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| Enterprise Tracking Application |
| Testing Plan Document |
| Prepared For: Perspecta  Location: Austin, TX |
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# Revision History

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# Abstract

This document serves as the testing plan for the Enterprise Tracking Application (ETA) that is being developed by the University of Texas at Dallas (UTD) project team for Perspecta Inc. We will use this document to describe the methods we will use to adequately test the system according to the functional requirement outlined in the Software Requirements Specification (SRS).

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# 1. Introduction

### 1.1 Purpose

The purpose of this Testing Plan Document (TPD) for the ETA project sponsored by Perspecta Inc. is to provide an overview of how the system will be checked for accuracy and completeness with respect to the use cases, functional requirements, and non-functional requirements identified in the project SRS document. This document is intended for the UTD project team, who will use the testing information as guidelines to test the project. This document is also for the UTD faculty as it fulfills one of the requirements of the project.

### 1.2 Scope

The scope of this TPD includes testing methods which pertain to the front-end graphical user interface (GUI) functions and the web services layer functions. The database functions will not be directly tested because the database is being implemented by the customer. Further, the persistence layer will be tested indirectly via the application layer functions. This document will provide the necessary information and framework to plan and perform all test processes needed to adequately test the ETA system.

### 1.3 Definitions, Acronyms, and Abbreviations

**CRUD:** Create, Retrieve, Update, and Delete database operations.

**DDD:** Detailed Design Document

**ETA:** Enterprise Tracking Application

**FS:**  Feature Set

**GUI:** Graphical User Interface

**SRS:** Software Requirements Specification

**TC:**  Test Case

**TP:**  Test Procedure

**TPD:** Testing Plan Document

**UTD:** The University of Texas at Dallas

### 1.4 Overview

To fully document all the testing aspects, the TPD contains the following subsections:

* Section 1, Introduction: The introduction of the TPD provides an overview of the entire document. It includes the document purpose, scope, definitions, acronyms, and abbreviations, and the overview of this document.
* Section 2, Requirements/Specifications-Based System Level Test Cases: This section describes the various test cases that are necessary to adequately test the GUI functions, application layer functions, and the database functions.
* Section 3, Traceability of Test Cases to Use Cases: This section outlines the traceability from the requirements specification use cases to the test cases outlined in Section 2.
* Section 4, Techniques for Test Generation: This section outlines how the test cases outlined in Section 2 were identified.
* Section 5, Evidence of Configuration Management: This section contains a single image depicting evidence that the TPD has been placed under configuration management.
* Section 6, References: The References section contains an IEEE style formatted list of the external sources of information the team used to create this document.

# 2. Requirements/Specifications-Based System Level Test Cases

This section contains various test cases divided into subsections based on system functionalities, namely the GUI, Applications, Data Types, and Data Linkages subsections. Each subsection contains feature sets, test cases and test procedures associated with the functionality.

### 2.1 GUI Login and Layout Test Cases

#### 2.1.1 GUI Login and Layout Feature Set (FS1)

|  |  |  |  |
| --- | --- | --- | --- |
| ID | Objective | Pri. | Contents |
| H.1 | User login | H | TC-2.1.1 through TC-2.1.3 |
| H.2 | User logout | H | TC-2.1. 4 through TC-2.1.7 |
| H.3 | Login page layout | Bm | TC-2.1.8 |
| H.4 | Logout page layout | Bm | TC-2.1.9 |
| H.5 | Main page layout | Bm | TC-2.1.10 |
| H.6 | Error page | Bm | TC-2.1.11 |
| H.7 | List page layout | Bm | TC-2.1.12 through TC-2.1.14 |
| H.8 | Add page layout | Bm | TC-2.1.15 through TC-2.1.17 |
| H.9 | Delete object layout | Bm | TC-2.1.18 |

Table 2-1. GUI Login and Layout Feature Set (FS1)

#### 2.1.2 GUI Login and Layout Test Cases

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.1.1** | **Purpose:** to test the reaction to an invalid combination of username and password values when attempting to login into application. |
| **Priority: H** |
| Tracing: (FS1).H.1 |
| **Preconditions:** | A sample username with invalid value invalidUser  A sample password with invalid value xyz  A sample username with valid value jonny.jones@xxxx.com  A sample password with valid value password  A combination of valid username and valid password must not be included. |
| **Input:** | Insert the sample combination and start the analysis. |
| **Expected Result:** | The display shows “The login credentials you have entered are invalid” and input fields are cleared. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.1.2** | **Purpose:** to test the reaction to a blank username, or password, or both when attempting to login into application. |
| **Priority: H** |
| Tracing: (FS1).H.1 |
| **Preconditions:** | A sample username with valid value jonny.jones@xxxx.com  A sample password with valid value password  A combination of valid username and valid password must not be included. |
| **Input:** | Insert only username, only password, or none |
| **Expected Result:** | The display shows “The login credentials you have entered are invalid” and input fields are cleared. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.1.3** | **Purpose:** to test the reaction to a valid combination of username and password values when attempting to login into application. |
| **Priority: H** |
| Tracing: (FS1).H.1 |
| **Preconditions:** | A sample username with valid value jonny.jones@xxxx.com  A sample password with valid value password |
| **Input:** | Enter username and password |
| **Expected Result:** | User granted access to the main page of the system |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.1.4** | **Purpose:** to test the reaction of a user clicking the logout link on the main page. |
| **Priority: H** |
| Tracing: (FS1).H.2 |
| **Preconditions:** | User is logged in  User is in the main page of the system  User clicks the logout link from the header |
| **Input:** | None |
| **Expected Result:** | User is directed to the logged-out confirmation page |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.1.5** | **Purpose:** to test the reaction of a user clicking the logout link on the ‘Application’ > ‘Add’ page. |
| **Priority: H** |
| Tracing: (FS1).H.2 |
| **Preconditions:** | User is logged in  User is in the ‘Application’ > ‘Add’ page of the system  User clicks the logout link from the header |
| **Input:** | None |
| **Expected Result:** | User is directed to the logged-out confirmation page |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.1.6** | **Purpose:** to test the reaction of a user clicking the logout link on the ‘Data Types’ > ‘Add’ page. |
| **Priority: H** |
| Tracing: (FS1).H.2 |
| **Preconditions:** | User is logged in  User is in the ‘Data Types’ > ‘Add’ page of the system  User clicks the logout link from the header |
| **Input:** | None |
| **Expected Result:** | User is directed to the logged-out confirmation page |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.1.7** | **Purpose:** to test the reaction of a user clicking the logout link on the ‘Data Linkage’ > ‘Add’ page. |
| **Priority: H** |
| Tracing: (FS1).H.2 |
| **Preconditions:** | User is logged in  User is in the ‘Data Linkage’ > ‘Add’ page of the system  User clicks the logout link from the header |
| **Input:** | None |
| **Expected Result:** | User is directed to the logged-out confirmation page |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.1.8** | **Purpose:** to test that the login page HTML DOM elements are properly placed, named, and styled. |
| **Priority: Bm** |
| Tracing: (FS1).H.3 |
| **Preconditions:** | None |
| **Input:** | None |
| **Expected Result:** | Correct login page layout |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.1.9** | **Purpose:** to test that the logout page HTML DOM elements are properly placed, named, and styled. |
| **Priority: Bm** |
| Tracing: (FS1).H.4 |
| **Preconditions:** | User has valid credentials and access to the application. |
| **Input:** | None |
| **Expected Result:** | Correct logout page layout |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.1.10** | **Purpose:** to test that the main page HTML DOM elements are properly placed, named, and styled. |
| **Priority: Bm** |
| Tracing: (FS1).H.5 |
| **Preconditions:** | User has valid credentials and access to the application. |
| **Input:** | None |
| **Expected Result:** | Correct main page layout |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.1.11** | **Purpose:** to test that an error page id displayed when necessary. |
| **Priority: Bm** |
| Tracing: (FS1).H.6 |
| **Preconditions:** | Incorrect URI is entered in a browser |
| **Input:** | None |
| **Expected Result:** | Error page is displayed |

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| --- | --- |
| **Test Case ID:**  **TC-2.1.12** | **Purpose:** to test that the ‘- Application’ > ‘List’ page HTML DOM elements are properly placed, named, and styled. |
| **Priority: Bm** |
| Tracing: (FS1).H.7 |
| **Preconditions:** | User has valid credentials and access to the application. |
| **Input:** | None |
| **Expected Result:** | Correct ‘- Application’ > 'List’ page layout |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.1.13** | **Purpose:** to test that the ‘- Data Types’ > ‘List’ page HTML DOM elements are properly placed, named, and styled. |
| **Priority: Bm** |
| Tracing: (FS1).H.7 |
| **Preconditions:** | User has valid credentials and access to the application. |
| **Input:** | None |
| **Expected Result:** | Correct ‘- Data Types’ > 'List’ page layout |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.1.14** | **Purpose:** to test that the ‘- Data Linkage’ > ‘List’ page HTML DOM elements are properly placed, named, and styled. |
| **Priority: Bm** |
| Tracing: (FS1).H.7 |
| **Preconditions:** | User has valid credentials and access to the application. |
| **Input:** | None |
| **Expected Result:** | Correct ‘- Data Linkage’ > 'List’ page layout |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.1.15** | **Purpose:** to test that the ‘- Application’ > ‘Add’ page HTML DOM elements are properly placed, named, and styled. |
| **Priority: Bm** |
| Tracing: (FS1).H.8 |
| **Preconditions:** | User has valid credentials and access to the application. |
| **Input:** | None |
| **Expected Result:** | Correct ‘- Application’ > ‘Add’ page layout |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.1.16** | **Purpose:** to test that the ‘- Data Types’ > ‘Add’ page HTML DOM elements are properly placed, named, and styled. |
| **Priority: Bm** |
| Tracing: (FS1).H.8 |
| **Preconditions:** | User has valid credentials and access to the application. |
| **Input:** | None |
| **Expected Result:** | Correct ‘- Data Types’ > ‘Add’ page layout |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.1.17** | **Purpose:** to test that the ‘- Data Linkage’ > ‘Add’ page HTML DOM elements are properly placed, named, and styled. |
| **Priority: Bm** |
| Tracing: (FS1).H.8 |
| **Preconditions:** | User has valid credentials and access to the application. |
| **Input:** | None |
| **Expected Result:** | Correct ‘- Data Linkage’ > ‘Add’ page layout |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.1.18** | **Purpose:** to test that the Delete confirmation modal window HTML DOM elements are properly placed, named, and styled. |
| **Priority: Bm** |
| Tracing: (FS1).H.9 |
| **Preconditions:** | User has valid credentials and access to the application. |
| **Input:** | None |
| **Expected Result:** | Correct Delete confirmation modal window layout |

#### 2.1.3 GUI Login and Layout Test Procedures

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TPID** | **Objective and Priority** | | | **Est. Dur.:** |
| TP-H-1 | The purpose of this test procedure is to test the way the system handles invalid, blank, and valid user credentials in the login page.  Priority: H | | | 3 minutes |
| **Start up:** Open a browser and navigate to the login page. Place the username and password in the labeled input fields with the following values:  1) username: invalidUser / jonny.jones@xxxx.com password: xyz / password  2) username: jonny.jones@xxxx.com password: password  3) username: jonny.jones@xxxx.com password: password | | | | |
| **Relationships to other procedures:** None | | | | |
| **Test Log** | | | | |
| Date: | Initials: | Test item: | | OK/Not OK |
|  |  |  | |  |
| **Comments:** | | | | |
| **Procedure** | | | | |
| **Step No.**  **Test Case** | **Activities** | **Examination of Result** | **Actual Results** | **Test Result** |
| 1 | Enter a valid username and invalid password and click login. |  | Input fields are cleared and a “The login credentials you have entered are invalid”  message is displayed. |  |
| TC-2.1.1 | Enter an invalid username and valid password and click login.  Enter an invalid username and invalid password and click login. | Check that the display shows “The login credentials you have entered are invalid” and input fields are cleared. |
| 2 | Enter a valid username and blank password and click login. |  | Input fields are cleared and a “The login credentials you have entered are invalid”  message is displayed. |  |
| TC-2.1.2 | Enter a blank username and valid password and click login.  Enter leave both username and password blank and click login. | Check that the display shows “The login credentials you have entered are invalid” and input fields are cleared. |
| 3 | Enter the provided credentials. Wait for the system’s reaction. |  | User is routed to the main page. |  |
| TC-2.1.3 |  | Check that you are been granted access to the application. |
| **Stop and Wrap Up:** Logout from the application. Clean cache. Exit browser. | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TPID** | **Objective and Priority** | | | **Est. Dur.:** |
| TP-H-2 | The purpose of this test procedure is to test the way the system handles a logout request from the different pages in the system.  Priority: H | | | 3 minutes |
| **Start up:** Login to the system using username: jonny.jones@xxxx.com password: password | | | | |
| **Relationships to other procedures:** None | | | | |
| **Test Log** | | | | |
| Date: | Initials: | Test item: | | OK/Not OK |
|  |  |  | |  |
| **Comments:** | | | | |
| **Procedure** | | | | |
| **Step No.**  **Test Case** | **Activities** | **Examination of Result** | **Actual Results** | **Test Result** |
| 1 | Enter the provided credentials. Make sure the current page is the main page. |  |  |  |
| TC-2.2.4 |  | User is directed to the logout page and session is cleared. |
| 2 | Enter the provided credentials. Navigate to the ‘Add’ page from the link under ‘ - Applications’ in the navigation menu. |  |  |  |
| TC-2.2.5 |  | User is directed to the logout page and session is cleared. |
| 3 | Enter the provided credentials. Navigate to the ‘Add’ page from the link under ‘- Data Types’ in the navigation menu. |  |  |  |
| TC-2.2.6 |  | User is directed to the logout page and session is cleared. |
| 4 | Enter the provided credentials. Navigate to the ‘Add’ page from the link under ‘- Data Linkage’ in the navigation menu. |  |  |  |
| TC-2.2.7 |  | User is directed to the logout page and session is cleared. |
| **Stop and Wrap Up:** Clean cache. Exit browser. | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TPID** | **Objective and Priority** | | | **Est. Dur.:** |
| TP-H-3 | The purpose of this test procedure is to test the layout of the Login page  Priority: Bm | | | 2 minutes |
| **Start up:** Open a browser and navigate to the login page. | | | | |
| **Relationships to other procedures:** None | | | | |
| **Test Log** | | | | |
| Date: | Initials: | Test item: | | OK/Not OK |
|  |  |  | |  |
| **Comments:** All worked as expected, no bugs encountered. | | | | |
| **Procedure** | | | | |
| **Step No.**  **Test Case** | **Activities** | **Examination of Result** | **Actual Results** | **Test Result** |
| 1 | Click on the login button. |  |  |  |
| TC-2.1.8 |  | Blue header at the top with ‘Login Page’ message on the left. White background on the main section. Left-aligned Perspecta logo under the header. Centered Login form with username and password inputs that have placeholder text and labels. Under the form a green ‘Login’ button next to a blue ‘Cancel’ button. A ‘The login credentials you have entered are invalid’ message is displayed when login credentials are incorrect or blank and the Login button is clicked. |
| **Stop and Wrap Up:** Logout from the application. Clean cache. Exit browser. | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TPID** | **Objective and Priority** | | | **Est. Dur.:** |
| TP-H-4 | The purpose of this test procedure is to test the layout of the Logout page  Priority: Bm | | | 2 minutes |
| **Start up:** Login to the system using username: jonny.jones@xxxx.com password: password. | | | | |
| **Relationships to other procedures:** None | | | | |
| **Test Log** | | | | |
| Date: | Initials: | Test item: | | OK/Not OK |
|  |  |  | |  |
| **Comments:** All worked as expected, no bugs encountered. | | | | |
| **Procedure** | | | | |
| **Step No.**  **Test Case** | **Activities** | **Examination of Result** | **Actual Results** | **Test Result** |
| 1 | Enter the provided credentials. Click the Login button. Click the Logout link from the header. |  |  | Passed |
| TC-2.1.9 |  | White background with a centered ‘You have successfully logged out!’ message is displayed and under it a ‘Click here to return to the login page’ message. The word ‘here’ is a link that takes the user back to the login page. |
| **Stop and Wrap Up:** Logout from the application. Clean cache. Exit browser. | | | | |

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| --- | --- | --- | --- | --- |
| **TPID** | **Objective and Priority** | | | **Est. Dur.:** |
| TP-H-5 | The purpose of this test procedure is to test the layout of the Main page  Priority: Bm | | | 2 minutes |
| **Start up:** Login to the system using username: jonny.jones@xxxx.com password: password. | | | | |
| **Relationships to other procedures:** None | | | | |
| **Test Log** | | | | |
| Date: | Initials: | Test item: | | OK / Not OK |
|  |  |  | |  |
| **Comments:** | | | | |
| **Procedure** | | | | |
| **Step No.**  **Test Case** | **Activities** | **Examination of Result** | **Actual Results** | **Test Result** |
| 1 | Enter the provided credentials. Click the Login button. |  |  |  |
| TC-2.1.10 |  | White background on the main section. A blue header with ‘ETA Home Page’ on the left, <Username> on the right, under username a ‘logout’ link. A blue footer with a centered Perspecta copyright. A navigation menu on the left side between header and footer containing the options: ‘+ Application’, ‘+ Data Types’, + ‘Data Linkages’. These menus should expand, the ‘+’ will now be a ‘-’ and each will contain submenus of: ‘Add’ and ‘List’. An image of Perspecta’s logo in the center of the screen. |
| **Stop and Wrap Up:** Logout from the application. Clean cache. Exit browser. | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TPID** | **Objective and Priority** | | | **Est. Dur.:** |
| TP-H-6 | The purpose of this test procedure is to test the Error page and its layout when a URI is entered with an incorrect path.  Priority: Bm | | | 2 minutes |
| **Start up:** Navigate to http://localhost:4200/invalid. | | | | |
| **Relationships to other procedures:** None | | | | |
| **Test Log** | | | | |
| Date: | Initials: | Test item: | | OK/Not OK |
|  |  |  | |  |
| **Comments:** | | | | |
| **Procedure** | | | | |
| **Step No.**  **Test Case** | **Activities** | **Examination of Result** | **Actual Results** | **Test Result** |
| 1 | Open a browser and enter the URI provided |  |  |  |
| TC-2.1.11 |  | An Error page is opened with an error message displayed on the top left. |
| **Stop and Wrap Up:** Clean cache. Exit browser. | | | | |

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| **TPID** | **Objective and Priority** | | | **Est. Dur.:** |
| TP-H-7 | The purpose of this test procedure is to test the layout of the ‘List’ page  Priority: Bm | | | 2 minutes |
| **Start up:** Login to the system using username: jonny.jones@xxxx.com password: password | | | | |
| **Relationships to other procedures:** None | | | | |
| **Test Log** | | | | |
| Date: | Initials: | Test item: | | OK/Not OK |
|  |  |  | |  |
| **Comments:** | | | | |
| **Procedure** | | | | |
| **Step No.**  **Test Case** | **Activities** | **Examination of Result** | **Actual Results** | **Test Result** |
| 1 | Enter the provided credentials. Click the Login button. Navigate to ‘- Applications’ > ‘List’. |  |  |  |
| TC-2.2.12 |  | Header, footer, and navigation menu remain as described in TP-H-5. Perspecta logo is replaced by a table in the main section. The table contains a header and six columns with a green ‘Update’ button and a red ‘Delete’ button in the last two columns of each row. |
| 2 | Enter the provided credentials. Click the Login button. Navigate to ‘- Data Types’ > ‘List’. |  |  |  |
| TC-2.2.13 |  | Header, footer, and navigation menu remain as described in TP-H-5. Perspecta logo is replaced by a table in the main section. The table contains a header and four columns with a green ‘Update’ button and a red ‘Delete’ button in the last two columns of each row. |
| 3 | Enter the provided credentials. Click the Login button. Navigate to ‘- Data Linkage’ > ‘List’. |  |  |  |
| TC-2.2.14 |  | Header, footer, and navigation menu remain as described in TP-H-5. Perspecta logo is replaced by a table in the main section. The table contains a header and four columns with a red ‘Delete’ button in the last column of each row. |
| **Stop and Wrap Up:** Logout from the application. Clean cache. Exit browse. | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **TPID** | | **Objective and Priority** | | | | **Est. Dur.:** | |
| TP-H-8 | | The purpose of this test procedure is to test the layout of the 'Add’ page  Priority: Bm | | | | 2 minutes | |
| **Start up:** Login to the system using username: jonny.jones@xxxx.com password: password | | | | | | | |
| **Relationships to other procedures:** None | | | | | | | |
| **Test Log** | | | | | | | |
| Date: | | Initials: | Test item: | | | OK/Not OK | |
|  | |  |  | | |  | |
| **Comments:** | | | | | | | |
| **Procedure** | | | | | | | |
| **Step No.**  **Test Case** | **Activities** | | | **Examination of Result** | **Actual Results** | | **Test Result** |
| 1 | Enter the provided credentials. Click the Login button. Navigate to ‘- Applications’ > ‘Add’. | | |  |  | |  |
| TC-2.2.15 |  | | | Header and footer remain the same as described in TP-H-5. The title is changed to ‘ETA’. The navigation menu is removed and the Perspecta logo is replaced by a form in the main section. The form contains two text fields. The first one is labeled ‘Application Name’ and the second one is labeled ‘Description’. Below the text fields there is a blue button that expands a ‘Data Types’ dropdown menu containing checkboxes. Below the dropdown menu there are two buttons aligned horizontally, on the left there is a green ‘Save’ button, and on the right, there is a blue ‘Cancel’ button. On top of the form there is a legend with text value of ‘Application’ with a horizontal line below. |
| 2 | Enter the provided credentials. Click the Login button. Navigate to ‘- Data Types’ > ‘Add’. | | |  |  | |  |
| TC-2.2.16 |  | | | Header and footer remain the same as described in TP-H-5. The title is changed to ‘ETA’. The navigation menu is removed and the Perspecta logo is replaced by a form in the main section. The form contains a text field label ‘Data Type’. Below the text field there are two buttons aligned horizontally, on the left there is a green ‘Save’ button, and on the right, there is a blue ‘Cancel’ button. On top of the form there is a legend with text value of ‘Data Type’ with a horizontal line below. |
| 3 | Enter the provided credentials. Click the Login button. Navigate to ‘- Data Linkage’ > ‘Add’. | | |  |  | |  |
| TC-2.2.17 |  | | | Header and footer remain the same as described in TP-H-5. The title is changed to ‘ETA’. The navigation menu is removed and the Perspecta logo is replaced by a form in the main section. The form contains three dropdown menus aligned vertically. The first dropdown is labeled ‘Source Application’ the second is labeled ‘Data Type’ and the third is labeled ‘Destination Application’. Under the dropdowns there are two buttons aligned horizontally, on the left there is a green ‘Save’ button, and on the right, there is a blue ‘Cancel’ button. On top of the form there is a legend with text value of ‘Data Linkage’ with a horizontal line below. |  | |  |
| **Stop and Wrap Up:** Logout from the application. Clean cache. Exit browse. | | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **TPID** | **Objective and Priority** | | | **Est. Dur.:** | | |
| TP-H-9 | The purpose of this test procedure is to test the Error page and its layout when a URI is entered with an incorrect path.  Priority: Bm | | | 2 minutes | | |
| **Start up:** Login to the system using username: jonny.jones@xxxx.com password: password | | | | | | |
| **Relationships to other procedures:** None | | | | | | |
| **Test Log** | | | | | | |
| Date: | Initials: | Test item: | | OK/Not OK | |
|  |  |  | |  | |
| **Comments:** | | | | | | |
| **Procedure** | | | | | | |
| **Step No.**  **Test Case** | **Activities** | **Examination of Result** | **Actual Results** | **Test Result** | | |
| 1 | Enter the provided credentials. Click the Login button. Navigate to a list and click a ‘Delete’ button. |  |  |  | | |
| TC-2.1.18 |  | A small modal window is opened with white background, a ‘Confirm delete?’ message and two buttons under the message. Left button is red with white ‘Yes’ message, and the right button is green with white ‘No’ message. The rest of the page is greyed out. |  |  | | |
| **Stop and Wrap Up:** Logout from the application. Clean cache. Exit browser. | | | | |

### 2.2 Applications Test Cases

#### 2.2.1 Applications Feature Set (FS2)

|  |  |  |  |
| --- | --- | --- | --- |
| ID | Objective | Pri. | Contents |
| A.1 | Retrieve Applications | H | TC-2.2.1 through TC-2.2.4 |
| A.2 | Add Applications | H | TC-2.2.5 through TC-2.2.13 |
| A.3 | Update Applications | H | TC-2.2.14 through TC-2.2.22 |
| A.4 | Delete Applications | H | TC-2.2.23 through TC-2.2.29 |

Table 2-2. Applications Feature Set (FS2)

#### 2.2.2 Applications Test Cases

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.1** | **Purpose:** to test the ability of the system to detect an admin user and allow the option to retrieve application records. |
| **Priority: H** |
| Tracing: (FS2).A.1 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The ‘Applications’ submenu in the navigation area contains an option to ‘List’ applications. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.2** | **Purpose:** to test the ability of an admin user to retrieve application records and view them in the main content area of the ETA homepage. |
| **Priority: H** |
| Tracing: (FS2).A.1 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The main content area of the Application List displays the application records in the database within a formatted table. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.3** | **Purpose:** to test the ability of the system to detect a standard user and allow the option to retrieve application records. |
| **Priority: H** |
| Tracing: (FS2).A.1 |
| **Preconditions:** | The user must be logged in.  The user must have standard level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The ‘Applications’ submenu in the navigation area contains an option to ‘List’ applications. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.4** | **Purpose:** to test the ability of a standard user to retrieve application records and view them in the main content area of the ETA homepage. |
| **Priority: H** |
| Tracing: (FS2).A.1 |
| **Preconditions:** | The user must be logged in.  The user must have standard level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The main content area of the Application List displays the application records in the database within a formatted table. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.5** | **Purpose:** to test the ability of the system to detect an admin user and allow the option to create a new application record. |
| **Priority: H** |
| Tracing: (FS2).A.2 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The ‘Applications’ submenu in the navigation area contains an option to ‘Add’ applications. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.6** | **Purpose:** to test the ability of an admin user to create a new application record with the following fields: Application Name, Description, and Data Types. |
| **Priority: H** |
| Tracing: (FS2).A.2 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The new application is added, and the user is returned to the List. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.7** | **Purpose:** to test the ability of the system to prevent the creation of an application with a non-unique application name. |
| **Priority: H** |
| Tracing: (FS2).A.2 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | An application name that exists in the database. |
| **Expected Result:** | The page to add an application displays a message that the application name exists in the database. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.8** | **Purpose:** to test the ability of the system to send warning messages when user attempts to create an application with completely empty fields. |
| **Priority: H** |
| Tracing: (FS2).A.2 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The main content area displays warning messages, “Enter a description” and “Enter an application name,” when the ‘Save’ button is clicked. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.9** | **Purpose:** to test the ability of the system to send a warning message if the user clicks the ‘Save’ button without an application name when creating an application. |
| **Priority: H** |
| Tracing: (FS2).A.2 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The main content area displays warning message: “Enter an application name.” |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.10** | **Purpose:** to test the ability of the system to send a warning message if the user clicks the ‘Save’ button without a description when creating an application. |
| **Priority: H** |
| Tracing: (FS2).A.2 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The main content area displays warning message: “Enter a description.” |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.11** | **Purpose:** to test the ability of the system to successfully create an application without selected data types. |
| **Priority: H** |
| Tracing: (FS2).A.2 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The new application is added, and the user is returned to the List. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.12** | **Purpose:** to test the ability of the system to return to the List if the admin user clicks the “Cancel” button prior to the application record being created. |
| **Priority: H** |
| Tracing: (FS2).A.2 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | Nothing is changed in the database, and the user is returned to the List. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.13** | **Purpose:** to test the ability of the system to detect a standard user and disallow the ability to create a new application record. |
| **Priority: H** |
| Tracing: (FS2).A.2 |
| **Preconditions:** | The user must be logged in.  The user must have standard level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The option to add an application is not visible in the “Applications” submenu of the navigation menu. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.14** | **Purpose:** to test the ability of the system to detect an admin user and allow the ability to update an application record. |
| **Priority: H** |
| Tracing: (FS2).A.3 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | A button to update an application is visible in the table for each listed application in the main content area. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.15** | **Purpose:** to test the ability of an admin user to update an application record. |
| **Priority: H** |
| Tracing: (FS2).A.3 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | An application name that does not exist in the database. |
| **Expected Result:** | The application is updated, and the user is returned to the List. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.16** | **Purpose:** to test the ability of the system to prevent the update to a non-unique application record. |
| **Priority: H** |
| Tracing: (FS2).A.3 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | An application name that exists in the database. |
| **Expected Result:** | The page to update the application displays a message that the application name exists in the database. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.17** | **Purpose:** to test the ability of the system to send warning messages when user attempts to update an application with completely empty fields. |
| **Priority: H** |
| Tracing: (FS2).A.3 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The main content area displays warning messages, “Enter a description” and “Enter an application name,” when the ‘Save’ button is clicked. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.18** | **Purpose:** to test the ability of the system to send a warning message if the user clicks the ‘Save’ button without an application name when updating an application. |
| **Priority: H** |
| Tracing: (FS2).A.3 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The main content area displays warning message: “Enter an application name.” |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.19** | **Purpose:** to test the ability of the system to send a warning message if the user clicks the ‘Save’ button without a description when updating an application |
| **Priority: H** |
| Tracing: (FS2).A.3 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The main content area displays warning message: “Enter a description.” |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.20** | **Purpose:** to test the ability of the system to successfully update an application without selected data types. |
| **Priority: H** |
| Tracing: (FS2).A.3 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The application is updated, and the user is returned to the List. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.21** | **Purpose:** to test the ability of the system to return to the List if the admin user clicks the “Cancel” button prior to the application record being updated. |
| **Priority: H** |
| Tracing: (FS2).A.3 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | Nothing is changed in the database, and the user is returned to the List. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.22** | **Purpose:** to test the ability of the system to detect a standard user and disallow the ability to update an application record. |
| **Priority: H** |
| Tracing: (FS2).A.3 |
| **Preconditions:** | The user must be logged in.  The user must have standard level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The option to update an application is not visible in the table for any listed application in the main content area. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.23** | **Purpose:** to test the ability of the system to detect an admin user and allow the ability to delete an application record. |
| **Priority: H** |
| Tracing: (FS2).A.4 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | A button to delete an application is visible in the table for each listed application in the main content area. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.24** | **Purpose:** to test the ability of an admin user to delete an application record. |
| **Priority: H** |
| Tracing: (FS2).A.4 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The application is deleted, and the user is returned to the List. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.25** | **Purpose:** to test the ability of the system to confirm that the admin user wants to delete an application record. |
| **Priority: H** |
| Tracing: (FS2).A.4 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | A confirmation message is shown to the user for them to confirm they want to delete the application. The prompt should include ‘Yes’ and ‘No’ options. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.26** | **Purpose:** to test the ability of the system to respond to an affirmative delete confirmation. |
| **Priority: H** |
| Tracing: (FS2).A.4 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The application is deleted, and the user is returned to the List. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.27** | **Purpose:** to test the ability of the system to respond to a negative delete confirmation. |
| **Priority: H** |
| Tracing: (FS2).A.4 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The application is not deleted, and the user is returned to the List. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.28** | **Purpose:** to test the ability of the system to delete any data linkages related to the deleted source or destination application. |
| **Priority: H** |
| Tracing: (FS2).A.4 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | Any data linkages are deleted. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.2.29** | **Purpose:** to test the ability of the system to detect a standard user and disallow the ability to delete an application record. |
| **Priority: H** |
| Tracing: (FS2).A.4 |
| **Preconditions:** | The user must be logged in.  The user must have standard level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The option to delete an application is not visible in the table for any listed application in the main content area. |

#### 2.2.3 Applications Test Procedures

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **TPID** | | **Objective and Priority** | | | | **Est. Dur.:** | |
| TP-A-1 | | The purpose of this test procedure is to test the ability of an admin user to adequately create and retrieve applications.  Priority: H | | | | 10 mins | |
| **Start up:** Login to the ETA site using the admin level permissions listed below.  Username: jonny.jones@xxxx.com, Password: password | | | | | | | |
| **Relationships to other procedures:** None | | | | | | | |
| **Test Log** | | | | | | | |
| Date: | | Initials: | Test item: | | | OK/Not OK | |
|  | |  |  | | |  | |
| **Comments:** | | | | | | | |
| **Procedure** | | | | | | | |
| **Step No.**  **Test Case** | **Activities** | | | **Examination of Result** | **Actual Results** | | **Test Result** |
| 1 | Click and Inspect Application submenu. | | |  |  | |  |
| TC-2.2.1 |  | | | Check that the Application submenu contains a List option. |  | |  |
| 2 | Click List from the Application submenu. | | |  |  | |  |
| TC-2.2.2 |  | | | Check that the main content area is filled with a table containing the applications from the database. |  | |  |
| 3 | Inspect the Application submenu. | | |  |  | |  |
| TC-2.2.5 |  | | | Check that the Application submenu contains an Add option. |  | |  |
| 4 | Click Add from the Application submenu. | | |  |  | |  |
| TC-2.2.6 |  | | | Check that a new page is displayed to add an application. |  | |  |
| 5 | Enter Application Name X in the Application Name field, Description in the Description field, select data type(s) from the multi-select dropdown, and click the Save button | | |  |  | |  |
| TC-2.2.6 |  | | | Check for return to the Application List with an addition confirmation message. |  | |  |
| 6 | Click add from the Application  submenu. | | |  |  | |  |
| TC-2.2.6 |  | | | Check that a new page is displayed to add an Application. |  | |  |
| 7  TC-2.2.8 | Click the Save button with completely empty fields. | | | Check that a warning message is shown for empty fields. |  | |  |
| 8 | Enter Application Name X in the Application Name field, Description in the Description field, select data type(s) from the multi-select dropdown, and click the Save button | | |  |  | |  |
| TC-2.2.7 |  | | | Check that a failure message is shown for a non-unique value. |  | |  |
| 9  TC-2.2.9 | Skip Application Name field, enter Description in the Description field, select data type(s) from the multi-select dropdown, and click the Save button. | | | Check that a warning message is shown for a missing field. |  | |  |
| 10  TC-2.2.10 | Enter Application Name Y in the Application Name field, skip description field, select data type(s) from the multi-select dropdown, and click the Save button. | | | Check that a warning message is shown for a missing field. |  | |  |
| 11  TC-2.2.11 | Enter Application Name Y in the Application Name field and Description in the Description field, skip data type selection, and click the Save button. | | | Check for return to the Application List with an addition confirmation message. |  | |  |
| 12  TC-2.2.6 | Click add from the Application  submenu. | | | Check that a new page is displayed to add an application. |  | |  |
| 13 | Click the Cancel button. | | |  |  | |  |
| TC-2.2.12 |  | | | Check for return to the Application List without an addition. |  | |  |
| **Stop and Wrap Up:** Logout from the application. Clean cache. Exit browser. | | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **TPID** | | **Objective and Priority** | | | **Est. Dur.:** | |
| TP-A-2 | | The purpose of this test procedure is to test the ability of an admin user to adequately update applications.  Priority: H | | | 15 min | |
| **Start up:** Login to the ETA site using the admin level permissions listed below.  Username: jonny.jones@xxxx.com, Password: password  Application: ‘Application name X’, ‘Application name Y’ | | | | | | |
| **Relationships to other procedures:** Assumes successful completion of TP-A-1. | | | | | | |
| **Test Log** | | | | | | |
| Date: | | Initials: | Test item: | | OK/Not OK | |
|  | |  |  | |  | |
| **Comments:** | | | | | | |
| **Procedure** | | | | | | |
| **Step No.**  **Test Case** | **Activities** | | **Examination of Result** | **Actual Results** | | **Test Result** |
| 1 | Click List from the Applications submenu. | |  |  | |  |
| TC-2.2.14 |  | | Check that the table in the main content area contains applications with an Update button for each. |  | |  |
| 2 | Click Update for Application X. | |  |  | |  |
| TC-2.2.15 |  | | Check that a new page is displayed to update the application. |  | |  |
| 3 | Enter Application Name Z in the Application Name field and click the Save button | |  |  | |  |
| TC-2.2.15 |  | | Check for return to the Application List with an update confirmation message. |  | |  |
| 4 | Click Update for Application Z. | |  |  | |  |
| TC-2.2.15 |  | | Check that a new page is displayed to update the Application. |  | |  |
| 5 | Enter Application Name Y in the Application field and click the Save button. | |  |  | |  |
| TC-2.2.16 |  | | Check that a failure message is shown for a non-unique value. |  | |  |
| 6 | Enter Application Name Z in the Application Name field, enter Description in the Description field, and click the Update button. | |  |  | |  |
| TC-2.2.15 |  | | Check for return to the Application List with an update confirmation message. |  | |  |
| 7  TC-2.2.15 | Click Update for Application Z. | | Check that a new page is displayed to update the Application. |  | |  |
| 8  TC-2.2.20 | Unselect all checked data types if any and click the Update button. | | Check for return to the Application List with an update confirmation message. |  | |  |
| 9  TC-2.2.15 | Click Update for Application Z. | | Check that a new page is displayed to update the Application. |  | |  |
| 10  TC-2.2.18 | Remove Application Name in the Application Name field and click the Update button. | | Check that a warning message is shown for a missing field. |  | |  |
| 11  TC-2.2.19 | Remove Description in the Description field and click the Update button. | | Check that a warning message is shown for a missing field. |  | |  |
| 12  TC-2.2.17 | Click the Save button with completely empty fields. | | Check that a warning message is shown for empty fields. |  | |  |
| 13 | Click the Cancel button. | |  |  | |  |
| TC-2.2.21 |  | | Check for return to the ETA homepage without an update. |  | |  |
| **Stop and Wrap Up:** Logout from the application. Clean cache. Exit browser. | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TPID** | **Objective and Priority** | | | **Est. Dur.:** |
| TP-A-3 | The purpose of this test procedure is to test the ability of an admin user to adequately delete applications.  Priority: H | | | 5 min |
| **Start up:** Login to the ETA site using the admin level permissions listed below.  Username: jonny.jones@xxxx.com, Password: password  Data Types: ‘Data Type X’, ‘Data Type Y’  Applications: ‘Application A’ with ‘Data Type X’ and ‘Data Type Y’, ‘Application B’  Data Linkage: ‘Data Type Y’ is linked from ‘Application A’ to ‘Application B’ | | | | |
| **Relationships to other procedures:** Assumes successful completion of TP-A-1 and TP-A-2. | | | | |
| **Test Log** | | | | |
| Date: | Initials: | Test item: | | OK/Not OK |
|  |  |  | |  |
| **Comments:** | | | | |
| **Procedure** | | | | |
| **Step No.**  **Test Case** | **Activities** | **Examination of Result** | **Actual Results** | **Test Result** |
| 1 | Click List from the Application submenu. |  |  |  |
| TC-2.2.23 |  | Check that the table in the main content area contains Application with a Delete button for each. |  |  |
| 2 | Click Delete for Application A. |  |  |  |
| TC-2.2.25 |  | Check for prompt to confirm delete. |  |  |
| 3 | Click No to deny the delete. |  |  |  |
| TC-2.2.27 |  | Check for return to the Application List without a delete. |  |  |
| 4 | Click Delete for Application A and click Yes to approve the delete. |  |  |  |
| TC-2.2.25  TC-2.2.26  TC-2.2.24 |  | Check for return to the Application List with a delete confirmation message. |  |  |
| 5 | Click List from the Data Linkage submenu. |  |  |  |
| TC-2.2.28 |  | Check that the table in the main content area does not contain the data linkages related to the deleted source or destination application. |  |  |
| **Stop and Wrap Up:** Remove test data linkages, applications, and data types. Logout from the application. Clean cache. Exit browser. | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TPID** | **Objective and Priority** | | | **Est. Dur.:** |
| TP-A-4 | The purpose of this test procedure is to test all abilities related to applications for a standard user.  Priority: H | | | 5 min |
| **Start up:** Login to the ETA site using the standard level permissions listed below.  Username: sally.thomas@xxxx.com, Password: password | | | | |
| **Relationships to other procedures:** None | | | | |
| **Test Log** | | | | |
| Date: | Initials: | Test item: | | OK/Not OK |
|  |  |  | |  |
| **Comments:** | | | | |
| **Procedure** | | | | |
| **Step No.**  **Test Case** | **Activities** | **Examination of Result** | **Actual Results** | **Test Result** |
| 1 | Click and Inspect ‘Application’ submenu. |  |  |  |
| TC-2.2.3 |  | Check that the ‘Application‘ submenu contains a ‘List’ option. |  |  |
| 2 | Inspect the ‘Application’ submenu. |  |  |  |
| TC-2.2.13 |  | Check that the ‘Application’ submenu does not contain an ‘Add’ option. |  |  |
| 3 | Click ‘List’ from the ‘Application’ submenu. |  |  |  |
| TC-2.2.4 |  | Check that the main content area is filled with a table containing the Application from the database. |  |  |
| 4 | Inspect Application List for Update buttons. |  |  |  |
| TC-2.2.22 |  | Check that the records do not contain ‘Update’ buttons. |  |  |
| 5 | Inspect Application List for Delete buttons. |  |  |  |
| TC-2.2.29 |  | Check that the records do not contain ‘Delete’ buttons. |  |  |
| **Stop and Wrap Up:** Logout from the application. Clean cache. Exit browser. | | | | |

### 2.3 Data Types Test Cases

#### 2.3.1 Data Types Feature Set (FS3)

|  |  |  |  |
| --- | --- | --- | --- |
| ID | Objective | Pri. | Contents |
| D.1 | Retrieve Data Types | H | TC-2.3.1 through TC-2.3.4 |
| D.2 | Add Data Type | H | TC-2.3.5 through TC-2.3.9 |
| D.3 | Update Data Type | H | TC-2.3.10 through TC-2.3.14 |
| D.4 | Delete Data Type | H | TC-2.3.15 through TC-2.3.22 |

Table 2-3. Data Types Feature Set (FS3)

#### 2.3.2 Data Types Test Cases

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.1** | **Purpose:** to test the ability of the system to detect an admin user and allow the option to retrieve data type records. |
| **Priority: H** |
| Tracing: (FS3).D.1 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The ‘Data Types’ submenu in the navigation area contains an option to ‘List’ data types. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.2** | **Purpose:** to test the ability of an admin user to retrieve data type records and view them in the main content area of the ETA homepage. |
| **Priority: H** |
| Tracing: (FS3).D.1 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The main content area of the ETA homepage displays the data type records in the database within a formatted table. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.3** | **Purpose:** to test the ability of the system to detect a standard user and allow the option to retrieve data type records. |
| **Priority: H** |
| Tracing: (FS3).D.1 |
| **Preconditions:** | The user must be logged in.  The user must have standard level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The ‘Data Types’ submenu in the navigation area contains an option to ‘List’ data types. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.4** | **Purpose:** to test the ability of a standard user to retrieve data type records and view them in the main content area of the ETA homepage. |
| **Priority: H** |
| Tracing: (FS3).D.1 |
| **Preconditions:** | The user must be logged in.  The user must have standard level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The main content area of the ETA homepage displays the data type records in the database within a formatted table. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.5** | **Purpose:** to test the ability of the system to detect an admin user and allow the option to create a new data type record. |
| **Priority: H** |
| Tracing: (FS3).D.2 |
| **Preconditions:** | The user must be logged in.  The user must have standard level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The ‘Data Types’ submenu in the navigation area contains an option to ‘Add’ a data type. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.6** | **Purpose:** to test the ability of an admin user to create a new data type record. |
| **Priority: H** |
| Tracing: (FS3).D.2 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | A data type name that does not exist in the database. |
| **Expected Result:** | The new data type is added, and the user is returned to the ETA homepage. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.7** | **Purpose:** to test the ability of the system to prevent the creation of a non-unique data type record. |
| **Priority: H** |
| Tracing: (FS3).D.2 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | A data type name that exists in the database. |
| **Expected Result:** | The page to add a data type displays a message that the data type description exists in the database. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.8** | **Purpose:** to test the ability of the system to return to the ETA homepage if the admin user clicks the “Cancel” button prior to the data type record being created. |
| **Priority: H** |
| Tracing: (FS3).D.2 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | Nothing is changed in the database and the user is returned to the ETA homepage. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.9** | **Purpose:** to test the ability of the system to detect a standard user and disallow the ability to create a new data type record. |
| **Priority: H** |
| Tracing: (FS3).D.2 |
| **Preconditions:** | The user must be logged in.  The user must have standard level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The option to add a data type is not visible in the “Data Types” submenu of the navigation menu. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.10** | **Purpose:** to test the ability of the system to detect an admin user and allow the ability to update a data type record. |
| **Priority: H** |
| Tracing: (FS3).D.3 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | A button to update a data type is visible in the table for each listed data type in the main content area. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.11** | **Purpose:** to test the ability of an admin user to update a data type record. |
| **Priority: H** |
| Tracing: (FS3).D.3 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | A data type name that does not exist in the database. |
| **Expected Result:** | The data type is updated, and the user is returned to the ETA homepage. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.12** | **Purpose:** to test the ability of the system to prevent the update to a non-unique data type record. |
| **Priority: H** |
| Tracing: (FS3).D.3 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | A data type description that exists in the database. |
| **Expected Result:** | The page to update the data type displays a message that the data type description exists in the database. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.13** | **Purpose:** to test the ability of the system to return to the ETA homepage if the admin user clicks the “Cancel” button prior to the data type record being updated. |
| **Priority: H** |
| Tracing: (FS3).D.3 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | Nothing is changed in the database and the user is returned to the ETA homepage. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.14** | **Purpose:** to test the ability of the system to detect a standard user and disallow the ability to update a data type record. |
| **Priority: H** |
| Tracing: (FS3).D.3 |
| **Preconditions:** | The user must be logged in.  The user must have standard level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The option to update a data type is not visible in the table for any listed data type in the main content area. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.15** | **Purpose:** to test the ability of the system to detect an admin user and allow the ability to delete a data type record. |
| **Priority: H** |
| Tracing: (FS3).D.4 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | A button to delete a data type is visible in the table for each listed data type in the main content area. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.16** | **Purpose:** to test the ability of an admin user to delete a data type record. |
| **Priority: H** |
| Tracing: (FS3).D.4 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The data type is deleted, and the user is returned to the ETA homepage. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.17** | **Purpose:** to test the ability of the system to confirm that the admin user wants to delete a data type record. |
| **Priority: H** |
| Tracing: (FS3).D.4 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | A confirmation message is shown to the user for them to confirm they want to delete the data type. The prompt should include ‘Yes’ and ‘No’ options. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.18** | **Purpose:** to test the ability of the system to respond to an affirmative delete confirmation. |
| **Priority: H** |
| Tracing: (FS3).D.4 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The data type is deleted, and the user is returned to the ETA homepage. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.19** | **Purpose:** to test the ability of the system to respond to a negative delete confirmation. |
| **Priority: H** |
| Tracing: (FS3).D.4 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The data type is not deleted, and the user is returned to the ETA homepage. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.20** | **Purpose:** to test the ability of the system to prevent the deletion of a data type record that is connected to an application record. |
| **Priority: H** |
| Tracing: (FS3).D.4 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The main content area of the ETA homepage displays a message that the data type cannot be deleted because it is being used by an application or data linkage. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.21** | **Purpose:** to test the ability of the system to prevent the deletion of a data type record that is connected to a data linkage record. |
| **Priority: H** |
| Tracing: (FS3).D.4 |
| **Preconditions:** | The user must be logged in.  The user must have admin level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The main content area of the ETA homepage displays a message that the data type cannot be deleted because it is being used by an application or data linkage. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.3.22** | **Purpose:** to test the ability of the system to detect a standard user and disallow the ability to delete a new data type record. |
| **Priority: H** |
| Tracing: (FS3).D.4 |
| **Preconditions:** | The user must be logged in.  The user must have standard level permissions. |
| **Input:** | n/a |
| **Expected Result:** | The option to delete a data type is not visible in the table for any listed data type in the main content area. |

#### 2.3.3 Data Types Test Procedures

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TPID** | **Objective and Priority** | | | **Est. Dur.:** |
| TP-D-1 | The purpose of this test procedure is to test the ability of an admin user to adequately create and retrieve data types.  Priority: H | | | 5 min |
| **Start up:** Login to the ETA site using the admin level permissions listed below.  Username: jonny.jones@xxxx.com, Password: password | | | | |
| **Relationships to other procedures:** None | | | | |
| **Test Log** | | | | |
| Date: | Initials: | Test item: | | OK/Not OK |
|  |  |  | |  |
| **Comments:** | | | | |
| **Procedure** | | | | |
| **Step No.**  **Test Case** | **Activities** | **Examination of Result** | **Actual Results** | **Test Result** |
| 1 | Click and Inspect Data Types submenu. |  |  |  |
| TC-2.3.1 |  | Check that the Data Types submenu contains a List option. |
| 2 | Click List from the Data Types submenu. |  |  |  |
| TC-2.3.2 |  | Check that the main content area is filled with a table containing the data types from the database. |
| 3 | Inspect the Data Types submenu. |  |  |  |
| TC-2.3.5 |  | Check that the Data Types submenu contains an Add option. |
| 4 | Click Add from the Data Types submenu. |  |  |  |
| TC-2.3.6 |  | Check that a new page is displayed to add a data type. |
| 5 | Enter Data Type X in the Data Type field and click the Save button. |  |  |  |
| TC-2.3.6 |  | Check for return to the ETA homepage with an addition confirmation message. |
| 6 | Click Add from the Data Types submenu. |  |  |  |
| TC-2.3.6 |  | Check that a new page is displayed to add a data type. |
| 7 | Enter Data Type X in the Data Type field and click the Save button. |  |  |  |
| TC-2.3.7 |  | Check that a failure message is shown for a non-unique value. |
| 8 | Click the Cancel button. |  |  |  |
| TC-2.3.8 |  | Check for return to the ETA homepage without an addition. |
| **Stop and Wrap Up:** Logout from the application. Clean cache. Exit browser. | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TPID** | **Objective and Priority** | | | **Est. Dur.:** |
| TP-D-2 | The purpose of this test procedure is to test the ability of an admin user to adequately update data types.  Priority: H | | | 10 min |
| **Start up:** Login to the ETA site using the admin level permissions listed below.  Username: jonny.jones@xxxx.com, Password: password  Data Types: ‘Data Type X’, ‘Data Type Y’ | | | | |
| **Relationships to other procedures:** Assumes successful completion of TP-D-1. | | | | |
| **Test Log** | | | | |
| Date: | Initials: | Test item: | | OK/Not OK |
|  |  |  | |  |
| **Comments:** | | | | |
| **Procedure** | | | | |
| **Step No.**  **Test Case** | **Activities** | **Examination of Result** | **Actual Results** | **Test Result** |
| 1 | Click List from the Data Types submenu. |  |  |  |
| TC-2.3.10 |  | Check that the table in the main content area contains data types with an Update button for each. |
| 2 | Click Update for Data Type X. |  |  |  |
| TC-2.3.11 |  | Check that a new page is displayed to update the data type. |
| 3 | Enter Data Type Z in the Data Type field and click the Save button. |  |  |  |
| TC-2.3.11 |  | Check for return to the ETA homepage with an update confirmation message. |
| 4 | Click List from Data Types submenu and click Update for Data Type Z. |  |  |  |
| TC-2.3.11 |  | Check that a new page is displayed to update the data type. |
| 5 | Enter Data Type Y in the Data Type field and click the Save button. |  |  |  |
| TC-2.3.12 |  | Check that a failure message is shown for a non-unique value. |
| 6 | Click List from Data Types submenu and click Update for Data Type Z. |  |  |  |
| TC-2.3.11 |  | Check that a new page is displayed to update the data type. |
| 7 | Click the Cancel button. |  |  |  |
| TC-2.3.13 |  | Check for return to the ETA homepage without an update. |
| **Stop and Wrap Up:** Logout from the application. Clean cache. Exit browser. | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TPID** | **Objective and Priority** | | | **Est. Dur.:** |
| TP-D-3 | The purpose of this test procedure is to test the ability of an admin user to adequately delete data types.  Priority: H | | | 10 min |
| **Start up:** Login to the ETA site using the admin level permissions listed below.  Username: jonny.jones@xxxx.com, Password: password  Data Types: ‘Data Type X’, ‘Data Type Y’  Applications: ‘Application A’ with ‘Data Type X’ and ‘Data Type Y’, ‘Application B’  Data Linkage: ‘Data Type Y’ is linked from ‘Application A’ to ‘Application B’ | | | | |
| **Relationships to other procedures:** Assumes successful completion of TP-D-1 and TP-D-2. | | | | |
| **Test Log** | | | | |
| Date: | Initials: | Test item: | | OK/Not OK |
|  |  |  | |  |
| **Comments:** | | | | |
| **Procedure** | | | | |
| **Step No.**  **Test Case** | **Activities** | **Examination of Result** | **Actual Results** | **Test Result** |
| 1 | Click List from the Data Types submenu. |  |  |  |
| TC-2.3.15 |  | Check that the table in the main content area contains data types with a Delete button for each. |
| 2 | Click Delete for Data Type Z. |  |  |  |
| TC-2.3.17 |  | Check for prompt to confirm delete. |
| 3 | Click No to deny the delete. |  |  |  |
| TC-2.3.19 |  | Check for return to the ETA homepage without a delete. |
| 4 | Click List from Data Types submenu, click Delete for Data Type Z, and click Yes to approve the delete. |  |  |  |
| TC-2.3.16  TC-2.3.18 |  | Check for return to the ETA homepage with a delete confirmation message. |
| 5 | Click List from Data Types submenu and click Delete for Data Type X. |  |  |  |
| TC-2.3.20 |  | Check that a failure message is shown due to an application constraint. |
| 6 | Click List from Data Types submenu and click Delete for Data Type Y. |  |  |  |
| TC-2.3.21 |  | Check that a failure message is shown due to a data linkage constraint. |
| **Stop and Wrap Up:** Remove test data linkages, applications, and data types. Logout from the application. Clean cache. Exit browser. | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TPID** | **Objective and Priority** | | | **Est. Dur.:** |
| TP-D-4 | The purpose of this test procedure is to test all abilities related to data types for a standard user.  Priority: H | | | 5 min |
| **Start up:** Login to the ETA site using the standard level permissions listed below.  Username: sally.thomas@xxxx.com, Password: password | | | | |
| **Relationships to other procedures:** None | | | | |
| **Test Log** | | | | |
| Date: | Initials: | Test item: | | OK/Not OK |
|  |  |  | |  |
| **Comments:** | | | | |
| **Procedure** | | | | |
| **Step No.**  **Test Case** | **Activities** | **Examination of Result** | **Actual Results** | **Test Result** |
| 1 | Click and Inspect ‘Data Types’ submenu. |  |  |  |
| TC-2.3.3 |  | Check that the ‘Data Types’ submenu contains a ‘List’ option. |
| 2 | Inspect the ‘Data Types’ submenu. |  |  |  |
| TC-2.3.9 |  | Check that the ‘Data Types’ submenu does not contain an ‘Add’ option. |
| 3 | Click ‘List’ from the ‘Data Types’ submenu. |  |  |  |
| TC-2.3.4 |  | Check that the main content area is filled with a table containing the data types from the database. |
| 4 | Inspect Data Types List for Update buttons. |  |  |  |
| TC-2.3.14 |  | Check that the records do not contain ‘Update’ buttons. |
| 5 | Inspect Data Types List for Delete buttons. |  |  |  |
| TC-2.3.22 |  | Check that the records do not contain ‘Delete’ buttons. |
| **Stop and Wrap Up:** Logout from the application. Clean cache. Exit browser. | | | | |

### 2.4 Data Linkages Test Cases

#### 2.4.1 Data Linkages Feature Set (FS4)

|  |  |  |  |
| --- | --- | --- | --- |
| ID | Objective | Pri. | Contents |
| L.1 | Retrieve Data Linkage | H | TC-2.4.1 through TC-2.4.2  TC-2.4.9 through TC-2.4.10  TC-2.4.16 through TC-2.4.17 |
| L.2 | Add Data Linkage | H | TC-2.4.3 through TC-2.4.8  TC-2.4.18 |
| L.3 | Delete Data Linkage | H | TC-2.4.11 through TC-2.4.15  TC-2.4.19 |

Table 2-4. Data Linkages Feature Set (FS4)

#### 2.4.2 Data Linkages Test Cases

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.4.1** | **Purpose:** to test if the system can detect an admin user and allow an admin user to view the list of data linkages. |
| **Priority: H** |
| Tracing: (FS4).L.1 |
| **Preconditions:** | A user is logged in and has admin-level permissions. |
| **Input:** | N/A |
| **Expected Result:** | The application displays a “List” option under the Data Linkages sub header. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.4.2** | **Purpose:** to test if the system can retrieve a list of data linkages for an admin user. |
| **Priority: H** |
| Tracing: (FS4).L.1 |
| **Preconditions:** | A user is logged in and has admin-level permissions. The user also has the “List” option available to them under the Data Linkages sub header. |
| **Input:** | A user selects the “List” option under the Data Linkages sub header. |
| **Expected Result:** | The application displays a list of data linkages in the main content area. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.4.3** | **Purpose:** to test if the system can detect an admin user and allow an admin user to create a data linkage entry. |
| **Priority: H** |
| Tracing: (FS4).L.1 |
| **Preconditions:** | A user is logged in and has admin-level permissions. |
| **Input:** | N/A |
| **Expected Result:** | The application displays an “Add” option under the Data Linkages sub header. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.4.4** | **Purpose:** to test if the system can create a data linkage entry for an admin user. |
| **Priority: H** |
| Tracing: (FS4).L.1 |
| **Preconditions:** | A user is logged in and has admin-level permissions. The user also has the “Add” option available to them under the Data Linkages sub header. |
| **Input:** | A user selects the “Add” option under the Data Linkages sub header. |
| **Expected Result:** | A new data linkage entry is generated, and the user is returned to the homepage where a list of data linkages is displayed. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.4.5** | **Purpose:** to test if the system can navigate to the home page if an admin user selects the “Cancel” option in the Create Data Linkage page |
| **Priority: H** |
| Tracing: (FS4).L.1 |
| **Preconditions:** | A user is logged in and has admin-level permissions. The user is also in the Create Data Linkage Page. |
| **Input:** | A user selects the “Cancel” option in the Create Data Linkage page. |
| **Expected Result:** | A new data linkage entry is not generated, and the user is returned to the home page where a list of data linkages is displayed. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.4.6** | **Purpose:** to test if the system can disallow the admin user from creating a data linkage entry that already exists. |
| **Priority: H** |
| Tracing: (FS4).L.1 |
| **Preconditions:** | A user is logged in and has admin-level permissions. The user is also in the Create Data Linkage Page and has entered values from an entry that already exists. |
| **Input:** | A user selects the “Add” option in the Create Data Linkage page. |
| **Expected Result:** | A new data linkage entry is not generated, and the user is notified with a message displayed in the current page. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.4.7** | **Purpose:** to test if the system can disallow the admin user from creating a data linkage entry that has the same Source Application and Destination Application values. |
| **Priority: H** |
| Tracing: (FS4).L.1 |
| **Preconditions:** | A user is logged in and has admin-level permissions. The user is also in the Create Data Linkage Page and has entered the same values for Source Application and Destination Application. |
| **Input:** | A user selects the “Add” option in the Create Data Linkage page. |
| **Expected Result:** | A new data linkage entry is not generated, and the user is notified with a message displayed in the current page. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.4.8** | **Purpose:** to test if the system can disallow the admin user from creating a data linkage entry that has one or more missing input in Source Application, Data Type, and Destination Application values. |
| **Priority: H** |
| Tracing: (FS4).L.1 |
| **Preconditions:** | A user is logged in and has admin-level permissions. The user is also in the Create Data Linkage Page and has left one or more values empty. |
| **Input:** | A user selects the “Add” option in the Create Data Linkage page. |
| **Expected Result:** | A new data linkage entry is not generated, and the user is notified with a message displayed in the current page. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.4.9** | **Purpose:** to test if the system can display the correct list of Applications for Source Applications and Destination Applications when creating a data linkage entry. |
| **Priority: H** |
| Tracing: (FS4).L.1 |
| **Preconditions:** | A user is logged in and has admin-level permissions. The user is also in the Create Data Linkage Page. |
| **Input:** | A user selects either the Source Application or Destination Application drop-down menu. |
| **Expected Result:** | The drop-down menu displays the correct list of Source Applications and Destination Applications |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.4.10** | **Purpose:** to test if the system can display the correct list of Data Types when creating a data linkage entry. |
| **Priority: H** |
| Tracing: (FS4).L.1 |
| **Preconditions:** | A user is logged in and has admin-level permissions. The user is also in the Create Data Linkage Page and has selected a source application from the Source Application drop-down menu. |
| **Input:** | A user selects the data type drop-down menu. |
| **Expected Result:** | The drop-down menu displays the correct list of Data Types that apply to the selected source application. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.4.11** | **Purpose:** to test if the system can detect an admin user and allow an admin user to delete a data linkage entry. |
| **Priority: H** |
| Tracing: (FS4).L.2 |
| **Preconditions:** | A user is logged in and has admin-level permissions. The user also has the list of data linkages in the main content page. |
| **Input:** | N/A |
| **Expected Result:** | The application displays a Delete button beside each of the data linkages in the list. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.4.12** | **Purpose:** to test if the system can delete a data linkage entry for an admin user. |
| **Priority: H** |  |
| Tracing: (FS4).L.2 |  |
| **Preconditions:** | A user is logged in and has admin-level permissions. |
| **Input:** | N/A |
| **Expected Result:** | The data linkage entry is removed, and the user is returned to the homepage where the list of data linkages is displayed. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.4.13** | **Purpose:** to test if the system can display a confirmation window when the user selects the Delete button beside an entry from the list of data linkages. |
| **Priority: H** |
| Tracing: (FS4).L.2 |
| **Preconditions:** | A user is logged in and has admin-level permissions. The user also has the list of data linkages in the main content page. |
| **Input:** | The user selects the Delete button beside an entry from the list of data linkages. |
| **Expected Result:** | The application displays confirmation window asking if the user wants to delete the data linkage entry. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.4.14** | **Purpose:** to test if the system can detect confirmation from the admin user if they select the “Yes” option from the Confirm Delete window. |
| **Priority: H** |
| Tracing: (FS4).L.2 |
| **Preconditions:** | A user is logged in and has admin-level permissions. The user is also currently prompted with a confirmation window for the deletion of a data linkage entry. |
| **Input:** | The user selects the “Yes” option from the confirmation window. |
| **Expected Result:** | The data linkage entry is removed, and the user is returned to the homepage where the list of data linkages is displayed. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.4.15** | **Purpose:** to test if the system can detect negation from the admin user if they select the “No” option from the Confirm Delete window. |
| **Priority: H** |  |
| Tracing: (FS4).L.2 |  |
| **Preconditions:** | A user is logged in and has admin-level permissions. The user is also currently prompted with a confirmation window for the deletion of a data linkage entry. |
| **Input:** | The user selects the “No” option from the confirmation window. |
| **Expected Result:** | The data linkage entry is not removed, and the user is returned to the homepage where the list of data linkages is displayed. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.4.16** | **Purpose:** to test if the system can detect a standard user and allow a standard user to view the list of data linkages. |
| **Priority: H** |
| Tracing: (FS4).L.3 |
| **Preconditions:** | A user is logged in and has standard-level permissions. |
| **Input:** | N/A |
| **Expected Result:** | The application displays a “List” option under the Data Linkages sub header. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.4.17** | **Purpose:** to test if the system can retrieve a list of data linkages for a standard user. |
| **Priority: H** |
| Tracing: (FS4).L.3 |
| **Preconditions:** | A user is logged in and has standard-level permissions. The user also has the “List” option available to them under the Data Linkages sub header. |
| **Input:** | A user selects the “List” option under the Data Linkages sub header. |
| **Expected Result:** | The application displays a list of data linkages in the main content area. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.4.18** | **Purpose:** to test if the system can detect a standard user and disallow a standard user to create a data linkage entry. |
| **Priority: H** |
| Tracing: (FS4).L.3 |
| **Preconditions:** | A user is logged in and has standard-level permissions. |
| **Input:** | N/A |
| **Expected Result:** | The application does not display an “Add” option under the Data Linkages sub header. |

|  |  |
| --- | --- |
| **Test Case ID:**  **TC-2.4.19** | **Purpose:** to test if the system can detect a standard user and disallow a standard user to delete a data linkage entry. |
| **Priority: H** |
| Tracing: (FS4).L.3 |
| **Preconditions:** | A user is logged in and has standard-level permissions. The user also has the list of data linkages in the main content page. |
| **Input:** | N/A |
| **Expected Result:** | The application does not display a Delete button beside each of the data linkages in the list. |

#### 2.4.3 Data Linkages Test Procedures

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **TPID** | | **Objective and Priority** | | | | **Est. Dur.:** | |
| TP-L-1 | | The purpose of this test procedure is to test the ability of an admin user to adequately create and retrieve data linkages  Priority: H | | | | 10 min | |
| **Start up:** Login to ETA site using the account with admin-level permissions listed below:  Username: jonny.jones@xxxx.com, Password: password | | | | | | | |
| **Relationships to other procedures:** None | | | | | | | |
| **Test Log** | | | | | | | |
| Date: | | Initials: | Test item: | | | OK/Not OK | |
|  | |  |  | | |  | |
| **Comments:** | | | | | | | |
| **Procedure** | | | | | | | |
| **Step No.**  **Test Case** | **Activities** | | | **Examination of Result** | **Actual Results** | | **Test Result** |
| 1 | Select and Inspect Data Linkage submenu | | |  |  | |  |
| TC-2.4.1 |  | | | Check if the sub header contains List option |
| 2 | Select List from Data Linkage submenu | | |  |  | |  |
| TC-2.4.2 |  | | | Check if a list of data linkages is displayed into the main content area |
| 3 | Select and Inspect Add from Data Linkage submenu | | |  |  | |  |
| TC-2.4.3 |  | | | Check if the sub header contains Add option |
| 4 | Select and put input in Source Applications drop-down menu | | |  |  | |  |
| TC-2.4.10 |  | | | Check if correct applications are displayed in Source Applications drop-down menu |
| 5 | Select and put input Data Type drop-down menu | | |  |  | |  |
| TC-2.4.9 |  | | | Check if correct data types for specific application from Source Applications is displayed in Data Type drop-down menu |
| 6  TC-2.4.10 | Select and put input in Destination Application drop-down menu | | | Check if correct applications are displayed in Destination Applications drop-down menu |  | |  |
| 7  TC-2.4.4 | Select Save button from the Add Data Linkage page | | | Check if data linkage entry was created |  | |  |
| 8  TC-2.4.3 | Select Add from Data Linkage submenu | | | Check if sub header contains Add option |  | |  |
| 9  TC-2.4.8 | Select Save button from the Add Data Linkage page | | | Check if message is displayed and no data linkage entry was created |  | |  |
| 10  TC-2.4.5 | Select Cancel from Data Linkage submenu | | | Check if redirected into home page and list is displayed in main content homepage |  | |  |
| 11  TC-2.4.4 | Select Add from Data Linkage submenu | | | Check if sub header contains Add option |  | |  |
| 12 | Select and input values in Data Type, and the same Application values in Source and Destination drop-down menu | | | N/A |  | |  |
| 13  TC-2.4.7 | Select Save button from the Add Data Linkage page | | | Check if message is displayed and no data linkage entry was created |  | |  |
| 14 | Select and input a combination of values that already exist in the list for Source, Data Type, and Application drop-down menu | | | N/A |  | |  |
| 15  TC-2.4.6 | Select Save button from the Add Data Linkage page | | | Check if message is displayed and no data linkage entry was created |  | |  |
| **Stop and Wrap Up:** Logout from the application. Clean cache. Exit browser. | | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TPID** | **Objective and Priority** | | | **Est. Dur.:** |
| TP-L-2 | The purpose of this test procedure is to test the ability of an admin user to adequately delete data linkages  Priority: H | | | 5 min |
| **Start up:** Login to ETA site using the account with admin-level permissions listed below:  Username: jonny.jones@xxxx.com, Password: password | | | | |
| **Relationships to other procedures:** None | | | | |
| **Test Log** | | | | |
| Date: | Initials: | Test item: | | OK/Not OK |
|  |  |  | |  |
| **Comments:** something here. | | | | |
| **Procedure** | | | | |
| **Step No.**  **Test Case** | **Activities** | **Examination of Result** | **Actual Results** | **Test Result** |
| 1 | Select List option from Data Linkage sub header |  |  |  |
| TC-2.4.11 |  | Check if delete option is available from list of data linkages is displayed in the main content area |
| 2 | Select and Inspect Delete button for one of the entries from the list of data linkages |  |  |  |
| TC-2.4.13 |  | Check if a confirmation window is displayed |
| 3 | Select No from the confirmation window |  |  |  |
| TC-2.4.15 |  | Check if returned to main content page with list of data linkages displayed |
| 4 | Select Delete button for one of the entries from the list of data linkages |  |  |  |
| TC-2.4.11 |  | Check if a confirmation window is displayed |
| 5 | Select Yes from the confirmation window |  |  |  |
| TC-2.4.14 |  | Check if returned to main content page with list of data linkages displayed. |
| 6  TC-2.4.12 | Inspect main content page | Check if deleted data linkage entry does not exist in list of data linkages |  |  |
| **Stop and Wrap Up:** Logout from the application. Clean cache. Exit browser. | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TPID** | **Objective and Priority** | | | **Est. Dur.:** |
| TP-D-4 | The purpose of this test procedure is to test all abilities of a standard user associated with data linkages  Priority: H | | | 5 min |
| **Start up:** Login to the ETA site using the standard level permissions listed below.  Username: sally.thomas@xxxx.com, Password: password | | | | |
| **Relationships to other procedures:** None | | | | |
| **Test Log** | | | | |
| Date: | Initials: | Test item: | | OK/Not OK |
|  |  |  | |  |
| **Comments:** | | | | |
| **Procedure** | | | | |
| **Step No.**  **Test Case** | **Activities** | **Examination of Result** | **Actual Results** | **Test Result** |
| 1 | Select and Inspect Data Linkage submenu. |  |  |  |
| TC-2.3.16 |  | Check that the Data Linkages submenu contains a ‘List’ option. |
| 2 | Inspect the Data Linkage submenu |  |  |  |
| TC-2.3.18 |  | Check that the Data Linkages submenu does not contain an Add option. |
| 3 | Select List option from Data Linkage sub menu |  |  |  |
| TC-2.3.17 |  | Check that the main content area is filled with a table containing the data linkages list from the database. |
| 5 | Inspect list of Data Linkages for delete button |  |  |  |
| TC-2.3.19 |  | Check that the entries do not have a Delete button |
| **Stop and Wrap Up:** Logout from the application. Clean cache. Exit browser. | | | | |

# 3. Traceability of Test Cases to Use Cases

This section contains various traceability matrices that contain information on how use cases are fulfilled through test cases. The matrices are split into subsections based on system functionalities.

### 3.1 GUI Login and Layout Traceability

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| UCID | Description | TC-2.1.1 | TC-2.1.2 | TC-2.1.3 | TC-2.1.4 | TC-2.1.5 | TC-2.1.6 | TC-2.1.7 | TC-2.1.8 | TC-2.1.9 |
| UC1 | GUI – User Login/Logout | X | X | X | X | X | X | X | X | X |
| UC13 | REST – User Data | X | X | X |  |  |  |  |  |  |

Table 3-1. GUI Login and Layout Traceability

### 3.2 Applications Traceability

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| UCID | Description | TC-2.2.1 | TC-2.2.2 | TC-2.2.3 | TC-2.2.4 | TC-2.2.5 | TC-2.2.6 | TC-2.2.7 | TC-2.2.8 | TC-2.2.9 | TC-2.2.10 | TC-2.2.11 | TC-2.2.12 | TC-2.2.13 | TC-2.2.14 | TC-2.2.15 | TC-2.2.16 | TC-2.2.17 | TC-2.2.18 | TC-2.2.19 | TC-2.2.20 | TC-2.2.21 | TC-2.2.22 | TC-2.2.23 | TC-2.2.24 | TC-2.2.25 | TC-2.2.26 | TC-2.2.27 | TC-2.2.28 | TC-2.2.29 |
| UC2 | GUI – List | X |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UC3 | GUI – Add |  |  |  |  | X |  | X | X | X | X |  | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UC4 | GUI – Update |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  | X | X | X |  | X | X |  |  |  |  |  |  |  |
| UC5 | GUI – Delete |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  | X | X | X |  | X |
| UC15 | REST – List |  | X |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UC16 | REST – Add |  |  |  |  |  | X |  |  |  |  | X |  | X |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |
| UC17 | REST – Update |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UC18 | REST – Delete |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  | X |  | X |  |
| UC25 | Database CRUD |  | X |  | X |  | X |  |  |  |  | X |  | X |  | X | X |  |  |  | X |  |  |  | X |  | X |  | X |  |

Table 3-2. Applications Traceability

### 3.3 Data Types Traceability

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| UCID | Description | TC-2.3.1 | TC-2.3.2 | TC-2.3.3 | TC-2.3.4 | TC-2.3.5 | TC-2.3.6 | TC-2.3.7 | TC-2.3.8 | TC-2.3.9 | TC-2.3.10 | TC-2.3.11 | TC-2.3.12 | TC-2.3.13 | TC-2.3.14 | TC-2.3.15 | TC-2.3.16 | TC-2.3.17 | TC-2.3.18 | TC-2.3.19 | TC-2.3.20 | TC-2.3.21 | TC-2.3.22 |
| UC6 | GUI – List | X |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UC7 | GUI – Add |  |  |  |  | X |  |  | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UC8 | GUI – Update |  |  |  |  |  |  |  |  |  | X |  |  | X | X |  |  |  |  |  |  |  | X |
| UC9 | GUI – Delete |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  | X | X | X |  |  |  |
| UC18 | REST – List |  | X |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UC19 | REST – Add |  |  |  |  |  | X | X |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UC20 | REST – Update |  |  |  |  |  |  |  |  |  |  | X | X |  | X |  |  |  |  |  |  |  | X |
| UC21 | REST – Delete |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  | X | X | X |  |  |
| UC25 | Database CRUD |  | X |  | X |  | X |  |  | X |  | X |  |  | X |  | X |  | X |  | X | X | X |

Table 3-3. Data Types Traceability

### 3.4 Data Linkages Traceability

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| UCID | Description | TC-2.4.1 | TC-2.4.2 | TC-2.4.3 | TC-2.4.4 | TC-2.4.5 | TC-2.4.6 | TC-2.4.7 | TC-2.4.8 | TC-2.4.9 | TC-2.4.10 | TC-2.4.11 | TC-2.4.12 | TC-2.4.13 | TC-2.4.14 | TC-2.4.15 | TC-2.4.16 | TC-2.4.17 | TC-2.4.18 | TC-2.4.19 |
| UC10 | GUI – List | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |
| UC11 | GUI – Add |  |  | X |  | X | X | X | X | X | X |  |  |  |  |  |  |  | X |  |
| UC12 | GUI – Delete |  |  |  |  |  |  |  |  |  |  | X |  | X | X | X |  |  |  | X |
| UC22 | REST – List |  | X |  |  |  | X | X | X | X | X |  |  |  |  |  |  | X |  |  |
| UC23 | REST – Add |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UC24 | REST – Delete |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |
| UC25 | Database CRUD |  | X |  | X |  | X | X | X | X | X |  | X |  |  |  |  | X | X | X |

Table 3-4. Data Linkages Traceability

# 4. Techniques for Test Generation

### 4.1 Test Generation Techniques

Given the nature of this project, we felt it necessary to utilize Behavior-Driven Development (BDD) testing techniques. We chose this approach because of how well suited this method is for testing web applications that are largely based on use cases. By breaking the application down into four feature sets, we were able to identify the test cases that would need to be tested in order to ensure that the application is both complete and accurate. The test procedures would then be generated based on specific functions of the application, which ensures that multiple test cases are evaluated in a single test procedure. Our test procedures are all black-box in nature because the behavior of the individual functions is contained within the application layer which is not be visible to the tester. Additional reasons for using black-box testing are the visual nature of the output and the testing process remaining high-level since the application does not require code inspection to test. These reasons are also why we opted for manual testing over automated testing, which is more efficient and effective considering the limited number of inputs and outputs which are easy to verify visually.

### 4.2 Testing Quality Measurement Criteria

In addition to the functional requirements that will be used to test the overall quality of the application, the following non-functional criteria will also be used as sources for measuring testing quality due to the behavioral nature of the application.

Portability – The application will be tested for functionality across multiple operating systems and browsers to ensure that it is as functional and as portable as possible.

Reliability – The actual results of the tests remain consistent with the predicted results throughout multiple tests. Inputs that are alike in predicted results yield the same results. For example, two different administrator accounts allowing the same actions will find the same conclusions.

Security – The test cases and test procedures verify the information entered by users to ensure that only users with proper credentials and permissions can login and perform permission-locked actions. These measures start at the user login and remain throughout the application in the presentation layer as well as the web service layer.

Performance – The test cases are designed to follow the normal path of execution that a user might follow. This application of the test procedures will identify any performance issues that might exist. Given that this application is based on a network connection, performance issues that are the result of network connectivity problems cannot be tested by the testing team.

Testability – The necessary results for the test cases and test procedures are easily confirmed due to the visual nature of the application. The inputs for tests are either controlled by the test procedures or limited by the application, which helps narrow down the number of required inputs.

Usability – The test cases are designed to be as thorough as possible and to ensure that all of the functions provide appropriate feedback to the user.

# 5. Evidence of Configuration Management

Image

# 6. References

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