Politecnico di Milano
A.A. 2015-2016
Software Engineering 2 Project

My Taxi Service

Integration Test Document
(ITD)

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Contents

1. Introduction

1.1. Revision History

This document is currently at revision: 1.
No previous revisions.

1.2. Purpose and Scope

This document provides a strategy to achieve a complete and fully tested integration between components and software modules of MyTaxiService project. The main topic is to ensure the correct behavior of any interface connecting modules or subsystems through an integration process.

1.3. Reference Documents

The following documents has been used as references for MyTaxiService Project:

- MyTaxiService Requirement Analysis and Specification Document (RASD)
- MyTaxiService Design Document (DD)

The following documents has been used as external guidelines while writing this ITD:

- Assignement 4 – integration test plan
- Integration Test Plan Example

2. Integration Strategy

2.1. Entry Criteria

All components have to be unit tested before the integration test in order to provide atomic robustness to the system.
The following items must be delivered before integration testing begin:

- MyTaxiService Requirement Analysis and Specification Document (RASD)
- MyTaxiService Design Document (DD)
- Integration Testing Plan Document

2.2. Elements to be integrated

All subsystems and components will be submitted to integration test through a step-by-step integration process.

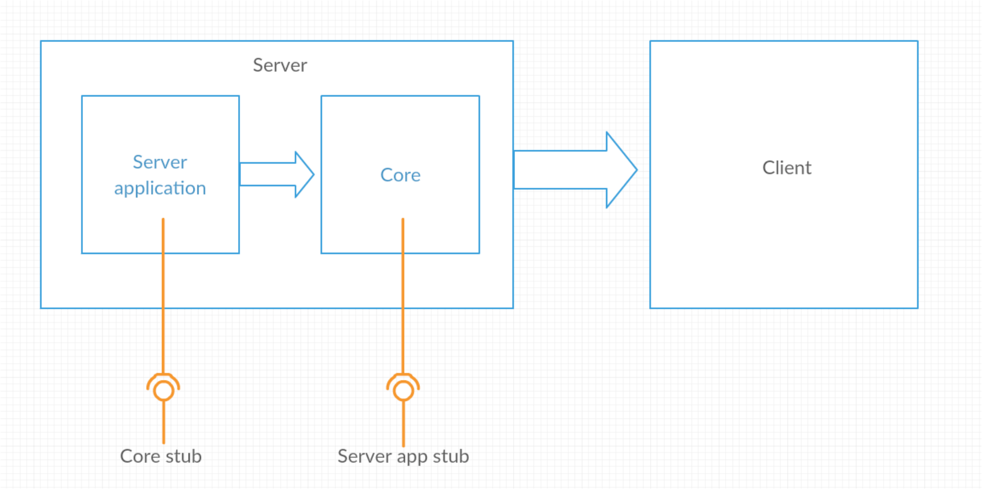
- Client Subsystem
- Server Application Subsystem
- Core Subsystem

2.3. Integration Testing Strategy

A bottom-up testing strategy will be followed, mixed with top-down approach for high-level integration. Subsystems modules will be integrated first, then process will join subsystems together.

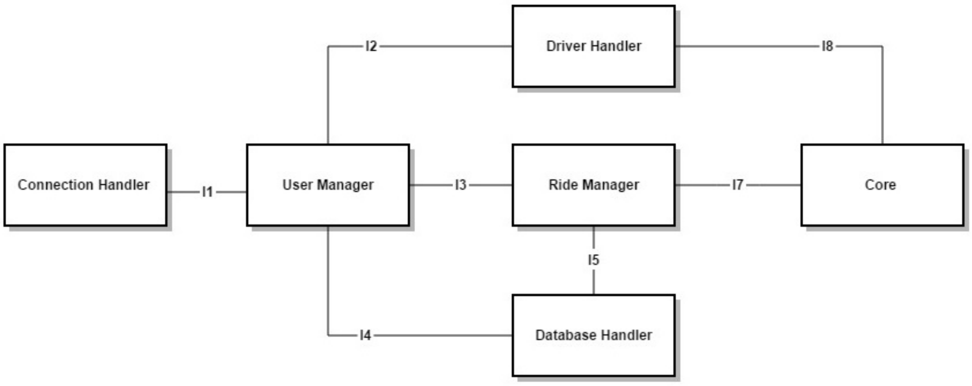
2.4. Components Integration

Subsystems integration will based on the following chart, providing integrity to the Server subsystems as base to Client integration.



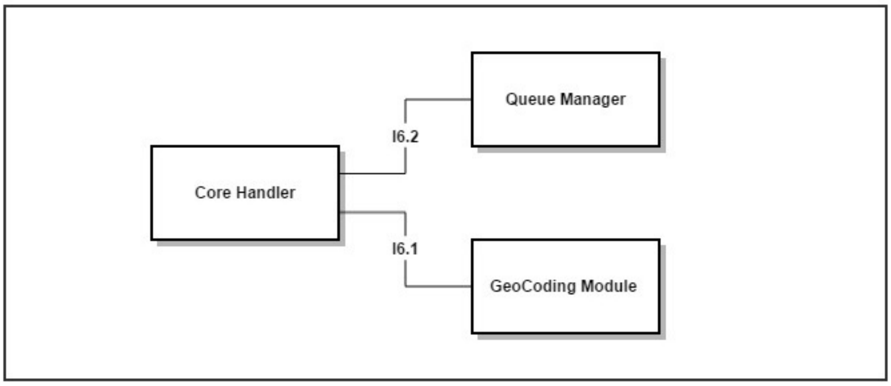
2.5. Software Integration

- Server Application Components



ID	Integration Test	Paragraphs
I1	ConnectionHanlder->UserManagement	3.1
I2	UserManagement->Driver Handler	3.2
I3	UserManagement->Ride Manager	3.3
I4	UserManagement->DatabaseHandler	3.4
I5	RideManager->DatabaseHandler	3.5
I6	(SubSystem)Core Integration Test	
I7	Driver Handler->Core	3.6
I8	RideManager->Core	3.7

- Core Components



ID	Integration Test	Paragraphs
I6.1	CoreHandler->GeoCodingModule	3.8
I6.2	UserManagement->Queue Manager	3.9

3. Steps and Test Description

3.1. ConnectionHanlder->UserManagement

Test Case Identifier	I1
Test Item(s)	ConnectionHanlder->UserManagement
Input Specifications	Incoming connection requests, Personal data management
Output Specifications	Profile persistent data manipulation
Environmental Needs	Client Driver

3.2. UserManagement->Driver Handler

Test Case Identifier	I2
Test Item(s)	UserManagement->Driver Handler
Input Specifications	Set availability
Output Specifications	
Environmental Needs	I1 succeeded

3.3. UserManagement->Ride Manager

Test Case Identifier	I3
Test Item(s)	UserManagement->Ride Manager
Input Specifications	Ride data flow (request, start, interrupt, terminate)
Output Specifications	Ride data flow responses
Environmental Needs	I1 succeeded

3.4. UserManagement->DatabaseHandler

Test Case Identifier	I4
Test Item(s)	UserManagement->DatabaseHandler
Input Specifications	Store, Update personal data
Output Specifications	Retrieve personal data
Environmental Needs	I1 succeeded

3.5. RideManager->DatabaseHandler

Test Case Identifier	I5
Test Item(s)	RideManager->DatabaseHandler
Input Specifications	Store ride data
Output Specifications	Retrieve ride data
Environmental Needs	N/A

3.6. RideManager->Core

Test Case Identifier	I7
Test Item(s)	RideManager->Core
Input Specifications	Taxi driver requests, Geocoding
Output Specifications	Availability requests
Environmental Needs	I3 succeeded,I6(SubSystem) succeedded

3.7. Driver Handler->Core

Test Case Identifier	I8
Test Item(s)	Driver Handler->Core
Input Specifications	Taxi availability management, Geocoding requests
Output Specifications	Queue management responses, Coordinates
Environmental Needs	I2 succeeded,I6(SubSystem) succeedded

3.8. CoreHandler->GeoCodingModule

Test Case Identifier	I6.1
Test Item(s)	CoreHandler->GeoCodingModule
Input Specifications	Geocoding requests, taxi tracking
Output Specifications	Coordinates
Environmental Needs	N/A

3.9. UserManagement->Queue Manager

Test Case Identifier	I6.2
Test Item(s)	UserManagement->Queue Manager
Input Specifications	Queue management operation requests
Output Specifications	N/A
Environmental Needs	N/A

4. Program Stubs and Test Data

Testing process will need the following programs stubs and driver during integration:

- Client driver and Core stub for Server Application software integration
- Server stub for Core software integration
- Data storage environment for all the integration process