

**PUSS21420202**

v. 0.3

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Software Verification and Validation Specification

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Group 2

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## 1 Introduction

This document describes how the "TimeMate" system should be verified.

## 2 Reference Documents

1. Projekthandledning
2. Software Requirements Specification: "TimeMate", v. 0.3, Doc. number: PUSP214201
3. Software Requirements Specification: "BaseBlockSystem", v. 1.0, Doc. number: PUSS12002

## 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. At least three days before a formal review an informal review will be carried out, without any customer representative involved. The informal reviews are scheduled so that updated material can be altered to be delivered to the formal review. In addition to the informal reviews listed above the SDDD should also be reviewed in an informal review.

## 4 Test Cases

### 4.1 Test Environments

All tests will be run in one or more of the following environments.

1. JUnit 5.

2. Web browser (Chrome, Firefox, Microsoft Edge).
3. Operating System (Windows).
4. Database system (MySQL).
5. IDE (Eclipse).

## 4.2 Test Types

These are the types of tests that will be carried out throughout the project

- **Unit test:** This is carried out by individual developers while they are coding and before the code is pushed to Github. This is done informally, and no documentation is needed.
- **Function test:** When a new function is implemented into the system it is tested by the test group, whom notes the test outcome in a spreadsheet. The results of the tests are then sent back to the developers.
- **System test:** General tests for the whole system and are carried out by the test group whom notes the test outcome in a spreadsheet. These are carried out before baseline three and four.
- **Regression test:** All relevant tests are redone if an update is made to the system.
- **Acceptance test:** These tests are performed by the customer and is a combination of the tests stated above and the customer's own tests.

## 5 Requirements Checked in Reviews

In reviews all requirements should be checked by the reviewers. The results of the review are then sent back to the respective group responsible for the document.

The following requirements (according to Ref. 2) are only verified through reviews: 6.2.2, 6.5.3, 7.0.1, 7.0.2, 7.0.3, 7.0.4, 7.0.5, 7.0.6, 7.0.7, 7.0.8, 8.1.1, 8.1.2, 8.1.3.

## 6 Appendices

- A. Function Test Specification
- B. System Test Specification
- C. Regression Test Specification

## A Function Test Specification

### 6.1 Login and Logout

- **FT1:** Can login with correct username and password (JUint). [Ref. 3. req. 6.1.1]
- **FT2:** Cannot login with non existing user (JUint). [Ref. 3. req. 6.1.5]
- **FT3:** Cannot login with other users passwords. [Ref. 3. req. 6.1.5]
- **FT4:** Cannot login with foregoing password. [Ref. 3. req. 6.1.5]
- **FT5:** Can logout. [Ref. 3. req. 6.1.4 ]
- **FT6:** Gets a new password from the server by e-mail if requested. [Ref. 2. req. 6.1.1]
- **FT7:** Gets a new password from the server by e-mail on account creation. [Ref. 2. req. 6.1.2]
- **FT8:** Can change password from logged-in state. [Ref. 2. req. 6.3.7, 6.3.9]
- **FT9:** Relevant error message is displayed on failed login. [Ref. 3. req. 6.1.5]

### 6.2 Data

- **FT10:** When changing password, it must adhere to password ruleset. [Ref. 2. req.6.2.1, 6.3.8, 6.3.10]

### 6.3 User

- **FT11:** Can submit a time report. [Ref. 2. req. 6.3.1. 6.3.2, 6.4.2]
- **FT12:** Can see a summarized view of current user time reports. [Ref. 2. req. 6.3.3, 6.3.4]
- **FT13:** Can edit a submitted report if it is not signed by Project leader. [Ref. 2. req. 6.3.5, 6.3.6]
- **FT14:** Can't edit a submitted report if it is signed by Project leader. [Ref. 2. req. 6.3.11]

### 6.4 Project Leader

- **FT15:** Can see all users and their roles. [Ref. 2. req. 6.4.3]
- **FT16:** Can change roles on other users but not themselves. [Ref. 2. req. 6.4.4, 6.4.7]
- **FT17:** Can't change other project leaders' roles. [Ref. 2. req. 6.4.4]
- **FT18:** Can sign reports. [Ref. 2. req. 6.4.5, 6.4.6]
- **FT19:** Can see a summarized view of users time reports. [Ref. 2. req. 6.4.1, 6.5.6]

## 6.5 Administrator

- **FT20:** Can access administration page. [Ref. 2. req. 6.5.1]
- **FT21:** Can add a new user. [Ref. 2. req. 6.5.3]
- **FT22:** Can't add a new user with existing username. [Ref. 2. req. 6.5.4]
- **FT23:** Can remove a user. [Ref. 2. req. 6.5.5]
- **FT24:** Can change the roles of all users. [Ref. 2. req. 6.5.7]
- **FT25:** Can view all users as a list. [Ref. 3. req. 6.3.5]

## 6.6 Design Requirements

- **FT26:** Logout button is always visible. [Ref. 2. req. 7.0.9]

## B System Test Specification

- **ST1:** Works in following browsers: Chrome, Firefox, Microsoft Edge.
- **ST2:** Works on following OS: Windows.
- **ST3:** System works for all different user roles.
- **ST4:** All error messages should follow the format. [Ref. 2. req. 8.1.4]

## C Regression Test Specification

All relevant function tests are redone if an update is made to a specific function as well as following tests:

- **RT1:** FT1

If major changes are made to the system then the following regression test shall be done:

- **RT2:** FT1 To FT26