

Booking Hair Salon Test Plan

**Project Code: BHS Document Code: BHS\_Test Plan\_v1.0**

**Hanoi, Feb 2022**

**RECORD OF CHANGE**

\*A - Added M - Modified D - Deleted

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**SIGNATURE PAGE**

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| --- | --- | --- |
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# INTRODUCTION

## Purpose

This is the comprehensive test plan of the Booking Hair Salon project. The purpose of the document describes scopes of test and activities which need to be taken during test process of project. It addresses the following items:

* + - Scopes of Testing
    - Requirements for Testing
    - Test Strategy
    - Test Resources
    - Test Milestones
    - Test Deliverables

## Definitions, Acronyms, and Abbreviations

|  |  |
| --- | --- |
| **Abbreviations** | **Description** |
| AT | Acceptance Test |
| IT | Integration Test |
| ST | System Test |
| PM | Project Manager |
| PTL | Project Technical Leader |
| QA | Quality Assurance |
| FRS | Functional Requirement Specification |
| TP | Test Plan |
| TC | Test Case |
| TR | Test Report |
| UAT | User Acceptance test |
| UT | Unit Test |

## References

|  |  |  |  |
| --- | --- | --- | --- |
| **Title/File name** | **Author** | **Version** | **Effective Date** |
| BHS\_Project Plan  (Report7\_Final-Project-Report Booking Hair Salon.pdf) | WCG | 4 | 07/26/11 |
| BHS\_SRS (Report7\_Final-Project-Report Booking Hair Salon.pdf) | WCG |  | 01/01/11 |

## Background information

El Camino Hospital (ECH) is a not-for-profit organization with hospital campuses in Mountain View and Los Gatos, California. The hospitals have served communities in the South San Francisco Bay Area for nearly 50 years.

ECH has a website that is currently serving the desktop users. In order to better serve the mobile consumers with a many different kinds of platforms such as iPhone and Android mobile devices, ECH is in need of new version to serve the mobile users. This new version has the following main functions:

* + - Emergency Room
    - Find a Physician
    - My Family & Me
    - ECH Resources
    - Visiting ECH
    - ECH News

The purpose of this project is to develop a HTML5 based web application so that it can function well on both iPhone and Android mobile phones then develop the iPhone and Android applications to link with the HTML5 web app.

## Scope of testing

The scope of test will be limited to testing three applications: the HTML 5 applications and two hybrid applications (on iPhone and Android).

### Target of Test

Functional items and Non-functional items will be verified and passed by FPT development team, then be validated and approved by El Camino Hospital via test stages, including the requirements of the following primary functions:

* ECH Resources
* Visiting ECH
* ECH News
* Emergency Room
* Find a Physician
* My Family & Me

### Test Stage

|  |  |  |
| --- | --- | --- |
| **No** | **Test Stages** | **Description** |
| 1 | Unit Test | Unit Test will be performed by FPT development team. |
| 2 | Integration Test | Integration Test will be performed by FPT QA team.  After the Unit Test is finished, testers will execute the UT Gate based on the UT Gate checklist for each function. Integration Test will only start if the result of UT Gate is Passed.  This test stage focuses on specific areas of use cases when all requirements are completed, integration test should be performed to ensure all components incorporate well. |
| 3 | System Test | System Test will be executed by FPT QA team.  Testers will perform complete, end-to-end system testing staged in pre-production environment to validate that functions and system interfaces perform properly in production environment. |
| 4 | Acceptance Test | **Acceptance Test will be conducted by El Camino Hospital.**  FPT’s responsibilities during Acceptance Test phase are:   * Facilitate completion on the application deployment * Support fixing bugs * Support Final User Acceptance Test |

### Test Assumption

The following assumptions are made for test process:

* + **El Camino Hospital is to validate and approve for final software product, test procedures and results**
  + Verification from FPT project team for test execution, documenting and results
  + FPT project managers to approve and commit for test resources
  + Requirements for test are limited to functional and non-functional requirements specified in Section 2 of this document
  + Test will be executed on specific hardwares and softwares as defined in Section 4.2

## Constraints

The following constraints may apply when testing is performed on system:

* + - Deadline for testing only can be met if development progress is on time
    - Test execution can be performed when system passes Unit Test Inspection
    - At least one round of testing must be performed for requirements
    - Complete testing needs support from El Camino Hospital for production environment set-up

## Risk List

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **#** | **Description** | **Source** | **Probabilit y** | **Exposur e** | **Trigger** |
| 1 | Depends on the UI design and requirement documents from WCG World | Critical Dependencies | 0.7 | 5.6 |  |

## Training Needs

|  |  |  |
| --- | --- | --- |
| **No** | **Training items** | **Description** |
| 1 | Unit Test | Learn & study from internal: FPT's other teams Learn & study from external:   1. Microsoft Pax:   <http://research.microsoft.com/en-us/downloads/d2279651-8> 51f-4d7a-bf05-16fd7eb26559/default.aspx   1. W3school validator: <http://validator.w3.org/mobile/> 2. Microsoft Visual Studio 10 ultimate |
| 2 | System Test | Learn & study from external:  1. Load test: Open STA, Jmeter, IBM Rational Robot |

|  |  |  |
| --- | --- | --- |
| **No** | **Training items** | **Description** |
| 3 | Security Test | Learn & study from external: <https://www.owasp.org/>   1. Ethereal/WireShark 2. [http://www.wedi.org/snip/public/articles/testing\_whitepaper](http://www.wedi.org/snip/public/articles/testing_whitepaper082602.pdf) [082602.pdf](http://www.wedi.org/snip/public/articles/testing_whitepaper082602.pdf) 3. [http://www.macadamian.com/images/uploads/whitepapers/](http://www.macadamian.com/images/uploads/whitepapers/HIPAA_TestStrategies.pdf) [HIPAA\_TestStrategies.pdf](http://www.macadamian.com/images/uploads/whitepapers/HIPAA_TestStrategies.pdf) |

# REQUIREMENTS FOR TEST

## Test Items

### Functional Items

1. My Family & Me - View Proﬁle
2. My Family & Me - Edit Proﬁle
3. My Family & Me - Delete Proﬁle/ Account
4. My Family & Me- Delete Account
5. ECH Resources - Vital Signs
6. ECH Resources - Common Warning Signs
7. Visiting ECH - Pt 1 of 2
   * Call main line
   * Get Directions
   * View Campus Map
   * Visitor Information
   * Get Directions nearby
8. Visiting ECH - Pt 2 of 2
   * Get Directions nearby
9. ECH News
10. Homepage
11. ER Wait Time
    * View wait time
    * Call Emergency Room
    * Call Nurses' Station
    * Get Directions
12. ER Checklist
13. Find a Physician By Last Name
14. Find a Physician By Specialty
15. Find a Physician By Location
16. My Family & Me - Login
17. My Family & Me - Forgot Password
18. My Family & Me - Dashboard
19. My Family & Me - Create An Account
20. My Family & Me - Create a Proﬁle

### Non functional Items

1. System must be HIPAA and TRUSTe compliance.
2. In the normal condition (could be 100 concurrent users or less), each page should load in 4 seconds or less.

3. In the stress condition (could be more than 100 concurrent users), each page should load in 12 seconds or less.

## Acceptance Test Criteria

|  |  |  |
| --- | --- | --- |
| **No** | **Test Stages** | **Qualified ratios** |
| 1 | Unit Test | To pass this stage, all unit test cases must be tested and passed 100%. All defects should be fixed and re-tested. Average of 11 bugs/KLOC. |
| 2 | Integration Test | To pass this stage, all test cases must be tested and passed 100%. All defects should be fixed and re-tested. Average of 4 bugs/KLOC. |
| 3 | System Test | To pass this stage, all test cases must be tested and passed 100%. All defects should be fixed and re-tested. Average of 0.5 bugs/KLOC. |
| 4 | Acceptance Test | Acceptance Test will be conducted and approved by El Camino Hospital. |

|  |  |  |
| --- | --- | --- |
|  |  |  |
| 1 | Functional requirement | 100% of all requirement defined on part 2.1 A |
| 2 | Non-functional requirement | 100% of all requirement defined on part 2.1 B |

# TEST STRATEGY

## Test Types

### Function Testing

|  |  |
| --- | --- |
| **Test Objective:** | Verify the application and its internal processes by interacting with the application via the Graphical User Interface (GUI) and analyzing the outputs or results |
| **Technique:** | * Testers will create test scenarios against the requirements provided by customer. Test scenarios will be created based on black box test technique. * Testers execute test based on test scenarios and create report. Common defects will be collected for improved checklist. * Execute each case, using valid and invalid data, to verify the following: Get the expected results when valid and invalid data is used   Valid input data is updated correctly into database |

|  |  |
| --- | --- |
|  | The appropriate errors or warning messages are displayed when invalid data is used   * Execute each case, using boundary data, to verify the following:   Get the expected results when boundary data is used Data is updated correctly to database  The appropriate errors or warning messages are displayed when invalid data is used   * Each valid data input is updated correctly into database. * Each business rule is properly applied. |
| **Completion Criteria:** | All functional test cases have been executed to verify proper data acceptance, processing, and retrieval, and the appropriate implementation of the business rules, and passed  The appropriate activities will be performed when valid data is used  The corresponding error/warning message mechanism is applied for each specific case  All bugs found must be fixed |
| **Special Considerations:** | Functional testing will NOT be started in case of developers have not executed unit test before passing application to testers |

### User Interface Testing

|  |  |
| --- | --- |
| **Test Objective:** | Navigation through the target-of-test properly reflects business functions and requirements, including screen to screen, field-to-field, and use of access methods. Objects and characteristics, such as menus, size, position, state, and focus conform to standards. |
| **Technique:** | * Testers will create specific test scenarios against UI prototypes approved by customer. * Testers execute test based on test scenarios and create report. Common defects will be collected for improved checklists. * Execute each case, using valid, invalid and boundary data, to verify the expected results display when valid, invalid and boundary data is used. |
| **Completion Criteria:** | * All GUI test cases have been executed and passed * Any defects related to GUI are fixed, except those accepted by customer * All defects found by tester are addressed in DMS |

|  |  |
| --- | --- |
| **Special Considerations:** | N/A |

### Load Testing

|  |  |
| --- | --- |
| **Test Objective:** | Verify the application and its internal processes should be met:  In the normal condition could be 100 concurrent users or less, each page should load in four seconds or less  In the stress condition could be more than 100 concurrent users, each page should load in 12 seconds or less |
| **Technique:** | * Testers will create test scenarios, test scripts against the requirements provided by customer. Test scenarios will be created based on black box test technique, and be supported by one of the following tools: IBM Rational Robot & Manager. * Testers execute test based on test scenarios and create report. Common defects will be collected for improved checklists. * Execute each case, using valid and invalid data, to verify the following on a random device:   In the normal condition could be 100 concurrent users or less, each page should load in four seconds or less  In the stress condition could be more than 100 concurrent users, each page should load in 12 seconds or less |
| **Completion Criteria:** | In the normal condition could be 100 concurrent users or less, each page should load in four seconds or less.  In the stress condition could be more than 100 concurrent users, each page should load in 12 seconds or less  All performance requirements must be met |
| **Special Considerations:** | Numbers of 100 virtual users should be available for Microsoft Visual Studio |

### Security Testing

|  |  |
| --- | --- |
| **Test Objective:** | Verify that the application is HIPAA & TRUSTe compliance |
| **Technique:** | - Testers will create test scenarios against the requirements which are based on HIPAA & TRUSTe compliance. Test scenarios will be created based on black box test technique. Refer to:  [https://www.owasp.org](https://www.owasp.org/); [http://www.wedi.org/snip/public/articles/testing\_whitepaper08260](http://www.wedi.org/snip/public/articles/testing_whitepaper082602.pdf) [2.pdf](http://www.wedi.org/snip/public/articles/testing_whitepaper082602.pdf); [http://www.macadamian.com/images/uploads/whitepapers/HIPAA](http://www.macadamian.com/images/uploads/whitepapers/HIPAA_TestStrategies.pdf)  [\_TestStrategies.pdf](http://www.macadamian.com/images/uploads/whitepapers/HIPAA_TestStrategies.pdf) for more detail. |

|  |  |
| --- | --- |
|  | * Testers execute test based on test scenarios and create report. Use WireShark   tool to validate transaction encrypted or not. Common defects will be collected for improved checklists.   * Execute each case, using valid and invalid data, to verify the following: The expected results occur when valid HIPAA & TRUSTe compliance. |
| **Completion Criteria:** | All test cases have been executed to verify proper data acceptance, processing, and retrieval, and the appropriate implementation of the HIPAA & TRUSTe compliance rules, and passed |
| **Special Considerations:** | HIPAA & TRUSTe compliance requirement |

### Regression Testing

**Test Objective:** Verify the application on new build/ after bug fixing, and be sure that other functions is not affected by fixed parts each iterations

**Technique:**

* + Testers will select some test scenarios against functional test
  + Testers execute test based on test scenarios and create report. Common defects will be collected for improved checklists.
  + Execute each case, using valid and invalid data, to verify the following: Get the expected results when valid and invalid data is used

Valid input data is updated correctly into database

The appropriate errors or warning messages are displayed when invalid data is used

* + Execute each case, using boundary data, to verify the following:

Get the expected results when boundary data is used Data is updated correctly into database

The appropriate errors or warning messages are displayed when invalid data is used

* + Each valid data input is updated correctly into database.
  + Each business rule is properly applied

**Completion Criteria:**

Specified function test cases have been executed to verify proper data acceptance, processing, and retrieval, and the appropriate implementation of the business rules, and passed

The appropriate activities will be performed when valid data is used.

The corresponding error/warning message mechanism is applied for each specific case.

All bugs found must be fixed.

Some of other functions is not affected by fixed code

**Special Considerations:** N/A

## Test Stages

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Types of Test** | **Stages of Test** | | | |
| **Unit** | **Integration** | **System** | **Acceptance** |
| Function Test | X | X | X | X |
| User Interface test | X | X | X | X |
| Load test |  |  | X | X |
| Security test | X |  | X | X |
| Regression test | X | X | X |  |

## Tools

|  |  |  |  |
| --- | --- | --- | --- |
| **Purpose** | **Tool** | **Vendor/In-house** | **Version** |
| Defect log | DMS | FPT tool |  |
| Collect test effort | Timesheet | FPT tool |  |
| Documenting | MS Word, Excel | Microsoft | 2010 |
| Unit Testing | Pax | Microsoft |  |
| Function Testing | Manual | Manual |  |
| Load Testing | IBM Rational Robot & Manager | Microsoft | 2010 |
| Security Testing | WireShark | <open source> | 1.6.1 |
| Database | SQL Server | Microsoft | 2008 |

# RESOURCE

## Human Resource

This table shows the staffing assumptions for the project.

|  |  |  |
| --- | --- | --- |
| **Worker/Doer** | **Role** | **Specific Responsibilities/Comments** |

|  |  |  |
| --- | --- | --- |
| Anh Pham | Test Leader | Manage test resources and assign test tasks  Create Test Plan, Test Cases (IT, ST), Test Scripts (IT, ST) Review Test Data  Create Test Reports |
| Hien Nguyen | Tester | Review Test Cases (IT, ST)  Create Test Data and Execute Test (IT, ST) Report Test Results |
| Linh Doan | Quality Assurance | Final Inspection Test Cases, Test Plan, Test Reports |
| Chien Nguyen | Project Manager | Approve Test Cases (UT, IT, ST), Test Plan, Test Results, Test Reports |
| Nam Le | Project Technical Leader | Review Test Cases (UT, IT, ST) |
| Anh Vu | Developer | Create UT Cases, UT Reports |
| Tung Tran | Developer | Create UT Cases, UT Reports |
| Dat Nguyen | Developer | Create UT Cases, UT Reports |

## Hardwares and Softwares

The FMO HTML5 web-based application and iPhone, Android Hybrid applications will require testing on the following iPhone and Android devices:

|  |  |
| --- | --- |
| **Hardware** | **OS Version** |
| **iPhone 4** | **iOS 4** |
| **Motorola DROID 2** | **Android OS, v2.2 (Froyo)** |
| **Samsung Galaxy S II** | **Android OS, v2.3 (Gingerbread)** |
| **HTC Sensation** | **Android OS, v2.3 (Gingerbread)** |

|  |  |
| --- | --- |
| **Software** | **Version** |
| Microsoft Windows Server | 2003 SP2 |
| Microsoft IIS | 6.0 |
| Microsoft SQL Server | 2008 |
| Microsoft .NET Framework | 4.0 |

# TEST MILESTONES

|  |  |  |  |
| --- | --- | --- | --- |
| **Milestone Task** | **Effort (pd)** | **Start Date** | **End Date** |
| Create Test Plan | 5 | 07/15/11 | 07/26/11 |

|  |  |  |  |
| --- | --- | --- | --- |
| Review & Update Test Plan | 2 | 07/26/11 | 07/27/11 |
| Create IT&ST Test Cases | 13 | 07/27/11 | 08/12/11 |
| Review & Update IT&ST Test Cases | 2 | 08/09/11 | 08/15/11 |
| Create & Execute & Report UT for Software Package version 1.0 | 15 | 08/08/11 | 09/05/11 |
| Create test data for Software Package version 1.0 | 1 | 08/31/11 | 09/02/11 |
| UT Gate for Software Package version 1.0 | 0.5 | 09/05/11 | 09/06/11 |
| Execute IT for Software Package version 1.0 | 16 | 09/05/11 | 09/17/11 |
| Execute ST for Software Package version 1.0 | 4 | 09/17/11 | 09/19/11 |
| Create IT&ST Test Report for Software Package version 1.0 | 1 | 09/20/11 | 09/20/11 |
| Create & Execute & Report UT for Software Package version 1.1 | 22 | 09/19/11 | 10/10/11 |
| UT Gate for Software Package version 1.1 | 0.5 | 10/11/11 | 10/11/11 |
| Create test data for Software Package version 1.1 | 1 | 10/05/11 | 10/08/11 |
| Execute IT for Software Package version 1.1 | 17 | 10/10/11 | 10/22/11 |
| Execute ST for Software Package version 1.1 | 5 | 10/22/11 | 10/24/11 |
| Create IT&ST Test Report for Software Package version 1.1 | 1 | 10/24/11 | 10/24/11 |
| Create & Execute & Report UT for Software Package version 1.2 | 16 | 09/10/11 | 10/04/11 |
| UT Gate for Software Package version 1.2 | 0.5 | 10/20/11 | 10/20/11 |
| Create test data for Software Package version 1.2 | 1 | 10/17/11 | 10/19/11 |
| Execute IT for Software Package version 1.2 | 20 | 10/20/11 | 11/04/11 |
| Execute ST for Software Package version 1.2 | 3 | 11/04/11 | 11/07/11 |
| Create IT&ST Test Report for Software Package version 1.2 | 0.5 | 11/07/11 | 11/07/11 |
| Execute System Test for Software Package final version | 8 | 11/03/11 | 11/12/11 |

|  |  |  |  |
| --- | --- | --- | --- |
| Create Test Report for Software Package final version | 1 | 11/14/11 | 11/14/11 |

# DELIVERABLES

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Deliverables** | **Delivered Date** | **Delivered by** | **Delivered to** |
| 1 | Test Plan | 08/01/11 | FPT | ECH |
| 2 | Test Reports for Software Package version 1.0 | 9/20/11 | FPT | ECH |
| 3 | Test Reports for Software Package version 1.1 | 10/24/11 | FPT | ECH |
| 4 | Test Reports for Software Package version 1.2 | 11/7/11 | FPT | ECH |
| 5 | Test Reports for Software Package final version | 11/17/11 | FPT | ECH |