CS221 Group Project
Test Specification

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Contents

1 Introduction

1.1 Purpose of this Document

This document describes the test specification and procedure for the Reserve Plant Species Recording project (RPSR). The document will give a guide on the main stages of testing.Team members are to read this document and confirm that the test specification is understood, and sets out sufficient testing requirements.This document will give a guide to what the expected outputs of each stage in the project are.

1.2 Scope

This test specification aims to provide information about what in the project needs to be tested for the RPSR. As well as the expected results from the tests.

1.3 Objectives

The objectives of this document are:

- To provide all the developers a document that can be looked up to make sure they understand what is needed

- To make sure that all the developers can expect the same goals

- To make sure that once a task has been completed it matches with the expected result

- To make sure that the project is kept to the requirements stated in the brief

- To make sure we know what we will need to check when we finish the project

2 TestPlan

2.1 Android User

Individual Module Testing will be left to the coder, and tests should be written before the coding is done.

Test Ref Req Being Tested Test Content Input Output Pass Criteria

Test Ref	Req	Test Content	Input	Output	Pass
SE-F-001	FR1	Startup of Software	Touch App logo	Botany App should open	Android app opens without error.
SE-F-002	FR2	Valid username allows user to login	Enter valid username of size 3<UN<10 e.g Alexander	If provided along with a valid email and phone number, App should confirm successful login and proceed to App.	Splash screen showing correct Username is showing.
SE-F-003	FR2	Invalid username does not allow user to login	Enter username that is outside of the required length	App should display an error	An error message in a box should pop up saying that the username has to be between 3 and 10 characters long.
SE-F-004	FR2	Empty Username is not accepted	Have the username empty	An error message shows next to the input	User is denied access to rest of the App
SE-F-005	FR2	Valid phone number is accepted	Enter a valid phone number e.g. 0780836924	Along with a valid email and username the user can go to the next part of the app	An error message does not show next to the input and the user moves on
SE-F-006	FR2	Empty phone number is not accepted	Have the phone number empty	An error message shows next to the input	User is denied access to rest of app
SE-F-007	FR2	Invalid phone number is not accepted	Enter an invalid phone number e.g ''a''	An error message shows next to the input	User is denied access to rest of app
SE-F-008	FR2	Valid email is accepted	Enter a valid email address e.g. this@that.com	Along with a valid phone number and username the user can go to the next part of the app	Splash screen showing correct Username is showing.
SE-F-009	FR2	Empty Email is not accepted	Have the email address empty	An error message shows next to the input	User is denied access to rest of app

ID	FR				
SE-F-010	FR2	Invalid email is not accepted	Enter an invalid email address e.g. this@that	An error message shows next to the input	User is denied access to rest of app
SE-F-011	FR2	App gets the GPS information from the phone	User waits for valid GPS signal	Message is shown to say that a valid GPS signal has been found	User is allowed to move on without entering a site name
SE-F-012	FR2	Manual site name is accepted	User enters the name of the site e.g. Aberystwyth	Button is clickable	User is allowed to move on
SE-F-013	FR3	Latin name auto-completes	User enter the first part of a latin name e.g. gara	A list of all the Latin names with the input appears	All the Latin names that appear all have the input in them
SE-F-014	FR4	Plant photo button works	User touches the plant photo button	User's phone goes to the inbuilt camera	User able to take picture with inbuilt camera
SE-F-015	FR4	Site photo button works	User touches the site photo button	User's phone goes to the inbuilt camera	User able to take picture with inbuilt camera
SE-F-016	FR4	Plant photo is saved	User takes a plant photo	Picture is taken and takes the place of the plant photo button	The photo is saved, and ready to be submitted
SE-F-017	FR4	Site photo is saved	User take site photo	Picture is taken and takes the place of the site photo button	The photo is saved ready to be submitted
SE-F-018	FR4	User not allowed to add a non-image file when prompted for a picture of a plant.	Attempt to enter a non-image file to the database.	Message states that the file is not an image file.	Does not enter to database. Returns to input page.
SE-F-019	FR4	User not allowed to add a picture of a plant to the database if over 10MB	Attempt to enter an absurdly large image file to the database (e.g 20MB).	States that the file exceeds filesize limits.	Does not enter to database. Returns to input page.
SE-F-020	FR4	User allowed to edit abundance	User slides the abundance slider	The abundance slider moves	The abundance is changed and recorded

ID	FR	Description	Action	Expected Output	Result
SE-F-021	FR3	User allowed to add a plant name to the database.	Enter plant name to the database via an-droid app.	States that plant details are successfully added to the database.	Plant details success-fully added to the database.
SE-F-022	FR4	User allowed to add Species Details.	Enter Species Details to the database via an-droid app.	States that plant details are successfully added to the database.	Plant details success-fully added to the database.
SE-F-023	FR4	User not allowed to en-ter invalid Species De-tails to the database.	Enter invalid Species Details to the database via android app.	App states that the de-tails entered are invalid.	Does not enter to database. Returns to input page.
SE-F-024	FR4	User allowed to add a picture of a plant to the database.	Enter a plant picture to the database via an-droid app.	States that plant pic-ture is successfully added to the database.	Plant picture success-fully added to the database.
SE-F-025	FR6	Application should know whether it is con-nected to the internet, and that it is able to send records to the database. If not, the data is stored in local storage.	Attempt to do SE-F-004/5/7/10 whilst con-nected to the internet.	Pop-up states that records successfully sent to the database.	Successfully sends records to the database.
SE-F-026	FR6	Application should know whether it is con-nected to the internet, and that it is able to send records to the database. If not, the data is stored in local storage.	Attempt to SE-F-004/5/7/10 whilst not connected to the internet.	Pop-up states that the app is not connected to the internet and that the records were stored in local storage.	Stores the records on lo-cal storage.

2.2 Website User

Individual Module Testing will be left to the coder, and tests should be written before the coding is done.

Test Ref	Req	Test Content	Input	Output	Pass Criteria
SE-F-027	FR2	Valid Username allows user to login.	Login with valid Username.	Username displayed on website	Session maintained under that username
SE-F-028	FR2	Invalid Username does not allow user to login.	Login with invalid Username, such as "i$!$"	Error message returned	Session not created
SE-F-029	FR3	User able to navigate and view Reserve database	Click reserve link	the Reserve database loads and displays	
SE-F-030	FR3	User able to navigate and view Plant database	Click plant link	the Plant database loads and displays	
SE-F-031	FR3	User able to navigate and view to specimen	Navigate to the plant database, and click "view specimen"	Speciment page loads	
SE-F-032	FR3	User allowed to add a plant name to the database.	Enter valid plant name using the website.	States that plant details are successfully added to the database.	Plant details successfully added to the database. It returns an error if not added to database.
SE-F-033	FR3	User not allowed to add an invalid plant name to the database.	Enter invalid plant name using the website, such as "909090"	Returns error stating that the plant name is invalid.	Plant details not added to database, error returned, returns to input page.
SE-F-034	FR4	User allowed to add Species Details.	Enter valid Species Details using the website.	States that plant details are successfully added to the database.	Plant details successfully added to database, returns to input page, no error returned.
SE-F-035	FR4	User not allowed to add invalid Species Details.	Enter invalid Species Details using the website.	States that plant details are invalid.	Plant details not added to database, returns error, returns to input page.

SE-F-036	FR4	User allowed to add a picture of a plant to the database.	Enter a valid image file to the database using the website.	States that plant image is successfully added to the database.	Plant image successfully added to the database.
SE-F-037	FR4	User not allowed to add a picture of a plant to the database if over a certain size (10MB)	Attempt to enter an absurdly large image file to the database (e.g 20MB).	Returns error stating that the file exceeds file-size limits.	Does not enter to database, returns error message. Returns to input page.
SE-F-038	FR4	User allowed to record the level of abundance of the plant within the area.	Enter level of abundance of the plant using the website.	States that plant abundance is successfully added to the database.	Plant abundance successfully added to the database, returns to input page.
SE-F-039	FR4	User not allowed to enter an invalid abundance level	Enter an invalid level of abundance (something outside the range of 1-5)	Error message states that invalid plant abundance has been entered	Does not enter to database, with error message returned stating that it is an invalid input. Returns to input page
SE-F-040	FR5	User able to make changes to any record that they have added to the database.	Attempt to change Plant Name of a user inputted plant.	States that change was successfully made.	Change successfully made to the database.
SE-F-041	FR5	User able to make changes to any record that they have added to the database.	Attempt to change Species Details of a user inputted plant.	States that change was successfully made.	Change successfully made to the database.
SE-F-042	FR5	User able to make changes to any record that they have added to the database.	Attempt to change plant picture of a user inputted plant.	States that change was successfully made.	Change successfully made to the database.

| SE-F-043 | FR5 | User able to make changes to any record that they have added to the database. | Attempt to change abundance details of a user inputted plant. | States that change was successfully made. | Change successfully made to the database. |
| SE-F-044 | FR5 | User able to remove any record that they have added to the database. | Attempt to remove a user-added record from the database. | States that record was successfully removed. | Record successfully removed from the database. |

2.3 Server

Individual Module Testing will be left to the coder, and tests should be written before the coding is done.

Test Ref	Req	Test Content	Input	Output	Pass Criteria
SE-F-045	FR7	Server allows an addition of a valid record via a POST request)	Valid JSON-formatted record via POST	Returns status code 200 OK and ID of the record	Status code 200 OK and record present in the database
SE-F-046	FR7	Server does not allow an addition of an invalid record via a POST request)	Invalid JSON-formatted record via POST	Returns status code 400	Status code 400 and record not present in the database
SE-F-047	FR7	Server allows an addition of a file resource via a POST request	A binary file via POST	Returns status code 200 OK and ID of the resource	Status code 200 OK and file present on server
SE-F-048	FR7	Server allows client to get a specimen with a specified specimen ID that does exist	A POST request with the desired ID specified	Returns status code 200 OK and a JSON-formatted specimen	Status code 200 OK and a valid JSON-formatted specimen
SE-F-049	FR7	Server does not allow the client to get a specimen with a specified specimen ID that does not exist	A POST request with the desired ID specified	Returns status code 400	Status code 400, nothing returned
SE-F-050	FR7	Server allows client to get a file resource with a specified resource ID that exists	A POST request with the desired ID specified	Returns status code 200 OK and a file	Status code 200 OK and the desired file
SE-F-051	FR7	Server does not allow the client to get a file resource with a specified resource ID that does not exist	A POST request with the desired ID specified	Returns status code 400	Status code 400 no file returned

ID	FR	Description	Request	Expected Result	Output
SE-F-052	FR7	Server allows client to get a number of specimens based on a specified offset and range	A POST request with desired offset and range	Returns status code 200 OK, desired number of specimens starting from desired offset are returned as a valid JSON-formatted specimen	Status code 200 OK and an array of valid specimens, limited by desired range and offset
SE-F-053	FR7	Server allows client to get a number of specimens based on a specified search value by name, user, location, reserveID	A POST request with desired search value and search type	Returns status code 200 OK, only desired specimens based on search value and search type are returned as a valid JSON-formatted specimen array	Status code 200 OK and an array of valid specimens, limited by search value and search type
SE-F-054	FR7	Server allows client to get a number of specimens based on a specified search value by name, user, location and searched by reserveID	A POST request with desired search value and search type and specified reserveID	Returns status code 200 OK, only desired specimens based on search value, search type and reserveID are returned as a valid JSON-formatted specimen array	Status code 200 OK and an array of valid specimens, limited by search value, search type and reserveID
SE-F-055	FR7	Server allows client to get a number of specimens ordered by ascending or descending and values name, user, abundance, location	A POST request with desired order method and order type	Returns status code 200 OK, all specimens ordered by desired order method and order type are returned as a valid JSON-formatted specimen array	Status code 200 OK and an array of valid specimens, ordered by desired order type and order value

ID	FR	Description	Input	Expected Output	Actual Output
SE-F-056	FR7	Server allows client to get a number of specimens based on a specified search value by name, user, location, reserveID and ordered by ascending or descending and values name, user, abundance, location	A POST request with desired search value, search type, order method and order value	Returns status code 200 OK, only desired specimens based on search value and search type are returned as a valid JSON-formatted specimen array ordered by desired order type and order value	Status code 200 OK and an array of valid specimens, limited by search value and search type, ordered by order method and order type
SE-F-057	FR7	Server allows client to get a number of specimens based on a specified search value by name, user, location and searched by reserveID and ordered by ascending or descending and values name, user, abundance, location	A POST request with desired search value, search type, reserveID, order method and order value	Returns status code 200 OK, only desired specimens based on search value, search type and reserveID are returned as a valid JSON-formatted specimen array ordered by desired order type and order value	Status code 200 OK and an array of valid specimens, limited by search value and search type, ordered by order method and order type
SE-F-058	FR7	Server allows client to get a number of specimens, filtered by record location name	A POST request with the desired location name specified	Returns status code 200 OK and a JSON-formatted array of relevant records found	Status code 200 OK and an array of valid relevant records with same or similar location name
SE-F-059	FR7	Server allows client to remove a specified specimen with a specified valid specimen ID	A POST request with the desired specimen ID to be deleted	Returns status code 200 OK	Status code 200 OK and the specimen is removed from the database

SE-F-060	FR7	Server does not allow client to remove a specified specimen with a specified specimen ID that is invalid	A POST request with the desired specimen ID to be deleted	Returns status code 400	Status code 400 and the specimen is not removed from the database
SE-F-061	FR7	Server allows client to edit a specified specimen with a specified valid ID	A POST request with the desired ID and a JSON-formatted specimen	Returns status code 200 OK	Status code 200 OK and specimen is changed in the database
SE-F-062	FR7	Server does not allow client to edit a specified specimen with a specified invalid ID	A POST request with the desired ID and a JSON-formatted specimen	Returns status code 400	Status code 400 and specimen is not changed in the database
SE-F-063	FR7	Server does not allow client to enter any malicious data into the database	A POST request with malicious data	Returns status code 500	Status code 500 and no data is affected in the database

3 Test Result Reporting

subsectionReport Details of test results are to be maintained in the group github, under TestReports. Module tests are to be maintained in the ModuleTests folder, and System tests in the SystemTests folder.

4 Refrences

4.1 Refrence

- General Documentation Standards : C. J. Price, N.W.Hardy & B.P.Tiddeman (2014-09-23) SE.QA.03 1.7

- Test Procedure Standards : C. J. Price, N.W.Hardy and B.P.Tiddeman (2014-09-23) SE.QA.06 1.8

5 Document History

Version	Edit	Date	Persons
0.1	Initial Version	November 10 2014	nid21
0.2	Review and moving inline with template	November 28 2014	nid21
0.3	Updated spec for changed API methods	January 22 2015	msh4
0.4	Updated with more detailed Android Tests	November	nid21