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Testing Document

Testing Document





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# Introduction/Overview

This document discusses the testing strategies and testing techniques used to test the Open Classes Application. Testing is done to assure the quality of the software application. Testing techniques such as black box testing and white box testing are used to test a software application. This document discusses important questions like – who are performing the tests? What is being tested? What testing strategy and what testing techniques are being used? The test plan helps us to improve the software quality by setting few quality standards.

The testing plan document is arranged as follows. Section 2 talks about the testing team members and their testing tasks. Testing strategies and techniques are discussed in section 3. The detailed schedule for the testing of each phase is presented in section 4. The test deliverables and artifacts are presented in section 5 including test cases and test reports. Finally, section 6 discusses the constraints of testing the application.

# Testing Team

The testing team plans for testing activities, analysis and executes the test cases. After executing test cases the corrections are made by the implementation team. The corrections are made and software is tested again. The final results are documented. The members of the testing team are – Steven Kundert and Yashwanth Muddireddy. The members of the implementation team are – Yashwanth Muddireddy and Vaisali Namburi.

# Testing Strategies and Techniques

The Graphical User Interface (GUI) is designed and tested for design principles and guidelines, navigation of the application. All the GUI elements are tested for errors. The Unit testing and Integration testing are performed under white box testing while the Acceptance testing and System testing are performed under black box testing.

# Test Schedule

The Open Classes Application uses the Scrum approach for development. So the testing is planned through strategies on how to test the application for each scrum cycle. The User Interface is tested initially. Later the database is tested for connections. The testing begins with Unit testing with code tested for errors. The integration testing is performed while integrating all the components together. The System testing and Acceptance testing are performed at the end. After each testing session, the team testing team members report their findings to the implementation team members.

The schedule for each phase of testing is as follows:

Unit Testing – 5 days

Integration Testing – 2 days

System Testing – 3 days

Acceptance Testing – 2 days

# Test Deliverables and Artifacts

The test plan is required to test the application, test activities are documented and test cases are identified and executed. All the results are documented after testing.

The deliverables of testing are:

* 1. Test Plan
  2. Test Cases
  3. Test Report
  4. Final Report

## Test Cases

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case | Step & Input | Expected Results | What is Tested? |
| Drop Down Menu | | | |
| Drop Down Menu – Fall | Select option from Drop Down Menu | Option successfully populated | Interface |
| Drop Down Menu – Spring | Select option from Drop Down Menu | Option successfully populated | Interface |
| Drop Down Menu – Summer I | Select option from Drop Down Menu | Option successfully populated | Interface |
| Drop Down Menu – Summer II | Select option from Drop Down Menu | Option successfully populated | Interface |
| Class Category Selection | | | |
| Select All | Place check mark in option box | Option successfully checked | Interface |
| Select Computer Science | Place check mark in option box | Option successfully checked | Interface |
| Select Mathematics | Place check mark in option box | Option successfully checked | Interface |
| Select History & Political Science | Place check mark in option box | Option successfully checked | Interface |
| Select Social & Behavioral Science | Place check mark in option box | Option successfully checked | Interface |
| Select Language, Philosophy, & Culture | Place check mark in option box | Option successfully checked | Interface |
| Select Cultural & Global Understanding | Place check mark in option box | Option successfully checked | Interface |
| Select UGI & C | Place check mark in option box | Option successfully checked | Interface |
| Select Electives | Place check mark in option box | Option successfully checked | Interface |
| Select Arts | Place check mark in option box | Option successfully checked | Interface |
| Select Communication | Place check mark in option box | Option successfully checked | Interface |
| Select Science | Place check mark in option box | Option successfully checked | Interface |
| Search Return Options | | | |
| Select Open Classes Option | Radio button selected | Option successfully selected | Interface |
| Select All Option | Radio button selected | Option successfully selected | Interface |
| Search Functions | | | |
| Open Classes Search – Submit Button | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface |
| Open Classes Search – Submit Button | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface |
| Open Classes Search – Submit Button | Make no selections of any kind. Press Submit button. | Error message. Please select a term. | Error message. |
| Open Classes Search – Submit Button | Make term selection only. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface |
| Open Classes Search – Submit Button | Make class category selection only. Press Submit button. | Error message. Please select a term. | Error Message |
| Open Classes Search – Submit Button | Make open classes selection only. Press submit button. | Error message. Please select a term. | Error Message |
| Open Classes Search – Submit Button | Make term selection, and open classes selection only. Press Submit button. | All open classes returned for that term. | Interface |
| Open Classes Search – Submit Button | Make term selection, and all classes selection only. Press Submit button. | All classes returned for that term. | Interface |
| Open Classes Search – Submit Button | Make term selection, and class category selection only. Press Submit button. | All classes returned for that category. | Interface |
| Open Classes Search – Submit Button  Class Category All  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category All  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category Computer Science  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category Computer Science  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category Mathematics  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category Mathematics  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category History & Political Science  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category History & Political Science  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category Social & Behavioral Science  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category Social & Behavioral Science  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category Language, Philosophy, & Culture  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category Language, Philosophy, & Culture  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category Cultural & Global Understanding  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category Cultural & Global Understanding  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category UGI & C  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category UGI & C  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category Electives  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category Electives  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category Communication  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category Communication  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category Science  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface |
| Open Classes Search – Submit Button  Class Category Science  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface |
| Open Classes Search – Reset Button | Press Reset button | All selections cleared | Interface |
| Result Screen – Return to Search Screen | From Result Screen – press browser back button | Returned to search screen. All previous selections still selected. | Interface |

## Test Report

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Case | Step & Input | Expected Results | What is tested? | Actual Results |
| Drop Down Menu | | | | |
| Drop Down Menu – Fall | Select option from Drop Down Menu | Option successfully populated | Interface | Option successfully populated |
| Drop Down Menu – Spring | Select option from Drop Down Menu | Option successfully populated | Interface | Option successfully populated |
| Drop Down Menu – Summer I | Select option from Drop Down Menu | Option successfully populated | Interface | Option successfully populated |
| Drop Down Menu – Summer II | Select option from Drop Down Menu | Option successfully populated | Interface | Option successfully populated |
| Class Category Selection | | | | |
| Select All | Place check mark in option box | Option successfully checked | Interface | Option successfully checked |
| Select Computer Science | Place check mark in option box | Option successfully checked | Interface | Option successfully  checked |
| Select Mathematics | Place check mark in option box | Option successfully checked | Interface | Option successfully  checked |
| Select History & Political Science | Place check mark in option box | Option successfully checked | Interface | Option successfully  checked |
| Select Social & Behavioral Science | Place check mark in option box | Option successfully checked | Interface | Option successfully  checked |
| Select Language, Philosophy, & Culture | Place check mark in option box | Option successfully checked | Interface | Option successfully  checked |
| Select Cultural & Global Understanding | Place check mark in option box | Option successfully checked | Interface | Option successfully  checked |
| Select UGI & C | Place check mark in option box | Option successfully checked | Interface | Option successfully  checked |
| Select Electives | Place check mark in option box | Option successfully checked | Interface | Option successfully  checked |
| Select Arts | Place check mark in option box | Option successfully checked | Interface | Option successfully  checked |
| Select Communication | Place check mark in option box | Option successfully checked | Interface | Option successfully  checked |
| Select Science | Place check mark in option box | Option successfully checked | Interface | Option successfully  checked |
| Search Return Options | | | | |
| Select Open Classes Option | Radio button selected | Option successfully selected | Interface | Option successfully  selected |
| Select All Option | Radio button selected | Option successfully selected | Interface | Option successfully  selected |
| Search Functions | | | | |
| Open Classes Search – Submit Button | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface | List of classes for each category chosen returned. Only classes with open slots returned for each category. |
| Open Classes Search – Submit Button | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface | List of classes for each category chosen returned. All classes returned for each category. |
| Open Classes Search – Submit Button | Make no selections of any kind. Press Submit button. | Error message. Please select a term. | Error message. | Crash.  Note – error message correctly populated after a fix from implementation team. |
| Open Classes Search – Submit Button | Make term selection only. Press Submit Button. | List of classes for each category returned. All classes returned for each category. | Interface | Returned correct results for Spring, Summer I, Summer II.  Fall only returned partial list.  Note – Fall returned correct results after a fix from implementation team. |
| Open Classes Search – Submit Button | Make class category selection only. Press Submit button. | Error message. Please select a term. | Error Message | Error message displayed. “Please select a term.” |
| Open Classes Search – Submit Button | Make open classes selection only. Press submit button. | Error message. Please select a term. | Error Message | Error message displayed. “Please select a term.” |
| Open Classes Search – Submit Button | Make term selection, and open classes selection only. Press Submit button. | All open classes returned for that term. | Interface | Returned correct results for Spring, Summer I, Summer II.  Fall only returned partial list.  Note – Fall returned correct results after a fix from implementation team. |
| Open Classes Search – Submit Button | Make term selection, and all classes selection only. Press Submit button. | All classes returned for that term. | Interface | Returned correct results for Spring, Summer I, Summer II.  Fall only returned partial list.  Note – Fall returned correct results after fix from implementation team. |
| Open Classes Search – Submit Button | Make term selection, and class category selection only. Press Submit button. | All classes returned for that category. | Interface | All classes returned for that category. |
| Open Classes Search – Submit Button  Class Category All  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface | Returned correct results for Spring, Summer I, Summer II.  Fall only returned partial list.  Note – Fall returned correct results after a fix from implementation team. |
| Open Classes Search – Submit Button  Class Category All  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface | Returned correct results for Spring, Summer I, Summer II.  Fall only returned partial list.  Note – Fall returned correct results after fix from implementation team. |
| Open Classes Search – Submit Button  Class Category Computer Science  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface | Classes returned as expected for all term selections. |
| Open Classes Search – Submit Button  Class Category Computer Science  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface | Classes returned as expected for all term selections. |
| Open Classes Search – Submit Button  Class Category Mathematics  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface | Classes returned as expected for all term selections. |
| Open Classes Search – Submit Button  Class Category Mathematics  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface | Classes returned as expected for all term selections. |
| Open Classes Search – Submit Button  Class Category History & Political Science  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface | Classes returned as expected for all term selections. |
| Open Classes Search – Submit Button  Class Category History & Political Science  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface | Classes returned as expected for all term selections. |
| Open Classes Search – Submit Button  Class Category Social & Behavioral Science  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface | Classes returned as expected for all term selections. |
| Open Classes Search – Submit Button  Class Category Social & Behavioral Science  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface | Classes returned as expected for all term selections. |
| Open Classes Search – Submit Button  Class Category Language, Philosophy, & Culture  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface | Classes returned as expected for all term selections. |
| Open Classes Search – Submit Button  Class Category Language, Philosophy, & Culture  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface | Classes returned as expected for all term selections. |
| Open Classes Search – Submit Button  Class Category Cultural & Global Understanding  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface | Classes returned as expected for all term selections. |
| Open Classes Search – Submit Button  Class Category Cultural & Global Understanding  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface | Classes returned as expected for all term selections. |
| Open Classes Search – Submit Button  Class Category UGI & C  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface | Classes returned as expected for all term selections. |
| Open Classes Search – Submit Button  Class Category UGI & C  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface | Classes returned as expected for all term selections. |
| Open Classes Search – Submit Button  Class Category Electives  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface | Classes returned as expected for all term selections. |
| Open Classes Search – Submit Button  Class Category Electives  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface | Classes returned as expected for all term selections. |
| Open Classes Search – Submit Button  Class Category Communication  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface | Classes returned as expected for all term selections. |
| Open Classes Search – Submit Button  Class Category Communication  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface | Classes returned as expected for all term selections. |
| Open Classes Search – Submit Button  Class Category Science  Open Classes | Make term selection, class category selections, and open classes selection. Press Submit Button. | List of classes for each category chosen returned. Only classes with open slots returned for each category. | Interface | Classes returned as expected for all term selections. |
| Open Classes Search – Submit Button  Class Category Science  All Classes | Make term selection, class category selections, and all classes selection. Press Submit Button. | List of classes for each category chosen returned. All classes returned for each category. | Interface | Classes returned as expected for all term selections. |
| Open Classes Search – Reset Button | Press Reset button | All selections cleared | Interface | Classes returned as expected for all term selections. |
| Result Screen – Return to Search Screen | From Result Screen – press browser back button | Returned to search screen. All previous selections still selected. | Interface | Classes returned as expected for all term selections. |

## 

# Testing Constraints

The final application developed cannot be tested for all errors. There may be few test cases that go untested. With the lack of knowledge on testing, there might be some test cases that are not recognized. As a result, there might be some errors hidden and unknown during normal usage of the application. These hidden errors, when identified and notified, will be resolved immediately.