Spartan Archive
Acceptance Test Plan

Date:
Prepared by:
Document Status: _X_ Draft ___ Proposed ___ Validated ___Approved
1 GENERAL INFORMATION

1.1 Summary

This document is the Acceptance Test Plan (ATP) for the Spartan Archive Release 1.0. The acceptance test verifies that the system works as required and validates that the correct functionality has been delivered. The ATP establishes the acceptance test framework to plan, execute, and document acceptance testing. It describes the scope of the work performed and the approach taken to execute the tests created to validate that the system performs as required. The details of the ATP are developed according to the system requirements document, and shows traceability back to that document.

The following Primary objectives and completion criteria resources required for validation, are identified as:

- The Spartan Archive environment functions as described in the Spartan Archive: Requirements Document (version 1.0).
- That the Spartan Archive environment handles error conditions in a benign manner, so that the system will not "crash" and require a reboot, lock out users or administrators, or behave in an unexpected manner as result of an error.
- That platform and system administrative procedures affect the desired changes in the system.
- Any external system documentation dealing with the operation of the Spartan Archive environment and administration of the system is clear, concise, and accurate.
- Identify, at an early date, any performance issues that might exist in the system.

The testing addressed in this document is directed toward the Spartan Archive environment. Actual tests performed are addressed in a set of detailed Test Case Procedures (separate documents) that are created for the Spartan Archive project. This test plan will concentrate on basic strategies and approaches taken to attain the Spartan Archive acceptance test objectives.

1.2 Environment and Pretest Background

1.2.1 History

Spartan Archive will be an electronic records archives for the born digital records of historical value (permanent retention) of Michigan State University, beginning with a three-year proof-of-concept project to develop an electronic records archives for database records from the Office of the Registrar.

Campus units will provide UAHC with removable media (floppy disk, CD, DVD, Zip disk, etc.) or disk drives containing the records, or via file transfer or other electronic means. UAHC will appraise, accession, and normalize the records into preservation formats before ingesting them into the Spartan Archive repository and permanent preservation environment. Metadata will be system generated and manually created as
needed, including preservation metadata. End users may view and retrieve access versions of the records through a publicly available Web-based interface.

1.2.2 Developer
The Spartan Archive is a mixture of existing and newly developed software tools. The new software is created by the UAHC Information Technologist, Rich Burgis.

1.2.3 User
The end users of this system will be the UAHC staff and the general public.

1.2.4 Testing
All Acceptance Testing will be conducted by the Spartan Archive team: Lisa Schmidt, Rich Burgis, and Ed Busch. The team is led by Lisa Schmidt.

1.2.5 Previous Testing
Prior to performing tests described within this plan, it is presumed unit/component checks, integration testing, and appropriate documentation have been completed successfully.

1.2.6 References
The primary document used for generating the test cases defined in the test plan is the Spartan Archive: Requirements Document (version 1.0), February 2012. Other pertinent documents can be found on the Spartan Archive Project web site, http://spartanarchive.wordpress.com/.
Spartan Archive Acceptance Test Plan

2 PLAN

2.1 Software Description
The Spartan Archive will accept Registrar’s Office Academic Program Descriptions (annual), Course Descriptions (annual), Schedule of Courses (each semester) and Student Directory (each semester).

2.2 Release Milestones
Milestones applicable to the testing of the Spartan Archive can be found in the Spartan Archive Project Plan.

2.3 Resource Requirements
The software and hardware resources for the Acceptance Test are identified in Table 2-1.

Table 2-1. Resources

<table>
<thead>
<tr>
<th>Resource</th>
<th>Location / Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>MySQL</td>
<td>fedora-db.msu.edu / Database Server</td>
</tr>
<tr>
<td>Fedora</td>
<td>fedora.msu.edu / Application Server</td>
</tr>
<tr>
<td>Tomcat</td>
<td>fedora.msu.edu / Application server</td>
</tr>
<tr>
<td>FTP</td>
<td>archives-storage.msu.edu</td>
</tr>
<tr>
<td>Dell PC</td>
<td>Display device for application under test</td>
</tr>
<tr>
<td>Archivists’ Toolkit</td>
<td>archives-storage.msu.edu</td>
</tr>
</tbody>
</table>

2.4 Testing Materials
Materials needed for the test include:
1. Copies of the test procedures
2. Copy of the Spartan Archive System Requirements Document
3. Installed Spartan Archive software and tools
4. Export of the database under test
5. Registrar’s Office data
3 SPECIFICATIONS AND EVALUATION

3.1 Specifications
The requirements under test are described in the Spartan Archive System Requirements Document. Table shows the tests to be performed on the software for this release of the Spartan Archive and relates them to the requirements of the application under test.

Table 3-1. Spartan Archive Test Cases

<table>
<thead>
<tr>
<th>Test Case</th>
<th>Title</th>
<th>Allocated Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ingest and Metadata</td>
<td>3.1.1, 3.1.2, 3.2.1, 3.2.2, 3.3.1.3, 3.3.1.4, 3.3.1.5, 3.3.2.1, 3.3.2.3, 3.3.2.7, 3.3.2.8, 3.3.2.9, 3.3.2.11, 3.3.2.12, 3.3.3.2, 3.3.3.3, 3.3.4.8, 3.3.5.5, 3.3.5.6, 3.3.5.10, 3.4.1.2, 3.4.2.3, 3.6.1, 3.6.2, 3.6.6?, 3.6.9?</td>
</tr>
<tr>
<td>2</td>
<td>User Interface</td>
<td>3.1.1, 3.1.3, 3.2.3, 3.3.3.6, 3.3.4.1, 3.3.6.1, 3.3.6.2, 3.3.6.3, 3.3.6.4, 3.3.6.10, 3.3.6.16, 3.3.6.18, 3.3.6.19, 3.5.1, 3.5.2, 3.5.3, 3.5.4, 3.5.5, 3.5.6, 3.5.7, 3.5.8</td>
</tr>
<tr>
<td>3</td>
<td>Error Handling</td>
<td>3.1.1, 3.1.2, 3.2.2, 3.3.1.1, 3.3.1.2, 3.3.5.3</td>
</tr>
</tbody>
</table>

3.2 Methods and Constraints
The Spartan Archive requirements have been identified, defined, and grouped into categories on the basis of functionality. The UAHC staff develops specific test case objectives associated to each requirement. These objectives outline a purpose, identify any unusual resource requirements, and list any associated test requirements. As development progresses, these test cases expand into sets of individual test procedures, executed on the Spartan Archive product. The intent of each test case is to validate a specific area and set of requirements associated within an application.

As interface and functional specifications defined for the Spartan Archive mature in definition, the test product becomes more complete. All necessary input criteria, keystrokes, mouse movements, and expected results are usually defined within the steps of each test procedure. Test procedure requirement associations may change, when a specification changes.

3.2.1 Conditions
The Spartan Archive is data intensive and requires UAHC staff to ensure that all necessary test data has been generated, collected, and verified in advance of Acceptance Testing. Test procedures development is based upon requirement specifications.

The acceptance testing will utilize academic program, course description, course schedule and directories representing a variety of years and submissions.
3.2.2 Extent
All release 1.0 requirements of the Spartan Archive will be fully tested as part of the acceptance test phase.

3.2.3 Data Recording
Test Results will be recorded by the UAHC tester within the test case procedure. Copies of the test procedures will be kept until completion of the grant.

Any problems or bugs found during testing will be recorded/reported. A Test Report will be prepared at the conclusion of Acceptance Test addressing risks with the installation release, and further prescribed tests as part of the grant.

3.2.4 Constraints
The following identifiable constraints could impact the ability of System Test to perform their tasks:

- Personnel Availability
- Equipment Availability
- Information availability from Registrar’s Office
- Requirements and specification availability
- Availability/Stability of the software Application under Test
- Availability of installation/conversion instructions and scripts for software and data base
- Access to external test interfaces and servers

3.3 Evaluation

3.3.1 Criteria
As applicable, each test case will test a range of data type boundary conditions, state transitions, other time dependencies, load testing, and random error inputs.

Test data captured during testing will vary for each test case. Much of the data is an evaluation of the information currently displayed in a window or through a SQL query.
4 TEST DESCRIPTIONS

This section is intended to address all test cases used during Acceptance Testing, and not intended to provide a format for tests required during Development (unit testing and integration) or post-System Test activities (ORL or Client testing).

Test Cases for the Spartan Archive Acceptance Testing will be designed to address varying levels of complexity and functionality from very basic to fully operational. The Spartan Archive test cases will be designed to validate specific requirements/specifications.

This section of the plan, for each test case, will contain the following information:
1. A brief description;
2. Methods to control the test process;
3. Inputs;
4. Outputs; and
5. Procedures

For each test case, a test procedure will be written based upon this plan and will contain the information shown below. The test procedures for each test case are contained in separate documents.

Test procedures will contain:
- Identification - a unique identifier for each procedure
- Title - unique title
- Test Objective - explicitly defining the objective of the test
- Test Environment(s) - identifies the various configurations under which the test will be run, any unique configuration required for this test, any condition that must exist, or any test procedures that must have successfully run prior to this test
- Test Requirements – requirement listed on test step where validation is completed.
- Test Steps - a clear, concise description of what must be done and in what order
- Expected Test Output - a precise description of what is expected to happen or a reference to the appropriate requirement and/or specification.

A blank template for test procedures is located on coehs1 in S:\Projects\Spartan Archive\Requirements and Testing and is named SATestProcedures.xlsx.

4.1 Test Case No. 1: Ingest and Metadata

This test case demonstrates the ingesting of Registrar’s office data, its processing and metadata assignment. The test case will demonstrate the FTP receipt of Registrar’s office data as well as pertinent checksum information and the automatic recognition and processing of this data into the Spartan Archive.
4.1.1 Methods to Control the Test Process
This test case is controlled through a manual interaction of inputs and analysis of displayed results. The satisfaction of each step will be manually annotated in the test procedure.

4.1.2 Inputs
Inputs will consist of
- Academic Programs (academicPrograms.xml)
- Course Descriptions (courseDescriptions.xml)
- Student Directory (studentDirectory.xml)
- Schedule of Courses (scheduleCourses.xml)
- Checksum files (.sum)

4.1.3 Outputs
Expected outputs are described in the detailed test procedures. Outputs can consist of screen snapshots, database query results, downloaded files or system logs.

4.1.4 Procedures
The detailed step-by-step procedures to accomplish this test will be described in the appropriate test procedures document.

4.2 Test Case No. 2: User Interface
This test case demonstrates the user interface for searching, displaying and reporting.

4.2.1 Inputs
Spartan Archive system is prepopulated with data from test case 1.

4.2.2 Outputs
Expected outputs are described in the detailed test procedures. Outputs can consist of screen snapshots, database query results, downloaded files or system logs.

4.2.3 Procedures
The detailed step-by-step procedures to accomplish this test will be described in the appropriate test procedures document.

4.3 Test Case No. 3: Error Handling

4.3.1 Inputs

4.3.2 Outputs
Expected outputs are described in the detailed test procedures.

4.3.3 Procedures
The detailed step-by-step procedures to accomplish this test will be described in the appropriate test procedures document.