Software Engineering Group 11

SE\_11\_TS

Test Specification

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# Introduction

## Purpose of Document

The purpose of this document is to provide a comprehensive guide to the tests we will carry out on the website, android and database throughout the build and the complete system at the end of the build.

## Scope

This document aims to be a brief but detailed document listing our test specifications for the website, android and database throughout the build and the complete system at the end of the build.

## Objectives

This document covers:

* The Website Test Specification
* The Database Test Specification
* The Android Test Specification
* The Final System Test Specification

## Documents Included

This Test Specification has been derived from the following documents

* SE.QA.RS – Requirement Specification[1]
* SE\_11\_PP – Project Plan[2]
* SE\_11\_TS\_01 – Android Test Specification[3]
* SE\_11\_TS\_02 – Database Test Specification[4]
* SE\_11\_TS\_03 – System Test Specification[5]
* SE\_11\_TS\_04 – Website Test Specification[6]

# Android Test Specification

## Introduction

The Android Test Specification has been created by elo9, als48, qiz and jas78 they derived these tests using the documentation provided by the client, SE.QA.RS and also the groups own Project Plan documentation SE\_11\_PP. These tests offer a comprehensive test specification of the Android Application and its fields and ability to send data and ensure the UI works as needed.

## Recordings and Species Module testing

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test ref** | **Req. being tested** | **Test content** | **Input** | **Output** | **Pass criteria** |
|  | FR2 | Test a valid phone number for a recorder. | 01234564854 | Phone number is accepted when sent to the database. | No errors or warnings are produced. |
|  | FR2 | Test a phone number that contains characters. | 01a23d65845 | Phone number is rejected when the user attempts to submit the data. | An error is displayed to the user alerting them that the phone number is invalid due to characters. |
|  | FR2 | Test a phone number that contains special characters. | 215!254@\*90 | Phone number is rejected when the user attempts to submit the data. | An error is displayed to the user alerting them that the phone number is invalid due to special characters. |
|  | FR2 | Test a valid date. | 06/11/2014 | The date is accepted and sent to the database. | No warnings or errors are produced. |
|  | FR2 | Test a historic date. | 06/11/1900 | The date is rejected when the user attempts to submit the data. | An error is displayed to the user alerting them that the date is too far in the past. |
|  | FR2 | Test a date in the future. | A date further in the future of the current date | The date is rejected when the user attempts to submit the data. | An error is displayed to the user alerting them that the date cannot be in the future. |
|  | FR3 | Test a valid species from the list. | Search for a valid species that exists within the database. | The species is accepted when the user submits the data. | No warnings or errors are produced. |
|  | FR3 | Search for a species that does not exist. | Search for ‘$FS465bth’ | No results will be returned. | A message will alert the user that no matching results were obtained. A prompt to add a new species will appear. |
|  | FR3 | Test a valid unique species can be added. | Attempt to add a new valid species. | The new species will be added to the database when submitted. | No warning or error message will be displayed to the user as the data is valid. |
|  | FR3 | Test that a repeat of a species cannot be entered. | Attempt to add a new valid species that already exists in the database. | The new species will not be added to the database. | An error will be displayed to the user alerting them to the fact a duplicate of this species already exists. |
|  | FR4 | Test a valid abundance character. | ‘A’ | The character is accepted as valid on submission and sent to the database. | No error message or warning is produced for the valid character. |
|  | FR4 | Test an invalid abundance character. | ‘Z’ | The character will be rejected when the user attempts to submit data. | An error is displayed to the user alerting them that the abundance character is invalid. |
|  | FR4 | Test multiple characters in the abundance field. | ‘FA’ | The character will be rejected when the user attempts to submit the data. | An error is displayed to the user alerting them that only one character can be entered into the abundance field. |
|  | FR4 | Test no entry in the free text comment area. | Enter no data to the free text area. | On submission the data will be sent to the database. | No warning or error messages will be displayed for the valid entry. |
|  | FR4 | Test a valid entry in the free text comment area. | Enter more than 0 and less than 256 characters. | On submission the data will be sent to the database. | No warning or error message will be displayed for the valid entry. |
|  | FR4 | Test a comment that is more than the maximum number of valid characters in the free text comment field. | Enter more than 256 characters in the free text comment field. | The data will be rejected when the user attempts to submit the data. | An error message will alert the user to the fact that the free comment box is only able to take a comment of 256 characters or less. |
|  | FR4 | Testing the camera is loaded when the scene camera icon is pressed. | Press the scene camera icon. | The screen is switched to camera output. | The user can take a picture with the camera which is then saved. |
|  | FR4 | Testing the camera is loaded when the plant camera icon is pressed. | Press the plant camera icon. | The screen is switched to camera output. | The user can take a picture with the camera which is then saved. |
|  | FR5 | Testing a recording can be deleted. | Select a recording and press delete. | The recording will no longer be displayed in the list. | The database will no longer contain the recording that was deleted. |
|  | FR5 | Test a whole species can be deleted. | Select a pre-existing species and press delete. | The recording will no longer be displayed in the list. | The database will no longer contain the recording that was deleted. |
|  | FR5 | Change the abundance of a species. | Select a pre-existing species and change the abundance to a valid abundance. | The species will now be updated with the new abundance. | The database will be updated to match the new information given on submission. |
|  | FR5 | Change the abundance of a species to a non-valid abundance. | Select a pre-existing species and change the abundance to a non-valid abundance. | When the user submits the change the change is rejected. | An error message is produced alerting the user that the input for abundance is not valid. |
|  | FR5 | Change the typical location for a species. | Select a pre-existing species and change the pre-existing location to a new valid location. | The species record will be updated with the new value for typical location. | No errors or warning messages are produced as the data is valid. |
|  | FR5 | Change the image of a species (plant). | Select a pre-existing species and change the plant image to a valid image. | The species plant image will be updated with the new image. | The database will be updated to match the new information given on submission. |
|  | FR5 | Change the image of a species (scene). | Select a pre-existing species and change the scene input to a valid image. | The species scene image will be updated with the new image. | The database will be updated to match the new information given on submission. |

## Functionality

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test ref** | **Req. being tested** | **Test content** | **Input** | **Output** | **Pass criteria** |
|  | FR3 | Search for a certain plant in the database | Enter a plant name that is in the database | A drop down list containing plant searched for | If plant appears in drop down list |
|  | FR3 | Search for a plant alphabetically | Enter the first letter or couple of letters | A drop down list populated with plants that match letter(s) going from common to rare | If first letter(s) match those of first letter(s) of plants in drop down list |
|  | FR3 | Search for a plant not in the database | Enter a plant name that is not in the database | A drop down list with option to add new plant | If add new plant option appears in drop down |
|  | FR5 | Display entries according to date | Test database of entries. Two with same day & month, two with same month & year, two with same day & year and two completely same dates | Display entries going from closest date then progressing back to oldest recorded record | If entries are grouped by year and month |
|  | PR1 | GPS is turned off when app is closed/goes inactive (If GPS is only to be active when app is) | App is closed/goes inactive | Phone GPS is deactivated | If phone settings show GPS is off after app use |
|  | FR4 | Search for a certain reserve in the database | Enter a reserve name that is in the database | A drop down list containing reserve searched for | If reserve appears in drop down list |
|  | FR4 | Search for a reserve alphabetically | Enter the first letter or couple of letters | A drop down list populated with reserves that match letter(s) | If first letter(s) match those of first letter(s) of reserves in drop down list |
|  | FR4 | Search for a reserve not in the database | Enter a reserve that is not in the database | A drop down list stating unable to locate reserve | If unable to find reserve appears for the user |
|  | FR4 | When a picture is taken that the GPS coordinates are recorded | Take a picture | GPS coordinates are entered into field to be sent | If record contains GPS coordinates |
|  | FR2, FR8, FR9 | Test logon id validation with one in user database | Enter e-mail of member on system | Proceed to password validation | Logon id is confirmed to be a user in database |
|  | FR2, FR8, FR9 | Test logon id validation with one not in user database | Enter e-mail of a non-member | Display ‘unable to recognize logon/ password’ | Logon id is confirmed as not in user database |
|  | FR2, FR8, FR9 | Test if correct password is entered | Enter correct password for logon id | Proceed to next screen | Password matches password linked to Logon id |
|  | FR2, FR8, FR9 | Test if an incorrect password is detected | Enter incorrect password for logon id | Display ‘unable to recognize logon/ password’ | If password is confirmed as not matching password linked to Logon id |
|  | FR2, FR8, FR9 | Test access level which is valid | Member’s access level | Proceed to next screen | If access level is recognized as being greater than or equal to required level |
|  | FR2, FR8, FR9 | Test access level which is not valid | Member’s access level | Display ‘Access denied’ | If access level is recognized as being less than required level |
|  | FR5 | Test if any entries are on your phone | Request list of previous entries with no entries | Display ‘Not previous entries currently stored’ | If displays message for user as no entries to display |
|  | PR1 | Test if user notified they can upload with WiFi connection made (only if that is their upload option) | Phone connects to WiFi while app is active | Upload icon lights up | If Icon changes and setting is for WiFi |
|  | PR1 | Test if user notified they can upload with signal at a good strength to ensure transition (only if that is their upload option) | Phone signal is at or above a certain strength while app is active | Upload icon lights up | If Icon changes and setting is for using phone’s signal |
|  | PR1 | Test if user notified they can upload with WiFi when no connection is made (only for WiFi upload option) | Phone signal is at or above a certain strength while app is active | Upload icon does not light up | If Icon does not change and setting is for WiFi |

## 2.3 UI

| Test Ref | Req. being tested | Test content | Input | Output | Pass criteria |
| --- | --- | --- | --- | --- | --- |
| SE-F-045 | EIR1 | Main Menu - The upload viewers change based on the record state | The record is in the local Database | Button should be red | Has to be red, |
| SE-F-044 | EIR1 | Main Menu -The upload viewers change based on the record state | The record is being uploaded | Button should change to orange | Needs to change to orange. |
| SE-F-045 | EIR1 | Main Menu -The upload viewers change based on the record state | The record has uploaded, stays for 5 minutes | The button changed to green, and disappears after 5 minutes | Needs to change and disappear in that time provided. |
| SE-F-046 | EIR1 | Record screen - Image select screen | Swipe right on the image select | Image swipe option correctly switches between image modes | The state is switched. |
| SE-F-047 | EIR1 | Record Screen - Reset button works correctly | The button is pressed | The data entry forms are cleared | They are cleared correctly |
| SE-F-048 | EIR1, PR2 | Main menu -Scaling to different screen sizes works correctly | Application is tested on larger screen | The buttons and icons scale correctly and the positions are relative to screen size | The buttons looks correctly scaled. |
| SE-F-049 | EIR1, PR2 | Main menu -Scaled to tablet size | Opened on tablet | All controls are scaled up for tablets and works correctly | Application must have all controls scale up appropriately |
| SE-F-050 | EIR1, PR2 | Record Screen -Scaled to tablet size | Opened on a tablet | The buttons and image size are scaled correctly | Needs to be scaled correctly without any errors with resolution or position |
| SE-F-051 | EIR1 | Main menu - Rotate to landscape | Rotated the device to landscape. | The elements rotate and resize to fit the screen more appropriately | Needs to resize and reposition elements correctly |
| SE-F-052 | EIR1 | Record Screen -Rotate to landscape | Rotated the device to landscape. | The elements of the screen rotate and resize to fit the screen, this includes the image selector. | Needs to resize correctly and the image has to resize |
| SE-F-053 | EIR1 | Main Menu - four navigation buttons must be in the correct location | Opened the application | The buttons are spaced evenly and are the same size | Have to be spaced evenly and are the same size |
| SE-F-054 | EIR1 | Main menu -Upload button checks | Opened the application | The upload buttons are spaced and positioned evenly | They’re spaced evenly and are the same size |
| SE-F-055 | EIR1 | Main menu -Added recording to upload button | Added a recording to be displayed on the button display | The recording button is added to the end of the stack | Has to be added correctly to the display |
| SE-F-056 | EIR1 | Record Screen - GPS Screen disability | Turn off GPS | The GPS automatic entry should be disabled | Has to disable the controls once GPS is turned off |

# Database Test Specification

## Introduction

The Database Specification has been created by kid10, alf33 and tor10 they derived these tests using the documentation provided by the client, SE.QA.RS and also the groups own Project Plan documentation SE\_11\_PP. These tests offer a comprehensive test specification of the database fields ensuring data can be stored and the tables link correctly.

### Recordings Table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test Ref** | **Req being tested** | **Test Content** | **Input** | **Output** | **Pass Criteria** |
| SE-F-001 | FR2,FR8 | Check if the database can store a valid reserve\_id | A valid reserve id such as 7 or 75 which has a corresponding reserve record | The reserve id is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-002 | FR2,FR8 | Check if the database can store an invalid reserve\_id | An invalid reserve id such as “reserve 51” | The reserve id is not successfully stored and an error is given | Data is not stored and an error is given |
| SE-F-003 | FR2,FR8 | Check if the database can store a valid user\_id | A valid user id such as 3 or 22 which has a corresponding user record | The user id is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-004 | FR2,FR8 | Check if the database can store an invalid user\_id | An invalid user id such as “user 98” | The user id is not successfully stored and an error is given | Data is not stored and an error is given |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test ref** | **Req. being tested** | **Test content** | **Input** | **Output** | **Pass criteria** |
| SE-F-005 | FR7 | Check if database can store common reserve name | Name of the nature reserve | The database should store the newly entered reserve | Data is stored correctly without any problems |
| SE-F-006 | FR7 | Check if database can store common reserve name past the varchar limit | Enter a name of length greater than 50 | The data entry should fail | Data should not appear in the database |
| SE-F-007 | FR8 | Enter an OS grid reference that corresponds to the location of the reserve | A grid reference of correct length and format | The database should store the reference | Data is stored correctly without any problems |
| SE-F-008 | FR8 | Enter an OS grid reference that corresponds to the location of the reserve | A grid reference of correct length but incorrect format | The data entry should be re-formatted and stored in the database | Data is stored correctly without any problems |
| SE-F-009 | FR8 | Enter an OS grid reference that corresponds to the location of the reserve | A grid reference of incorrect length and incorrect format | The data entry should fail | Data is not stored in the database |
| SE-F-010 | FR8 | Enter a textual description of the reserve | Text of length greater than 0 | The database should store the description | Data is stored correctly without any problems |
| SE-F-011 | FR8 | Enter an empty description of the reserve | An empty string | The data entry should fail | Data is not stored in the database |

### Reserves Table

### Species Table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test Ref** | **Req being Tested** | **Test Content** | **Input** | **Output** | **Pass Criteria** |
| SE-F-012 | FR7 | Check if database can store common name. | Enter the common name of the Species e.g. European Silver-fir | The database should store the newly entered species. | Data is stored correctly without any problems |
| SE-F-013 | FR7 | Check if database can store a common name past the varchar (50) limit. | Enter a common name of the species which is beyond the 50 character limit. | The data entered into the database should fail. | Data should not appear in the database |
| SE-F-014 | FR7 | Check if database can store Latin name. | Enter the Latin name of the Species e.g. Abies alba Mill | The database should store the newly entered species. | Data is stored correctly without any problems |
| SE-F-015 | FR7 | Check if database can store a Latin name past the varchar (100) limit. | Enter a Latin name of the species which is beyond the 100 character limit. | The data entered into the database should fail. | Data should not appear in the database |
| SE-F-016 | FR7 | Check if database adds a timestamp every time a new row gets created or updated | Add a new species to the database | A time stamp should be automatically created in the database. | Timestamp should be created with the right time. |

### 

### Species Occurrence Table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test Ref** | **Req being tested** | **Test Content** | **Input** | **Output** | **Pass Criteria** |
| SE-F-017 | FR7 | Check if the database can store a valid species\_id | A valid species id such as 2 or 24 which has a corresponding species record | The species id is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-018 | FR7 | Check if the database can store an invalid species\_id | An invalid species id such as “species 123” | The species id is not successfully stored and an error is given | Data is not stored and an error is given |
| SE-F-019 | FR7 | Check if the database can store a valid recording\_id | A valid recording id such as 5 or 47 which has a corresponding recording record | The recording id is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-020 | FR7 | Check if the database can store an invalid recording\_id | An invalid recording id such as “recording 34” | The recording id is not successfully stored and an error is given | Data is not stored and an error is given |
| SE-F-021 | FR7 | Check if the database can store a valid longitude | A valid longitude such as 52° 24' 55.0908" | The longitude is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-022 | FR7 | Check if the database can store an invalid longitude | An invalid longitude which exceeds the 20 character limit | The longitude stored but is truncated | Data is only partly stored and a warning is given regarding truncation |
| SE-F-023 | FR7 | Check if the database can store a valid latitude | A valid latitude such as -4° 4' 58.5114" | The latitude is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-024 | FR7 | Check if the database can store an invalid latitude | An invalid latitude which exceeds the 20 character limit | The latitude is stored but is truncated | Data is only partly stored and a warning is given regarding truncation |
| SE-F-025 | FR7 | Check if the database can store a valid abundance | A valid abundance which is either ‘D’, ‘A’, ‘F’, ‘O’ or ‘R’ | The abundance is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-026 | FR7 | Check if the database can store an invalid abundance | An invalid abundance such which is not in the enum such as “lots” | The abundance is not successfully stored and an error is given | Data is not stored and an error is given |
| SE-F-027 | FR7 | Check if the database can store a valid comment | A valid comment such as “plenty of this species in this area” | The comment is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-028 | FR7 | Check if the database can store an invalid comment | An invalid comment which exceeds the limit of the text type. (***L*** + 2 bytes, where ***L*** < 216) [1] | The comment is stored but is truncated | Data is only partly stored and a warning is given regarding truncation |
| SE-F-029 | FR7 | Check if the database can store a valid general photo | A valid general photo such as “img0029.jpg” | The general photo is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-030 | FR7 | Check if the database can store an invalid general photo | An invalid general photo which exceeds the 255 character limit | The general photo is stored but is truncated | Data is only partly stored and a warning is given regarding truncation |
| SE-F-031 | FR7 | Check if the database can store a valid specimen photo | An valid specimen photo such as “img0103.jpeg” | The specimen photo is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-032 | FR7 | Check if the database can store an invalid specimen photo | An invalid specimen photo which exceeds the 255 character limit | The specimen photo is stored but is truncated | Data is only partly stored and a warning is given regarding truncation |

### Users Table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test Ref** | **Req being tested** | **Test Content** | **Input** | **Output** | **Pass Criteria** |
| SE-F-033 | FR7 | Check if the database can store a valid email | A valid email such as “kid10@aber.ac.uk” | The email is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-034 | FR7 | Check if the database can store an invalid email | An invalid email which exceeds the 254 character limit | The email is stored but is truncated | Data is only partly stored and a warning is given regarding truncation |
| SE-F-035 | FR7 | Check if the database can store a valid password | A valid password such as an encrypted version of “pass1234” | The password is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-036 | FR7 | Check if the database can store an invalid password | An invalid password which exceeds the 255 character limit | The password is stored but is truncated | Data is only partly stored and a warning is given regarding truncation |
| SE-F-037 | FR7 | Check if the database can store a valid name | A valid name such as “Joe Bloggs” | The name is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-038 | FR7 | Check if the database can store an invalid name | An invalid name which exceeds the 50 character limit | The name is stored but is truncated | Data is only partly stored and a warning is given regarding truncation |
| SE-F-039 | FR7 | Check if the database can store a valid phone number | A valid phone number such as 0123456789 | The phone number is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-040 | FR7 | Check if the database can store an invalid phone number | An invalid phone number which exceeds the 25 character limit | The phone number is stored but is truncated | Data is only partly stored and a warning is given regarding truncation |

# Web Test Specification

## Introduction

The Website Specification has been created by gar18, rhc15, alf33 and tor10 they derived these tests using the documentation provided by the client, SE.QA.RS and also the groups own Project Plan documentation SE\_11\_PP. These tests offer a comprehensive test specification of the Website fields and pages ensuring data can be entered and pages all link together and the server receives and stores data in the database as needed.

## FR7 – Server Receives Recording

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test ref | Req being tested | Test content | Input | Output | Pass criteria |
| SE-F-041 | FR7 | Server receives transmissions of recordings and stores them in the database. | A record is transmitted to the server and stored in the database. | Server receives the input and then stores it in the database correctly. | New recording is in the database. |
| SE-F-042 | FR7 | User X is authenticated | User name and password. | User name will display in the ‘You’ page. The server knows the user is in session. | Correct user name is displayed. Correct user data is displayed. |
| SE-F-043 | FR7 | User is authorised to access the website. | User name and password. | User is logged into the site. | User X has access to the web app. |

## 

## FR8 – Addition and Maintenance of Reserves

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SE-F-044 | FR8 | Create/Update  Reserve Name with a valid name | Aber | Name is accepted and saved into the database | Aber is displayed with no errors or warnings |
| SE-F-045 | FR8 | Create/Update  Reserve Name with numbers | 1476 | Name is rejected and not saved | An error appears alerting the user that numbers are not allowed |
| SE-F-046 | FR8 | Create/Update  Reserve Name with 50 characters (Upper Boundary) | Aberystwyth reserve of nature and plants and trees | Name is accepted and saved into the database | Aberystwyth reserve of nature and plants and trees Is displayed with no errors or warnings |
| SE-F-047 | FR8 | Create/Update  Reserve Name with 50 characters | Aberystwyth reserve of nature plants biology study | Name is rejected and not saved | An error appears alerting the user that they have gone over the character limit |
| SE-F-048 | FR8 | Create/Update  Reserve Name with 4 characters (Lower Boundary) | Aber | Name is accepted and saved into the database | Aber is displayed with no errors or warnings |
| SE-F-049 | FR8 | Create/Update  Reserve Name with 3 characters | abe | Name is rejected and not saved | An error appears alerting the user that they have not entered enough characters |
| SE-F-050 | FR8 | Delete  Reserve | Press Delete | The Reserve Is deleted | The record of the reserve is no longer on the database |
| SE-F-051 | FR8 | Check if there are duplicate names or if name is saved | User inputs a name and make sure there are no duplicates. | The name is displayed and stored in the database | Name is displayed without any duplicates |
| SE-F-052 | FR8 | Create/Update Reserve Location that is valid | 20.534, 50.435 | Location is accepted and saved into the database | 20.534, 50.435 is displayed with no errors or warnings |
| SE-F-053 | FR8 | Create/Update Reserve Location with characters | 3kfm , 34jdd | Location is rejected and not saved | An error appears alerting the user that they can’t use Alphabetical characters |
| SE-F-054 | FR8 | Create/Update Reserve Location with 20 Characters (Upper Boundary) | 304.22581, 250.14858 | Location is accepted and saved into the database | 304.22581, 250.14858 Is displayed with no errors or warnings |
| SE-F-055 | FR8 | Create/Update Reserve Location with 21 characters | 254.21687, 145.257894 | Location is rejected and not saved | An error appears alerting the user that they have gone over the character limit |
| SE-F-056 | FR8 | Create/Update Reserve Location with 3 characters  (Lower Boundary) | 3,6 | Location is accepted and saved into the database | 3,6 Is displayed with no errors or warnings |
| SE-F-057 | FR8 | Create/Update Reserve Location with 2 characters | 3, | Location is rejected and not saved | An error appears alerting the user that they have not entered enough characters |
| SE-F-058 | FR8 | Textual description | Description can be edited and updated | Description will appear for the species. | Data is appeared correctly |

## 

## FR9 – Browsing Species Records

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SE-F-059 | FR9 | Check if species found at a particular reserve can be displayed | Name of reserve e.g.  Coed Rhiedol National Nature Reserve | Species that have been found at that reserve | All species that are found at the nature reserve are displayed |
| SE-F-060 | FR9 | Check if species found at a reserve that does not exist can be displayed | Name of a reserve that does not exist e.g. abc | An error message should be shown | No records should be shown |
| SE-F-061 | FR9 | Check if data can be displayed in alphabetical order of Latin name | A list of unsorted data | List of results ordered by their Latin name | Species are ordered A-Z |
| SE-F-062 | FR9 | Check if data can be displayed in reverse alphabetical order of Latin name | A list of unsorted data | List of results ordered by their Latin name | Species are ordered Z-A |
| SE-F-063 | FR9 | Check if a record with a particular date can be displayed | A record recorded on the current date | The record is displayed | The record from the date is displayed |
| SE-F-064 | FR9 | Check if the earliest recording can be displayed | A record recorded on 1st January 1990 | The record is displayed | The earliest recording is displayed |
| SE-F-065 | FR9 | Check if a recording dated before the earliest entry date can be displayed | A record recorded before 1st January 1990 | The record is not displayed | The recording taken before 1st January 1990 is not shown |
| SE-F-066 | FR9 | Check if the latest recording can be displayed | A record recorded on 31st December 2050 | The record is displayed | The latest recording is displayed |
| SE-F-067 | FR9 | Check if a recording dated after the latest entry date can be displayed | A record recorded after 31st December 2050 | The record is not displayed | The recording taken after 31st December 2050 is not shown |
| SE-F-068 | FR9 | Check if records can be ordered by date | A list of unsorted data | Full list of sorted results | List is ordered by date (newest to oldest) |
| SE-F-069 | FR9 | Check if records can be reverse-ordered by date | A list of unsorted data | Full list of sorted results | List is ordered by date (oldest to newest) |

## 

## EIR – External Interface Requirements

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SE-F-070 | EIR1 | Check if user is able to navigate the application with minimal training | A new user using the web application for the first time | Feedback from the user about their experience | Positive feedback from the user |

## 

## PR – Performance Requirements

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SE-F-071 | PR1 | Check if user input is responded to within a second by the application | Input from the user | Changes to data displayed | Changes are shown within a certain amount of time |
| SE-F-072 | PR2 | Check if software runs as expected on supported systems | Application used on web browsers used by the university | Application displays information requested by the user | Application and its components work correctly |

# System Test Specification

## Introduction

The System Test Specification has been created by tcg2 and add20 they derived these tests using the documentation provided by the client, SE.QA.RS and also the groups own Project Plan documentation SE\_11\_PP. These tests are a compilation of all the other test specification to be conducted at the end of the build by the QA (add20) and DQA (tcg2).The tests offer a comprehensive test specification of the entire system once the build has been completed it will test every aspect of the system from the website to the android and database to ensure the entire system works in compilation.

## Android Table

## Recordings and Species Module testing

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test ref** | **Req. being tested** | **Test content** | **Input** | **Output** | **Pass criteria** |
|  | FR2 | Test a valid phone number for a recorder. | 01234564854 | Phone number is accepted when sent to the database. | No errors or warnings are produced. |
|  | FR2 | Test a phone number that contains characters. | 01a23d65845 | Phone number is rejected when the user attempts to submit the data. | An error is displayed to the user alerting them that the phone number is invalid due to characters. |
|  | FR2 | Test a phone number that contains special characters. | 215!254@\*90 | Phone number is rejected when the user attempts to submit the data. | An error is displayed to the user alerting them that the phone number is invalid due to special characters. |
|  | FR2 | Test a valid date. | 06/11/2014 | The date is accepted and sent to the database. | No warnings or errors are produced. |
|  | FR2 | Test a historic date. | 06/11/1900 | The date is rejected when the user attempts to submit the data. | An error is displayed to the user alerting them that the date is too far in the past. |
|  | FR2 | Test a date in the future. | A date further in the future of the current date | The date is rejected when the user attempts to submit the data. | An error is displayed to the user alerting them that the date cannot be in the future. |
|  | FR3 | Test a valid species from the list. | Search for a valid species that exists within the database. | The species is accepted when the user submits the data. | No warnings or errors are produced. |
|  | FR3 | Search for a species that does not exist. | Search for ‘$FS465bth’ | No results will be returned. | A message will alert the user that no matching results were obtained. A prompt to add a new species will appear. |
|  | FR3 | Test a valid unique species can be added. | Attempt to add a new valid species. | The new species will be added to the database when submitted. | No warning or error message will be displayed to the user as the data is valid. |
|  | FR3 | Test that a repeat of a species cannot be entered. | Attempt to add a new valid species that already exists in the database. | The new species will not be added to the database. | An error will be displayed to the user alerting them to the fact a duplicate of this species already exists. |
|  | FR4 | Test a valid abundance character. | ‘A’ | The character is accepted as valid on submission and sent to the database. | No error message or warning is produced for the valid character. |
|  | FR4 | Test an invalid abundance character. | ‘Z’ | The character will be rejected when the user attempts to submit data. | An error is displayed to the user alerting them that the abundance character is invalid. |
|  | FR4 | Test multiple characters in the abundance field. | ‘FA’ | The character will be rejected when the user attempts to submit the data. | An error is displayed to the user alerting them that only one character can be entered into the abundance field. |
|  | FR4 | Test no entry in the free text comment area. | Enter no data to the free text area. | On submission the data will be sent to the database. | No warning or error messages will be displayed for the valid entry. |
|  | FR4 | Test a valid entry in the free text comment area. | Enter more than 0 and less than 256 characters. | On submission the data will be sent to the database. | No warning or error message will be displayed for the valid entry. |
|  | FR4 | Test a comment that is more than the maximum number of valid characters in the free text comment field. | Enter more than 256 characters in the free text comment field. | The data will be rejected when the user attempts to submit the data. | An error message will alert the user to the fact that the free comment box is only able to take a comment of 256 characters or less. |
|  | FR4 | Testing the camera is loaded when the scene camera icon is pressed. | Press the scene camera icon. | The screen is switched to camera output. | The user can take a picture with the camera which is then saved. |
|  | FR4 | Testing the camera is loaded when the plant camera icon is pressed. | Press the plant camera icon. | The screen is switched to camera output. | The user can take a picture with the camera which is then saved. |
|  | FR5 | Testing a recording can be deleted. | Select a recording and press delete. | The recording will no longer be displayed in the list. | The database will no longer contain the recording that was deleted. |
|  | FR5 | Test a whole species can be deleted. | Select a pre-existing species and press delete. | The recording will no longer be displayed in the list. | The database will no longer contain the recording that was deleted. |
|  | FR5 | Change the abundance of a species. | Select a pre-existing species and change the abundance to a valid abundance. | The species will now be updated with the new abundance. | The database will be updated to match the new information given on submission. |
|  | FR5 | Change the abundance of a species to a non-valid abundance. | Select a pre-existing species and change the abundance to a non-valid abundance. | When the user submits the change the change is rejected. | An error message is produced alerting the user that the input for abundance is not valid. |
|  | FR5 | Change the typical location for a species. | Select a pre-existing species and change the pre-existing location to a new valid location. | The species record will be updated with the new value for typical location. | No errors or warning messages are produced as the data is valid. |
|  | FR5 | Change the image of a species (plant). | Select a pre-existing species and change the plant image to a valid image. | The species plant image will be updated with the new image. | The database will be updated to match the new information given on submission. |
|  | FR5 | Change the image of a species (scene). | Select a pre-existing species and change the scene input to a valid image. | The species scene image will be updated with the new image. | The database will be updated to match the new information given on submission. |

## Functionality

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test ref** | **Req. being tested** | **Test content** | **Input** | **Output** | **Pass criteria** |
|  | FR3 | Search for a certain plant in the database | Enter a plant name that is in the database | A drop down list containing plant searched for | If plant appears in drop down list |
|  | FR3 | Search for a plant alphabetically | Enter the first letter or couple of letters | A drop down list populated with plants that match letter(s) going from common to rare | If first letter(s) match those of first letter(s) of plants in drop down list |
|  | FR3 | Search for a plant not in the database | Enter a plant name that is not in the database | A drop down list with option to add new plant | If add new plant option appears in drop down |
|  | FR5 | Display entries according to date | Test database of entries. Two with same day & month, two with same month & year, two with same day & year and two completely same dates | Display entries going from closest date then progressing back to oldest recorded record | If entries are grouped by year and month |
|  | PR1 | GPS is turned off when app is closed/goes inactive (If GPS is only to be active when app is) | App is closed/goes inactive | Phone GPS is deactivated | If phone settings show GPS is off after app use |
|  | FR4 | Search for a certain reserve in the database | Enter a reserve name that is in the database | A drop down list containing reserve searched for | If reserve appears in drop down list |
|  | FR4 | Search for a reserve alphabetically | Enter the first letter or couple of letters | A drop down list populated with reserves that match letter(s) | If first letter(s) match those of first letter(s) of reserves in drop down list |
|  | FR4 | Search for a reserve not in the database | Enter a reserve that is not in the database | A drop down list stating unable to locate reserve | If unable to find reserve appears for the user |
|  | FR4 | When a picture is taken that the GPS coordinates are recorded | Take a picture | GPS coordinates are entered into field to be sent | If record contains GPS coordinates |
|  | FR2, FR8, FR9 | Test logon id validation with one in user database | Enter e-mail of member on system | Proceed to password validation | Logon id is confirmed to be a user in database |
|  | FR2, FR8, FR9 | Test logon id validation with one not in user database | Enter e-mail of a non-member | Display ‘unable to recognize logon/ password’ | Logon id is confirmed as not in user database |
|  | FR2, FR8, FR9 | Test if correct password is entered | Enter correct password for logon id | Proceed to next screen | Password matches password linked to Logon id |
|  | FR2, FR8, FR9 | Test if an incorrect password is detected | Enter incorrect password for logon id | Display ‘unable to recognize logon/ password’ | If password is confirmed as not matching password linked to Logon id |
|  | FR2, FR8, FR9 | Test access level which is valid | Member’s access level | Proceed to next screen | If access level is recognized as being greater than or equal to required level |
|  | FR2, FR8, FR9 | Test access level which is not valid | Member’s access level | Display ‘Access denied’ | If access level is recognized as being less than required level |
|  | FR5 | Test if any entries are on your phone | Request list of previous entries with no entries | Display ‘Not previous entries currently stored’ | If displays message for user as no entries to display |
|  | PR1 | Test if user notified they can upload with WiFi connection made (only if that is their upload option) | Phone connects to WiFi while app is active | Upload icon lights up | If Icon changes and setting is for WiFi |
|  | PR1 | Test if user notified they can upload with signal at a good strength to ensure transition (only if that is their upload option) | Phone signal is at or above a certain strength while app is active | Upload icon lights up | If Icon changes and setting is for using phone’s signal |
|  | PR1 | Test if user notified they can upload with WiFi when no connection is made (only for WiFi upload option) | Phone signal is at or above a certain strength while app is active | Upload icon does not light up | If Icon does not change and setting is for WiFi |

## Database Table

### Recordings Table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test Ref** | **Req being tested** | **Test Content** | **Input** | **Output** | **Pass Criteria** |
| SE-F-073 | FR2,FR8 | Check if the database can store a valid reserve\_id | A valid reserve id such as 7 or 75 which has a corresponding reserve record | The reserve id is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-074 | FR2,FR8 | Check if the database can store an invalid reserve\_id | An invalid reserve id such as “reserve 51” | The reserve id is not successfully stored and an error is given | Data is not stored and an error is given |
| SE-F-075 | FR2,FR8 | Check if the database can store a valid user\_id | A valid user id such as 3 or 22 which has a corresponding user record | The user id is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-076 | FR2,FR8 | Check if the database can store an invalid user\_id | An invalid user id such as “user 98” | The user id is not successfully stored and an error is given | Data is not stored and an error is given |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test ref** | **Req. being tested** | **Test content** | **Input** | **Output** | **Pass criteria** |
| SE-F-077 | FR7 | Check if database can store common reserve name | Name of the nature reserve | The database should store the newly entered reserve | Data is stored correctly without any problems |
| SE-F-078 | FR7 | Check if database can store common reserve name past the varchar limit | Enter a name of length greater than 50 | The data entry should fail | Data should not appear in the database |
| SE-F-079 | FR8 | Enter an OS grid reference that corresponds to the location of the reserve | A grid reference of correct length and format | The database should store the reference | Data is stored correctly without any problems |
| SE-F-080 | FR8 | Enter an OS grid reference that corresponds to the location of the reserve | A grid reference of correct length but incorrect format | The data entry should be re-formatted and stored in the database | Data is stored correctly without any problems |
| SE-F-081 | FR8 | Enter an OS grid reference that corresponds to the location of the reserve | A grid reference of incorrect length and incorrect format | The data entry should fail | Data is not stored in the database |
| SE-F-082 | FR8 | Enter a textual description of the reserve | Text of length greater than 0 | The database should store the description | Data is stored correctly without any problems |
| SE-F-083 | FR8 | Enter an empty description of the reserve | An empty string | The data entry should fail | Data is not stored in the database |

### Reserves Table

### Species Table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test Ref** | **Req being Tested** | **Test Content** | **Input** | **Output** | **Pass Criteria** |
| SE-F-084 | FR7 | Check if database can store common name. | Enter the common name of the Species e.g. European Silver-fir | The database should store the newly entered species. | Data is stored correctly without any problems |
| SE-F-085 | FR7 | Check if database can store a common name past the varchar (50) limit. | Enter a common name of the species which is beyond the 50 character limit. | The data entered into the database should fail. | Data should not appear in the database |
| SE-F-086 | FR7 | Check if database can store Latin name. | Enter the Latin name of the Species e.g. Abies alba Mill | The database should store the newly entered species. | Data is stored correctly without any problems |
| SE-F-087 | FR7 | Check if database can store a Latin name past the varchar (100) limit. | Enter a Latin name of the species which is beyond the 100 character limit. | The data entered into the database should fail. | Data should not appear in the database |
| SE-F-088 | FR7 | Check if database adds a timestamp every time a new row gets created or updated | Add a new species to the database | A time stamp should be automatically created in the database. | Timestamp should be created with the right time. |

### Species Occurrence Table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test Ref** | **Req being tested** | **Test Content** | **Input** | **Output** | **Pass Criteria** |
| SE-F-089 | FR7 | Check if the database can store a valid species\_id | A valid species id such as 2 or 24 which has a corresponding species record | The species id is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-090 | FR7 | Check if the database can store an invalid species\_id | An invalid species id such as “species 123” | The species id is not successfully stored and an error is given | Data is not stored and an error is given |
| SE-F-091 | FR7 | Check if the database can store a valid recording\_id | A valid recording id such as 5 or 47 which has a corresponding recording record | The recording id is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-092 | FR7 | Check if the database can store an invalid recording\_id | An invalid recording id such as “recording 34” | The recording id is not successfully stored and an error is given | Data is not stored and an error is given |
| SE-F-093 | FR7 | Check if the database can store a valid longitude | A valid longitude such as 52° 24' 55.0908" | The longitude is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-094 | FR7 | Check if the database can store an invalid longitude | An invalid longitude which exceeds the 20 character limit | The longitude stored but is truncated | Data is only partly stored and a warning is given regarding truncation |
| SE-F-095 | FR7 | Check if the database can store a valid latitude | A valid latitude such as -4° 4' 58.5114" | The latitude is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-096 | FR7 | Check if the database can store an invalid latitude | An invalid latitude which exceeds the 20 character limit | The latitude is stored but is truncated | Data is only partly stored and a warning is given regarding truncation |
| SE-F-097 | FR7 | Check if the database can store a valid abundance | A valid abundance which is either ‘D’, ‘A’, ‘F’, ‘O’ or ‘R’ | The abundance is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-098 | FR7 | Check if the database can store an invalid abundance | An invalid abundance such which is not in the enum such as “lots” | The abundance is not successfully stored and an error is given | Data is not stored and an error is given |
| SE-F-099 | FR7 | Check if the database can store a valid comment | A valid comment such as “plenty of this species in this area” | The comment is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-100 | FR7 | Check if the database can store an invalid comment | An invalid comment which exceeds the limit of the text type. (***L*** + 2 bytes, where ***L*** < 216) [1] | The comment is stored but is truncated | Data is only partly stored and a warning is given regarding truncation |
| SE-F-101 | FR7 | Check if the database can store a valid general photo | A valid general photo such as “img0029.jpg” | The general photo is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-102 | FR7 | Check if the database can store an invalid general photo | An invalid general photo which exceeds the 255 character limit | The general photo is stored but is truncated | Data is only partly stored and a warning is given regarding truncation |
| SE-F-103 | FR7 | Check if the database can store a valid specimen photo | An valid specimen photo such as “img0103.jpeg” | The specimen photo is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-104 | FR7 | Check if the database can store an invalid specimen photo | An invalid specimen photo which exceeds the 255 character limit | The specimen photo is stored but is truncated | Data is only partly stored and a warning is given regarding truncation |

### Users Table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test Ref** | **Req being tested** | **Test Content** | **Input** | **Output** | **Pass Criteria** |
| SE-F-105 | FR7 | Check if the database can store a valid email | A valid email such as “kid10@aber.ac.uk” | The email is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-106 | FR7 | Check if the database can store an invalid email | An invalid email which exceeds the 254 character limit | The email is stored but is truncated | Data is only partly stored and a warning is given regarding truncation |
| SE-F-107 | FR7 | Check if the database can store a valid password | A valid password such as an encrypted version of “pass1234” | The password is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-108 | FR7 | Check if the database can store an invalid password | An invalid password which exceeds the 255 character limit | The password is stored but is truncated | Data is only partly stored and a warning is given regarding truncation |
| SE-F-109 | FR7 | Check if the database can store a valid name | A valid name such as “Joe Bloggs” | The name is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-110 | FR7 | Check if the database can store an invalid name | An invalid name which exceeds the 50 character limit | The name is stored but is truncated | Data is only partly stored and a warning is given regarding truncation |
| SE-F-111 | FR7 | Check if the database can store a valid phone number | A valid phone number such as 0123456789 | The phone number is successfully stored in the relevant row | Data is stored correctly without errors or warnings |
| SE-F-0112 | FR7 | Check if the database can store an invalid phone number | An invalid phone number which exceeds the 25 character limit | The phone number is stored but is truncated | Data is only partly stored and a warning is given regarding truncation |

## Web Test Specification

## FR7 – Server Receives Recording

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test ref | Req being tested | Test content | Input | Output | Pass criteria |
| SE-F-113 | FR7 | Server receives transmissions of recordings and stores them in the database. | A record is transmitted to the server and stored in the database. | Server receives the input and then stores it in the database correctly. | New recording is in the database. |
| SE-F-114 | FR7 | User X is authenticated | User name and password. | User name will display in the ‘You’ page. The server knows the user is in session. | Correct user name is displayed. Correct user data is displayed. |
| SE-F-115 | FR7 | User is authorised to access the website. | User name and password. | User is logged into the site. | User X has access to the web app. |

## FR8 – Addition and Maintenance of Reserves

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SE-F-116 | FR8 | Create/Update  Reserve Name with a valid name | Aber | Name is accepted and saved into the database | Aber is displayed with no errors or warnings |
| SE-F-117 | FR8 | Create/Update  Reserve Name with numbers | 1476 | Name is rejected and not saved | An error appears alerting the user that numbers are not allowed |
| SE-F-118 | FR8 | Create/Update  Reserve Name with 50 characters (Upper Boundary) | Aberystwyth reserve of nature and plants and trees | Name is accepted and saved into the database | Aberystwyth reserve of nature and plants and trees Is displayed with no errors or warnings |
| SE-F-119 | FR8 | Create/Update  Reserve Name with 50 characters | Aberystwyth reserve of nature plants biology study | Name is rejected and not saved | An error appears alerting the user that they have gone over the character limit |
| SE-F-120 | FR8 | Create/Update  Reserve Name with 4 characters (Lower Boundary) | Aber | Name is accepted and saved into the database | Aber is displayed with no errors or warnings |
| SE-F-121 | FR8 | Create/Update  Reserve Name with 3 characters | abe | Name is rejected and not saved | An error appears alerting the user that they have not entered enough characters |
| SE-F-122 | FR8 | Delete  Reserve | Press Delete | The Reserve Is deleted | The record of the reserve is no longer on the database |
| SE-F-123 | FR8 | Check if there are duplicate names or if name is saved | User inputs a name and make sure there are no duplicates. | The name is displayed and stored in the database | Name is displayed without any duplicates |
| SE-F-124 | FR8 | Create/Update Reserve Location that is valid | 20.534, 50.435 | Location is accepted and saved into the database | 20.534, 50.435 is displayed with no errors or warnings |
| SE-F-125 | FR8 | Create/Update Reserve Location with characters | 3kfm , 34jdd | Location is rejected and not saved | An error appears alerting the user that they can’t use Alphabetical characters |
| SE-F-126 | FR8 | Create/Update Reserve Location with 20 Characters (Upper Boundary) | 304.22581, 250.14858 | Location is accepted and saved into the database | 304.22581, 250.14858 Is displayed with no errors or warnings |
| SE-F-127 | FR8 | Create/Update Reserve Location with 21 characters | 254.21687, 145.257894 | Location is rejected and not saved | An error appears alerting the user that they have gone over the character limit |
| SE-F-128 | FR8 | Create/Update Reserve Location with 3 characters  (Lower Boundary) | 3,6 | Location is accepted and saved into the database | 3,6 Is displayed with no errors or warnings |
| SE-F-129 | FR8 | Create/Update Reserve Location with 2 characters | 3, | Location is rejected and not saved | An error appears alerting the user that they have not entered enough characters |
| SE-F-130 | FR8 | Textual description | Description can be edited and updated | Description will appear for the species. | Data is appeared correctly |

## FR9 – Browsing Species Records

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SE-F-131 | FR9 | Check if species found at a particular reserve can be displayed | Name of reserve e.g.  Coed Rhiedol National Nature Reserve | Species that have been found at that reserve | All species that are found at the nature reserve are displayed |
| SE-F-132 | FR9 | Check if species found at a reserve that does not exist can be displayed | Name of a reserve that does not exist e.g. abc | An error message should be shown | No records should be shown |
| SE-F-133 | FR9 | Check if data can be displayed in alphabetical order of Latin name | A list of unsorted data | List of results ordered by their Latin name | Species are ordered A-Z |
| SE-F-134 | FR9 | Check if data can be displayed in reverse alphabetical order of Latin name | A list of unsorted data | List of results ordered by their Latin name | Species are ordered Z-A |
| SE-F-135 | FR9 | Check if a record with a particular date can be displayed | A record recorded on the current date | The record is displayed | The record from the date is displayed |
| SE-F-136 | FR9 | Check if the earliest recording can be displayed | A record recorded on 1st January 1990 | The record is displayed | The earliest recording is displayed |
| SE-F-137 | FR9 | Check if a recording dated before the earliest entry date can be displayed | A record recorded before 1st January 1990 | The record is not displayed | The recording taken before 1st January 1990 is not shown |
| SE-F-138 | FR9 | Check if the latest recording can be displayed | A record recorded on 31st December 2050 | The record is displayed | The latest recording is displayed |
| SE-F-139 | FR9 | Check if a recording dated after the latest entry date can be displayed | A record recorded after 31st December 2050 | The record is not displayed | The recording taken after 31st December 2050 is not shown |
| SE-F-140 | FR9 | Check if records can be ordered by date | A list of unsorted data | Full list of sorted results | List is ordered by date (newest to oldest) |
| SE-F-141 | FR9 | Check if records can be reverse-ordered by date | A list of unsorted data | Full list of sorted results | List is ordered by date (oldest to newest) |

## EIR – External Interface Requirements

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SE-F-142 | EIR1 | Check if user is able to navigate the application with minimal training | A new user using the web application for the first time | Feedback from the user about their experience | Positive feedback from the user |

## PR – Performance Requirements

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SE-F-143 | PR1 | Check if user input is responded to within a second by the application | Input from the user | Changes to data displayed | Changes are shown within a certain amount of time |
| SE-F-144 | PR2 | Check if software runs as expected on supported systems | Application used on web browsers used by the university | Application displays information requested by the user | Application and its components work correctly |

# REFERENCES

[1] – SE.QA.RS – Requirement Specification – N.W.Hardy

[2] – SE\_11\_PP – Project Plan – Group 11

[3] – SE\_11\_TS\_01 – Android Test Specification – Group 11

[4] – SE\_11\_TS\_02 – Database Test Specification – Group 11

[5] – SE\_11\_TS\_03 – System Test Specification – Group 11

[6] – SE\_11\_TS\_04 – Website Test Specification – Group 11

# DOCUMENT HISTORY

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Version | CCF No. | Date | Changes made to document | Changed by |
| 1.0 | N/A | 13/11/14 | Document Created and Structured | Tcg2 |