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Politecnico di Milano

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Software Engineering 2: “MyTaxi”

Code inspection

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# 1. Introduction

## 1.1 Revision History

## 1.2 Purpose and Scope

The Test Plan Document of MyTaxiService describe which test the development team have to do, in which sequence, which tools are used for testing (if any), which stubs/ drivers need to be developed.

## 1.3 List of definitions and Abbreviations

## 1.4 List of Reference Document

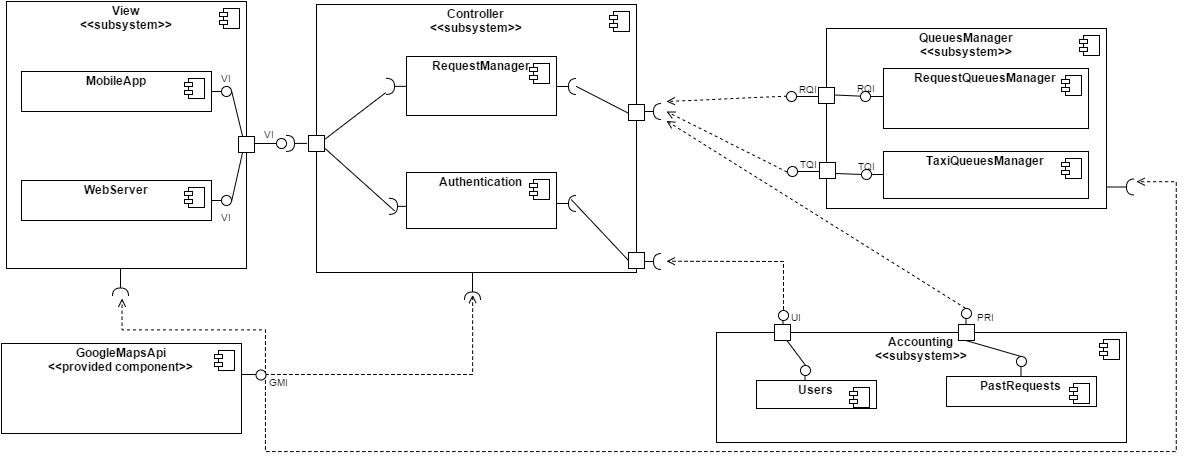
# 2. Integration Strategy

## 2.1 Entry Criteria

The first assumption to take is that, at the end of the document, all the Element that we describe in the Design Document must be integrated and tested.

To reach this goal we assume that all the document such as the Design Document and RASD are complete and all the classic Integration Fault are take in consideration before the start of the integration document.

## 2.2 Element to be Integrated



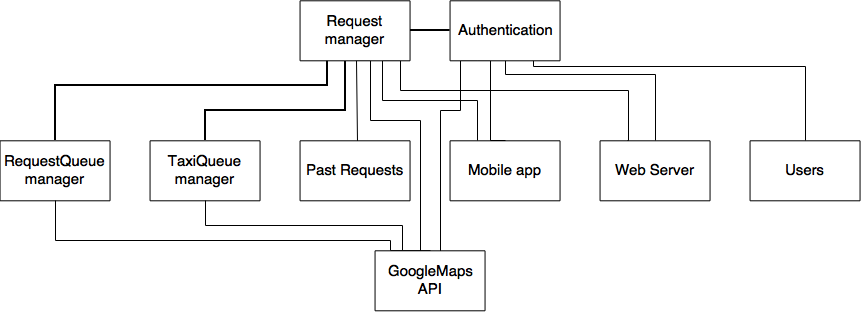
See the Design Document

The element to be integrated are the View, with the sub component MobileApp and the Web Server, the Controller, with the sub-component Request Manager and the Authentication, the Queue Manager( Taxi and request Queue Manager) and the Accounting of User and PastRequest.

## 2.3 Integration Testing Strategy

We decided to use a **TOP-DOWN** strategy giving priority to risky modules. We applied this pattern, because we think that it is better to test problematic interactions first, in order to find big problems as soon as possible. In our system the hardest interactions are the ones between components of the controller subsystem and the ones between the Controller and the Queue Manager. TOP-DOWN integration starts from the components that has the highest number of “use” or “include” relation, so in our case from the Controller’s ones. So applying TOP-DOWN strategy the riskiest interactions will be tested first.

The following diagram shows the levels of interactions. The hardest ones are highlighted using thicker lines:



We think that a **BOTTOM UP** strategy is the best in our case.

This means that integration testing starts at the bottom level.

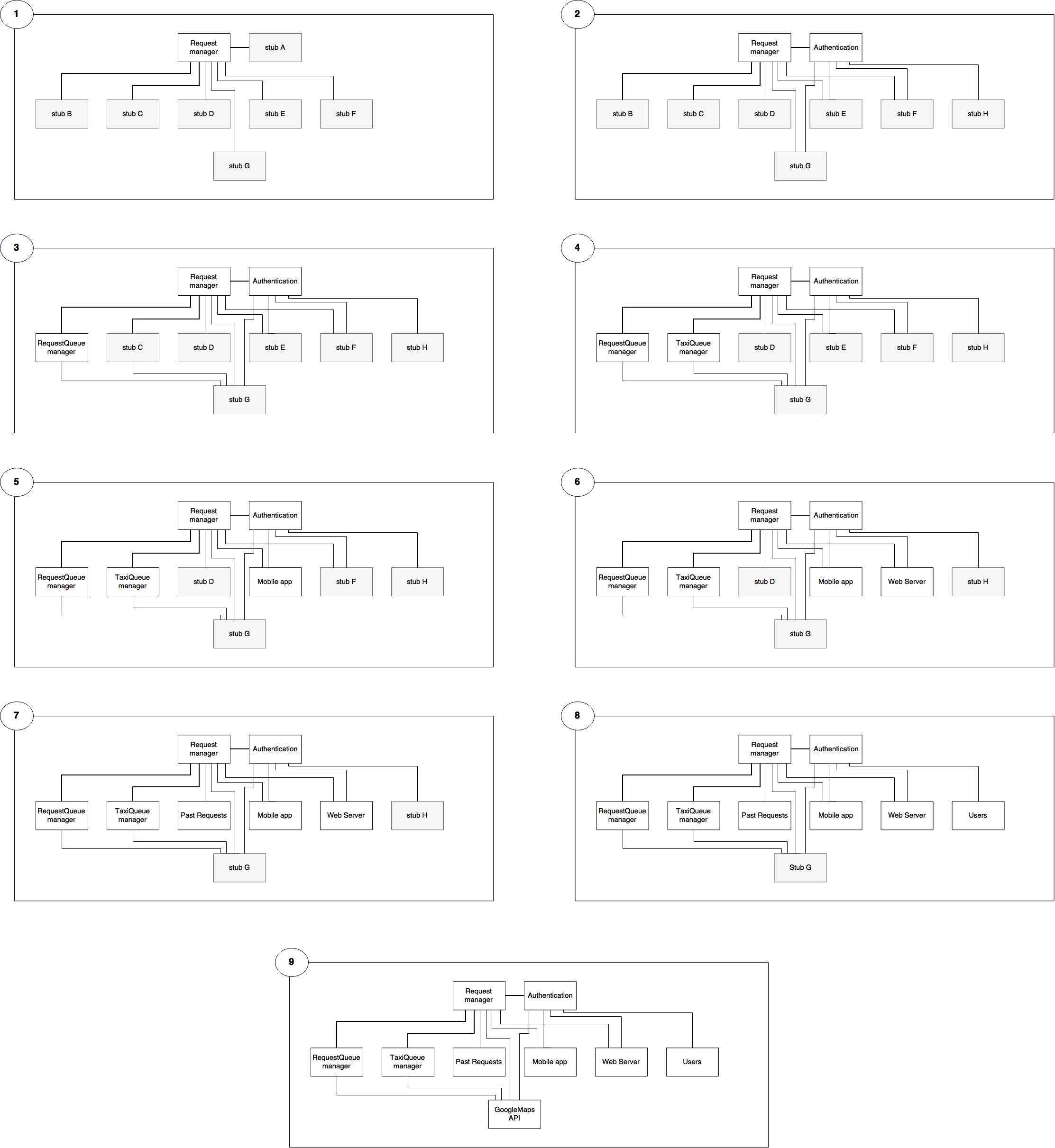
All low-level modules, procedures or functions are integrated and then tested. After the integration testing of lower level integrated modules, the next level of modules will be formed and can be used for integration testing.

This method helps to determine the levels of software developed and makes it easier to report testing progress in time.

## 2.4 Sequence of Component

Related to the section 2.3 where we had choose the bottom up strategy for the integration of the component.

### 2.4.1 Software Integration Sequence



|  |  |  |  |
| --- | --- | --- | --- |
| ID | Integration test | | Paragraphs |
| I1 | RequestManager 🡪 Authentication | |  |
| I2 | RequestManager 🡪 RequestQueueManager | |  |
| I3 | RequestManager 🡪 TaxiQueueManager | |  |
| I4 | RequestManager, Authentication 🡪 MobileApp | |  |
| I5 | RequestManager, Authentication 🡪 WebServer | |  |
| I6 | RequestManager 🡪 PastRequest | |  |
| I7 | Authentication 🡪 Users | |  |
| I8 | RequestManager, Authentication,  RequestQueueManager, TaxiQueueManager | 🡪 GoogleMapsAPI |  |

# 3. Individual Steps and Test Description

## 3.1 Integration test case I1

|  |  |
| --- | --- |
| Test Case Identifier | I1T1 |
| Test Item(s) | RequestManager 🡪 Authentication |
| Input Specification | Create typical RequestManager input |
| Output Specification | Check if the correct methods are called in the Authentication |
| Environmental Needs |  |

## 3.2 Integration test case I2

|  |  |
| --- | --- |
| Test Case Identifier | I1T1 |
| Test Item(s) | RequestManager 🡪 Authentication |
| Input Specification | Create typical RequestManager input |
| Output Specification | Check if the correct methods are called in the Authentication |
| Environmental Needs |  |

## 3.3 Integration test case I3

|  |  |
| --- | --- |
| Test Case Identifier | I2T1 |
| Test Item(s) | RequestManager 🡪 Authentication |
| Input Specification | Create typical RequestManager input |
| Output Specification | Check if the correct methods are called in the Authentication |
| Environmental Needs |  |

## 3.4 Integration test case I4

|  |  |
| --- | --- |
| Test Case Identifier | I1T1 |
| Test Item(s) | RequestManager 🡪 Authentication |
| Input Specification | Create typical RequestManager input |
| Output Specification | Check if the correct methods are called in the Authentication |
| Environmental Needs |  |

## 3.5 Integration test case I5

|  |  |
| --- | --- |
| Test Case Identifier | I1T1 |
| Test Item(s) | RequestManager 🡪 Authentication |
| Input Specification | Create typical RequestManager input |
| Output Specification | Check if the correct methods are called in the Authentication |
| Environmental Needs |  |

## 3.6 Integration test case I6

|  |  |
| --- | --- |
| Test Case Identifier | I6T1 |
| Test Item(s) | RequestManager 🡪 PastRequest |
| Input Specification | Create typical RequestManager input |
| Output Specification | Check if the correct methods are called in PastRequests |
| Environmental Needs | Users and GoogleMapsAPI stubs and I5 succeeded |

## 3.7 Integration test case I7

|  |  |
| --- | --- |
| Test Case Identifier | I7T1 |
| Test Item(s) | Authentication 🡪 Users |
| Input Specification | Create typical Authentication input |
| Output Specification | Check if the correct methods are called in the Users |
| Environmental Needs | GoogleMapsAPI stub and I6 succeeded |

## 3.8 Integration test case I8

|  |  |
| --- | --- |
| Test Case Identifier | I8T1 |
| Test Item(s) | RequestManager 🡪 GoogleMapsAPI |
| Input Specification | Create typical RequestManager input |
| Output Specification | Check if the correct methods are called in the GoogleMapsAPI |
| Environmental Needs | I7 succeeded |

|  |  |
| --- | --- |
| Test Case Identifier | I8T2 |
| Test Item(s) | Authentication 🡪 GoogleMapsAPI |
| Input Specification | Create typical Authentication input |
| Output Specification | Check if the correct methods are called by the GoogleMapsAPI |
| Environmental Needs | I7 succeeded |

|  |  |
| --- | --- |
| Test Case Identifier | I8T3 |
| Test Item(s) | RequestQueueManager 🡪 GoogleMapsAPI |
| Input Specification | Create typical RequestQueueManager input |
| Output Specification | Check if the correct methods are called by the GoogleMapsAPI |
| Environmental Needs | I7 succeeded |

|  |  |
| --- | --- |
| Test Case Identifier | I8T1 |
| Test Item(s) | TaxiQueueManager 🡪 GoogleMapsAPI |
| Input Specification | Create typical TaxiQueueManager input |
| Output Specification | Check if the correct methods are called by the GoogleMapsAPI |
| Environmental Needs | I7 succeeded |

# 4. Tools and Test Equipment Required

# 5. Program Stubs and Test Data Required