architecture Description”

# Projecst size, cost and effort estimation



## Size estimation: function points

### Internal Logic Files (ILFs)

### External Logic Files (ELFs)

### External Inputs (EIs)

### External Inquiries (EQs)

### External Outputs (EOs)

### Overall estimation

## Cost and effort estimation: COCOMO II

### Scale Factors

### Cost Drivers

### Effort equation

### Schedule estimation

# Schedule

Schedule



# Resource Allocation

Res allocation



# Risk Management

Risk management

# Appendix



## Tools

* Astah Professional for deploy, architecture and sequence diagrams.
* MS Word for the whole document.
* Git for version control.
* Signavio for UX diagrams.

## Effort spent

Marco Festa: 55 hours

## Revisions

* DD v1.0 published December 12, 2016.