Rental House Finding System

TEST PLAN

Project Code: RHF

Document Code: RHF\_Test Plan

# INTRODUCTION

## Purpose

This document supports the following objectives:

* Identify existing project information and the software components that should be tested.
* Recommend and describe the testing strategies to be employed.
* The plan for test.

## Scope of testing

This test plan covers:

* Unit Test *(Doer: FPT Development team)*
* Integration Test *(Doer: FPT Test team)*
* System Test *(Doer: FPT Test team)*
* Acceptance Test *(Doer: Test Team)*

## Constraints

Constraints on Schedule: Testing should be completed by 12 April 2013.

## Risk List

|  |  |
| --- | --- |
| **#** | **Description** |
| 1 | [May lack of customer involvement during requirement gathering, review/approve the deliverables](http://fsoft-fms/FSOFTInsightWeb/Fms1Servlet?reqType=1320&riskID=1018732) |
| 2 | We don’t have experiences on security testing. |

# Requirements for Test

The listing below identifies those items (use cases, functional requirements, and non-functional requirements) that have been identified as targets for testing. This list represents what will be tested.

## Functional Requirement

|  |  |
| --- | --- |
| Public Facing Module | * Create data table * Search for data tables * View data tables/charts/graphs created * Customize data tables/charts/graphs * View data in charts/graphs format |
| Administration Module (Backend) | * Access control and account management module * Maintenance of general content * Maintenance of topics, sub-topics and variables * Maintenance of data * Maintenance of contextual help and footnotes * Generation of transaction and usage reports * Audit log viewing |

## Non Functional Requirement

### 2.2.1 Performance Test

***System Response Time***

The response time is defined as the time taken from the moment the URL is activated by keying in the URL or clicking of link or button by the user to the time the response is displayed on the screen to the user.

The response time is stated in the table below:

| Type of Transaction | Response Time (based on 1 Mbps broadband connection) |
| --- | --- |
| Loading of main page | * Shall not exceed three (3) seconds for 95% of the time. * Shall not exceed five (5) seconds for remaining 5% of the time. |
| Creation of data table after user has completed the selection | * Shall not exceed five (5) seconds for 95% of the time. * Shall not exceed eight (8) seconds for remaining 5% of the time. |
| Plotting of charts/graphs | * Shall not exceed ten (10) seconds for 95% of the time. * Shall not exceed fifteen (15) seconds for remaining 5% of the time. |

### 2.2.2 Security Test

List of common vulnerabilities need testing, where applicable:

* Non-validated input (i.e. input fields shall conform to the desired formats and values);
* Broken access control;
* Broken authentication and session management (i.e. use of account credentials and session cookies);
* Buffer overflows;
* Improper error / exception handling;

# TEST STRATEGY

## Test Types

### 3.1.1 Function Testing

|  |  |
| --- | --- |
| Test Objective: | Ensure proper target-of-test functionality, including navigation, data entry, processing, and retrieval. |
| Technique: | Execute each case in test cases, using valid and invalid data to verify the following:   * The expected results occur when valid data is used. * The appropriate error or warning messages are displayed when invalid data is used. * Each business rule is properly applied. |
| Completion Criteria: | * All planned tests have been executed. * All identified defects have been addressed. |
| Special Considerations: | This Testing will only be started when developer do unit test completely.  Testing may be stopped when:   * So many errors are found (30% cases are FAIL) * Schedule time runs out   Screen Resolution:   * 17” monitor – 1024x768 |

### 3.1.2 User Interface Testing

|  |  |
| --- | --- |
| Test Objective: | Verify the following:   * Navigation through the target-of-test properly reflects business functions and requirements, including window-to-window, field-to-field, and use of access methods (tab keys, mouse movements, accelerator keys) * Window objects and characteristics, such as menus, size, position, state, and focus conform to standards |
| Technique: | Create or modify tests for each window to verify proper navigation and object states for each application window and objects. |
| Completion Criteria: | Requested pages are shown with needed information in IE 7, Firefox 6 and above. |
| Special Considerations: | The System must adhere to Level A and Level AA of Web Content Accessibility Guidelines (WCAG) 2.0 specifications  Testing may be stopped when:   * So many errors are found (30% cases are FAIL) * Schedule time runs out   Screen Resolution:   * 17” monitor – 1280 x 800, 1024x768 |

### 3.1.3 Security Testing

|  |  |
| --- | --- |
| Test Objective: | Refer to [2.2.3](#_Security_Test). |
| Technique: | TBD |
| Completion Criteria: | All Items in 2.2.3 are tested with pass results. |
| Special Considerations: | N/A |

### 3.1.4 Regression Testing

|  |  |
| --- | --- |
| Test Objective: | Regression testing is to validate modified parts of the software, to make sure that the modification does not cause errors in other parts. |
| Technique: | Reuse the set of test cases from an existing test suite to test a modified module. |
| Completion Criteria: | All test cases are performed and passed |
| Special Considerations: | N/A |

### 3.1.5 Performance Testing

|  |  |
| --- | --- |
| Test Objective: | Verify that the performance of System can meet requirement of response time for user(s) accessing the System. |
| Technique: | Use badboy and JMeter to measure the response time for each page. |
| Completion Criteria: | Single Transaction or single user: Successful loading transactions without any failures and within the expected or required time allocation per transaction. |
| Special Considerations: | Screen resolution |

## 3.2. Test Stages

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Types of Test | Stages of Test | | | |
| Unit | Integration | System | Acceptance |
| Functional Test | X | X | X | X |
| User Interface | X | X | X | X |
| Performance Test |  | X | X | X |
| Regression test | X |  | X | X |

## 3.2. Tools

|  |  |  |  |
| --- | --- | --- | --- |
| Purpose | Tool | Vendor/In-house | Version |
| Defect tracking | MS Word, Excel | Microsoft | 2010 |
| Testing Effort tracking | Microsoft Project | Microsoft | 2010 |
| Documentation writing | MS Word, Excel | Microsoft | 2010 |
| Performance Testing | Apache JMeter | Mozilla | 2.9 |
| Badboy | Badboy | 2.1.3 |
| Yslow | Yahoo! Inc |  |
| Database | SQL Server | Microsoft |  |
| Project information tracking | TortoiseSVN |  |  |

# RESOURCE

## Human Resource

This table shows the staffing assumptions for the project.

|  |  |
| --- | --- |
| Worker/Doer | Specific Responsibilities/Comments |
| Tran Thi Bich | Test lead:  Responsible for designing test plan and test cases for 2 major modules: Public Facing and Administrator modules.  Attend in review of other test cases.  Execute integration test, system test, performance testing and security test.  Generate test report. |
| DEV team | Execute Unit testing |
| Test team | Execute Integration Testing |
| Test team | Execute System testing |
| Test team | Execute Acceptance testing |

## Hardware and Software

The Hardware and Software needed for test environment will be similar to Development environment, except all development tools are excluded.