

*Power EnJoy*  
*Integration Test Plan Document*

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Software Engineering 2 Course Project

## ASSIGNMENT INFO

The Integration Test Plan Document (ITPD) aims at describing how you plan to accomplish the integration test. This document is supposed to be written before the integration test really happens. Often it is written in parallel to the Design Document and takes the architectural description of the software system as a starting point. This document needs to explain to the development team what to test, in which sequence, which tools are needed for testing (if any), and which stubs/drivers/oracles need to be developed. The structure we suggest for this document is the following (if you introduce changes to this structure, please provide a justification for this):

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# 1 Introduction

## 1.1 Revision History

Version	Date	Author(s)	Summary
1.0	06/01/2016	Niccolo' Raspa, Matteo Marinelli	Initial Release

## 1.2 Purpose and Scope

This document represents the Integration Testing Plan Document for PowerEnjoy. The main purpose of this document is to outline, in a clear and comprehensive way, the main aspects concerning the organization of the integration testing activity for all the components that make up the system.

This process is essential because it not only guarantees that every component behaves as expected but also that all the components interoperate correctly together to fulfill all the functionalities expected from the system.

We will focus deeply on the Application Layer since it implements all the core of our business. This component is divided in different services which provides great benefits but the implicit granularity of a service oriented approach must be fully tested to guarantee that all the subcomponents behave as one cohesive layer.

**This document is structured as follows:**

**Chapter 1** Provides general information about the ITPD document.

**Chapter 2** Explains in details the chosen integration strategy. In more details:

- Lists of the subsystems and their subcomponents involved in this process
- Specifies the criteria that must be met before integration testing begins
- Describes the integration testing approach and the rationale behind it
- Outlines the order in which components and subcomponents will be integrated

**Chapter 3** Describes the type of tests that will be used to verify that every step of the integration process above perform as expected.

**Chapter 4** Identifies all tools and test equipment needed to accomplish the integration.

**Chapter 5** Identifies any program stubs or special test data required for each integration step

### 1.3 List of Definitions and Abbreviations

**DD:** Design Document

**RASD:** Requirement Analysis and Specification Document

**ITPD:** Integration Test Plan Document

**EJB:** Enterprise JavaBeans

**SOA:** Service Oriented Architecture

**Component:** One of the four tier of the system (Client, Web, Application, Database)

**Subcomponent:** Usually refers to the Application Layer, and refers to a EJB that encapsulates a specific part of the business logic of the module

**Layer:** synonym of *Component*

**Service:** synonym of *Subcomponent*

### 1.4 List of Reference Documents

Please refer to the following documents, for additional informations on the Power Enjoy System:

- Project rules of the Software Engineering 2 project
- Power Enjoy - Requirement Analysis and Specification Document
- Power Enjoy - Design Document
- **Documentation of any tool you plan to use for testing**

## **2 Integration Strategy**

### **2.1 Entry Criteria**

Specify the criteria that must be met before integration testing of specific elements may begin (e.g., functions must have been unit tested).

### **2.2 Elements to be Integrated**

Identify the components to be integrated, refer to your design document to identify such components in a way that is consistent with your design.

### **2.3 Integration Testing Strategy**

Describe the integration testing approach (top-down, bottom-up, functional groupings, etc.) and the rationale for the choosing that approach.

### **2.4 Sequence of Component/Function Integration**

NOTE: The structure of this section may vary depending on the integration strategy you select in Section 2.3; use the structure proposed below as a non mandatory guide

#### **2.4.1 Software Integration Sequence**

For each subsystem, identify the sequence in which the software components will be integrated within the subsystem; relate this sequence to any product features that are being built up.

#### **2.4.2 Subsystem Integration Sequence**

Identify the order in which subsystems will be integrated; if you have a single subsystem, 2.4.1 and 2.4.2 are to be merged in a single section. You can refer to Section 2.2 of the test plan example [1] as an example

## **3 Individual Steps and Test Description**

For each step of the integration process above, describe the type of tests that will be used to verify that the elements integrated in this step perform as expected. Describe in general the expected results of the test set. You may refer to Chapter 3 and Chapter 4 of the test plan example [1] as an example of what we expect. (NOTE: This is not a detailed description of test protocols. Think of this as the test design phase. Specific protocols will be written to fulfill the goals of the tests in this section.

## 4 Tools and Test Equipment Required

Identify all tools and test equipment needed to accomplish the integration. Refer to the tools presented during the lectures. Explain why and how you are going to use them. Note that you may also use manual testing for some part. Consider manual testing as one of the possible tools you have available.

## 5 Program Stubs and Test Data Required

Based on the testing strategy and test design, identify any program stubs or special test data required for each integration step.

## 6 Effort Spent

The approximate number of hours of work for each member of the group is the following:

Niccolo' Raspa x Hours

Matteo Marinelli y Hours