

SVVS – Software Verification and Validation

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Document history

Ver.	Date	Resp.	Description
1.0	2018-09-16	TG	First baseline version

1 Introduction

This document describes how the "Grupp 5 project" should be verified

2 Reference documents

1. Projekthandledning
2. Software Requirments Specifications, v. 1.0

3 Overview

During the project, three formal reviews are carried out

1. Software Specification Review (SSR)
 - a SDP
 - b SRS
 - c SVVS
2. Preliminary Design Review (PDR)
 - a SVVI
 - b STLDD
3. Product Review (PR)
 - a SVVR
 - b SSD
 - c PFR

These formal reviews are carried out as described in Ref. 1.

Each formal review is proceeded by an informal review, without any customer representative involved, as described in Ref. 1. The informal reviews are scheduled so that updated material can be delivered to the formal review.

In addition to the informal reviews listed above the the SDDD should also be reviewed by the development group.

4 Test cases

The tests are carried out in the following phases:

Unit test: This is carried out by individual developers and developer groups before the tested parts are integrated with any other group's code. This is done informally, and no documentation is needed.

Regression test: All specified test cases are run during regression test. This is done automatically through a Jenkins solution and is not manually documented.

Function test: Here individual, but complete, functions are tested as far as possible before the function is merged with other newly developed functions in the system

System test: Here, general tests for the whole system are carried out.

Acceptance test: These tests are carried out by the department during the last review (PR). Samples from all specified test cases are used together with a number of test cases that are decided by the department

5 Requirements checked in reviews

In reviews all requirements should be checked by the reviewers.

The following requirements (according to Ref. 2) are only verified through reviews: 6.4.3, 6.7.4, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 8.1, 8.2, 8.3.

6 Appendices

There are two appendices:

A System test specification

B Function test specification

A System test specification

After each test case the tested requirements according to Ref. 2 are listed.

- ST1 Successful verification of codes using Unit-test [SRS req. 7.1]
- ST2 Successful execution of the web-app on Firefox, Chrome, Opera and Edge on computers running Windows 10 [SRS req. 7.4]
- ST3 Successful execution of the web-app on Firefox, Chrome, Opera and Safari on computers running MacOS 10.12 "Sierra" [SRS req. 7.4]
- ST4 Successful execution of the web-app on Firefox and Chrome on computers running Ubuntu 18.04 [SRS req. 7.4]
- ST5 Successful accessing the web-page within two seconds using one of the computer rooms in "E-Huset" [SRS req. 7.5]
- ST6 Successful accessing any of the redirect links on the web-page within two seconds using one of the computer rooms in "E-Huset" [SRS req. 7.5]
- ST7 Create account, illegal characters' type and length in username and password [SRS reg 6.6.1]
- ST8 Create account, illegal characters' type and length in the email-field [SRS reg 6.6.2]
- ST9 Search for a ride, illegal format used in arrival time and departure field [SRS reg 6.6.3]
- ST10 Create a ride, illegal format used in arrival time and departed field [SRS reg 6.6.3]
- ST11 Search for a ride, illegal characters' type used in arrival and departure-location field [SRS reg 6.6.4]
- ST12 Create a ride, illegal characters' type used in arrival and departure- location field [SRS reg 6.6.4]
- ST13 Search for a ride, user checks on being both driver and passenger [SRS reg 6.6.5]
- ST14 Create ride, user checks on being both driver and passenger [SRS reg 6.6.5]

B Function test specification

After each test case the tested requirements according to Ref. 2 are listed.

- FT1 Successful creation of account [SRS req. 6.1.1]
- FT2 Create account, illegal or no username [SRS req. 6.1.2, 6.6.1]
- FT3 Create account, illegal or no email [SRS req. 6.1.2, 6.6.2]
- FT4 Create account, illegal or no password [SRS req. 6.1.2, 6.6.1]
- FT5 Create account, email already belongs to an account [SRS req. 6.1.3]
- FT6 Create account, username is already taken [SRS req. 6.1.3]
- FT7 Successful login [SRS req. 6.2.1, 6.6.1, 6.6.2]
- FT8 Login, incorrect username [SRS req. 6.2.2]
- FT9 Login, incorrect password [SRS req. 6.2.2]
- FT10 Login five times, incorrect username or password [SRS req. 6.2.2, 6.2.3]
- FT11 Successful logout [SRS req. 6.2.4]
- FT12 Successfully create ride [SRS req. 6.3.1]
- FT13 Create ride, illegal departure-time [SRS req. 6.3.2, 6.6.4]
- FT14 Create ride, illegal arrival-time [SRS req. 6.3.2, 6.6.4]
- FT15 Create ride, illegal number of free seats [SRS req. 6.3.2]
- FT16 Create ride, illegal departure-location [SRS req. 6.3.2]
- FT17 Create ride, illegal arrival-location [SRS req. 6.3.2]
- FT18 Successful cancellation of ride [SRS req. 6.3.3]
- FT19 Create ride, arrival-time earlier than departure-time [SRS req. 6.3.5]
- FT20 Create ride, departure-time which has already passed [SRS req. 6.3.4]
- FT21 Create ride, arrival-time which has already passed [SRS req. 6.3.4]
- FT22 Create ride, unreasonable departure-time based on previous rides [SRS req. 6.3.7]
- FT23 Create ride, the user is already a driver or passenger in another ride at the same time [SRS req. 6.3.6, 6.6.5]
- FT24 Successfully joins a ride as a passenger [SRS req. 6.4.1]
- FT25 Join a ride as passenger, the user has already joined another ride that takes place during the same time [SRS req. 6.4.2]
- FT26 Successful kick of another user from the ride, driver [SRS req. 6.4.4]
- FT27 Successful ban of another user from joining the ride, driver [SRS req. 6.4.4]
- FT28 Search ride [SRS req. 6.4.5]
- FT29 Successful deletion of a ride, driver [SRS req. 6.5.1]
- FT30 Successful addition of a user, administrator [SRS req. 6.7.1]
- FT31 Successful ban of a user, administrator [SRS req. 6.7.2]
- FT32 Successful deletion of a user, administrator [SRS req. 6.7.3]
- FT33 Successful deletion of a ride, administrator [SRS req. 6.7.5]