Politecnico di Milano

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Software Engineering 2: "myTaxiService"

Integration **T**est **P**lan **D**ocument

Roberto Clapis (841859), Erica Stella (854443)

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Contents

1 Introduction

1.1 Revision History

1.2 Purpose and Scope

This document describes the Integration Test Plan for the myTaxiService application. It provides a plan referring to how the various components of the software architecture described in the Design Document will be integrated for testing.

1.3 List of Definitions and Abbreviations

- *UI:* User Interface.

1.4 List of Reference Documents

- The document with myTaxiService's description

- myTaxiService's RASD

- myTaxiService's Design Document

2 Integration Strategy

2.1 Entry Criteria

Before the integration testing, each single module must have been tested to verify its correct functioning according to its specifications.

2.2 Elements to be Integrated

According to the Design Document, the components to be integrated are:

- Database:
    - Accounts
    - Active Reservations and Requests
- Web Server:
    - DBConnector
    - APIBackend
    - WebpageCreator
    - NotificationModule
    - HttpHandler
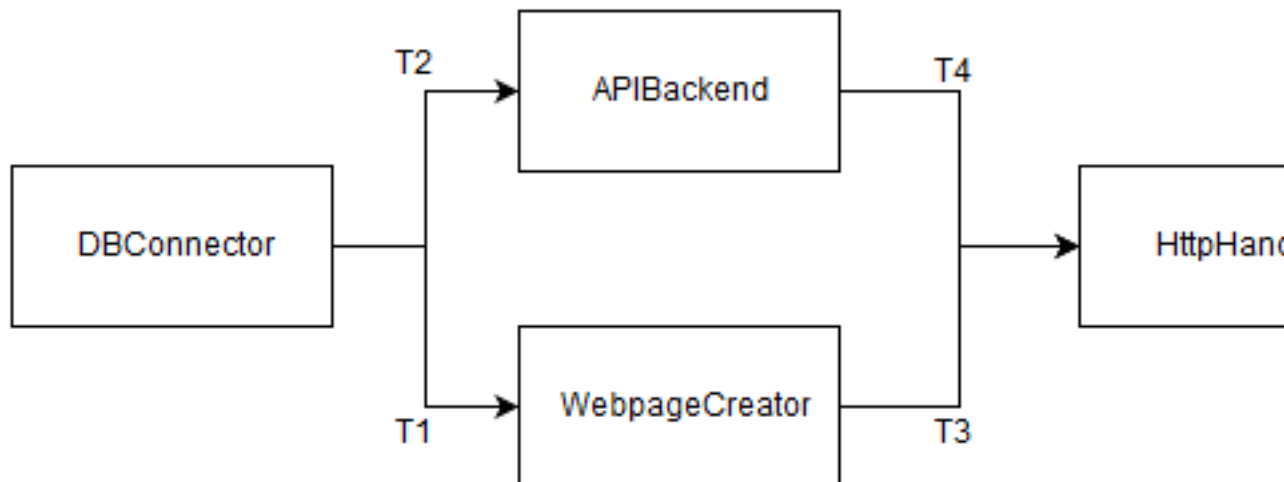- UI:

- ClientUI
- DriverUI
- AdminUI

2.3   Integration Testing Strategy

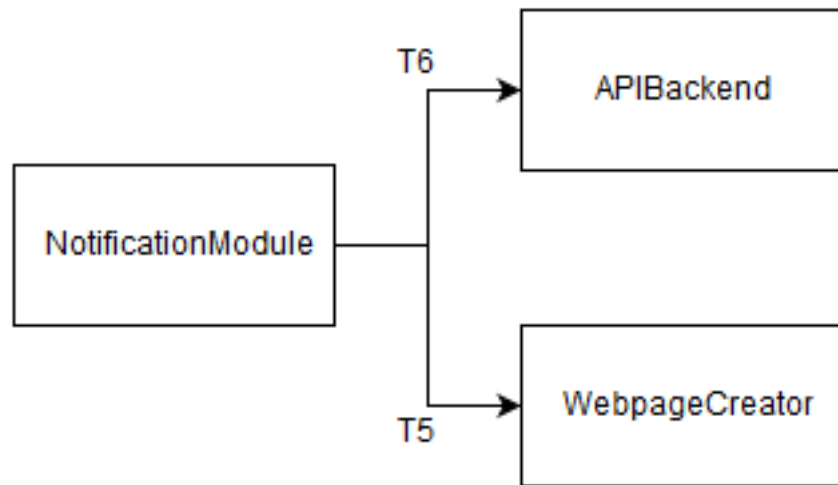The decided testing approach is bottom-up in order to ensure that the parts being tested can relay on an already considered stable underlying infrastructure.

2.4   Sequence of Component/Function Integration

2.4.1   Software Integration Sequence
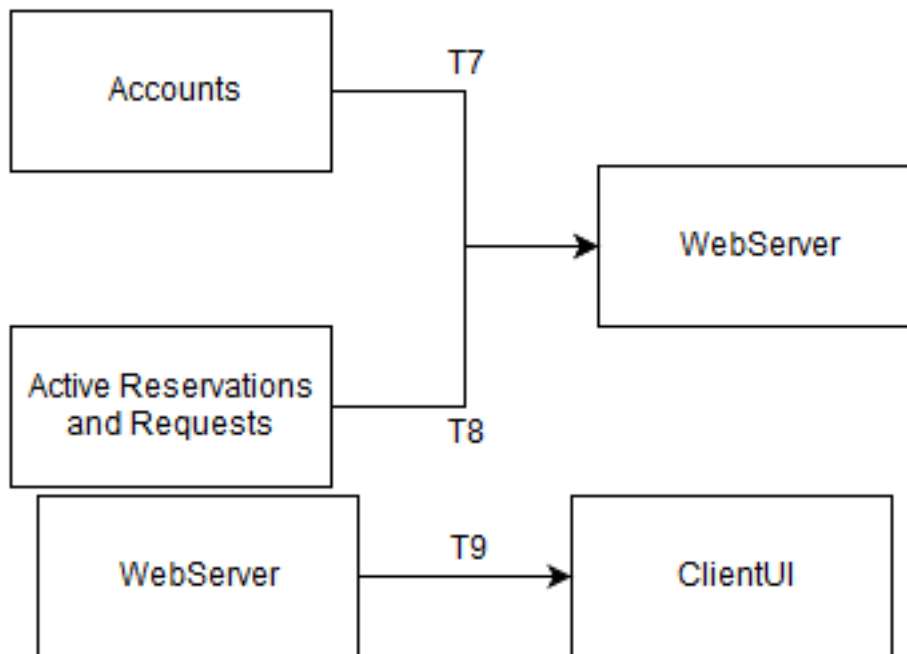
2.4.1.1   Web Server   The following images describe how the Web Server's components will be integrated for testing. The arrows represent the order of integration.
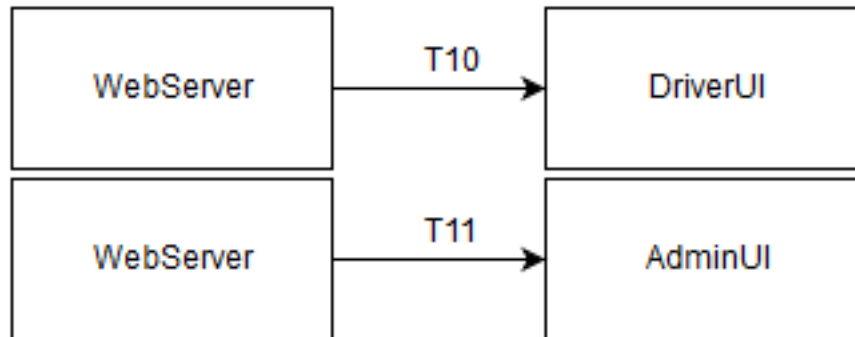
2.4.2 Subsystem Integration Sequence

The following graphs describe how the three components of myTaxiService application, which are the database, the Web Server and the various UIs, will be integrated.

3 Individual Steps and Test Description

3.1 Test case specifications

3.1.1 I1

Test Case identifier	I1T1
Test Items	DBConnector → Accounts
Input Specification	Queries to manipulate (creation modification and deletion) of accounts
Output Specification	The actual modifications intended
Environmental Needs	DBMS Driver

3.1.2 I2

Test Case identifier	I2T1
Test Items	DBConnector → Active Reservations and Requests
Input Specification	Queries to place/accept/delete reservations and requests, in every possible order of execution
Output Specification	The actual modifications intended and the rejection of the invalid requests
Environmental Needs	DBMS Driver

3.1.3 I3

Test Case identifier	I3T1
Test Items	ApiBackend → DBConnector
Input Specification	Perform valid and invalid Requests on the Backend
Output Specification	All and only the queries that should be allowed are executed
Environmental Needs	I1,I2 successful

3.1.4 I4

Test Case identifier	I4T1
Test Items	Webpage Creator → DBConnector
Input Specification	Perform valid and invalid Requests on the WebPage Cretor
Output Specification	All and only the queries that should be allowed are executed
Environmental Needs	I1,I2 successful

3.1.5 I5

Test Case identifier	I5T1
Test Items	HTTP Handler → Webpage Creator
Input Specification	Crete a request for esch possible page
Output Specification	The HTML of the expected pages
Environmental Needs	All previous tests successful

3.1.6 I6

Test Case identifier	I6T1
Test Items	HTTP Handler → API Backend
Input Specification	Pass various requests to the Backend
Output Specification	The data requested in JSON format
Environmental Needs	I1 → I4 successful

3.1.7 I7

Test Case Identifier	I7T1
Test Items	Client UI → HTTP Handler
Input Specification	Typical ClientUI input in the web form
Output Specification	The full content of the page
Environmental Needs	All previous tests

Test Case Identifier	I7T2
Test Items	Client UI → HTTP Handler
Input Specification	Typical ClientUI input in the mobile form
Output Specification	The dynamic content of the page
Environmental Needs	All previous tests

3.1.8 I8

Test Case Identifier	I8T1
Test Items	Driver UI → HTTP Handler
Input Specification	Typical DriverUI input
Output Specification	The content of the dynamic parts of the application
Environmental Needs	I1 → I6

3.1.9   I91

Test Case Identifier	I9T1
Test Items	Admin UI input → HTTP Handler
Input Specification	Typical AdminUI input
Output Specification	The pages expected to be rendered
Environmental Needs	I1 → I6

3.2   Integration Test Procedures

4   Tools and Test Equipment Required

5   Program Stubs and Test Data Required