

**myTaxiService**  
-  
**Test Plan Document**

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January 15, 2016

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# Chapter 1

## Introduction

### 1.1 Revision History

#### 1.1.1 Document Data

- **Title:** Test Plan Document.
- **ID:** myTaxiService - TPD.
- **Authors:** Deola Simone, Cremona Davide.
- **Last Version:** 0.1.
- **Status:** In Writing.

#### 1.1.2 Document Releases

- **Version 0.1**
  - **Date:** 13/01/2016
  - **Authors:** Deola Simone, Cremona Davide.
  - **Changes:** Creation of the document.

## 1.2 Purpose and Scope

### 1.2.1 Purpose

The purpose of this document is to provide a description of how the Integration Testing is planned. The purpose of the integration testing is to test the right interaction between the various components described in the Design Document (DD,2.3).

### 1.2.2 Scope

The scope of the developed software is to provide an interface between the customers and the taxi drivers. The application is in charge to simplify the requests and the reservation of the rides and the management of the city queues.

## 1.3 List of Definitions and Abbreviations

### 1.3.1 Definitions

- **Taxi Drivers:** Taxi Drivers are the workers that drive a taxi. They are also users of myTaxiService.
- **Customers:** Customers are the end-users of the application.

### 1.3.2 Abbreviations

- **DD:** State for Design Document
- **DD-x.y:** Indicates the section y of the chapter x of the Design Document
- **RASD:** States for Requirement Analysis and Specification Document.

## 1.4 List of Reference Documents

- **Application Description:** downloadable from here: [https://github.com/SimoneDeola/CremonaDeola/blob/master/source/testPlan/documents/Assignments%201%20and%202%20\(RASD%20and%20DD\).pdf](https://github.com/SimoneDeola/CremonaDeola/blob/master/source/testPlan/documents/Assignments%201%20and%202%20(RASD%20and%20DD).pdf)
- **RASD:** downloadable from here: <https://github.com/SimoneDeola/CremonaDeola/raw/master/Deliveries/%5B1%5Drasd.pdf>
- **DD:** downloadable from here: <https://github.com/SimoneDeola/CremonaDeola/raw/master/Deliveries/%5B2%5Ddd.pdf>
- **Documentation of Tools Used:**

## Chapter 2

# Integration Strategy

### 2.1 Entry Criteria

To start with the Integration test, all the components must be tested with an unit tool (at least 90% lines of code). Also, the documentation about test results and public methods must be provided for each component.

### 2.2 Elements to be Integrated

The components that must be integrated are divided in three subsystems (Logic, Data and Presentation layers as specified in the DD). Each subsystem is composed by some components that can be seen as small sub-subsystems. Here are reported all the public components and sub-components that need to be integrated.:

- **Data:**
  - Model.
    - \* Database Manager.
- **Logic:**
  - IOManager.
    - \* Message Handler.
  - Requests and Reservations Manager.
    - \* Taxi Requests Adder.
    - \* Taxi Reservations Adder.
    - \* Ride Ender.
    - \* Taxi Allocator.
  - Profile Manager.
    - \* Registration Manager.

- \* Login Manager.
- \* Profile Modifier.
- \* Profile Security.
- \* Profile Viewer.
- \* Credential Checker.
- Zones Manager.
  - \* GPS Updater.
  - \* Zone Calculator.
  - \* Queue Manager.
- **Presentation:**
  - Web Application UI.
  - Mobile Application UI.
  - For each of these two components, these sub-components needs to be tested:
    - \* Response Receiver.
    - \* Command Sender.

## 2.3 Integration Testing Strategy

The strategy that we want to follow is the Bottom-Up Strategy. This kind of approach consist in testing the low level components for first and then the level just above until you reach the top level components. This strategy is suitable for our system because evary component is divided in low level components.

## 2.4 Sequence of Component/Function Integration

Here we present the integration sequence for each component of the system. The arrows represents the priorities of the components integration.

Example:

Component A need to be tested to unlock the testing of Component B.

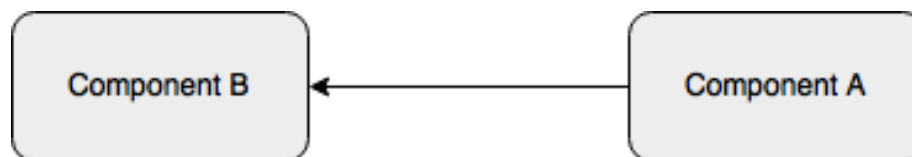


Figure 2.1: Priority Example

### 2.4.1 Software Integration Sequence

Here we present the integration sequences divided by subsystems, here are listed only the components that have internal interactions between sub-components, for the interaction between components you can refer to the next section:

- **Logic:**
  - Here it's illustrated the integration sequence for the Profile Manager package:

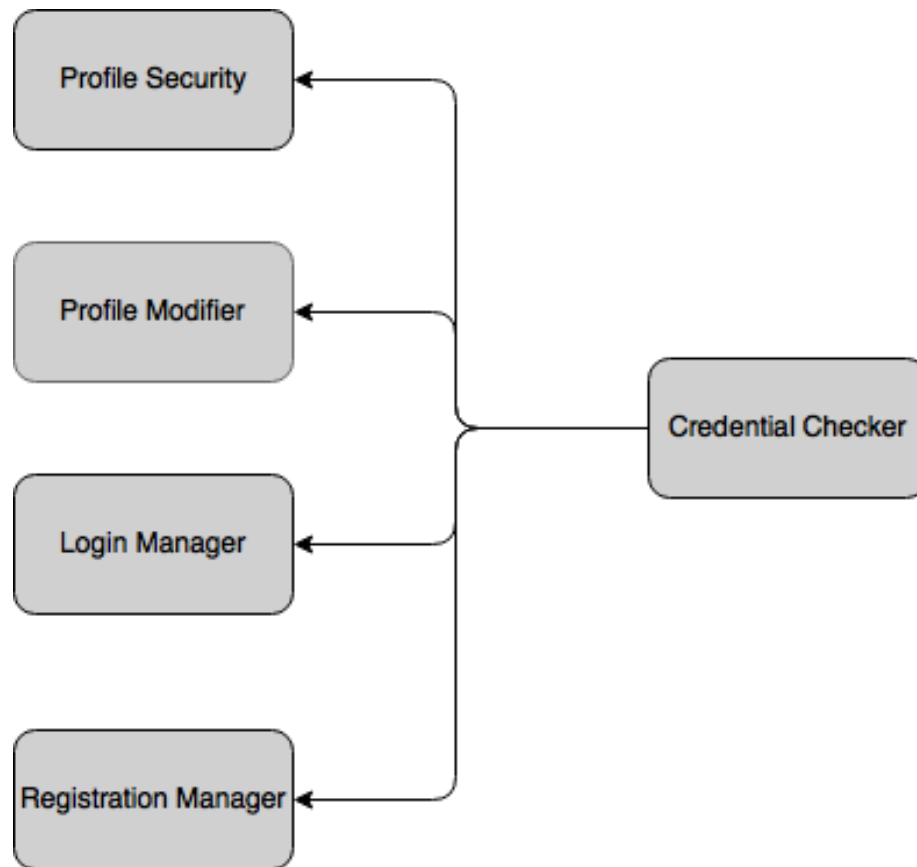


Figure 2.2: Profile Manager Integration Sequence

- Here it's illustrated the integration sequence for the Zone Manager package:



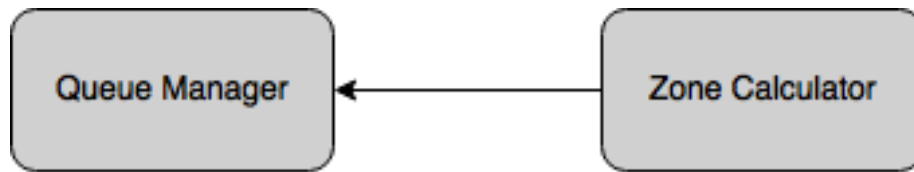


Figure 2.3: Zone Manager Integration Sequence

- **Presentation:**

- Here it's illustrated the integration sequence for the Web Application UI and Mobile Application UI packages:

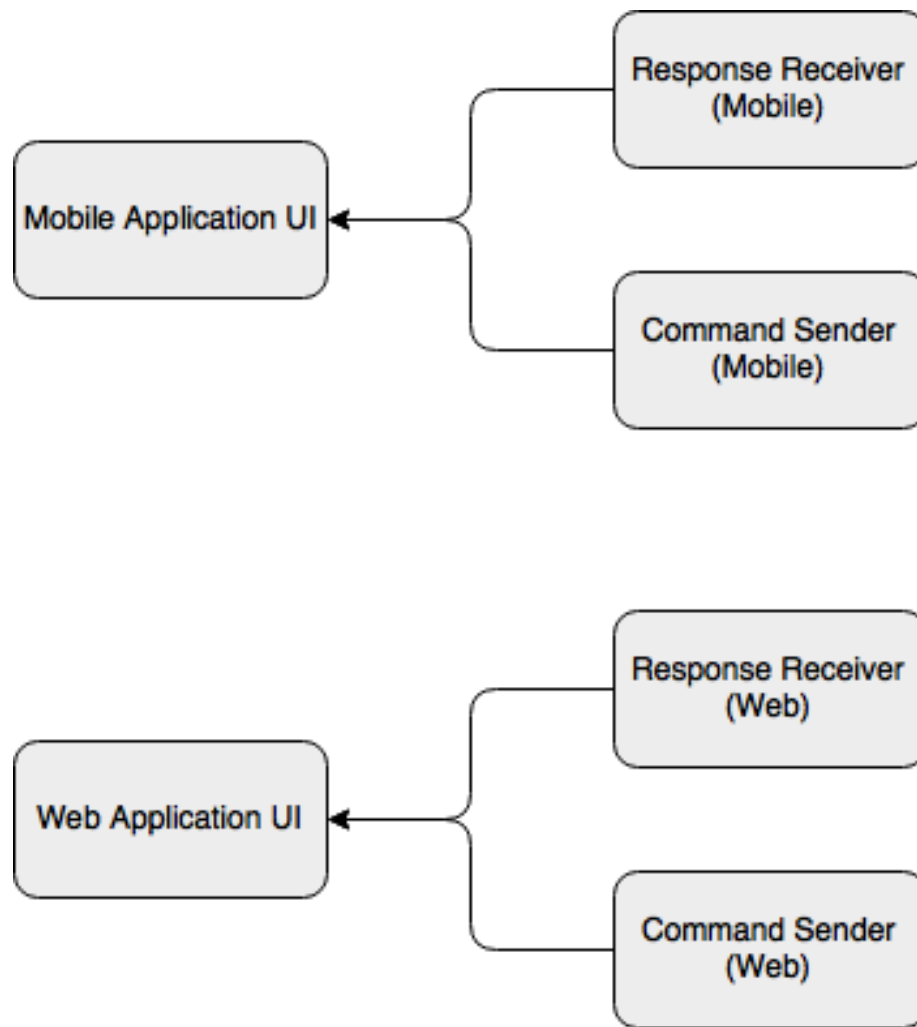


Figure 2.4: Mobile and Web Application UI Integration Sequence

### 2.4.2 Subsystem Integration Strategy

Here it's illustrated how the various components of the subsystems are integrated together:

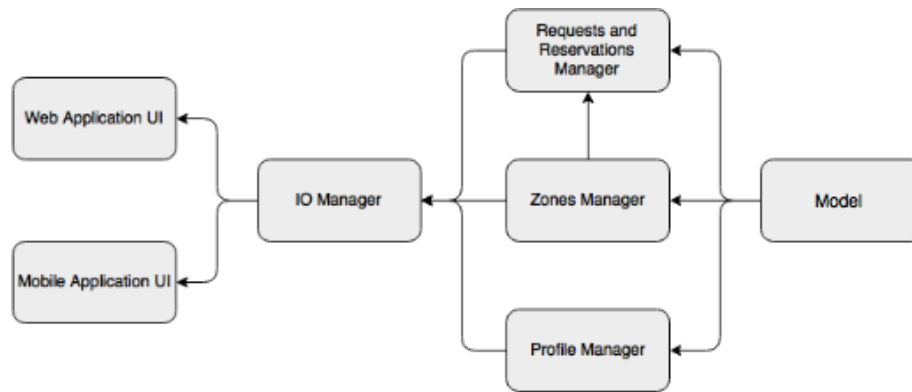


Figure 2.5: Subsystems Integration Sequence

## Chapter 3

# Individual Steps and Test Description

### 3.1 Integration test case IT1

|                      |  |
|----------------------|--|
| Test Case Identifier | IT1  |
| Test Item(s)         | CredentialChecker → ProfileSecurity                              |
| Input Specification  | Create typical CredentialChecker input                           |
| Output Specification | Check if the correct functions are called in the ProfileSecurity |
| Environmental Needs  | N/A  |
| Purpose of Test      | Verify that the mail is checked properly                         |

Table 3.1: Integration Test IT1

### 3.2 Integration test case IT2

|                      |  |
|----------------------|--|
| Test Case Identifier | IT2  |
| Test Item(s)         | CredentialChecker → ProfileModifier                              |
| Input Specification  | Create typical CredentialChecker input                           |
| Output Specification | Check if the correct functions are called in the ProfileModifier |
| Environmental Needs  | N/A  |
| Purpose of Test      | Verify that the user credential checking process works properly  |

Table 3.2: Integration Test IT2

### 3.3 Integration test case IT3

|                      |   |
|----------------------|---|
| Test Case Identifier | IT3   |
| Test Item(s)         | CredentialChecker → LoginManager                                |
| Input Specification  | Create typical CredentialChecker input                          |
| Output Specification | Check if the correct functions are called in the LoginManager   |
| Environmental Needs  | N/A   |
| Purpose of Test      | Verify that the user credential checking process works properly |

Table 3.3: Integration Test IT3

### 3.4 Integration test case IT4

|                      |  |
|----------------------|--|
| Test Case Identifier | IT4  |
| Test Item(s)         | CredentialChecker → RegistrationManager                              |
| Input Specification  | Create typical CredentialChecker input                               |
| Output Specification | Check if the correct functions are called in the RegistrationManager |
| Environmental Needs  | N/A  |
| Purpose of Test      | Verify that the user credential checking process works properly      |

Table 3.4: Integration Test IT4

### 3.5 Integration test case IT5

|                      |   |
|----------------------|---|
| Test Case Identifier | IT5   |
| Test Item(s)         | ZoneCalculator → QueueManager                                 |
| Input Specification  | Create typical ZoneCalculator input                           |
| Output Specification | Check if the correct functions are called in the QueueManager |
| Environmental Needs  | N/A   |
| Purpose of Test      | Verify that the queue assignment process works properly       |

Table 3.5: Integration Test IT5

### 3.6 Integration test case IT6

|                      |  |
|----------------------|--|
| Test Case Identifier | IT6  |
| Test Item(s)         | ResponseReceiver → MobileApplicationUI                               |
| Input Specification  | Create typical ResponseReceiver input                                |
| Output Specification | Check if the correct functions are called in the MobileApplicationUI |
| Environmental Needs  | N/A  |
| Purpose of Test      | Verify that the notifications from the server are correctly showed   |

Table 3.6: Integration Test IT6

### 3.7 Integration test case IT7

|                      |   |
|----------------------|---|
| Test Case Identifier | IT7   |
| Test Item(s)         | CommandSender → MobileApplicationUI   |
| Input Specification  | Create typical CommandSender input  |
| Output Specification | Check if the correct functions are called in the MobileApplicationUI            |
| Environmental Needs  | N/A   |
| Purpose of Test      | Verify that the user gestures are correctly translate in message for the server |

Table 3.7: Integration Test IT7

### 3.8 Integration test case IT8

|                      |  |
|----------------------|--|
| Test Case Identifier | IT8  |
| Test Item(s)         | ResponseReceiver → WebApplicationUI                                |
| Input Specification  | Create typical ResponseReceiver input                              |
| Output Specification | Check if the correct functions are called in the WebApplicationUI  |
| Environmental Needs  | N/A  |
| Purpose of Test      | Verify that the notifications from the server are correctly showed |

Table 3.8: Integration Test IT8

### 3.9 Integration test case IT9

|                      |   |
|----------------------|---|
| Test Case Identifier | IT9   |
| Test Item(s)         | CommandSender → WebApplicationUI  |
| Input Specification  | Create typical CommandSender input  |
| Output Specification | Check if the correct functions are called in the WebApplicationUI               |
| Environmental Needs  | N/A   |
| Purpose of Test      | Verify that the user gestures are correctly translate in message for the server |

Table 3.9: Integration Test IT9

### 3.10 Integration test case IT10

|                      |   |
|----------------------|---|
| Test Case Identifier | IT10  |
| Test Item(s)         | Model → ProfileManager  |
| Input Specification  | Create typical Model input  |
| Output Specification | Check if the correct functions are called in the ProfileManager                             |
| Environmental Needs  | N/A   |
| Purpose of Test      | Verify that the ProfileManager can access correctly to the user information on the database |

Table 3.10: Integration Test IT10

### 3.11 Integration test case IT11

|                      |   |
|----------------------|---|
| Test Case Identifier | IT11  |
| Test Item(s)         | Model → ZoneManager   |
| Input Specification  | Create typical Model input  |
| Output Specification | Check if the correct functions are called in the ZoneManager                                  |
| Environmental Needs  | N/A   |
| Purpose of Test      | Verify that the ZoneManager can access correctly to the positions information on the database |

Table 3.11: Integration Test IT11

### 3.12 Integration test case IT12

|                      |   |
|----------------------|---|
| Test Case Identifier | IT12  |
| Test Item(s)         | Model → RequestAndReservationManager  |
| Input Specification  | Create typical Model input  |
| Output Specification | Check if the correct functions are called in the RequestAndReservationManager                             |
| Environmental Needs  | N/A   |
| Purpose of Test      | Verify that the RequestAndReservationManager can access correctly to the ride information on the database |

Table 3.12: Integration Test IT12

### 3.13 Integration test case IT13

|                      |   |
|----------------------|---|
| Test Case Identifier | IT13  |
| Test Item(s)         | ZoneManager → RequestAndReservationManager  |
| Input Specification  | Create typical ZoneManager input  |
| Output Specification | Check if the correct functions are called in the RequestAndReservationManager           |
| Environmental Needs  | N/A   |
| Purpose of Test      | Verify that the ride requests are assigned correctly to the most appropriate taxiDriver |

Table 3.13: Integration Test IT13

### 3.14 Integration test case IT14

|                      |  |
|----------------------|--|
| Test Case Identifier | IT14   |
| Test Item(s)         | RequestAndReservationManager → IOManager                                   |
| Input Specification  | Create typical RequestAndReservationManager input                          |
| Output Specification | Check if the correct functions are called in the IOManager                 |
| Environmental Needs  | Integration test cases IT13 and IT12 needed.                               |
| Purpose of Test      | Verify that the request from users relative to the rides are right handled |

Table 3.14: Integration Test IT14



### 3.15 Integration test case IT15

|                      |  |
|----------------------|--|
| Test Case Identifier | IT15   |
| Test Item(s)         | ZoneManager → IOManager  |
| Input Specification  | Create typical ZoneManager input                                       |
| Output Specification | Check if the correct functions are called in the IOManager             |
| Environmental Needs  | Integration test cases IT5 and IT11 needed.                            |
| Purpose of Test      | Verify that the information about the users positions are right stored |

Table 3.15: Integration Test IT15

### 3.16 Integration test case IT16

|                      |  |
|----------------------|--|
| Test Case Identifier | IT16   |
| Test Item(s)         | ProfileManager → IOManager   |
| Input Specification  | Create typical ProfileManager input  |
| Output Specification | Check if the correct functions are called in the IOManager   |
| Environmental Needs  | Integration test cases IT1, IT2, IT3, IT4 and IT10 needed.   |
| Purpose of Test      | Verify that the action between the user and his information on the server (Login, Registration, Modify, ...) are correctly handled |

Table 3.16: Integration Test IT16

### 3.17 Integration test case IT18

|                      |   |
|----------------------|---|
| Test Case Identifier | IT18  |
| Test Item(s)         | IOManager → WebApplicationUI  |
| Input Specification  | Create typical IOManager input  |
| Output Specification | Check if the correct functions are called in the WebApplicationUI   |
| Environmental Needs  | Integration test cases IT16, IT15 and IT14 needed.  |
| Purpose of Test      | Verify that the action performed by the user on the web interface makes the right changes on the rest of the system |

Table 3.17: Integration Test IT18

### 3.18 Integration test case IT17

|                      |  |
|----------------------|--|
| Test Case Identifier | IT17   |
| Test Item(s)         | IOManager → MobileApplicationUI  |
| Input Specification  | Create typical IOManager input   |
| Output Specification | Check if the correct functions are called in the MobileApplicationUI   |
| Environmental Needs  | Integration test cases IT16, IT15 and IT14 needed.   |
| Purpose of Test      | Verify that the action performed by the user on the mobile application makes the right changes on the rest of the system |

Table 3.18: Integration Test IT17

## **Chapter 4**

# **Tools and Test Equipment Required**

## **Chapter 5**

# **Program Stubs and Test Data Required**

## Chapter 6

# Appendix

### 6.1 Used Software

To create this document we have used some common softwares:

- For the latex we have used two different softwares:
  - Simone Deola: TexShop, provided with the MacTex package ([link](#))
  - Davide Cremona: Sublime Text editor ([link](#)) with LaTeXTools ([link](#)) and the Basic Package of MacTex ([link](#))
- For the diagrams we have used Draw.io service (<http://www.draw.io>)

### 6.2 Hours of Work

- Cremona Davide (852365): 8 Hours
- Deola Simone (788181): 8 Hours