CS221 Group Project Test Specification

Project Team

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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 address this@that.com	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 Have the phone not accepted empty FR2 Empty phone number is Have the phone not accepted empty FR2 Invalid phone number is Enter an invanot accepted empty FR2 Invalid email is accepted email addresses 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-	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	${ m FR6}$		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 A	ttempt to	SE-F-	SE-F- Pop-up states that the Stores the records on lo-	Stores the records on lo-
		know whether it is con-	004/5/7/10	whilst	app is not connected to cal storage.	cal storage.
		nected to the internet,			the internet and that	
		and that it is able to	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	Req	Test Content	Input	Output	Pass Criteria
SE-F-030	FR8	Editing reserve with one	Grid reference change.	Reserve grid reference	Reserve data is able
		value changed		updated	to be edited providing
					valid data.
SE-F-031	FR8	Edit all of the values of	All data changed to new	Reserve data updated	Reserve data is able
		a reserve	valid data.		to be editted providing
					valid data.
SE-F-032	FR8	Edit reserve with black	Remove data for one	Reserve was not up-	Reserve data is able
		field	field and submit.	dated	to be editted providing
					valid data and all fields
					filled.
SE-F-033	FR8	Add reserve name	Input reserve name for	Reserve name added	Reserve data is able
			field.		to be added providing
					valid data and all fields
					filled.
SE-F-034	FR8	Add OS grid reference	Input 8 digit OS grid	Grid reference was	Reserve data is able
			reference.	added	to be added providing
					valid data and all fields
					filled.
SE-F-035	FR8	Add reserve description	Input reserve descrip-	Description was added	Reserve data is able
			tion.		to be added providing
					valid data and all fields
					filled.
SE-F-036	FR9	View reserve specimens	Click on view reserve	User is taken to the	Specimens that are con-
			button.	plant specimens page	tained within reserve
				where only the reserve	are displayed.
				specimens contained	
				within the reserve are	
				displayed	

SE-F-037	EF1	Authentication	Log in using correct	Authentication ses-	Password session is cre-
			password.	sion is created giving	ated and a successful
				user administrative	login message is dis-
				privileges. A message	played.
				displays valid password.	
SE-F-038	EF1	Authentication Error	Log in using incorrect	A message displays in-	Password session is not
			password.	correct password.	created, and incorrect
					login message is dis-
					played.
SE-F-039	EF1	Authentication logout	Logout link is clicked.	Session is destroyed and	Session is destroyed and
				login message is dis-	login message is dis-
				played.	played.
SE-F-040	EF1	Authentication granted	User has successfully	User is given access to	Session is destroyed and
		privileges	logged on	delete remove and add	login message is dis-
				specimens and reserves.	played.
SE-F-041	EF2	Add species name	Input species name	Species name is added	Species name is added
				to the record	to the species record.
SE-F-042	EF2	Add species location	User selects a reserve lo-	Reserve is identified	Once reserve is selected,
			cation	with the species	the specimen is identi-
					fied with the reserve.
SE-F-043	EF3	Add specimen abun-	User selects a abun-	Abundance is recorded	Abundance from
		dance	dance according to the	to the specimen	the DAFOR scale
			DAFOR scale		is recorded to the
					specimen.
SE-F-044	EF3	Add comment	User inputs comment	The comment is	Comment is recorded to
				recorded	the specimen.
SE-F-045	EF3	No comment	No input	Comment is left as NULL.	Specimen comment is left null.
GT T 0.48	6111	N	No.	100000	.;
SE-F-046	LF3	No image	No images are inputted	Image is not uploaded for the specimen	Specimen is recorded without an image.
					0

SE-F-047	EF3	PNG image	PNG image is uploaded	PNG image is uploaded	PNG image is recorded to the specimen.
SE-F-048	EF3	GIF image	GIF image is uploaded	GIF image is uploaded	PNG image is recorded to the specimen.
SE-F-049	EF3	JPEG image	JPEG image is uploaded	JPEG image is uploaded	JPEG image is recorded to the specimen .
SE-F-050	EF3	Non-image type	txt file is uploaded	file is not uploaded	File is not uploaded.
SE-F-051	EF4	Delete specimen	Delete specimen button is clicked	Specimen is deleted	Once clicked, the specimen is deleted.
SE-F-052	EF4	Edit specimen	Specimen field is edited	Specimen field in question is edited	Specimen field is edited and is recorded to the specimen ID.
SE-F-053	Features	Simple search bar	Inputted species name	User is taken to the specimen page with results displayed	Once submitted, user is shown specimens that match the search criteria .
SE-F-054	Features	Advanced search bar with species name option selected	Species name with species selected	Results with specimen name displayed	Search results with matching criteria displayed only.
SE-F-055	Features	Advanced search bar with location option selected	The location input with location option selected	Results with inputted location displayed	Search results with matching criteria displayed only.
SE-F-056	Features	Advanced search bar with date option selected	Recording date input with date option selected	Results matching input and option displayed	Search results with matching criteria displayed only.
SE-F-57	Species sorting	Each sorting option selected	Sorting option is selected with sorting criteria	Table results are displayed and sorted to the matching criteria	Once the sorting method is chosen, the results are sorted.
SE-F-058	Features	Google Map	Correct latitude and longitude	Map displays location on a Google maps	Google map should show the location of the specimen.

ld	ne	
nous	on of tl	
map	locatic	نہ
Google	show the	specimen
Map displays nothing		
and		
latitude		
Incorrect	longitude	
Google Map		
Features		
SE-F-059		
\mathbf{x}		

Test Ref	Test Ref Browser	Results
SE-E-060	Chrome	Displays the website
		perfectly and all func-
		tionality works on
		it.
SE-F-061	Firefox	Displays as it should
		mostly, apart from the
		about page due to an
		incompatibility with
		columns. Functions as
		it is supposed to.
SE-F-062	ΙΕ	Displays correctly,
		apart from that the
		default images are not
		displayed. Functional-
		ity still correct.

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		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		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	${ m EB}$	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			
SE-F-050	$_{ m LB}$		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	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		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	
SE-F-058	FR7		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		A POST request with	Returns status code 200	Status code 200 OK and
		remove a specified spec-	the desired specimen ID	OK	the specimen is removed
		imen with a specified	to be deleted		from the database
		valid specimen ID			

SE-F-060 FR7 Server does not allow A POST request with Returns status code 400 Status code 400 and client to remove a spec- the desired specimen ID the specimen is not	PO le de	A POST request with the desired specimen ID	Returns status code 400	Status code 400 and the specimen is not
ified specimen with a to be deleted specified specimen ID that is invalid	o pe o	: deleted		removed from the database
FR7 Server allows client to A POST request with Returns status code 200 edit a specified spec- the desired ID and a OK	A PO	A POST request with		Status code 200 OK and specimen is changed in
imen with a specified valid ID	JSON- men	JSON-formatted specimen		the database
FR7 Server does not allow A POST request with Returns status code 400 client to edit a specified the desired ID and a	PO he de	OST request with desired ID and a	Returns status code 400	Status code 400 and specimen is not changed
specimen with a speci- JSON-formatted specified invalid ID men	JSON- men	N-formatted speci-		in the database
	4 PO		Returns status code 500	Status code 500 and no
enter any ma- ata into the	alici	mancious gava		data is anected in 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