

Federal Student Aid (FSA) Portals Rollout – Release 1

Unit Test Plan

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Change Record

Date	Author	Version	Change Reference
2/08/02	Erick Middleton	1.0	Begin document.
3/15/02	Chris Lawson	1.1	Completed Draft
3/21/02	Matthew Wilson	1.2	Minor Editing



TABLE OF CONTENTS

1.0	UNIT TEST OVERVIEW	4
2.0	UNIT TEST SCOPE	4
3.0	ROLES AND RESPONSIBILITIES	5
4.0	PORTALS DEVELOPMENT LEAD	5
5.0	TEST SCENARIOS/CASES	6
5.1	<i>General Application Functionality (applies to underlying Java code)</i>	6
5.2	<i>General Content (applies to the User Interface – JSP, HTML)</i>	6
6.0	ISSUES AND QUESTIONS	7

1.0 Unit test Overview

The Unit Test Plan provides an overview of the testing necessary to ensure that the functionality developed is processing correctly and to catch defects before they reach the system test. Included in this document is a list of detailed items that will be applied and enforced in unit testing. Please note that unit testing complements development therefore developers are given guidelines not actual scripts. These guidelines are meant to be general, and not specific since it is meant to guide developers in unit testing any area of the application no matter how difficult or simple the code may be.

The main purpose of Unit Test is to:

- Test specific application functionality
- Reduce the number of miniscule errors or incorrect logic as early as possible
- Ensure developers follow outlined best practices

Entry Criteria for Unit Test Execution:

- Unit test guidelines are communicated and documented
- Detailed design is completed
- A solid understanding of the code and its intended functionality and/or appearance
- An effective and comprehensive development environment is in place

Exit Criteria for Unit Test:

- Code has passed unit testing guidelines
- Identified errors and defects have been corrected and re-tested.
- All issues and incidents have been properly documented and worked through the resolution process.

2.0 Unit Test Scope

Unit Test guidelines will be based on the following:

- Expected application functionality as outlined in detailed design
- Standards and development best practices
- Uniform appearance (user interface)



3.0 Roles and Responsibilities

Unit testing involves all developers in the SFA enterprise portal. The responsibility of each developer is to (a) follow all outlined standards (b) adhere to unit testing guidelines (c) document and identify any problem areas within the scope of the task and (d) utilize source code control as defined in the SCM (software configuration management) plan

Chris Lawson, Aimee Byrd, Shannon Courtney will serve as the Portals Designer/Developers along with Bryan Bock (ACS graphic designer) and Julio Molina-Muscara (ACS developer and translator).

4.0 Portals Development Lead

- Define, document, and enforce unit testing guidelines
- Monitor development progress and provide technical guidance whenever necessary
- Monitor the testing process to identify problems and mitigate potential risks
- Provide status to management and ensure goals/timeframes are aligned with the project work plan

Matt Wilson will serve as the Portals Development Lead

5.0 Test Scenarios/Cases

The following is a list of unit testing guidelines used by developers to ensure all exit criteria is met. As noted before these guidelines are general and are intended to span all technologies being developed and their respective complexities.

5.1 General Application Functionality (applies to underlying Java code)

- Verify that code logic is structured well and performs efficiently
- Verify that all database connections are closed
- Verify that proper variable names and comments are used
- Verify any exceptions or errors are handled correctly
- Verify that code adheres to defined standards
- Verify that code uses ITA's reusable common services (RCS) when applicable
- Verify that all boundaries have been tested (for example: Minimum, maximum, 0, etc.)

5.2 General Content (applies to the User Interface – JSP, HTML)

- Verify that pages are compliant with Section 508 to the best of the developer's knowledge*
- Verify that pages utilize the common navigation framework
- Verify that pages are commented sufficiently
- Verify that the cascading style sheet (CSS) is used consistently
- Verify that pages have a consistent look and feel as well as layout
- Verify that all static text is being read from the properties file and adheres to the internationalization approach
- Verify that pages are compatible with supported browsers or specified version of HTML
- Verify that include files are used properly and effectively
- Verify that HTML is well formed
- Verify that pages layout and structure remains consistent when the language is changed
- Verify the page retains structure and does not scroll horizontally when using an 800x600 screen resolution
- Verify that images are located by the web server
- Verify that all links are correct
- Verify that content is spelled correctly
- Verify that all filenames use uppercase and lowercase correctly
(Unix web server is case sensitive)

* Accessibility / Section 508 considerations are included in the design and the coding standards. Section 508 testing will be a performed later in the testing process.



6.0 Issues and Questions

The following issues/questions are related to the Unit Test Plan.

Issue	Resolution