

MERCURY TOURS

Draft:

**Systems Test Plan for Search Flights
Version 1.0**

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Revision History

Date	Version	Description	Author
2/27/2010	1.0	Initial Draft	Jeme Turner

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1.1. Overview

MERCURY TOURS

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1. INTRODUCTION

1.1. Overview of System

To aim of this project is to implement new components for Search Flights and modify the existing functionalities of the MERCURY TOURS that will enable the following functionalities:

- Prospective student should be able to find the flights based on their criteria.
- Search results show basic information on flights
- Students can see details of flights
- Prospective students can save their searches
- Prospective students should be able to view/edit their saved searches
- Using the search results, prospective students should be able to start or continue an application
- Prospect should be able to contact an individual or multiple s for more information
- Ability to compare details of selected flights

1.2. Purpose of this Document

The purpose of this document is to describe what major functionality will be tested and provide enough information required for testing Search Flights component of MERCURY TOURS.

1.3. Formal Reviewing

There will be several formal reviews before and during system test. This is a vital element in achieving a quality product.

1.3.1. Formal Review Points

1. Requirement Documents
2. Testing Strategy
3. Use Cases
4. Test Cases

- 5. System Test Progress
- 6. Defects

1.4. Objectives of System Test

At a high level, this System Test intends to prove that:-

- The functionality delivered by the development team, is as specified by the business in the Use Cases and Requirements Documents.
- The software is of high quality and the software will replace/support the intended business functions and achieves the standards required by the company for the development of new systems.
- The software delivered interfaces correctly with existing systems.

1.4.1. Software Quality Assurance involvement

The responsibility for testing MERCURY TOURS will be as follows:

- Unit Test is the responsibility of the MERCURY TOURS Recruiting Development Team
- System Testing is the responsibility of MERCURY TOURS QA Team.
- User Acceptance Testing (UAT) is the responsibility of the flights' representatives' team as well as MERCURY TOURS QA team.
- MERCURY TOURS configuration and support team is the responsibility of the systems installation & support as well as data base.

2. SCOPE AND OBJECTIVES

2.1. Scope of Test Approach - System Functions

2.1.1. INCLUSIONS

The System Test will include the following functionalities:

- Prospective student should be able to find flights based on their criteria.
- Search results show basic information on flights
- Students can see details of flights
- Prospective students can save their searches
- Prospective students should be able to view/edit their saved searches
- Using the search results, prospective students should be able to start or continue an application

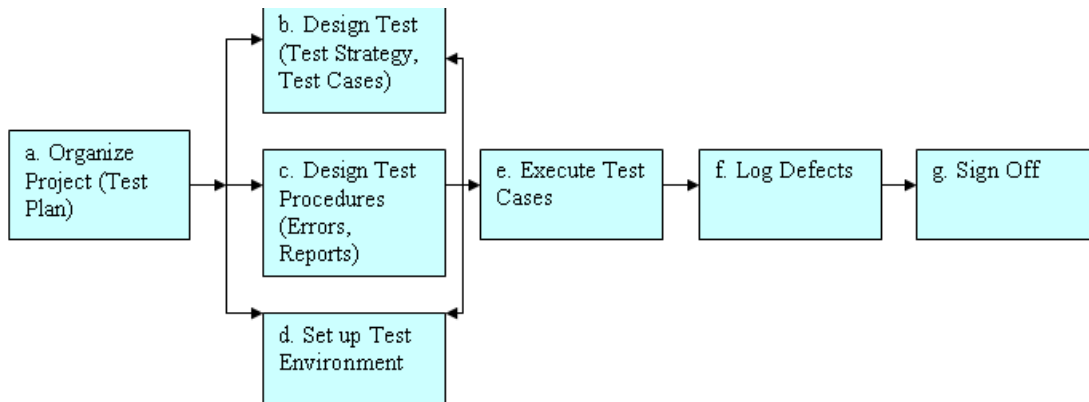
- Prospect should be able to contact an individual or multiple s for more information
- Ability to compare details of selected flights

2.1.2. EXCLUSIONS

When the scope of each Phase has been agreed and signed off, no further inclusions will be considered for inclusion in this release, except:

- Where there is permission and agreement of the Project Manager and Business Analyst (in agreement with the MERCURY TOURS).
- Where the changes/inclusions will not require significant effort on behalf of the test team (i.e. requiring extra preparation - new test conditions etc.) and will not adversely affect the test schedule.

2.2. Testing Process



The diagram above outlines the Test Process approach that will be followed.

(a) Organize Project involves creating a System Test Plan, Schedule & Test Approach, and requesting/assigning resources.

(b) Design/Build System Test involves identifying Test Cycles, Test Cases, Entrance & Exit Criteria, Expected Results, etc. In general, test conditions/expected results will be identified by the Test Team in conjunction with the Project Business Analyst or Business Expert. The Test Team will then identify Test Cases and the Data required. The test conditions are derived from the Use Cases and the Requirements Documents.

(c) Design/Build Test Procedures includes setting up procedures such as Error Management systems and Status reporting, and setting up the data.

(d) Build Test Environment includes requesting/building hardware, software and data set-ups.

- (e) **Execute Test Cases** – Test scenarios (Test Cases) will be executed to ensure the quality.
- (f) **Log Defects** – Log defects as they are found from executing Test Cases.
- (g) **Sign off** - Signoff happens when all pre-defined exit criteria have been achieved.

2.2.1. Exclusions

The QA team will not deal directly with the business. However, as the need arises, the QA Team Mercury Tours get involved in gathering requirements.

2.3. Testing Scope (Test Types that will be performed)

Outlined below are the main test types that will be performed for the MERCURY TOURS. All test plans and conditions will be developed from the Business Requirements and Use Cases.

2.3.1. Functional Testing

The objective of this test is to ensure that each element of the application meets the functional requirements of the business as outlined in the:

- Uses Case
- Data Catalog
- Other functional documents produced during the course of the project i.e. resolution to issues/change requests/feedback and requirement documents.

This stage will also include **Validation Testing** - which is intensive testing of the new Front end fields and screens. Windows GUI Standards; valid, invalid and limit data input; screen & field look and appearance, and overall consistency with the rest of the application will be tested.

2.3.2. Integration Testing

This test proves that all areas of the system interface with each other correctly and that there are no gaps in the data flow. Final Integration Test proves that system works as integrated unit when all the fixes are complete. Generally, *No separate test is required.*

2.3.3 Beta Testing

Upon completion of the requirements, development and System Testing phase, MERCURY TOURS will create a Beta Testing environment (the Beta site). The Beta site will be created within the MERCURY TOURS the COA. The Beta site will be a scaled down version of the planned production environment and as such will not have all of the security and redundancy that a production environment would normally have. It will also not have the same performance as a production environment, but the performance will be adequate considering the minimal number of users accessing it. The network configuration and software code base will be identical to the planned production

environment. MERCURY TOURS anticipates using the Beta site to continue our own internal testing, and the NAP or any of its designees will have full access to test any or all of the features. MERCURY TOURS will create a test bed of data that the NAP can use in their testing. These data will not be a full representation of the production site, but will allow a tester to book, for example. A couple of forms will be available, and the Mercury Tours testing will use test credit cards and create test transactions. The Beta site is not intended for stress testing. If any problems are discovered, a mutually agreed upon process of reporting and tracking defects will be used. MERCURY TOURS will use an iterative approach, fixing issues and releasing new code to be retested by the tester who reported the problem until the issue is resolved to the tester's satisfaction. The Beta site will be available starting in January 2011, and will continue for two months.

2.3.4. User Acceptance Test (UAT)

After Beta testing is completed, MERCURY TOURS will create a User Acceptance testing environment (the UAT site). The UAT site will be created within the production network environment in the AT&T Data Center and be fully available to the NAP. The UAT site will be on the production hardware, and will have all the security features of our standard production environment. Redundancy will be added before going live. Performance will be identical to that in production. MERCURY TOURS will work with the NAP to create a full test bed of data for all Web pages including the Forms. The UAT site is intended to verify the final configuration of the site and the data, and will be the basis for the production environment. Each page, or the NAP on their behalf, should verify that their configuration is correct, including any forms, exports and printing. Mercury Tours testing will use live cards and create live transactions that can be refunded. MERCURY TOURS will use the same approach for reporting problems as the Beta site, although it is anticipated that all defects will be fixed before the UAT site goes up. The NAP will confirm in writing that the UAT site performs to their satisfaction before going live. The UAT site will be available starting in April 2010 and will continue until the Mercury Tours goes live in the summer of 2011.

This test, which is planned and executed by the MERCURY TOURS Representative(s) and MERCURY TOURS QA team, ensures that the system operates in the manner expected, and any supporting material such as procedures, forms etc. are accurate and suitable for the purpose intended. It is a high level testing, ensuring that there are no gaps in functionality.

2.3.4. Stress Testing

After the Beta Testing is complete, MERCURY TOURS Test Team will perform this testing which will determine the stability of MERCURY TOURS. Any available tool with MERCURY TOURS (probably Microsoft Application Center Test) will be used to run tests, validate and analyze the results.

2.3.5. Regression Testing

A Regression test will be performed after the release of each Phase of testing to ensure that -

- There is break down of existing functionalities or application when new functionalities are added or modified.
- To ensure that there the increase in functionality maintains the smoothness and stability of the software.

2.4. Test Entrance/Exit Criteria

2.4.1. Entrance Criteria

The Entrance Criteria described in the Test Strategy, should be fulfilled before System Test can commence. In the event that any criterion has not been achieved, the System Test Mercury Tours commence if Business Team and Test Manager are in full agreement that the risk is manageable.

- All developed code must be unit tested. Unit testing must be completed and signed off by development team.
- System Test plans must be signed off by Business Analyst and Test Manager.
- All human resources must be assigned and in place.
- All test hardware and environments must be in place, and free for System test use.
- The Acceptance Tests must be completed, with a pass rate of not less than 90%.

User Acceptance Tests (UAT):

A reasonable number of test cases will be executed for the acceptance tests. To achieve the acceptance criteria, a pass rate of 90% must be achieved before the software will be accepted. However, the acceptance criteria will be determined by the MERCURY TOURS Management and MERCURY TOURS.

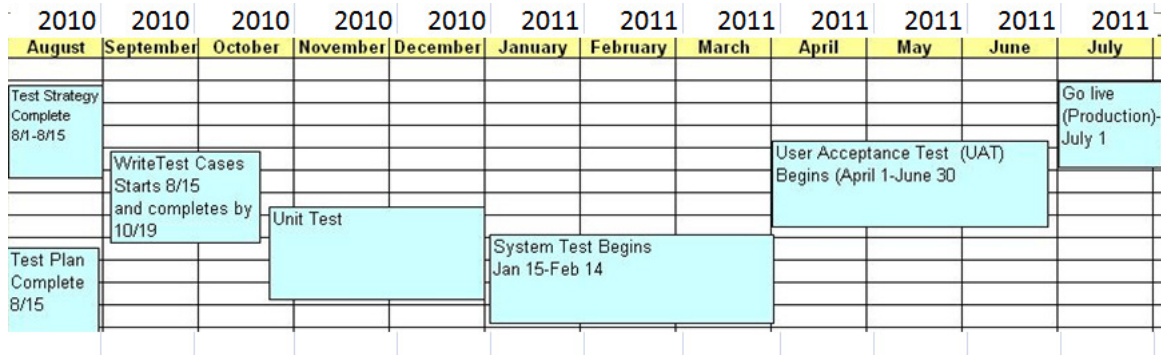
2.4.2. Exit Criteria

The Exit Criteria detailed below must be

- All Critical and High Priority errors from System Test must be fixed and tested
- If any medium or low-priority errors are outstanding - the implementation risk must be signed off as acceptable by Business Analyst and MERCURY TOURS representative.
- User Acceptance Test must be signed off by Business Expert from MERCURY TOURS.

3. System Test Schedule

System Test Timeline



System Testing begins January 15, 2011.

4. RESOURCES

The resource available in the MERCURY TOURS Recruiting facility at Fairfax should be enough for testing.

4. ROLES AND RESPONSIBILITIES

1. David Kumar: Director of Product Development Phone: (212)865-4587
2. Anja Kaker: Technical Lead Phone: (212)234-5961
3. Nathan Kerry: Sr. QA Test Engineer: (212) 874-8877

5. STATUS REPORTING

Test preparation and testing progress will be formally reported during a weekly Status Meeting to the Director of Product Development. A status report will be prepared by the Test Manager to facilitate this meeting. This report will contain the following information:-

1. Current Status v. Plan (Ahead/Behind/On Schedule)
2. Progress of tasks planned for previous week
3. Tasks planned for next week including tasks carried from previous week
4. Error Statistics from Error Measurement system
5. Issues/Risks
6. AOB (Any Other Business)

6. Issues, Risks and Assumptions

6.1. Issues/Risks

1. No further changes or inclusions will be considered for inclusion in the release **except**

1. Where there is permission and agreement of the Business Analyst and the Test Manager

2. Where the changes/inclusions will not require significant effort on behalf of the test team and will not adversely affect the test schedule. This is a potentially serious issue, as any major changes to design will entail additional time to re-plan testing and to create or amend test conditions.

Responsible: Director of Product Development

Final list of inclusions to be signed off.

2. The design of the software must be final, and design documentation must be complete, informative and signed off by all parties prior to System Test proper commences.

6.2. Assumptions

- Software will be delivered on time.
- Software is of the required quality.
- All "Show-Stopper" bugs receive immediate attention from the development team.
- All bugs found in a version of the software will be fixed and unit tested by the development team before the next version is released.
- Functionality is delivered to schedule.
- Required resources are available.
- All documentation will be up to date and delivered to the system test team.
- Functional and technical specifications will be signed off by the business.
- The Intranet will be fully functional prior to project commencement.

7. Formal Signoff

This document must be formally approved before System Test can commence. The following people will be required to sign off :-

Signed Off by: Nolan Smith : Director of Systems Development

Date: