Test Plan

for

Student Portal

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TABLE OF CONTENTS

Revision History

Name	Date	Reason For Changes	Version
Test plan for Student Portal	11-7-16	Initial Release	v1.0

1. Introduction

This Test Plan provides the strategies for testing all of the classes and user interactions of the Student Portal application. The intended audience of this document is the project manager and project team, who will also serve as the test team for this application.

1.1 Document Purpose

This Test Plan reviews the application based on the criteria specified in the Design Document. Testing criteria will be based off of various possible user interaction and the expected response from the application. It will review the testing types and strategies implemented as well as provide a proposed testing schedule.

1.2 Objectives

This document provides the platform for testing the Student Portal application. The object of the testing is to confirm that the project meets the Software Requirements specification as well as follows the behaviors specified in the Design Document. The document will describe the guidelines on how the testing team will test the described functionalities as well as help the evaluation of the quality of the project

2. Project Scope

This section of the Test Plan describes the scope of testing in the Student Portal application and describes what is out of the testing scope of the tests.

2.1 In Scope

The Student Portal application will be tested for functionality using a Samsung Galaxy S5 as well as the built in emulator on Android Studio. Both systems are capable of running Android 6.0 (Marshmallow), which is the primary targeted version of the Student Portal application. Testing will include unit testing, integration testing, and user interaction testing.

2.2 Out of Scope

Performance of the Student Portal application for a large number of users is out of the scope of this Test Plan at this point in time.

3. Project Resources

Table 1 describes the Roles, Responsibilities and the Resources for the testing of the Student Portal application.

Testing will be applied to all functions currently implemented in the latest version of the Student Portal application. As of the writing of this document, function testing will be performed on the following application features:

- Login
- Register
- Profile (edit profile)
- Main Page (featured event/item)
- Menu (navigation to other pages, logout)
- Event List View (search, browse, select)
- Item List View (search, browse, select)
- Manage Events and Items (review event/item history, change status of event/item)
- Grant Access to Events
- Rate after Transaction of Item Completed
- Create New Event
- Create New Item
- Event Detail View (view detail, join/cancel join, mark/cancel mark, uber, google map QR code)
- Item Detail View(view detail, reserve/cancel reservation, watch/cancel watch, block, reject, resolve)

Role	Responsibilities	Resource Name(s)
Testers	- Plan testing activities - Execute Test Cases - Find, report and track defects - Measure test effort - Analyze results	Duan Li, Kylie Duan
Developers	- Deliver complete builds of the application - Provide Testers with feedback regarding changes, new functionality - Provide expertise and knowledge of the	Yang Ding, Xioying Ji, Chris Tsuei

	application-under-test ● Eliminate agreed upon defects	

Table 1: Roles, Responsibilities, Resources Table

4. Test Strategies

This section describes the testing that will be done as well as the test data for the Student Portal application.

4.1 Test Design

The following tests will be implemented on the Student Portal application:

● Unit Test - This test will verify the application logic and will be based on knowledge of expected program behavior and verify the system's functionality according to the Design Document.
● User Interaction Test - This test will be performed on either the Android Studio Emulator or the Samsung Galaxy S5 device and will verify that user interaction will result in the correct behavior from the application.

4.2 Functional Test Cases

Test Case ID	Test Case Name	Purpose	Initiation Criteria	Execution Steps	Expected Results
TC1.1	Login display	Tests that the login page is initiated correctly.	Application icon is clicked.	Login page loads text fields of username and password.	Login page correctly displays all objects.
TC1.2	Login	Tests that the user can log in with a proper username and password.	All cookies cleared and user must not be logged in.	1. Navigate to login page. 2. Enter a valid, invalid, or empty username. 3. Enter a valid, invalid, or empty password. 4. Click login button.	If the username and password is valid and matches with the entries in the database, user is directed to the main page. Otherwise, an error message will be displayed.

Test Case ID	Test Case Name	Purpose	Initiation Criteria	Execution Steps	Expected Results
TC2.1	Register display	Tests that the register page is initiated correctly.	User must not be logged in.	Register page loads text fields of username, password and age.	Register page correctly displays all objects.
TC2.2	Register	Tests that the user can register with a proper username, password, phone number and Email.	User must not be logged in.	1. Navigate to register page. 2. Enter a valid, invalid, or empty username. 3. Enter a valid, invalid, or empty password. 4. Enter a valid, invalid, or empty password confirmation. 5. Click register button	If the username and password is valid, the entries will be stored to the database, and can be edited or referred to later on. Otherwise, an error message will be displayed.
TC3.1	Profile page display	Tests that the profile page is initiated correctly.	User must be logged in.	Profile page loads the profile picture and contact information retrieved from database.	Profile page correctly displays all objects.
TC3.2	Profile page	Tests that the profile information is displayed correctly and the user can go to profile edit page by clicking on the edit button.	Profile page must be loaded correctly.	1. Edit profile picture. 2. Click on the edit button and go to profile edit page.	Profile page correctly displays all objects.
TC3.3	Profile edit page display	Tests that the profile edit page is initiated correctly.	The edit button must be correctly loaded and displayed.	Profile edit page loads text fields of username, password and contact information.	Profile edit page correctly displays all objects.

Test Case ID	Test Case Name	Purpose	Initiation Criteria	Execution Steps	Expected Results
TC3.4	Profile edit page	Tests that the user can edit the personal information and profile picture.	Profile edit page must be loaded correctly.	1. Navigate to profile edit page. 2. Edit a valid, invalid, or empty name. 3. Edit a valid, invalid, or empty page. 4. Edit a valid, invalid, or empty phone number. 5. Edit a valid, invalid, or empty Email.	If the edited information is valid, user's information is stored to the database, and can be edited or referred to later on. Else, an error message will be displayed.
TC4.1	Main page display	Tests that the main page is initiated correctly.	User must be logged in correctly.	1. Main page loads sliding menu 2. Main page loads exchange fragment 3. Main page loads events fragments	Main page correctly displays all objects, fragments, and submenus
TC4.2	Main page - browse featured event	Tests that the main page events fragment can display different featured events	Main page must be loaded correctly. The events fragment must be displayed correctly.	1. On press of the left arrow button, the fragment displays information on a more popular event 2. On press of the right arrow button, the fragment displays a less popular event	The fragment displays events with popularity described in the expected results.
TC4.3	Main page - browse featured item	Tests that the main page exchange fragment can display different featured items.	Main page must be loaded correctly. The exchange fragment must be displayed correctly.	1. On press of the left arrow button, the fragment displays information on a more popular item 2. On press of the right arrow button, the fragment displays a less popular item	The fragment displays items with popularity described in the expected results.
TC4.4	Main page - view featured event detail	Tests that the events fragment of the main page displays a featured event correctly.	Events fragment must be loaded correctly on the main page.	Event fragment must display information accessed from the database on a featured event	The fragment displays the correct information for the specified event.

Test Case ID	Test Case Name	Purpose	Initiation Criteria	Execution Steps	Expected Results
TC4.5	Main page - view featured item detail	Tests that the exchange fragment of the main page displays a featured event correctly.	Exchange fragment must be loaded correctly on the main page.	Exchange fragment must display information accessed from the database on a featured item.	The fragment displays correct information for the specified item.
TC4.6	Main page - create new event	Tests the events fragment of the main page to change the activity to the create new event page.	Event fragment must be correctly loaded on the main page.	On press of the plus button on the event fragment, the app must change the current activity to the create new event page.	The app displays the current activity to the create new events page on button press.
TC4.7	Main page - create new item	Tests the exchange fragment of the main page changes the activity to the create new item page.	Exchange fragment must be correctly loaded on the main page.	On press of the plus button on the exchange fragment, the app must change the current activity to the create new item page.	The app displays the current activity to the create new item page on button press.
TC5.1	Sliding menu display	Tests the sliding menu shows up on the main page.	User must be logged in correctly.	On press of the sliding menu icon, the sliding menu and all of its options display on the main page.	The application displays the sliding menu.
TC5.2	Sliding menu - go to profile page	Tests that the sliding menu redirects to the profile page.	Sliding menu must be correctly loaded and displayed	On press of the profile button, the sliding menu changes the current activity to the profile activity.	The application displays the profile page.
TC5.3	Sliding menu - go to event page	Tests that the sliding menu redirects to the events page.	Sliding menu must be correctly loaded and displayed	On press of the events button, the sliding menu changes the current activity to the events activity.	The application displays the events page.
TC5.4	Sliding menu - go to exchange page	Tests that the sliding menu redirects to the exchange page.	Sliding menu must be correctly loaded and displayed	On press of the exchange button, the sliding menu changes the current activity to the exchange activity.	The application displays the exchange page.

Test Case ID	Test Case Name	Purpose	Initiation Criteria	Execution Steps	Expected Results
TC5.5	Sliding menu - go to manage page	Tests that the sliding menu redirects to the manage page.	Sliding menu must be correctly loaded and displayed	On press of the manage button, the sliding menu changes the current activity to the manage activity.	The application displays the manage page.
TC5.6	Sliding menu - logout	Tests that the sliding menu closes the application.	Sliding menu must be correctly loaded and displayed	On press of the logout button, the application closes.	The application terminates.
TC6.1	Event page display	Tests that the event list view page is initiated correctly.	User must be logged in correctly.	1. Event page loads events from the database 2. Event page shows create new event button.	The app displays the event page and all associated objects.
TC6.2	Event page - search	Tests that the search function of the events page works correctly.	The event page must be loaded correctly.	On press of search bar, the following results occur depending on what the user inputted: 1. No input: display nothing other than a blank search page. 2. Any string: search database for matches of events with similar names	The application displays search results.
TC6.3	Event page - browse search results	Tests that the user can browse search results.	The events page must be loaded and there must be more search items than the page can display.	1. On press and drag up, the app scrolls to the top of the results page relative to the amount the user dragged up. 2. On press and drag down, the app scrolls to the bottom of the results page, relative to the amount the user dragged down.	The application displays different results from the events page search.
TC6.4	Event page - view event detail	Tests that the event detail page initialized correctly.	The event id should be correctly passed from the previous page.	1. On initialize, the event information is fetched from database with passed event ID. 2. Empty information is filled with default	The application displays the detail event information correctly.

Test Case ID	Test Case Name	Purpose	Initiation Criteria	Execution Steps	Expected Results
TC6.5	Event page - create new event	Tests that the create new event page initialized correctly.	The event page must be loaded correctly.	On press of the create new event button, the event page changes the current item activity to the create new event activity.	The application displays the create new event page.
TC7.1	Item page display	Tests that the item list view page is initiated correctly.	User must be logged in correctly.	1. Exchange page loads items from exchange database 2. Exchange page shows create new item button.	The app displays the Exchange page and all associated objects.
TC7.2	Item page - search	Tests that the search function of the exchange page works correctly.	The exchange page must be loaded correctly.	On press of search bar, the following results occur depending on what the user inputted: 1. No input: display nothing other than a blank search page. 2. Any string: search database for matches of items with similar names	The application displays search results.
TC7.3	Item page - browse search results	Tests that the user can browse search results.	The exchange page must be loaded and there must be more search items than the page can display.	1. On press and drag up, the app scrolls to the top of the results page relative to the amount the user dragged up. 2. On press and drag down, the app scrolls to the bottom of the results page, relative to the amount the user dragged down.	The application displays different results from the exchange page search.
TC7.4	Item page - view item detail	Tests that the item detail page initialized correctly.	The item id should be correctly passed from the previous page.	1. On initialize, the item information is fetched from database with passed item ID. 2. Empty information is filled with default values.	The application displays the detail item information correctly.

Test Case ID	Test Case Name	Purpose	Initiation Criteria	Execution Steps	Expected Results
TC7.5	Item page - create new item	Tests that the create new item page initialized correctly.	The exchange page must be loaded correctly.	On press of the create new item button, the item page changes the current item activity to the create new item activity.	The application displays the create new item page.
TC8.1	Manage page display	Tests that the manage page displays correctly	User must be logged in correctly.	1. Manage page loads from the database the items and exchange items the logged in user is interested into the specified submenus. 2. Manage page loads and displays the submenus for the exchange and events page.	Manage page displays all events and items submenus containing the events and items the user has shown interest in.
TC8.2	Manage page - events I've joined	Tests that the user can be directed to the events joined listview from the manage page.	User must be logged in. For the resulting listview to be non-empty user must have at least joined some event.	1. Navigate to the manage page from the Sliding Menu. 2. Click on the Events joined section.	The application displays a listview containing exactly events the user joined.
TC8.3	Manage page - events I'm interested in	Tests that the user can be directed to the events interested listview from the manage page.	User must be logged in. For the resulting listview to be non-empty user must have at least indicated interest in some event.	1. Navigate to the manage page from the Sliding Menu. 2. Click on the Events interested section.	The application displays a listview containing the events the user indicated interest in.
TC8.4	Manage page - events I started	Tests that the user can be directed to the events started listview from the manage page.	User must be logged in. For the resulting listview to be non-empty user started some event.	1. Navigate to the manage page from the Sliding Menu. 2. Click on the Events started section.	The application displays a listview containing the events the user started.
TC8.5	Manage page - items I've bought	Tests that the user can be directed to the items bought listview from the manage page.	User must be logged in. For the resulting listview to be non-empty user must have at least bought some item.	1. Navigate to the manage page from the Sliding Menu. 2. Click on the items bought section.	The application displays a listview containing the items the user has bought.

Test Case ID	Test Case Name	Purpose	Initiation Criteria	Execution Steps	Expected Results
TC8.6	Manage page - items that I watched	Tests that the user can be directed to the items watchlisted listview from the manage page.	User must be logged in. For the resulting listview to be non-empty user must have at least watchlisted some item.	1. Navigate to the manage page from the Sliding Menu. 2. Click on the items watchlisted section.	The application displays a listview containing the item the user has watchlisted.
TC8.7	Manage page - items I've sold	Tests that the user can be directed to the items watchlisted listview from the manage page.	User must be logged in. For the resulting listview to be non-empty user must have at least sold some item.	1. Navigate to the manage page from the Sliding Menu. 2. Click on the items sold section.	The application displays a listview containing the items the user sold.
TC9.1	Permission page display	Tests that the page displays current guest list and a list of waitlisted or pending approval list.	User must be logged in and have started some event. For the resulting listview to be non-empty, the corresponding event must have at least received some participant requests.	1. Navigate to an event that the current user created. 2. Click on the "more" button on the top right corner. 3. Click on the permission button.	1. The permission button exists on the drop-down menu. 2. The guest list contains the users who requested to join this specific event.
TC9.2	Permission page - grant access	Tests that the user can grant access to a specific participant in the pending list.	User must be logged in and have started some event.	1. Navigate to the permission page as above. 2. Click on grant access	The guest's access status to the corresponding event is granted in the database.
TC10	Rate	Tests that the seller can successfully rate the buyer after clicking the resolve button.	User must be logged in and have started some item exchange transaction. And the seller must click the resolve button after transaction.	1. Seller clicks the resolve button. 2. The rate page pops up.	The rate page successfully pops up in both buyer and seller's application after the seller clicking the resolve button.
TC11.1	Create event page display	Tests that the create event page is initiated correctly.	User must be logged in. User either click the floating button on the main page or on the event list page to initiate the creating action.	1. Create event page loads edit text boxes for user to enter event information 2. Create event page loads the create button	Create event page correctly displays all the edit text boxes and the create button.

Test Case ID	Test Case Name	Purpose	Initiation Criteria	Execution Steps	Expected Results
TC11.2	Create a new event	Tests that the user can create a new event with a proper event name, date, time, location, price, capacity, and description	The create event page is initiated correctly.	1. Navigate to create new event page. 2. Enter a valid, invalid, or empty event name. 3. Enter a valid, invalid, or empty event date. 4. Enter a valid, invalid, or empty event time. 5. Enter a valid, invalid, or empty event location. 6. Enter a valid, invalid, or empty event price. 7. Enter a valid, invalid, or empty event capacity. 8. Enter a valid, invalid, or empty event description. 9. Click create button	If the user enters valid information, user creates a new item in the database. If the user enters invalid or empty information, the corresponding error message will pop up and the information will not be saved in the database.
TC12.1	Create item page display	Tests that the create item page is initiated correctly.	User must be logged in. User either click the floating button on the main page or on the item list page to initiate the creating action.	1. Create item page loads edit text boxes for user to enter item information 2. Create item page loads the create button	Create item page correctly displays all the edit text boxes and the create button.
TC12.2	Create a new item	Tests that the user can create a new event with a proper event name, price, contact, and description	The create item page is initiated correctly.	1. Navigate to create new item page. 2. Enter a valid, invalid, or empty item name. 3. Enter a valid, invalid, or empty item price. 4. Enter a valid, invalid, or empty owner contact. 5. Enter a valid, invalid, or empty item description. 6. Click create button	If the user enters valid information, user creates a new item in the database. If the user enters invalid or empty information, the corresponding error message will pop up and the information will not be saved in the database.

Test Case ID	Test Case Name	Purpose	Initiation Criteria	Execution Steps	Expected Results
TC13.1	Event/Item Detail Initialization	Tests that the event/Item detail information is initialized correctly.	Valid Event/Item ID is passed from previous page.	N/A	The event/item is initialized with the information in database. 1. The event/item has all the information in the frame, then all TextViews are filled. 2. The event/item has some information not available then certain TextView is set to default value.
TC13.2	Detail Page-menu initialization	Tests that the action menu is initialized correctly.	Valid user ID is passed from previous page.	N/A	The menu is initialized based on the user identity. 1. If the user is the organizer of the event, organizer menu is initialized. 2. If the user is the viewer of the event, participant menu is initialized. 3. If the user is the seller of the item, the seller menu is initialized. 4. If the user is the viewer of the item, the buyer menu is initialized.
TC13.3	Event Detail - Add to Google Calendar	Tests that the event can be added to the calendar or removed from the calendar.	1.The event has not been added to the calendar of user. 2.The user has already been added the event to the calendar.	Click on the floating button calendar.	For case 1, the event is added to the calendar of user. For case 2, the event is removed from the calendar of user.

Test Case ID	Test Case Name	Purpose	Initiation Criteria	Execution Steps	Expected Results
TC13.4	Event/Item Detail-Edit	Tests that the organizer/ the seller can be navigated to the edit page from event/item detail page.	The current user is the organizer of the current event.	Click on the "edit event/item" in the menu.	Correct event ID/ item ID is passed to event/item edit page.
TC13.5	Event/Item Detail-Delete	Tests that the organizer/ the seller can be navigated to the main page and the item/event is deleted.	The current user is the organizer/seller of the current event.	Click on the "delete event/item" in the menu.	The event/item is deleted from the database and the user is navigated to the main page.
TC13.6	Event Detail-Edit permission	Tests that the organizer can be navigated to the permission list page for this event.	The current user is the organizer of the current event.	Click on the "Edit permission" in the menu.	Correct event ID is passed to the event permission list page.
TC13.7	Event Detail-scan permission	Tests that the organizer can be navigated to the QR scan page for this event.	The current user is the organizer of the current event.	Click on the "Scan permission" in the menu.	Correct event ID is passed to the QR scan page.
TC13.8	Event Detail-Bookmark	Tests that event can be added to or removed from the user Bookmark list.	1.The event is in the bookmark list of the user. 2.The event is not in the bookmark list of the user.	Click on the "Add to Bookmark" or "Cancel Bookmark" in the menu.	For case 1, the event will be removed from the user Bookmark list. For case 2, the event will be added to from the user Bookmark list.
TC13.9	Event Detail-Join	Tests that event can be added to or removed from the user's Joined list.	1.The event is in the Joined list of the user. 2.The event is not in the Joined list of the user.	Click on the "Join Event" or "Cancel Join" in the menu.	For case 1, the event will be removed from the user Joined list. For case 2, the event will be added to from the user Joined list.

Test Case ID	Test Case Name	Purpose	Initiation Criteria	Execution Steps	Expected Results
TC13.10	Event Detail - Uber	Tests that the user can be directed to Uber page via Uber button.	Event page must be loaded correctly.	1. Navigate to Uber app. 2. Modify the location and destination that loaded from event detail page and GPS.	User can see location and destination generated on Uber app.
TC14.1	Item Detail-Resolve	Tests that the seller can resolve the current reservation of the item.	The current user is the seller of the current item and the item has been reserved by a user.	Click on the "Resolve Reservation" in the menu.	The reservation in the database is resolved and the "Resolve Reservation"/ "Reject Reservation" button is eliminated from the menu.
TC14.2	Item Detail-Reject	Tests that the seller can reject the current reservation of the item.	The current user is the seller of the current item and the item has been reserved by a user.	Click on the "Reject Reservation" in the menu.	The reservation in the database is rejected and the "Resolve Reservation"/ "Reject Reservation" / "Block Current Buyer" button is eliminated from the menu.
TC14.3	Item Detail-Block	Tests that the seller can block the user currently reserving the item.	The current user is the seller of the current item and the item has been reserved by a user.	Click on the "Block Current Buyer" in the menu.	The current user is blocked by the buyer and the reservation is automatically rejected. The "Resolve Reservation"/ "Reject Reservation" / "Block Current Buyer" button is eliminated from the menu.
TC14.4	Item Detail-Watch list	Tests that the user can add the item to the Watch list or the item can be removed from the	1.The event is in the Watch list of the user. 2.The event is not in the Watch list of the	Click on the "Add To Watch list" / "Cancel Watch list" in the menu.	For case 1, the event will be removed from the user's Watch list. For case 2, the

		Watch list.	user.		event will be added to from the user Watch list.
TC14.5	Item Detail- Reservati on	Tests that the user can add the item to the reservation list or the item can be removed from the reservation list.	1.The event is in the Reservation list of the user. 2.The event is not in the Reservation list of the user.	Click on the "Add To Reservation" /Cancel Reservation in the menu.	For case 1, the event will be removed from the user Reservation list. For case 2, the event will be added to from the user Reservation list.

5. Project Schedule

The following table describes the proposed testing schedule of the Student Portal Application.

Task	Artifacts	Projected Completion
Test Plan Completed	Test Plan	11-7-16
Test Environment Prepared	Hardware and software	11-9-16
Test Cases Recorded and Executed	Test Results Document	11-11-16
Defects submitted and tracked	Test Results Document	11-14-16
User Interaction test	Test Results Document	11-28-16

6. Defect Responsibility

Defects identified through testing will be discussed with the team member responsible for the function that was tested in order to verify that the resultant behavior constituted a defect. A

defect register will be maintained to keep track of the defects and potential defects found in the application.

7. Exit Criteria

Testing can proceed to the next stage of the process when the current stage has completed testing. All tests will be completed by the end of the project.

8. Goals and Deliverables

Goals
- To accomplish all tests described in the test plan
- To verify application functionality and content in the current version of the Student Portal application.
- To reduce the frequency of errors in manual testing
- To find and track all defects in the Student Portal application

Deliverables
- Test Plan Document
- Test code (JUnit tests) (not included in this submission)
- Test Result Document (not included in this submission)
- Defect Tracking Report (not included in this submission)