



Capstone Project 1

CMU-SE 450

Test Plan Document

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School Connect Application

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Project Information

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|---|---|--|-----------------|
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DOCUMENT APPROVALS

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1. Introduction

A test plan is a detailed software verification document that provides specifics on how the validation will test all aspects of software design. Test plans are test specifications used as guides for writing test case suites for design validation in both the software engineering fields. This test plan document contains a description of product functionality, a description of test cases to be written for each function, and a description of the testing platform to be used.

1.1. Purpose

The purpose of the Test Plan is to define, schedule, and monitor the test execution. It supports the following objectives:

- Provide a high-level list of the major target test functions
- List the Requirements for Test
- Describe the testing strategies to be employed on each target test function
- Identify the required resources and schedule the Test execution

1.2. Scope

This Test Plan is for the release test plan for the SConA system. The Test Plan defines the unit, integration, and system testing approach. The test scope includes the following:

- Testing of all functions
- Application performance
- Use cases requirements listed in the Product Backlog and User Stories document

1.3. Out of scope

The following is considered out of scope for SConA Test Plan and testing scope: Performance testing for SConA system

1.4. Reference

Table 1: Document references

| No | Document references |
|----|--------------------------|
| 01 | Proposal document |
| 02 | Product Backlog document |
| 03 | Project Plan Document |

1.5. Risk list

Table 2: Risks list

| Risk | Mitigation Strategy | Responsibility | Contingency (Risk is realized) |
|--------------------|---|---|--|
| External Risks | Get fewer projects but will succeed or have a high success rate | Not under control of the Project Team or Project Steering Group | Do your part, recognize and eliminate risks as soon as possible |
| Project Management | Agree on all the standards before starting the project | Leader | It is mandatory to revise the whole project to the original standard if it is not correct |
| Tester | Sick, busy, or crash cannot do it | Team tester | self-supplementing undo their assigned work, the way other members are supposed to support |
| Technology | Technology analysis before starting each project | Tester | Exchange learning in groups |
| Tester Skill | Train or recruit experienced people | Tester, Team leader | Train technology professionals or invite professors to help with the project |

| | | | |
|-----------------------|---|-------------------------------------|---|
| Estimate Plan | Calculate carefully and accurately when taking requests and analyzing, apply good models and methods for estimation | Request Collectors, Request Analyst | Enlist the product delivery time or overtime for timely delivery |
| Automation Tool Risks | Choose the right tools and quality, check the tools before starting the project | Tester, Team leader | Exchange in groups, change new tools, and remove inconsistent tools |
| Out of system scope | Analyze and find solutions to test all testable areas | Tester | |

2. Target Test Areas

- Black box Testing

3. Test Specification

3.1. Features

Website

- ❖ FE01 – Authentication user's account
 - Login with username and password
- ❖ FE02 – Create a post for the user (student, teacher, censor)
 - Import image
 - Fill in the title, content in the post
- ❖ FE03 – Add information account user
 - Add information account user
- ❖ FE04 – View information account user
 - View information account user
- ❖ FE05 – View post information
 - View post information
- ❖ FE06 – View and create/modify forum information

- View forum information
- Create forum information
- Modify forum information
- ❖ FE07 – Censorship post and member in the forum
 - Censorship post in a forum
 - Censorship member in the forum
- ❖ FE08 – Comment
 - Comment the post
- ❖ FE09 – View report post and member in the forum
 - View report post in a forum
- ❖ FE10 – Sent message
 - Sent message
- ❖ FE11 – Delete post, member, comment, chatbox
 - Delete the post
 - Delete members in the forum
 - Delete the comment
 - Delete chatbox
- ❖ FE12 – Notify new message and new post
 - Notification of the new post
 - Notification of the new message
- ❖ FE13 – Send report message and comment(user)
 - Send report message
 - Send report comment
- ❖ FE14 – Receive report message and comment(admin)
 - Receive report message
 - Receive report comment
- ❖ FE15 – See report message, comment
 - See report message

- See report comment
- ❖ FE16 – Update profile
 - Update profile
- ❖ FE17 – See calendar
 - See calendar
- ❖ FE18 – Notify message and comment report by user
 - Notification of the message report
 - Notification of the comment report

3.2. Test deliverables

- Test Plan Document
- Test Case Document
- Test Summary Report

3.3. Requirements for test

Test items

The following list describes the features that will be tested:

| ID Function | Function | A part of | Priority | Type test case | Constraints |
|----------------|----------------------------------|----------------------------|------------|--|--|
| FE01 – 01 | Login with username and password | Authentication | Medium | User interface Function test Security test | The user can log in with their username and password to use other features |
| FE02 – 01 | Import image | Create a post for the user | Very Hight | User interface Function test Load Test Usability Test | The users can import an image to the post |

| | | | | | |
|-----------|--|--|------------|--|--|
| FE02 – 02 | Fill in the title, content in the post | | Very Hight | User interface Function test Usability Test Load Test | The users can fill in the title, content in the post |
| FE03 – 01 | Add information account user | Add information account user | Hight | User interface Function test Usability Test Load Test | The admins can create accounts for users on their admin page |
| FE04 – 01 | View information account user | View information account user | Medium | User interface Function test Usability Test Load Test | The admins can view accounts for users on their admin page |
| FE05 – 01 | View post information | View post information | Medium | User interface Function test Usability Test Load Test | The users can see post information on their own or everyone on the user page |
| FE06 – 01 | View forum information | View and create/modify forum information | Medium | User interface Function test Usability Test Load Test | The admins can view forums information on their admin page |
| FE06 – 02 | Create forum | | Very Hight | User interface Function | The admins can create a forum on |

| | | | | | |
|-----------|--------------------------------------|--|--------|---|--|
| | information | | | test Usability Test Load Test | their admin page |
| FE06 – 03 | Modify forum information | | Hight | User interface Function test Usability Test Load Test | The admins can modify accounts on their admin page |
| FE07 – 01 | Censorship post in a forum | Censorship post and member in the forum | Hight | User interface Function test Usability Test Load Test | The censor can control new posts to avoid malicious, inappropriate posts before posting |
| FE07 – 02 | Censorship member in the forum | | Hight | User interface Function test Usability Test Load Test | The censor can control forum members, avoid fake accounts |
| FE08 – 01 | Comment | Comment | Medium | User interface Function test Usability Test Load Test | The users can comment, give their opinion on the posts they like and care about |
| FE09 – 01 | View report post and member in | View report post and member in the forum | Hight | User interface Function test Usability | The admins can have an overview of the number of reported |

| | | | | | |
|-----------|----------------------------|---------------------------------------|------------|--|--|
| | the forum | | | Test Load Test | posts and members on the forum |
| FE10 – 01 | Sent message | Sent message | Very Hight | User interface Function test Usability Test Load Test | The users can respond and receive information privately |
| FE11 – 01 | Delete the post | Delete post, member, comment, chatbox | Hight | Function test Usability Test Load Test | The users can delete their posts when they feel inappropriate |
| FE11 – 02 | Delete member in the forum | | Hight | Function test Usability Test Load Test | The censor wants can control the forum, remove members who violate the forum's rules |
| FE11 – 03 | Delete the comment | | Hight | Function test Usability Test Load Test | The users can delete their comments when they feel inappropriate |
| FE11 – 04 | Delete chatbox | | Hight | Function test Usability Test Load Test | The users can delete their chat box when they feel inappropriate |
| FE12 – 01 | Notification | Notification of | Hight | User | The users can |

| | | | | | |
|-----------|---------------------------------|---------------------------------------|--------|--|---|
| | of the new post | the new post and new message | | interface Function test Usability Test Load Test | see what forum posts I am following and the censor can control new posts to avoid malicious, inappropriate posts before posting |
| FE12 – 02 | Notification of the new message | | Medium | User interface Function test Usability Test Load Test | The users can see who sent messages and reply |
| FE13 – 01 | Send report message | Send report message and comment(user) | Medium | User interface Function test Usability Test Load Test | The users can send report the admin or censor can delete the comments toxic |
| FE13 – 02 | Send report comment | | Medium | User interface Function test Usability Test Load Test | The users can send report the admin or censor can delete the messages toxic |
| FE14 – 01 | Receive report message | Receive report messages and comments | Medium | User interface Function test Usability | The admin can control and block malicious messages |

| | | | | | |
|-----------|------------------------------|-----------------------------------|--------|---|--|
| | | (admin) | | Test Load Test | |
| FE14 – 02 | Receive report comment | | Medium | User interface Function test Usability Test Load Test | The admin can control and block malicious comments |
| FE15 – 01 | See report message | See report message, comment | Medium | User interface Function test Usability Test Load Test | The admin can see message report by the user |
| FE15 – 02 | See report comment | | Medium | User interface Function test Usability Test Load Test | The admin can see comment report by the user |
| FE16 – 01 | Update profile | Update profile | Medium | User interface Function test Usability Test Load Test | The users can update their profile so everyone can know accurate information about them |
| FE17 – 01 | See calendar | See calendar | Low | User interface Function test Usability Test Load Test | The users can view the event calendar to be able to update information |

| | | | | | |
|-----------|------------------------------------|--|--------|--|---|
| | | | | | about upcoming events |
| FE18 – 01 | Notification of the message report | Notify message and comment report (user) | Medium | User interface Function test Usability Test Load Test | The admin can receive notification about message toxic reported by the user |
| FE18 – 02 | Notification of the comment report | | Medium | User interface Function test Usability Test Load Test | The admin can receive notification about comment toxic reported by the user |

Test strategy

- Describe the overall approach to testing. For each major group of features or feature combinations, specify the approach which will ensure that these feature groups are adequately tested. Specify the major activities, techniques, and tools which are used to test the designated groups of features
- The approach should be described with sufficient details to permit the identification of the major testing tasks and estimation of the time required to do each one.

Hardware environment

- Windows 7, 8, 10
- Android 10

3.4. Test schedule

Human resources

| Name | Role |
|---|--------|
| Dang Nguyen Bao Hoai, Nguyen Trung Hieu | Tester |

Test Schedule

| | | | |
|----------|--|---|---------------------------|
| Sprint 1 | Code page login for users, admin | Dang Nguyen Bao Hoai, Nguyen Trung Hieu | 06/09/2021- 03/10/2021 |
| | Code front-end homepage for users, admin | | |
| | Code front-end create a post | | |
| | Code front-end add account information user | | |
| | Frontend restful API for login | | |
| | Backend restful API for login | | |
| | Frontend restful API for creating a post | | |
| | Backend restful API for creating a post | | |
| | Frontend restful API for additional information account | | |
| | Backend restful API for additional information account | | |
| Sprint 2 | Code front-end page view account information | Dang Nguyen Bao Hoai, Nguyen Trung Hieu | 04/10/2021- 31/10/2021 |
| | Code front-end page view post information | | |
| | Code front-end page view and create/modify forum information | | |
| | Code front-end page censorship post and member | | |
| | Code front-end see report post and member in the forum | | |
| | Code front-end comment | | |
| | Fix bug in sprint 1 | | |
| | Code back-end page view account information | | |
| | Code back-end page view post information | | |
| | Code back-end page view and create/modify forum information | | |

| | | | |
|----------|---|---|---------------------------|
| | Code back-end page censorship post and member | | |
| | Code back-end see report post and member in the forum | | |
| | Code back-end comment | | |
| Sprint 3 | Code Front-end for sent message | Dang Nguyen Bao Hoai, Nguyen Trung Hieu | 1/11/2021- 21/11/2021 |
| | Code front-end for notifying new message and new post | | |
| | Code front-end for forum function bar and comment | | |
| | Code front-end sends report message and comment (user) | | |
| | Code Front-end receive report message and comment (admin) | | |
| | [API] HTTP ok status | | |
| | Code API for a sent message | | |
| | Code API notify new post and new message | | |
| | Code API delete post and member | | |
| | Code API delete the comment | | |
| | Code API delete chatbox | | |
| | Code API notification | | |
| | Code API report message and comment | | |
| Sprint 4 | Code front-end see report message, comment | Dang Nguyen Bao Hoai, Nguyen Trung Hieu | 22/11/2021- 12/12/2021 |
| | Code front-end update personal | | |
| | Code front-end see calendar | | |
| | Code front-end notify message and comment report by user | | |

| | | | |
|--|--|--|--|
| | Code API see report message and comment | | |
| | Code API update personal | | |
| | Code see calendar | | |
| | Code API notify message and comment report by user | | |
| | Connect API between back-end and front-end | | |

4. Test Cycle and Exit Criteria

4.1. Entry criteria

- All test hardware platforms must have been successfully installed, configured, and functioning properly.
- All the necessary documentation, design, and requirements information should be available that will allow testers to operate the system and judge the correct behavior.
- Proper test case is available.
- The test environment such as lab, hardware, software, and system administration support should be ready.

4.2. Exit criteria

- All test cases have been run.
- A certain level of requirements coverage has been achieved.
- No high priority or severe bugs are left outstanding.
- All high-risk areas have been fully tested, with only minor residual risks left outstanding.
- The schedule has been achieved.
- Not over the allowed project budget