

Senior Design Project ORCMS: Open
Review Conference Management System
Test Plan



September 2019
Prepared by: Ian Swire, Charles Taaffe
Florida Institute of Technology

1 Master test plan	3
2 Frontend	3
2.1 Scope, approach and resources	3
2.2 Test design	3
2.2.1 Conference creation	3
2.2.2 Login Display	4
2.2.3 Schedule Creation	4
2.2.4 Email system	4
2.2.5 Page navigation	4
3 Backend	5
3.1 Scope, approach and resources	5
3.2 Test design	5
3.2.1 Login Verification	5
3.2.2 Conference creation	5
3.2.3 Schedule Creation	6
3.2.4 Entity creation	6
3.2.5 Entity Update	6
4 Test Reporting	7

1 Master test plan

When testing a system that is multi dimensional such as ours it is critical all aspects of the system are tested thoroughly from the frontend to the backend and all things in between. With that in mind the testing plan is to separate the various functions need to reach the end goal into 2 different categories: frontend, backend. The front end tests will serve to show web page functionality for each of the web page functions to be performed. The Backend tests will show verification that the database and data structures have properly been filled with valid content testing both for test to pass and test to fail mentality in mind.

2 Frontend

2.1 Scope, approach and resources

The tests in this section pertain to the web page and user interactions with the system. While they may not be as aggressive in their testing strategy as the backend tests seen in section 3 that does not mean they are passive either. These tests will use logging of error states and function calls along the way to aid the developer in understanding why and where the program is breaking in order to fix it in a more efficient manner. The approach overall of the tests follows a functionality approach to show if a user were to try and create a conference then each level would need to be covered as if traversing a tree.

2.2 Test design

2.2.1 Conference creation

- Desired Result: Conference Management Viewer windows properly displays new conference.
- Test: Once a new conference is created, a manual visual test will be performed to ensure expected outcome is achieved.
- Pass criteria: An instance of a conference is created with the proper connected subcomponents.
- Fail criteria: Conference either wasn't created or the subcomponents were not created along with the conference.
- Test log: Detailed out print statement to an outfile showing what functions were completed during the instantiation process.

2.2.2 Login Display

- Desired Result: Once login is verified, user correctly sees all of their conferences. As well as the correct username is displayed in the upper right corner.
- Test: Once logged, a manual visual test will be performed to ensure expected outcome is achieved.
- Pass criteria: Valid login is presented and login button is clicked after login information is entered into text boxes.
- Fail criteria: Login fails due to invalid credentials being entered or the user has not been created yet so the login information does not exist in the system
- Test log: Print statement to the screen showing why the login failed.

2.2.3 Schedule Creation

- Desired Result: When the user selects the option to create a schedule, a new schedule is created and displayed in the viewer. It will correctly build a table like view that displays the presenter, the presentation title, and the time blocks.
- Test: A visual review will be performed to ensure that the look of the document fits the target and correctly matches the generated schedule.
- Pass criteria: Ability to click on “create a schedule” and display schedule.
- Fail criteria: Unable to display schedule to the screen or unable to interact with “create a schedule” button.
- Test log: Outfile containing print statements showing what functions were called, detailing the exact location where the program fails if it does so.

2.2.4 Email system

- Desired Result: All people in the intended target group have been emailed with the correct email.
- Test: A unit test will be performed to ensure that the correct email string is sent to the correct recipient.
- Pass criteria: Assert statement in the unit test is met.
- Fail criteria: Assert fails.
- Test log: Print out that the assert, and thus the unit test failed.

2.2.5 Page navigation

- Desired Result: When a tab or item is selected, the viewer properly displays the correct information desired.

- Test: A series of interface tests will be performed to ensure that the intended screen and content are displayed.
- Pass criteria: All the tab items and interfaces are accessible via a click.
- Fail criteria: One or more of the tab interfaces is inaccessible.
- Test log: List showing which of the interfaces is accessible and which are not if any.

3 Backend

3.1 Scope, approach and resources

All of the tests that will be discussed below pertain to the back end of the system. This includes the database containing all of the necessary information for the conference management system to operate to its fullest potential. Since this part of the system is arguably the most critical the testing approach to be taken is to maximize the unit testing to insure that all data fields and edits are acceptable. Thus, the resources needed to perform these tests will be a unit testing suit for Visual Studio Code where the code base will be stored.

3.2 Test design

3.2.1 Login Verification

- Desired Result: If the correct login string is passed, returns user account
- Test: A unit test will be performed to ensure that account information is only passed to the correct user. Tests will also be performed to ensure unintended actions cannot occur at this layer.
- Pass criteria: Assert statement within the unit test passes.
- Fail criteria: Assert statement within the unit test fails due to there being no login information identical to the one entered.
- Test log: Logs the pass or fail of the unit test in an outfile and if it fails the reason for the failure is listed i.e. username or password invalid.

3.2.2 Conference creation

- Desired Result: A conference table is created if and only if the conference has all required components are not null and any special conditions are met.
- Test: Tests will test the allowance of creation with missing or unallowed information.
- Pass criteria: Table is generated and visible.

- Fail criteria: Unable to generate the conference table due to null values being accepted.

3.2.3 Schedule Creation

- Desired Result: A schedule is produced using the target tracks. Each presentation is in the correct track, and allowed the correct amount of time.
- Test: Several tests will be performed to ensure the safety of the automatic creation. Unit tests will be performed to ensure no overlap has been produced, and that presentations are in the right conference track.
- Pass criteria: Schedule is created with no overlap of presentations.
- Fail criteria: If times overlap then the test will fail.
- Test log: Shows which two presentations overlap in order to help the tester find the root of their problem.

3.2.4 Entity creation

- Desired Result: A correctly configured query on the database will result in the expected result.
- Test: Vulnerability tests will be performed to ensure that there are no holes for malicious activity. Then a set of unit tests will validate that queries return the expected results.
- Pass criteria: Valid queries are entered and no malicious data is entered into the database.
- Fail criteria: Invalid queries are entered or called upon and data that should not be allowed into the certain database field is entered.
- Test log: Logs if the query and data entered are valid.

3.2.5 Entity Update

- Desired Result: The correct table will update the correct row and column.
- Test: Unit tests will be performed to ensure that the intended tables are updated correctly. These will be verified using database visualization tools.
- Pass criteria: Row and column items are updated with new information.
- Fail criteria: New information is added to the wrong location or is not entered correctly.
- Test log: Database log with the location and updated information listed for verification

4 Test Reporting

Each test that is performed should have proper test documentation attached to it. This means a full document with the test name as the title, description of the test being performed, when the test was performed, how it was performed, whether the function/object being tested passed or failed. If it passed then a detailed description of the output. If it failed then a full description of the steps before the test failed and a proper description or screen capture to illustrate the failure state. Lastly, at the bottom of the document should be a box for the test reviewer to electronically sign saying that they performed the test and completed all the necessary properties of the test reporting document.

When analyzing the passing and failure of the system as a whole the master test plan report shall show an overview of total passage and failure of all the comprised individual components at the beginning of the document. This will allow the client to quickly see if the system is successful without having to read into the entirety of the document if they do not wish to. This does not mean that the document won't have full details of each test that is performed and the test reports connected to each. After the general pass and fail section describing what parts of the system still need to be worked on there will be a section containing all the of the frontend tests and at the end of the document a section containing all the backend tests reports.