Verification and Validation Report: Software Engineering

Team #2, Campus Connections
Waseef Nayeem
Zihao Du
Matthew Miller
Firas Elayan
Abhiram Neelamraju
Michael Kim

March 4, 2024

1 Revision History

Date	Version	Notes
Mar 4	1.0	Add functional requirements evaluation

2   Symbols, Abbreviations and Acronyms

symbol	description
JMeter	Load testing tool for analyzing and measuring the performance
SRS	Software Requirements Specification
UI	User Interface
VnV	Verification and Validation

Contents

List of Tables

List of Figures

This document describes the test results of the verification and validation (VnV) plan for CampusConnections. The VnV plan was continuously updated as the project evolved. The following document records the results of the current version of the VnV plan. It provides results of functional and non-functional requirements tests, unit tests, changes that will be implemented in the system as a result of the tests, and various traceability tables.

3 Functional Requirements Evaluation

The following section outlines the results of functional requirements testing. The process and test performed follow the VnV Plan. To summarize, all the tests are tested manually and passed, indicating that all the functional requirements in the Software Requirements Specification (SRS) document are covered.

3.1 Pre-Registration Settings

This section covers all tests related to functional requirements about pre-registration settings.

1. **FRT-PR1**

   Name: Agree To Consent Form

   Results: Pass

2. **FRT-PR2**

   Name: Disagree To Consent Form

   Results: Pass

3.2 User Account

This section covers all tests related to functional requirements about the account and user profile.

1. **FRT-UA1**

   Name: Successful Account Creation

   Results: Pass

2. **FRT-UA2**

   Name: Unsuccessful Account Creation

   Results: Pass

3. **FRT-UA3**

   Name: Successful Account Login

   Results: Pass

4. **FRT-UA4**

   Name: Unsuccessful Account Login

   Results: Pass

5. **FRT-UA5**

   Name: Account Deletion

   Results: Pass

6. **FRT-UA5**

   Name: Reset Password

   Results: Pass

7. **FRT-UA7**

   Name: Avatar Creation and Modification

   Results: Pass

8. **FRT-UA8**

   Name: Email Verification

   Results: Pass

9. **FRT-UA9**

   Name: Edit Profile

   Results: Pass

3.3 Social Networking System

This section covers all tests related to functional requirements about interactions between friends.

1. **FRT-SN1**

   Name: Successful Friend Request

   Results: Pass

2. **FRT-SN2**

   Name: Friend Request Acceptance

   Results: Pass

3. **FRT-SN3**

   Name: Successful Friend Rejection

   Results: Pass

4. **FRT-SN4**

   Name: Friend Deletion

   Results: Pass

5. **FRT-SN5**

   Name: Friend Messaging

   Results: Pass

6. **FRT-SN6**

   Name: Friend Sharing Event

   Results: Pass

7. **FRT-SN7**

   Name: Friend Sharing Lecture

   Results: Pass

3.4 Lectures and Events

This section covers all tests related to functional requirements about lectures and events and how users can interact with them.

1. **FRT-LE1**

   Name: Save Event

   Results: Pass

2. **FRT-LE2**

   Name: Unsave Event

   Results: Pass

3. **FRT-LE3**

   Name: Save Lecture

   Results: Pass

4. **FRT-LE4**

   Name: Unsave Lecture

   Results: Pass

5. **FRT-LE5**

   Name: Administrator Add Event

   Results: Pass

6. **FRT-LE6**

   Name: Administrator Edit Event

   Results: Pass

7. **FRT-LE7**

   Name: Administrator Delete Event

   Results: Pass

8. **FRT-LE8**

   Name: Administrator Add Lecture

   Results: Pass

9. **FRT-LE9**

   Name: Administrator Edit Lecture

   Results: Pass

10. **FRT-LE10**

    Name: Administrator Delete Lecture

    Results: Pass

11. **FRT-LE11**

    Name: Event Information

    Results: Pass

12. **FRT-LE12**

    Name: Lecture Information

    Results: Pass

13. **FRT-LE13**

    Name: Lecture Filter by Code

    Results: Pass

14. **FRT-LE13**

    Name: Event Filter by Name

    Results: Pass

3.5   AR Camera

This section covers all tests related to functional requirements about AR camera.

1. **FRT-AR1**

   Name: Successful Building Recognition

   Results: Pass

2. **FRT-AR2**

   Name: Unsuccessful Building Recognition

   Results: Pass

3. **FRT-AR3**

   Name: Building Lectures/Events

   Results: Pass

3.6   Map and Location

This section covers all tests related to functional requirements about the map and location tracking in the system.

1. **FRT-MAP1**

   Name: User Location

   Results: Pass

2. **FRT-MAP2**

   Name: Friend Locations

   Results: Pass

4   Nonfunctional Requirements Evaluation

The following section outlines the results of non-functional requirements testing. The process and test performed follow the VnV Plan. Most of the tests are tested manually while some of them are tested in another way, for instance, load testing is tested with JMeter while some UI requirements are tested by conducting a survey, etc. Some of the tests fail because their related requirements are removed due to the change of the project's scope, these tests will be marked in red. In general, most of the tests in the plan succeed, indicating that non-functional requirements in the Software Requirements Specification (SRS) document are covered.

4.1 Usability

4.2 Performance

4.3 etc.

5 Comparison to Existing Implementation

This section will not be appropriate for every project.

6 Unit Testing

7 Changes Due to Testing

[This section should highlight how feedback from the users and from the supervisor (when one exists) shaped the final product. In particular the feedback from the Rev 0 demo to the supervisor (or to potential users) should be highlighted. —SS]

8 Automated Testing

9 Trace to Requirements

10 Trace to Modules

11 Code Coverage Metrics

Appendix — Reflection

The information in this section will be used to evaluate the team members on the graduate attribute of Reflection. Please answer the following question:

1. In what ways was the Verification and Validation (VnV) Plan different from the activities that were actually conducted for VnV? If there were differences, what changes required the modification in the plan? Why did these changes occur? Would you be able to anticipate these changes in future projects? If there weren't any differences, how was your team able to clearly predict a feasible amount of effort and the right tasks needed to build the evidence that demonstrates the required quality? (It is expected that most teams will have had to deviate from their original VnV Plan.)