# CS221 Group Project Test Specification

Project Team

Aldridge, William Atkins, Max Barnes, Xander Dart, Nicholas Harizanov, Maksim O'Hare, James Pocock, Michael

Wilcock, Daniel

Tuff, Sebastian Wilmot, Andrew

Version  ${\rm Status}$ Date Published Reference Department Address

0.4Pre-Release February 12, 2015  $SE\_NO2\_TS\_00$ Computer Science Aberystwyth University Penglais Campas Ceredigion  $SY23\ 3DB$ 

Copyright ©Aberystwyth University 2014

### Contents

1	Introduction	3
	1.1 Purpose of this Document	3
	1.2 Scope	3
	1.2 Scope	3
2	TestPlan	4
	2.1 Android User	4
	2.2 Website User	8
	2.3 Server	12
3	Test Result Reporting	17
4	Refrences	18
	4.1 Refrence	18
5	Document History	19

#### 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

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

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

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

#### 2.2 Website User

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

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

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

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

#### 2.3 Server

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

FR7 Server allows tion of a valid:  a POST reque addition of a record via a J quest)  FR7 Server allows tion of a file rea a POST reque specified specified specified specified specified respectively.  FR7 Server does not exist not exist not exist not exist specified respectively.  FR7 Server allows get a file reso a specified respectively.  FR7 Server allows get a file reso a specified respectively.  FR7 Server allows get a file reso a specified respectively.	-	Valla ISON formattod		Ctt 200 000 500 000
FR7 FR7 FR7 FR7 FR7		valid aboliv-tolillatica	Returns status code 200	Status code 200 ON and
FR7 FR7 FR7 FR7 FR7 FR7		record via POST	OK and ID of the record	record present in the
FR7 Server does no addition of a record via a 1 quest) FR7 Server allows iton of a file rea a POST reque specified respecified with a specified respecified respectively.	(nest)			database
addition of a record via a J quest)  FR7 Server allows tion of a file ree a POST reque Specified respecified respective		Invalid JSON-	Returns status code 400	Status code 400 and
FR7 Server allows tion of a file ree a POST requer a Server allows get a specime specified specthat does exist the client to g imen with a specimen ID not exist fraction a specified reso a specified reso a specified reso a specified reso that exists fractions in the client to get a file reso a specified reso that exists fractions in the client to get a file reso a specified reso a specified reso that exists fractions in the client to get a file reso a specified		formatted record		record not present in
FR7 Server allows tion of a file ree a POST reque BR7 Server allows get a specime specified specified specified specified specified specified specified specified specified regimen with a specimen ID not exist not exist Server allows get a file reso a specified resister Server does reso a specified resister Server does reso a specified reso a specified resister specified reso a	POST re-	via POST		the database
FR7 Server allows tion of a file real a POST reque a POST reque get a specime specified respecified respective respec				
tion of a file ree a POST reque ER7 Server allows get a specime specified spec that does exist the client to g imen with a specimen ID not exist not exist ER7 Server allows get a file reso a specified res that exists that exists that exists that client to ge	an addi-	A binary file via POST	Returns status code 200	Status code 200 OK and
FR7 Server allows get a specime specified specthat does exist that does exist the client to g imen with a specimen ID not exist FR7 Server allows get a file reso a specified rest that exists that exists the client to get a file reso a specified rest that exists that exists	resource via		OK and ID of the re-	file present on server
FR7 Server allows get a specime specified specified specified specified specified specified series the client to get a file reso a specified reso a specified reso a specified reso that exists  FR7 Server allows get a file reso a specified reso that exists  FR7 Server does reso that exists	nest		source	
FR7 FR7 FR7	client to	A POST request with	Returns status code	Status code 200 OK and
FR7 FR7 FR7		the desired ID specified	200 OK and a JSON-	a valid JSON-formatted
FR7 FR7 FR7	ecimen ID		formatted specimen	specimen
FR7 FR7 FR7	ist			
FR7		A POST request with	Returns status code 400	Status code 400, noth-
FR7		the desired ID specified		ing returned
FR7	a specified			
	) that does			
FR7 FR7				
FR7	client to	A POST request with	Returns status code 200	Status code 200 OK and
a specified resthat exists  FR7 Server does 1 the client to ge		the desired ID specified	OK and a file	the desired file
that exists FR7 Server does the client to ge	resource ID			
FR7 Server does 1 the client to ge				
	not allow	A POST request with	Returns status code 400	Status code 400 no file
		the desired ID specified		returned
source with a sp	a specified			
resource ID that	that does			
not exist				

SE-F-051	FR7	Server allows client to	A POST request with	Returns status code 200	Status code 200 OK and
		get a number	desired offset and range	OK, desired number of	an array of valid speci-
		mens based on a speci-		specimens starting from	mens, limited by desired
		fied offset and range		desired offset are re-	range and offset
				turned as a valid JSON-	
				formatted specimen	
SE-F-051	FR7	Server allows client to	A POST request with	Returns status code 200	Status code 200 OK and
		get a number of speci-	desired search value and	OK, only desired spec-	an array of valid speci-
		mens based on a spec-	search type	imens based on search	mens, limited by search
		ified search value by		value and search type	value and search type
		name, user, location, re-		are returned as a valid	
		serveID		JSON-formatted speci-	
				men array	
SE-F-051	FR7	Server allows client to	A POST request with	Returns status code	Status code 200 OK and
		get a number of speci-	desired search value and	200 OK, only desired	an array of valid speci-
		mens based on a spec-	search type and speci-	specimens based on	mens, limited by search
		ified search value by	fied reserveID	search value, search	value, search type and
		name, user, location		type and reserveID	reserveID
		and searched by re-		are returned as a	
		serveID		valid JSON-formatted	
				specimen array	
SE-F-051	FR7	Server allows client to	A POST request with	Returns status code 200	Status code 200 OK and
		get a number of spec-	desired order method	OK, all specimens or-	an array of valid spec-
		imens ordered by as-	and order type	dered by desired order	imens, ordered by de-
		cending or descending		method and order type	sired order type and or-
		and values name, user,		are returned as a valid	der value
		abundance, location		JSON-formatted speci-	
				men array	

Status code 200 OK and an array of valid specimens, limited by search value and search type, ordered by order method and order type	Status code 200 OK and an array of valid specimens, limited by search value and search type, ordered by order method and order type	Status code 200 OK and an array of valid rele- vant records with same or similar location name	Status code 200 OK and the specimen is removed from the database
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	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	Returns status code 200 OK and a JSON- formatted array of relevant records found	Returns status code 200 OK
	A POST request with desired search value, search type, reserveID, order method and order value	A POST request with the desired location name specified	A POST request with the desired specimen ID to be deleted
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	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	Server allows client to get a number of speci- mens, filtered by record location name	Server allows client to remove a specified specimen with a specified valid specimen ID
		FR7	FR7
SE-F-051	SE-F-051	SE-F-052	SE-F-053

Status code 400 and the specimen is not removed from the database	Status code 200 OK and specimen is changed in the database	Status code 400 and specimen is not changed in the database	Status code 500 and no data is affected in the database
Returns status code 400	Returns status code 200 OK	Returns status code 400	Returns status code 500
not allow A POST request with Returns status code 400 Status code 400 and we a specthal a pedesired specimen ID the desired from the specimen is not removed from the cimen ID database	that is invalid  Server allows client to A POST request with edit a specified spector the desired ID and a inequality a specified ISON-formatted speci-	men A POST request with Returns status code 400 the desired ID and a JSON-formatted speci-	men A POST request with Returns status code 500 Status code 500 and no malicious data  data is affected in the database
SE-F-054 FR7 Server does not allow A POST request with client to remove a spec- the desired specimen ID ified specimen with a to be deleted specified specimen ID	SE-F-055 FR7 Server allows client to A POST request with Returns status code 200 edit a specified spec- the desired ID and a OK imen with a specified LSON-formatted speci-	valid ID Server does n client to edit a specimen with	fied invalid ID  Server does not allow client to enter any malicious data into the database
FR7	FR7	FR7	
SE-F-054	SE-F-055	SE-F-056	SE-F-056 FR7

### 3 Test Result Reporting

subsection Report Details of test results are to be maintained in the group github, under TestReports. Module tests are to be maintained in the Module Tests folder, and System tests in the System Tests 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
- $\bullet$  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