CS221 Group Project Test Specification

Project Team

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${\bf Contents}$

1	Introduction	3
	1.1 Purpose of this Document	3
	1.2 Scope	3
	1.1 Purpose of this Document	3
2	TestPlan	4
	2.1 Android User	4
	2.2 Website User	Ö
	2.3 Server	13
3	Test Result Reporting	18
	3.1 Report	18
4	Refrences	19
	4.1 Refrence	19
5	Document History	20

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 these 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.

SE-F-001 FR1 Startup of Software Touch App logo SE-F-002 FR2 Valid username allows Enter valid use user to login e.g Alexander SE-F-003 FR2 Invalid username does Enter username not allow user to login outside of the relength eg "ab" of fghiklqw" 10 SE-F-004 FR2 Empty Username is not Have the use accepted SE-F-005 FR2 Valid phone number is Enter a phone number of accepted SE-F-006 FR2 Empty phone number is Have the phone rempty not accepted empty SE-F-007 FR2 Invalid phone number is Enter an invalid not accepted number e.g "a" SE-F-008 FR2 Valid email is accepted email address this@that.com	Test Content Input	Output	Pass
FR2 Valid username allows Enter valid user to login e.g Alexander e.g Alexander not allow user to login length eg "ab" fghjklqw" 10 fghjklqw" 10 empty Username is not empty empty Valid phone number is Enter a accepted phone number is Enter an inva not accepted empty empty FR2 Empty phone number is Enter an inva not accepted empty empty FR2 Invalid phone number is Enter an inva not accepted empty empty FR2 Invalid email is accepted fumber e.g "a email addre this@that.com	Touch App logo	Botany App should	Android app opens to
FR2 Valid username allows Enter valid user to login e.g Alexander e.g Alexander not allow user to login outside of the length eg "ab" fghjklqw" 10 FR2 Empty Username is not Have the empty accepted empty empty phone number is Enter a phone number is not accepted empty FR2 Empty phone number is Enter a phone number is not accepted empty empty FR2 Invalid phone number is Enter an inva not accepted empty empty FR2 Invalid email is accepted pumber e.g "a email addre this@that.com		open	the users activity.
FR2 Invalid username does Enter usernam not allow user to login length eg "ab" fghiklqw" 10 FR2 Empty Username is not Have the accepted empty FR2 Valid phone number is Enter a accepted phone number is Enter an inva not accepted empty FR2 Invalid phone number is Enter an inva not accepted empty FR2 Invalid email is accepted email addresses a second this empty FR2 Valid email is accepted email addresses an inva this empty FR2 Valid email is accepted Enter an inva not accepted Enter an inva not accepted Enter an inva not accepted Enter a inva not accepted Enter a phone email addresses this email addresses and the email	Enter valid username	No error message ap-	App proceeds to speci-
FR2 Invalid username does Enter usernam not allow user to login outside of the length g "ab" fghjklqw" 10 FR2 Empty Username is not Have the accepted empty FR2 Valid phone number is Enter a phone number is not accepted empty FR2 Empty phone number is Have the phon not accepted empty FR2 Invalid phone number is Enter an inva not accepted empty FR2 Invalid email is accepted email address and this@that.com	of size 3 <username<10< td=""><td>pears</td><td>men activity.</td></username<10<>	pears	men activity.
FR2 Invalid username does Enter usernam not allow user to login length eg "ab" fghjklqw" 10 FR2 Empty Username is not Have the accepted empty FR2 Valid phone number is Enter a phone numbor accepted corrected empty FR2 Empty phone number is Have the phon not accepted empty FR2 Invalid phone number is Enter an inva not accepted empty FR2 Invalid email is accepted email address and this@that.com			
FR2 Empty Username is not Have the accepted empty FR2 Valid phone number is Enter a accepted phone number is Enter a phone number is mot accepted empty FR2 Empty phone number is Enter an inva not accepted empty FR2 Invalid phone number is Enter an inva not accepted number e.g. "a empty FR2 Valid email is accepted Enter a accepted Enter an inva not accepted number e.g. "a email addre	does Enter username that is	App should display an	An error message in a
FR2 Empty Username is not Have the accepted empty empty FR2 Valid phone number is Enter a accepted phone number is Enter an invalid email is accepted email address and this@that.com	outside of the required	error indicating correct	box should pop up say-
FR2 Empty Username is not Have the accepted empty empty Username is not Have the empty accepted phone number is Enter a phone number is Empty phone number is Have the phon not accepted empty empty not accepted number is Enter an invanot accepted email is accepted email address accepted Enter a email address this@that.com	o" or "asd-	lenghts	ing that the username
FR2 Empty Username is not Have the empty FR2 Valid phone number is Enter a accepted 07808369246 FR2 Empty phone number is Have the phon not accepted empty empty FR2 Invalid phone number is Enter an inva not accepted number e.g. "a empty FR2 Valid email is accepted email addre	fghjklqw" 10		has to be between 3 and
FR2 Empty Username is not Have the accepted empty FR2 Valid phone number is Enter a phone number is Empty phone number is Have the phon not accepted empty FR2 Invalid phone number is Enter an inva not accepted number e.g "a FR2 Valid email is accepted email addre this@that.com			10 characters long.
FR2 Valid phone number is accepted FR2 Empty phone number is not accepted FR2 Invalid phone number is not accepted FR2 Valid email is accepted	Have the username	An error message shows	User is told of the er-
FR2 Valid phone number is accepted FR2 Empty phone number is not accepted FR2 Invalid phone number is not accepted FR2 Valid email is accepted	empty	next to the input	ror and the app does not
FR2 Valid phone number is accepted FR2 Empty phone number is not accepted FR2 Invalid phone number is not accepted FR2 Valid email is accepted			proceed
FR2 Empty phone number is not accepted FR2 Invalid phone number is not accepted FR2 Valid email is accepted	Enter a valid	Along with a valid email	An error message does
FR2 Empty phone number is not accepted FR2 Invalid phone number is not accepted FR2 Valid email is accepted	number e.g.	and username the user	not show next to the in-
FR2 Empty phone number is not accepted FR2 Invalid phone number is not accepted FR2 Valid email is accepted		can go to the next part	put and the user moves
FR2 Empty phone number is not accepted FR2 Invalid phone number is not accepted FR2 Valid email is accepted		of the app	on
FR2 Invalid phone number is not accepted FR2 Valid email is accepted	Have the phone number	An error message shows	User is informed of the
FR2 Invalid phone number is not accepted FR2 Valid email is accepted	empty	next to the input	error and the app does
FR2 Invalid phone number is not accepted FR2 Valid email is accepted			not proceed
FR2 Valid email is accepted number e email this@that	Enter an invalid phone	An error message shows	User is informed of the
FR2 Valid email is accepted Enter email this@that	number e.g "a"	next to the input	error and the app does
FR2 Valid email is accepted Enter email this@that			not proceed
that	is accepted Enter a valid	Along with a valid	The app proceeds to the
this@that.com	address e.g.	phone number and	specimen adder activity
		username the user can	
		go to the next part of	
		the app	

SE-F-009	FR2	Empty Email is not ac-	Have the email address	An error message shows	User is informed of the
		cepted	empty	next to the input	error and the app does
					not proceed
SE-F-010	FR2	Invalid email is not ac-	Enter an invalid email	An error message shows	User is informed of the
		cepted	address e.g. this@that	next to the input	error and the app does
					not proceed
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	Site name is accepted	User enters the name	No error is displayed,	User is allowed to move
			of the site e.g Aberyst-	the app moves to the	on
			wyth	speicmen adder	
SE-F-013	FR3	Latin name auto-	User enter the first four	A list of all the Latin	All the Latin names
		completes	letters of a latin name	names with the input	that appear all have the
			e.g. gara	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	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	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	FR4 User not allowed to add Attempt to enter an ab-	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
SE-F-021	FR3		Enter plant name to	States that plant details	Plant details success-
		a plant name to the	the database via an-	are successfully added	fully added to the
		database.	droid app.	to the database.	database.
SE-F-022	FR4	User allowed to add	Enter Species Details to	States that plant details	Plant details success-
		Species Details.	the database via an-	are successfully added	fully added to the
			droid app.	to the database.	database.
SE-F-023	${ m FR4}$		Enter invalid Species	App states that the de-	Does not enter to
		ter invalid Species De-	Details to the database	tails entered are invalid.	database. Returns to
		tails to the database.	via android app.		input page.
SE-F-024	FR4	User allowed to add a	Enter a plant picture	States that plant pic-	Plant picture success-
		picture of a plant to the	to the database via an-	ture is successfully	fully added to the
		database.	droid app.	added to the database.	database.
SE-F-025	${ m FR6}$	Application should	Attempt to do SE-F-	Pop-up states that	Successfully sends
		know whether it is con-	004/5/7/10 whilst con-	records successfully	records to the database.
		nected to the internet,	nected to the internet.	sent to the database.	
		and that it is able to			
		send records to the			
		database. If not, the			
		data is stored in local			
		storage.			

SE-F-026	FR6	SE-F-026 FR6 Application should	Attempt to	SE-F-	should Attempt to SE-F- Pop-up states that the Stores the records on lo-	Stores the records on lo-
		er it	004/5/7/10	whilst	whilst app is not connected to all storage.	cal storage.
		nected to the internet,	not connected	to the	nected to the internet, not connected to the the internet and that	
		and that it is able to internet.	internet.		the records were stored	
		send records to the			in local storage.	
		database. If not, the				
		data is stored in local				
		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	Red	Test Content	Input	Output	Pass Criteria
SE-F-027	FR2	Valid Username allows	Login with valid User-	Username displayed on	Session maintained un-
		user to login.	name.	website	der that usename
SE-F-028	FR2	Invalid Username does not allow user to login.	Login with invalid User- name, such as "!\$!\$"	Error message returned	Session not created
SE-F-029	FR3	able to	Click reserve link	the Reserve database	
		and view Reserve database		loads and displays	
SE-F-030	FR3	User able to navi-	Click plant link	the Plant database	
		gate and view Plant database		loads and displays	
SE-F-031	FR3	User able to navigate	Navigate to the plant	Speciment page loads	
		and view to specimen	database, and click		
			view specifien		
SE-F-032	FR3	User allowed to add	Enter valid plant name	States that plant details	
		a plant name to the	using the website.	are successfully added	fully added to the
		database.		to the database.	database. It returns an
					error if not added to
					database.
SE-F-033	FR3	User not allowed to add	Enter invalid plant	Returns error stating	Plant details not added
		an invalid plant name to	name using the website,	that the plant name is	to database, error re-
		the database.	such as "909090"	invalid.	turned, returns to input
					page.
SE-F-034	FR4	User allowed to add	Enter valid Species De-	States that plant details	Plant details success-
		Species Details.	tails using the website.	are successfully added	fully added to database,
				to the database.	returns to input page,
					no error returned.
SE-F-035	FR4	User not allowed to add	Enter invalid Species	States that plant details	Plant details not added
		invalid Species Details.	Details using the web-	are invalid.	to database, returns er-
			site.		ror, returns to input
					page.

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

SE-F-043	FR5	SE-F-043 FR5 User able		make	Attempt	to	change	to make Attempt to change States that change was Change	Change	successfully
		changes to	to any		abundance	detai	ls of a	record abundance details of a successfully made.	made to th	made to the database.
		that they		added	have added user inputted plant.	ed pla	unt.			
		to the data	tabase.							
SE-F-044	FR5	SE-F-044 FR5 User able to		ove any	Attempt to	o ren	nove a	remove any Attempt to remove a States that record was Record	Record	successfully
		record that		y have	user-added	recor	d from	they have user-added record from successfully removed.	removed	from the
		added to th	the dat	abase.	e database. the database.	se.			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	Red	Test Content	Input	Output	Pass Criteria
SE-F-045	FR7	Server allows an addi-	Valid JSON-formatted	Returns status code 200	Status code 200 OK and
		tion of a valid record via	record via POST	OK and ID of the record	record present in the
		a POST request)			database
SE-F-046	FR7	Server does not allow an	Invalid JSON-	Returns status code 400	Status code 400 and
		addition of an invalid	formatted record		record not present in
		record via a POST re-	via POST		the database
		quest)			
SE-F-047	FR7	Server allows an addi-	A binary file via POST	Returns status code 200	Status code 200 OK and
		tion of a file resource via		OK and ID of the re-	file present on server
		a POST request		source	
SE-F-048	FR7	Server allows client to	A POST request with	Returns status code	Status code 200 OK and
		get a specimen with a	the desired ID specified	200 OK and a JSON-	a valid JSON-formatted
		specified specimen ID		formatted specimen	specimen
		that does exist			
SE-F-049	FR7	Server does not allow	A POST request with	Returns status code 400	Status code 400, noth-
		the client to get a spec-	the desired ID specified		ing returned
		imen with a specified			
		specimen ID that does			
		not exist			
$\mathrm{SE} ext{-}\mathrm{F} ext{-}050$	FR7	Server allows client to	A POST request with	Returns status code 200	Status code 200 OK and
		get a file resource with	the desired ID specified	OK and a file	the desired file
		a specified resource ID			
		that exists			
SE-F-051	FR7	Server does not allow	A POST request with	Returns status code 400	Status code 400 no file
		the client to get a file re-	the desired ID specified		returned
		source with a specified			
		resource ID that does			
		not exist			

SE-F-052 FR7	FR7	Server allows client to	A POST request with	Returns status code 200	Status code 200 OK and
		get a number of speci-	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-053	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-054	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-055	${ m FR7}$	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	

SE-F-056 FR7	FR7	Server allows client to A POST request with	A POST request with	Returns status code 200	Status code 200 OK
		get a number of speci-	desired search value,	OK, only desired spec-	and an array of valid
		mens based on a spec-	search type, order	imens based on search	specimens, limited by
		ified search value by	method and order value	value and search type	search value and search
		name, user, location, re-		are returned as a valid	type, ordered by order
		serveID and ordered by		JSON-formatted speci-	method and order type
		ascending or descending		men array ordered by	
		and values name, user,		desired order type and	
		abundance, location		order value	
SE-F-057	FR7	Server allows client to	A POST request with	Returns status code	Status code 200 OK
		get a number of speci-	desired search value,	200 OK, only desired	and an array of valid
		mens based on a spec-	search type, reserveID,	specimens based on	specimens, limited by
		ified search value by	order method and order	search value, search	search value and search
		name, user, location	value	type and reserveID	type, ordered by order
		and searched by re-		are returned as a valid	method and order type
		serveID and ordered by		JSON-formatted spec-	
		ascending or descending		imen array ordered by	
		and values name, user,		desired order type and	
		abundance, location		order value	
m SE-E-028	FR7	Server allows client to	A POST request with	Returns status code	Status code 200 OK and
		get a number of speci-	the desired location	200 OK and a JSON-	an array of valid rele-
		mens, filtered by record	name specified	formatted array of	vant records with same
		location name		relevant records found	or similar location name
SE-F-059	FR7	Server allows client to	A POST request with	Returns status code 200	Status code 200 OK and
			the desired specimen ID	OK	the specimen is removed
		imen with a specified	to be deleted		from the database
		valid specimen ID			

י-090	FR7	SE-F-060 FR7 Server does not allow A POST request with Returns status code 400 Status code 400 and	A POST request with	Returns status code 400	Status code 400 and
		client to remove a spec- the desired specimen ID	the desired specimen ID		the specimen is not
		ified specimen with a to be deleted	to be deleted		removed from the
		specified specimen ID			database
		that is invalid			
SE-F-061	FR7	FR7 Server allows client to A POST request with Returns status code 200	A POST request with		Status code 200 OK and
		edit a specified spec-	edit a specified spec- the desired ID and a	OK	specimen is changed in
		imen with a specified	JSON-formatted speci-		the database
		valid ID	men		
SE-F-062	FR7	FR7 Server does not allow A POST request with Returns status code 400	A POST request with	Returns status code 400	Status code 400 and
		client to edit a specified the desired ID and a	the desired ID and a		specimen is not changed
		specimen with a speci- JSON-formatted speci-	JSON-formatted speci-		in the database
		fied invalid ID	men		
SE-F-063	FR7	Server does not allow A POST request with		Returns status code 500	Status code 500 and no
		client to enter any ma-	malicious data		data is affected in the
		licious data into the			database
		database			

3 Test Result Reporting

3.1 Report

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
- \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