Systems Engineering

User Acceptance Tests for a Platform to Support Meta-Data Driven Management of Spatial Data

Version: Final

Document:

Author: W Hugo (Editor)

Contributors: CSI Data Subcommittee Members

Distribution : CSI Data Subcommittee Members, CSI Systems Subcommittee Members

Date of Publication: 2013/03/31

# Document Information

## Schedule of Documents

The document is based on several preceding documents:

|  |  |  |  |
| --- | --- | --- | --- |
|  | | | |
| **Document** | **Date Issued** | **Authors** | **Notes** |
| G308.4.3.1 Systems Engineering Function.doc | 10-03-2008 | W Hugo | Draft |
| G308.4.1.1 Governance Framework.ppt | 10-03-2008 | W Hugo | Draft |
| G294.2.1.2 URS Portal Integration.doc | 26-11-2007 | W Hugo | SAEON Portal |
| G294.2.1.3 CoGIS Audit Report.doc | 28-11-2007 | W Hugo | SAEON Portal |
| G294..2.1.3 URSMappingClients.doc | 26-11-2007 | W Hugo | SAEON Portal |
| G320.1.3.1.3 SAEON Guidelines for User Requirements Specification | 15-10-2008 | W Hugo | SAEON Portal |
| G320.3.3 SAEON Meta-Data Specifications.docx | 03-04-2010 | W Hugo | SAEON Portal |
| G336.2.0.1.4 URS Platform WDC.docx | 21-04-2010 | W Hugo | Draft |
| G360.2.3 URS Platform.docx | 12-0502912 | W Hugo | Accepted by CSI |

## Version Control

|  |  |  |  |
| --- | --- | --- | --- |
|  | | | |
| **Version** | **Date Issued** | **Authors** | **Description of Major Changes** |
| G360.4.1 | 07-03-2013 | W Hugo | Draft for internal use |
| G360.4.2 | 31-03-2013 | W Hugo | Final for Test Execution |

## Sign-Off

|  |  |  |  |
| --- | --- | --- | --- |
|  | | | |
| **Designation** | **Date** | **Organisation** | **Name and Signature** |
| SAEON Systems Engineer |  | SAEON | Wim Hugo |
| CSI Systems Committee |  | SSA | Isidore Parker |
| CSI Data Committee |  | StatsSA | Sharthi Laldaparsad |
| NSIF Project Lead |  | DRDLR | Mimi Chauke |

## Intellectual Property and Copyright

This document, in its current form, contains information related to the business affairs of SAEON, DRDLR, the CSI and its sub-committees, and its stakeholders. This document and attachments and the contents thereto, *while in draft form*, remain the property of these organisations, unless otherwise stated. It may not be copied or reproduced, disclosed to or delivered to parties not listed in the distribution list without the consent of SAEON and the CSI Data Sub-committee.

SAEON will release the document for general use once approved by its management and the NSIF, after which it will be available under a General Public License (i.e. free to use, copy, and distribute for non-commercial applications, provided it is acknowledged and the license is maintained).

Contents

Document Information 2

Schedule of Documents 2

Version Control 2

Sign-Off 2

Intellectual Property and Copyright 2

Introduction 4

Basis of Testing 5

Automated Tests 6

Scope of Tests 7

SDU: Search and Discovery Use Cases 8

WSS: Web Services and Sources for Spatial Data 9

CMC: Composite Map Creation 10

CCM: Custodian Creation and Management 11

HCM: Harvester Creation and Management 12

MDC: Meta-Data Creation and Management 13

UAU: User Administration Use Cases 14

DDU: Data Download and Utilisation Use Cases 15

GCU: General Content Upload and Download 16

QRP: Quality Reporting Process 17

DPR: Data Collection Project Register 18

Annexure: Test Schedules 19

A.1: Custodian Creation and Management 19

A.2 Harvester Creation and Management 21

A.3 General Content Upload and Download 23

A.4 Search and Discovery Use Cases 26

# Introduction

SAEON (The South African Environmental Observation Network), as a member of the Data and Systems Subcommittees of the Committee for Spatial Information has undertaken to develop a draft URS for the SMD (Spatial Meta-Data System). The SMD, which will be operated by the NSIF, is an important resource in the implementation of the NSIF, a national GSDI, and the Spatial Data Infrastructure Act of 2003.

The URS is based on the URS for a broader, shared platform developed and maintained by SAEON and the CSIR on behalf of a number of stakeholders and participants. These include:

* SAEON (SAEON Data Portal) and CSIR (CoGIS Portal);
* SARVA (South African Risk and Vulnerability Atlas);
* SAEOS (South African Earth Observation System);
* BioEnergy Atlas for South Africa (funded by DST);
* World Data Centre for Biodiversity and Human Health in Africa (funded by NRF and ICSU);
* African Network Data Centre for Socio-Economic Data (funded by ICSU);
* Various portals under consideration for DIRISA (funded by CHPC);
* A number of smaller initiatives.

The URS can be found here: <http://nsif.dirisa.org/documents/terms-of-reference/G360.2.3%20URS%20Platform.docx>

This document deals with the approach to user acceptance testing, and describes the scope and content of the acceptance tests that need to be performed.

Section 1: Test Strategy and Approach

# Basis of Testing

User Acceptance Test Schedules are generally written as a series of test cases corresponding to individual use case scenarios. These test case documents need to contain at least the following:

For each test case:

1. Unique identifier;
2. Description;
3. Version;
4. Corresponding use case and its version.

Each test case consists of a number of test steps. These steps each contain the following information:

1. Sequence number;
2. Test step description (links to use case);
3. Data or user input to be used;
4. Action to be taken by the relevant actors;
5. Expected outcome.

In completed user acceptance test schedules, the system under test must be noted (i.e. versions and platforms, and the user role being evaluated), and outcomes noted down. An example is shown below:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **#** | **Aspect** | **Description** | **Test/ Audit Method** | **Test Outcome** | **URS Reference** | **Issue or Comment** |
| 1 | GeoQuery | Worldwide standardisation, mostly through OGC, has led to the ability to source (discover) spatial data from any number of compliant services. This is generally referred to as ***GeoQuery.*** | See Below |  |  |  |
| 1.1 | Keyword | Search for GeoSpatial Data on the basis of a keyword | Type a likely word (we used 'Roads') and evaluate results | Pass | SSD-001-001 |  |
| 1.2 | Geographic Area | Search for GeoSpatial Data on the basis of a geographic area | Provide a bounding box and find layers, copy a bounding box from existing map view | Pass | SSD-001-002 | COM-023 |
|  |  | COM-025 |

The outcome of a test can be one of the following:

1. Pass
   1. Pass with comment
2. Workaround, always with comment
3. Fail, always with an issue reference.

A separate list of issues and comments, uniquely references, are kept up to date in parallel to test execution. In cases where the test step can be passed, the tester may nevertheless want to log a comment (e.g. the test step can be executed but the tester thinks there is a layout problem, or some other peripheral problem). In cases where there is a workaround a comment must always be provided, and failed steps must always be accompanied by an issue.

Important aspects of testing to consider:

1. Tests are only conducted for the use cases specified in the URS. Any other functionality, should the system be capable of supporting it, is out of scope and
   1. Cannot form part of formal tests;
   2. Is not guaranteed to work.
2. Tests are conducted using specific test data and user input. The system is expected to work with similar data and user input, but should it not, a successful test is not invalidated: it indicates that the system under test needs refinement to deal with data exceptions that were not previously considered.

# Automated Tests

In the case of automated tests, the test procedure (test steps) is documented automatically by the test software, and detailed steps are not available in human readable form.

SAEON has set up a series of automated tests for the majority of the use cases, and these can be executed using free, dowloadable software.

Software: Selenium (<http://docs.seleniumhq.org/> )

Selenium runs only in Firefox – this can be downloaded and installed from here: [http://www.mozilla.org/en-US/firefox/fx/#desktop](http://www.mozilla.org/en-US/firefox/fx/" \l "desktop)

The user has the option to execute these tests one step at a time: allowing documentation of issues and comments.

# Scope of Tests

The User Requirements Statement deals with an ideal scope, and documents the functionality expected of a fully functional system.

The current implementation project (prototype) limits the use cases to the following:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Use Case as Defined in URS** | | **Assigned Phase** | **Release** | **Notes** |
| WSS | Web Services and Sources for Spatial Data | Both | Pilot | Available already, to be customised and refined in Pilot Project |
| SDU | Search and Discovery Use Cases | Pilot | Pilot | Available already, to be customised and refined in Pilot Project |
| CMC | Composite Map Creation | Pilot | Pilot | Available already, to be customised and refined in Pilot Project |
| CCM | Custodian Creation and Management | Pilot | Pilot | Available already, to be customised and refined in Pilot Project |
| HCM | Harvester Creation and Management | Pilot | Pilot | Available already, to be customised and refined in Pilot Project |
| GCU | General Content Upload and Download | Pilot | Pilot | Available already, to be customised and refined in Pilot Project |
| MDC | Meta-Data Creation and Management | Implementation | Release 1 | Specific extension project during Implementation Phase – out of scope |
| DPR | Data Collection Project Register | Implementation | Release 1 | Specific extension project during Implementation Phase – out of scope |
| UAU | User Administration Use Cases | Implementation | Release 2 | Available already, likely to be refined through support hours, or new projects to be defined |
| DDU | Data Download and Utilisation Use Cases | Implementation | Release 2 | Available already, likely to be refined through support hours, or new projects to be defined |
| QRP | Quality Reporting Process | Implementation | Release 2 | Available already, likely to be refined through support hours, or new projects to be defined |

Section 2: Use Cases under Test

## SDU: Search and Discovery Use Cases

|  |  |  |  |
| --- | --- | --- | --- |
|  | | | |
| **#** | **Description** | **Discussion** | **Roles** |
| SDU-001 | Keyword | User searches on basis of a keyword | Any User |
| SDU-002 | Composite | User searches on basis of composite criteria   * Spatial with interaction/ predefined values * Temporal * Topic | Any User |
| SDU-003 | Persistence | User stores composite search for future use | Any Logged in User |
| SDU-004 | Filtering | Secondary filtering on the basis of custodian, author, date, etc | Any User |
| SDU-005 | Visualisation | Spatial and Aggregate Analysis of Search Results | Any User |
| SDU-006 | Service | Access search result as a service from other system components, for example as GeoRSS/ Atom | Any User |
| SDU-007 | Map Integration | User requests search result and previews standardized map layer in a viewer | Any Logged-In User |

## WSS: Web Services and Sources for Spatial Data

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | |  |
| **#** | **Description** | **Discussion** | **Specification** | **Roles** |
| WSS-001 | WMS Download | User requests and downloads a layer served from a WMS | OGC-WMS | Any User if permitted |
| WSS-002 | WMS View | User views WMS layer in a map client | OGC-WMS | Any User if permitted |
| WSS-003 | WFS Download | User requests and downloads a layer served from a WFS | OGC-WFS | Any User if permitted |
| WSS-004 | WFS View | User views WFS layer in a map client | OGC-WFS | Any User if permitted |
| WSS-005 | KML Download | User requests and downloads a layer served from a KML | KML | Any User if permitted |
| WSS-006 | KML View | User views KML layer in a map client | KML | Any User if permitted |
| WSS-007 | GEORSS Download | User requests and downloads a layer served from a GEORSS | GeoRSS | Any User if permitted |
| WSS-008 | GEORSS View | User views GEORSS layer in a map client | GeoRSS | Any User if permitted |
| WSS-009 | WCS Download | User requests and downloads a layer served from a WCS | OGC-WCS | Any User if permitted |
| WSS-010 | WCS View | User views WCS layer in a map client | OGC-WCS | Any User if permitted |
| WSS-011 | NETCDF Download | User requests and downloads a layer served from a NETCDF | NetCDF | Any User if permitted |
| WSS-012 | NETCDF View | User views NETCDF layer in a map client | NetCDF | Any User if permitted |
| WSS-013 | SOS Download | User requests and downloads a layer served from a SOS | OGC-SOS | Any User if permitted |
| WSS-014 | SOS View | User views SOS layer in a map client | OGC-SOS | Any User if permitted |

WSS-007 to WSS-014: Out of Scope

Permission is managed by services under control of the custodian.

## CMC: Composite Map Creation

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | |  |
| **#** | **Description** | **Discussion** | **Specification** | **Roles** |
| CMC-001 | Search Integration | User requests a layer from search interface and visualizes in a map client |  | Any User if permitted |
| CMC-002 | Repeat | User repeats process to create a composite map |  | Any User if permitted |
| CMC-003 | Settings | Layer settings can be modified – transparency, layer name, layer order, layer visibility |  | Any User if permitted |
| CMC-004 | Persistence | User saves composite map and settings | OGC-WCD | Any logged-in user |
| CMC-005 | Portal Integration | User invokes process as a content type in portal environment |  | Any logged-in user |

## CCM: Custodian Creation and Management

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | |  |
| **#** | **Description** | **Discussion** | **Specification** | **Role** |
| CCM-001 | Create | User creates a custodian and provides background information |  | Administrator |
| CCM-002 | Terms and Conditions | User uploads a page of terms and conditions applicable to the custodian |  | Custodian |
| CCM-003 | Harvester | User defines one or more harvesters for the custodian | HCM | Administrator, Custodian |
| CCM-004 | Landing Page | User defines a landing page for the custodian. Can link to custodian websites. |  | Administrator, Custodian |

## HCM: Harvester Creation and Management

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | |  |
| **#** | **Description** | **Discussion** | **Specification** | **Role** |
| HCM-001 | Create | User creates a harvester within a custodian object, specifying protocol, source URL and standard. | Annexure C | Administrator, Custodian |
| HCM-002 | Edit | User (owner) edits harvester settings |  | Administrator, Custodian |
| HCM-003 | Frequency | User can set frequency of automated harvesting and whether harvested records should be published. |  | Administrator, Custodian |
| HCM-004 | Delete | User (owner) can delete harvester |  | Administrator, Custodian |
| HCM-005 | Manual Harvesting | User invokes manual harvesting event |  | Administrator, Custodian |
| HCM-006 | Validation | Harvested records are validated against schema before publication.   * Validated: publish * Not validated: publish provisionally |  | Administrator, Custodian |

## MDC: Meta-Data Creation and Management

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | |  |
| **#** | **Description** | **Discussion** | **Specification** | **Roles** |
| MDC-001 | Create from Template | User creates a meta-data record in standard of choice as a new entry from template. Templates are organization-specific |  | Administrator, Custodian |
| MDC-002 | Edit | User edits an existing meta-data record of which it is the owner or has rights to. Edited meta-data needs to be archived for auditing purposes. |  | Administrator, Custodian |
| MDC-003 | Delete | User deletes a meta-data record. |  | Administrator, Custodian |
| MDC-004 | Linking | User links meta-data record to other portal content. |  | Administrator, Custodian |
| MDC-005 | Full Record View | User views a full meta-data record. |  | Any user |
| MDC-006 | Summary Record View | User views a summary of core fields |  | Any user |
| MDC-007 | Export | User exports a meta-data record |  | Any user |
| MDC-008 | Upload | User uploads a meta-data record from disk |  | Administrator, Custodian |

Available, but out of scope. Likely to be amended.

## UAU: User Administration Use Cases

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | |  |
| **#** | **Description** | **Discussion** | **Specification** |  |
| UAU-001 | Register | A user can register voluntarily with limited privileges |  | Any User |
| UAU-002 | Gatekeeping | Each domain or custodian can appoint a gatekeeper to manage requests for increased privileges |  | Administrator, Custodian |
| UAU-003 | Profile | Each user is expected to provide a profile containing domain, organization, and other categorization details |  | Logged-in User |
| UAU-004 | Privacy | The system links to a privacy statement in accordance with OECD and local legal requirements | OECD  PAIA | Any User |
| UAU-005 | User Statistics | Administrator obtains user statistics as a service for inclusion into other applications. |  | Administrator, Custodian |
| UAU-006 | Assent | User assents to the terms and conditions prescribed by one or more custodians. |  | Any logged-in user |
|  |  |  | Delete |  |

Available, but out of scope. Likely to be amended.

On request, use cases UAU-001 and UAU-002 were added to the delivery – see Annexure A.5

## DDU: Data Download and Utilisation Use Cases

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | |  |
| **#** | **Description** | **Discussion** | **Specification** | **Roles** |
| DDU-001 | Discovery | User discovers a data set based on a meta-data search |  | Any user |
| DDU-002 | Data Usage | User can elect to   * Preview data * Download data |  | Ay user |
| DDU-003 | Consent | Each custodian publishes an optional “***terms and conditions***”. System verifies that this has been assented to before allowing use. |  | Any user |

Available, but out of scope. Likely to be amended.

Download is managed by Custodians on their own infrastructure.

## GCU: General Content Upload and Download

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | |  |
| **#** | **Description** | **Discussion** | **Specification** | **Roles** |
| GCU-001 | Upload | User uploads a file or creates a permissible content type at locations in the portal. |  | Logged in with Creator Privileges |
| GCU-002 | Publication | User can select to publish the content |  | Logged in with Creator Privileges |
| GCU-003 | Sharing | User can elect to share content with selected users or groups |  | Logged in with Creator Privileges |
| GCU-004 | Linking | User can link content to a meta-data record |  | Logged in with Creator Privileges |

## QRP: Quality Reporting Process

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | |  |
| **#** | **Description** | **Discussion** | **Specification** | **Role** |
| QRP-001 | User Feedback | Registered users can provide feedback on data quality. User finds or navigates to a meta-data entry. |  | Logged-In User |
| QRP-002 | Limited Feedback | Feedback is limited to selection of one or more common issues to simplify reporting and to limit responses that cannot be interpreted. User selects one or more appropriate issues. |  | Logged-In User |
| QRP-003 | Comment | User adds a comment if required. |  | Logged-In User |
| QRP-004 | Reporting | Custodian is able to log in and view a summary of commented meta-data entries by issue. |  | Administrator, Custodian |

Out of Scope.

## DPR: Data Collection Project Register

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | |  |
| **#** | **Description** | **Discussion** | **Specification** | **Role** |
| DPR-001 | Need | User identifies a need and performs a search against SMD to verify availability |  | Logged-In User |
| DPR-002 | Data Available | Data is accessed in the manner allowed by the custodian |  | Logged-In User |
| DPR-003 | Data Unavailable | User register a request – filling in Forms D/E as required by regulation – and registering a requirement as a simple meta-data record in publication state ‘Requested’ | PUB | Administrator, Custodian |
| DPR-004 | Approval | CSI approval is given: Meta-data status is updated to ‘Approved’ | PUB | Administrator, Custodian |
| DPR-005 | Completion | On completion, custodian publishes meta-data, completes meta-data record, or uploads a complete meta-data record as a replacement | PUB | Administrator, Custodian |
| DPR-006 | Status | A review of meta-data status is available and searches can be performed on the basis of meta-data status. Review includes statistics on time since last status change. |  | Administrator, Custodian |

Out of Scope

# Annexure: Test Schedules

## A.1: Custodian Creation and Management

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Suite** | **Step** | **Description** | **Data** | **Outcome** | **Result** | **Link** |
| CCM-000 | 1 | Log in | nsif\_test | nsif\_321 | Logged In |  |  |
| CCM-001 | Create a New Custodian | | | | | |
| CCM-001 | 1 | Click on 'Content' |  | Home folder contents shown |  |  |
| CCM-001 | 2 | Add New Folder | 'Test' Folder | New folder is available |  |  |
| CCM-001 | 3 | Add a Custodian | 'Test Custodian' | New custodian is available |  |  |
| CCM-002 | Add a Page of Terms and Conditions | | | | | |
| CCM-002 | 1 | Add New 'Terms' | 'Test Custodian Terms and Conditions' | Page is available |  |  |
| CCM-002 | 2 | Save page |  | Page s saved and visible in custodian folder |  |  |
| CCM-003 | Add a Harvester | | | | | |
| CCM-003 | 1 | Add New 'Harvester' | 'Test Harvester' | Harvester is available |  |  |
| CCM-003 | 2 | Standard | 'SANS 1878' |  |  |  |
| CCM-003 | 3 | Transport | 'HTTP' |  |  |  |
| CCM-003 | 4 | URL | http://nsif.dirisa.org/nodes/sanbi/Sanbi.zip/at\_download/file |  |  |  |
| CCM-003 | 5 | Password/ User Name | nsif\_test | nsif\_321 |  |  |  |
| CCM-003 | 6 | Save |  | Harvester is successfully saved |  |  |
| CCM-004 | Add a Landing Page | | | | | |
| CCM-004 | 1 | Click on 'Add New' - 'Page' |  | New page view is available |  |  |
| CCM-004 | 2 | Type Title | 'Test Landing Page' |  |  |  |
| CCM-004 | 3 | Save page |  | Page is displayed |  |  |
| CCM-004 | 4 | One level up | Select 'Test' and 'Test Custodian' from menu |  |  |  |
| CCM-004 | 5 | Set default view | Select 'Display' and 'Select Content Item as Default View…' |  |  |  |
| CCM-004 | 6 | Select Item | 'Test Landing Page' |  |  |  |
| CCM-004 | 7 | One level up | Select 'Test' and 'Test Custodian' from menu | 'Test Landing Page' is displayed by default |  |  |

## A.2 Harvester Creation and Management

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Suite** | **Step** | **Description** | **Data** | **Outcome** | **Result** | **Link** |
| HCM-000 | 1 | Log in | nsif\_test | nsif\_321 | Logged In |  |  |
| HCM-001 | Create a New Custodian with Harvester | | | | | |
| HCM-001 | 1 | Execute CCM |  | Harvester is created |  |  |
| HCM-002 | Edit Harvester | | | | | |
| HCM-002 | 1 | Set standard | 'SANS1878' from drop-down |  |  |  |
| HCM-002 | 2 | Set protocol | 'HTTP' from drop-down |  |  |  |
| HCM-002 | 3 | Set URL | <http://app01.saeon.ac.za/PLATFORM_3/TEST/META/SANS_Test.zip> |  |  |  |
| HCM-002 | 4 | Set e-mail | Tester's e-mail address |  |  |  |
| HCM-002 | 5 | Set update frequency | 'Never' from drop-down |  |  |  |
| HCM-002 | 6 | Set User Name | Password | None Required |  |  |  |
| HCM-002 | 7 | Publish Meta-Data | 'No' |  |  |  |
| HCM-002 | 8 | Save |  | Harvester is successfully displayed |  |  |
| HCM-005 | Manual Invocation | | | | | |
| HCM-005 | 1 | Navigate to Harvester |  |  |  |  |
| HCM-005 | 2 | Click on 'Harvest' tab |  | Form is displayed |  |  |
| HCM-005 | 3 | Click on 'Harvest Now' button |  | Confirmation message is displayed |  |  |
| HCM-005 | 4 | Switch to Mail Client |  |  |  |  |
| HCM-005 | 5 | Verify successful harvest |  | Messages confirm success |  |  |
| HCM-005 | 6 | Navigate to Custodian (One level up) |  |  |  |  |
| HCM-005 | 7 | Click on 'Meta-Data' |  | Two meta-data records are present |  |  |
| HCM-006 | Schema Validation | | | | | |
| HCM-006 | 1 | Select a meta-data record (1st record) | 'Valid SANS 1878' | Meta-data record is displayed |  |  |
| HCM-006 | 2 | Click on 'Edit Meta-Data' |  | No errors are reported |  |  |
| HCM-006 | 3 | One Level Up |  | Meta-data record is displayed in blue (published) |  |  |
| HCM-006 | 4 | Select 2nd meta-data record | 'Invalid SANS 1878' | Meta-data record is displayed |  |  |
| HCM-006 | 5 | Click on 'Edit Meta-Data' |  | Errors against schema are listed |  |  |

## A.3 General Content Upload and Download

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Suite** | **Step** | **Description** | **Data** | **Outcome** | **Result** | **Link** |
| GCU-000 | 1 | Log in | nsif\_test | nsif\_321 | Logged In |  |  |
| GCU-000 | 2 | Navigate to 'Test' |  |  |  |  |
| GCU-001 | Upload a File | | | | | |
| GCU-001 | 1 | Select 'Add New - File' from menu |  | File upload form is displayed |  |  |
| GCU-001 | 2 | Title | Provide a suitable title |  |  |  |
| GCU-001 | 3 | Select a file from disk ('Upload') | Any suitable file that is not too large |  |  |  |
| GCU-001 | 4 | Click 'Save' |  | File is uploaded and displayed as clickable link. |  |  |
| GCU-002 | Publication | | | | | |
| GCU-002 | 1 | Navigate to 'Test' |  |  |  |  |
| GCU-002 | 2 | Select 'Add New - Page' from menu |  | Page form is displayed |  |  |
| GCU-002 | 3 | Type a Title | 'Test Page' |  |  |  |
| GCU-002 | 4 | Save the page |  | Test page is displayed in private state |  |  |
| GCU-002 | 5 | Open a separate browser and attempt to navigate to 'Test Page' | <http://nsif.dirisa.org/test/test-page> | Requires credentials |  |  |
| GCU-002 | 6 | Click on 'Publish' in the menu |  | Item is published |  |  |
| GCU-002 | 7 | Open a separate browser and attempt to navigate to 'Test Page' | <http://nsif.dirisa.org/test/test-page> | Now visible |  |  |
| GCU-003 | Sharing | | | | | |
| GCU-003 | 1 | Navigate to 'Test' |  |  |  |  |
| GCU-003 | 2 | Click on 'Test Page' |  | Page opens |  |  |
| GCU-003 | 3 | Click on 'Sharing' tab |  | Share settings are displayed |  |  |
| GCU-003 | 4 | Search for user | 'nsif\_share' |  |  |  |
| GCU-003 | 5 | Set privileges | Click on 'Can View' and save |  |  |  |
| GCU-003 | 6 | Open a separate browser and attempt to navigate to 'Test Page' | <http://nsif.dirisa.org/test/test-page> | Requires credentials |  |  |
| GCU-003 | 7 | Log in | nsif\_share | nsif\_321 | Test page is visible |  |  |
| GCU-004 | Linking to Meta-Data | | | | | |
| GCU-004 | 1 | Navigate to 'Test' |  |  |  |  |
| GCU-004 | 2 | Click on 'Test Page' |  | Page opens |  |  |
| GCU-004 | 3 | Click on 'Linked Metadata' tab |  | Link Settings are displayed |  |  |
| GCU-004 | 4 | Search for meta-data | Type 'valid' in SANS 1878 box and click 'Search' |  |  |  |
| GCU-004 |  | Select meta-data | Select 'Valid SANS 1878' and click 'Insert' | Meta-data link is displayed |  |  |
| GCU-004 |  | Right-click link and open in new tab |  |  |  |  |
| GCU-004 |  | Verify linked item | Verify that test page has been added to 'Online Resources' |  |  |  |

## A.4 Search and Discovery Use Cases

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Suite** | **Step** | **Description** | **Data** | **Outcome** | **Result** | **Link** |
| SDU-001 | Keyword Search | | | | | |
| SDU-001 | 1 | Open the site | nsif.dirisa.org |  |  |  |
| SDU-001 | 2 | Click on 'Search' | Button on right-hand side of screen | Search page opens |  |  |
| SDU-001 | 3 | Type phrase in 'AnyText' field | 'topo' |  |  |  |
| SDU-001 | 4 | Confirm result |  | Multiple records are returned |  |  |
| SDU-001 | 5 | Click on 'Analysis' tab |  | Record count should be 100 |  |  |
| SDU-002 | Composite Search | | | | | |
| SDU-002 | 1 | Click on 'Search' | Button on right-hand side of screen | Search page opens |  |  |
| SDU-002 | 2 | Select 'Advanced Search' |  | Advanced search is enabled, spatial search tab is shown |  |  |
| SDU-002 | 3 | Select spatial search filter | 'Contained In' from drop-down |  |  |  |
| SDU-002 | 4 | Select predefined spatial extent | 'Fynbos Biome' from drop-down |  |  |  |
| SDU-002 | 5 | Click on the 'What' tab |  | Semantic search tab is displayed |  |  |
| SDU-002 | 6 | Provide search phrase | Type 'topo' in AnyText field |  |  |  |
| SDU-002 | 7 | Click on 'Search' (bottom of page) |  |  |  |  |
| SDU-002 | 8 | Click on 'Analysis' tab |  | Record count should be 18 |  |  |
| SDU-003 | Persist (Save) a Search Result - Method 1 | | | | | |
| SDU-003 | 1 | Click on 'Search' | Button on right-hand side of screen | Search page opens |  |  |
| SDU-003 | 2 | Type phrase in 'AnyText' field | 'topo' |  |  |  |
| SDU-003 | 3 | Click on 'View XML Request' |  | Editor pane opens with query formulation |  |  |
| SDU-003 | 4 | Click on 'Save Query' and provide a name | 'NSIF\_TEST' |  |  |  |
| SDU-003 | 5 | Open a new browser tab |  |  |  |  |
| SDU-003 | 6 | Execute the following URL | http://app01.saeon.ac.za/PLATFORM\_TEST/MAP/search\_portal.htm?MODE=csw&QUERY=NSIF\_TEST | Query is reproduced in different context |  |  |
| SDU-003 | Persist (Save) a Search Result - Method 2 | | | | | |
| SDU-003 | 1 | Navigate to 'Test' folder and log in if required | nsif\_test | nsif\_321 |  |  |  |
| SDU-003 | 2 | Click on 'Add New - Search Page' |  | Editor for portal item is open |  |  |
| SDU-003 | 3 | Provide a Title and Save | 'Test Search' | Search page opens |  |  |
| SDU-003 | 4 | Perform a simple search | Anytext = 'LUCIA' | 1 record is returned |  |  |
| SDU-003 | 5 | Refresh the browser tab |  | Search result is displayed again |  |  |
| SDU-004 | Filtering | | | | | |
| SDU-004 | 1 | Click on 'Search' | Button on right-hand side of screen | Search page opens |  |  |
| SDU-004 | 2 | Type phrase in 'AnyText' field | 'topo' |  |  |  |
| SDU-004 | 3 | Provide a simple filter | Type 'lucia' in 'Find:' and click the search icon | Single record is shown |  |  |
| SDU-004 | 4 | Revoke filter | Click on [x] to revoke filter |  |  |  |
| SDU-004 | 5 | Click on 'Advanced Filters' tab |  | Assessment of available filters is shown |  |  |
| SDU-004 | 6 | Add a filter | Deselect 'NGI' as a custodian |  |  |  |
| SDU-004 | 7 | Click on 'Results' tab |  | One record only |  |  |
| SDU-005 | Analysis | | | | | |
| SDU-005 | 1 | Click on 'Search' | Button on right-hand side of screen | Search page opens |  |  |
| SDU-005 | 2 | Type phrase in 'AnyText' field | 'topo' |  |  |  |
| SDU-005 | 3 | Click on 'Analysis' tab |  | View chart, map, and table summaries of search result |  |  |
| SDU-005 | 4 | Click on 'Map' tab |  | View location of data sets and bounding polygons |  |  |
| SDU-006 | Services | | | | | |
| SDU-006 | 1 | Open any browser and type a request | <http://nsif.dirisa.org/GetRecords?CUSTODIAN=NGI> | GeoJSON result is returned |  |  |
| SDU-006 | 2 | Open any browser and type a request | <http://nsif.dirisa.org/GetRecords?CUSTODIAN=NGI&resulttype=georss> | GeoRSS result is returned |  |  |
| SDU-006 | 3 | Open any browser and type a request | <http://nsif.dirisa.org/GetRecords?help=yes> | Obtain interface specifications |  |  |
| SDU-007 | Map Integration | | | | | |
| SDU-007 | 1 | Open a Map Interface | <http://app01.saeon.ac.za/PLATFORM_TEST/MAP/index.htm> |  |  |  |
| SDU-007 | 2 | Search for applicable data | Click 'Search' in the control menu | Search pane opens |  |  |
| SDU-007 | 3 | Search for Web Map Services | Type 'WMS' in the 'Any Text' field and click 'Search' | Returns multiple results |  |  |
| SDU-007 | 4 | Click on 'Online Resources' for an entry | Select 'SAEON Spatial Data Repository - SAEON-0 CONTEXT, BLA, DWA-RQS and INGC data' | Opens WMS Query window |  |  |
| SDU-007 | 5 | Select a layer from the listing and click 'Add to Map' | 'MTS\_Station\_Boundaries' | Select a layer from the listing and click 'Add to Map' |  |  |
| SDU-007 | 6 | Select a layer from the listing and click 'Add to Map' | bgis\_sa\_national\_roads' | Select a layer from the listing and click 'Add to Map' |  |  |
| SDU-007 | 7 | Close all tabs except 'Map' |  | View composite map |  |  |

## A.5 User Adminstration Use Cases

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Suite** | **Step** | **Description** | **Data** | **Outcome** | **Result** | **Link** |
| UAU-000 | 1 | Navigate to 'Home' | Do not log in |  |  |  |
| UAU-001 | Register as a User | | | | | |
| UAU-001 | 1 | Click 'New User?' - bottom left of site |  | Form for user registration opens |  |  |
| UAU-001 | 2 | User Name | Provide a suitable user name - not too complex, preferably a single word e.g. 'nsif\_001', etc. |  |  |  |
| UAU-001 | 3 | Provide Personal Details | First Name and Surname, e-mail address. The e-mail address must be available to the tester. |  |  |  |
| UAU-001 | 4 | Affiliation and Interest | Provide an Organisation Name, Domain of Interest, and Organisation Type |  |  |  |
| UAU-001 | 5 | Community | Select 'Community Open' |  |  |  |
| UAU-001 | 6 | Select Newsletters | Leave blank |  |  |  |
| UAU-001 | 7 | Select Intended Use | Select 'Custodian' from the list. | e-mail is sent to Portal Gatekeeper - see next schedule. |  |  |
| UAU-001 | 8 | Select main Portal of Interest | Select 'NSIF' from the list. | Determines the portal gatekeeper |  |  |
| UAU-001 | 9 | Fill in 'Captcha' |  |  |  |  |
| UAU-001 | 10 | Click 'Register' |  | Welcome message is displayed |  |  |
| UAU-001 | 11 | Switch to mail client for e-mail address in (3) |  | Message is received with link to set password |  |  |
| UAU-001 | 12 | Click on password link |  | Portal opens with password reset form |  |  |
| UAU-001 | 13 | Provide a new password | nsif\_001 - make it the same as the user name for simplicity | Password reset message is displayed |  |  |
| UAU-001 | 14 | Test new account | Log in with username and password combination | Successfully logged in |  |  |
| UAU-002 | Gatekeeping | | | | | |
| UAU-002 | 1 | Navigate to mail client for e-mail address in 7 and 8 above |  | e-mail is received alerting gatekeeper to request for registration as a custodian |  |  |
| UAU-002 | 2 | Click on e-mail link to set privileges | Actions depend on context. | Help page is displayed |  |  |