

Software Engineering 2: PowerEnJoy
Project Plan (PP)
Version 1.0



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1 INTRODUCTION

1.1 Revision History

Version	Date	Author(s)	Summary
1.0	22/01/17	Isabella Agosti, Carolina Cattivelli	Initial release

1.2 Purpose and Scope

The purpose of this document is to define the plan for the PowerEnJoy project, identifying the tasks to be completed, the risks that might occur during its development and the costs of its development. This information can be subsequently used as a guidance to define the required budget, the resources allocation and the schedule of the activities.

1.3 Document organization

The document is organized as follows:

- Section 1, *Introduction*, gives an overview of this document describing its contents, scope etc.
- Section 2, *Project size, cost and effort estimation*, presents an estimate of the expected size of PowerEnJoy in terms of lines of code and of the cost/effort required to actually develop it, based on Function Points and COCOMO approaches.
- Section 3, *Schedule*, presents a possible schedule for the project, covering all activities from the requirements identification to the implementation and testing.
- Section 4, *Resource Allocation*, describes how the tasks will be assigned to each member of the development team.
- Section 5, *Risk Management*, presents the possible risks that PowerEnJoy could face during the development of the project.
- Section 6, *Effort Spent*, includes information on the number of hours each group member has worked towards the fulfillment of this deadline.

1.4 Definitions, Acronyms, Abbreviations

1.4.1 Definitions

Keyword	Definitions
User	A person that interacts with the PowerEnJoy mobile or web application to register to the system.
Registered user	A person who already registered to the system, that interacts with the PowerEnJoy mobile or web application in various ways.
Employee	A member of the PowerEnJoy staff.
Car-sharing service	Model of car rental where people rent cars for short periods of time, often by the hour.
Electric car	Automobile that is propelled by one or more electric motors, using electrical energy stored in rechargeable batteries.
Registration	The act or process of filling out an online form providing credentials and payment information.
Log-in	Process by which a user gains access to the system by identifying and authenticating himself/herself.
Reservation	Arrangement through which a registered user holds a car for his use at a later time.
Safe area	Area whose position is predefined by the management system. Safe areas are the only ones in which a user is allowed to park a car.
Special safe area	Special type of safe area where a car can be recharged.
Discount percentage	Discount applied on the users last ride only in certain circumstances.
Low battery	The cars battery level is considered low when less than 20%.

1.4.2 Acronyms and Abbreviations

Acronym/Abbreviation	Definition
RASD	Requirements Analysis and Specification Document
DD	Design Document
ITPD	Integration Test Plan Document
PP	Project Plan
AA	Anno Accademico (Academic Year)
DB	Database
FP	Function Points
ILF	Internal Logic File
ELF	External Logic File
EI	External Input
EO	External Output

1.5 Reference Documents

- The project description document: *Specifications document: Assignments AA 2016-2017.pdf*.
- The PowerEnJoy Requirements Analysis and Specification Document: *RASD.pdf*.
- The PowerEnJoy Design Document: *DD.pdf*.
- The Integration Test Plan Document: *ITPD.pdf*.
- The Project Planning example: *Project planning example document.pdf*.

2 PROJECT SIZE, COST AND EFFORT ESTIMATION

This section provides some estimations on the expected size, cost and required effort of the PowerEnJoy project.

For the size estimation part we will use the Function Points approach, considering all the main PowerEnJoy functionalities and estimating the correspondent amount of lines of code to be written in Java.

For the cost and effort estimation we will instead rely on the COCOMO approach, using as initial guidance the amount of lines of code computed with the FP approach.

2.1 Size estimation: Function Points

The Function Points approach provides an estimation of a project size taking as inputs the amount of functionalities to be developed and their complexity.

The complexity is evaluated based on the characteristics of the application and described in the following table:

2.1.1 Internal Logic Files (ILFs)

2.1.2 External Logic Files (ELFs)

2.1.3 External Inputs (EIs)

2.1.4 External Inquiries (EQs)

2.1.5 External Outputs (EOs)

2.1.6 Overall estimation

2.2 Cost and effort estimation: COCOMO II

2.2.1 Scale Drivers

2.2.2 Cost Drivers

2.2.3 Effort equation

2.2.4 Schedule estimation

3 SCHEDULE

4 RESOURCE ALLOCATION

5 RISK MANAGEMENT

6 EFFORT SPENT

This section includes information about the number of hours each group member has worked towards the fulfillment of this deadline.

Since we decided to work together every day, the worked hours are going to be the same for each group member. We think this is the best way to achieve good results.

6.1 Agosti Isabella

- 13/01/2017: 1h

6.2 Cattivelli Carolina

- 13/01/2017: 1h