**MINISTRY OF EDUCATION AND TRAINING**



**Capstone Project Document**

**Hotel Website**

**Software Test Documentation**

**Project Code: HOWE**

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# INTRODUCTION

## Purpose

This is the comprehensive test plan of the HOWE project. The purpose of this chapter describes scopes of test plan and activities which need to be taken during test process of project. It addresses the following items:

* Scope of testing
* Requirement for testing
* Test strategy
* Test resources
* Test milestones
* Test deliverable

## Definitions, Acronyms, and Abbreviations

| Abbreviations | Description | Note |
| --- | --- | --- |
| AT | Acceptance test |  |
| B Voucher | Bug voucher |  |
| DMS | Defect Management System (Fsoft tool) |  |
| ES | Enhance Specification |  |
| IT | Integration test |  |
| PM | Project Manager |  |
| PTL | Project Technical Leader |  |
| PT/TT | Program test/ Total test |  |
| P Voucher | Program voucher |  |
| QA | Quality Assurance |  |
| QUP | Quality up |  |
| SRS | Software Requirement Specification |  |
| ST | System test |  |
| TP | Test Plan |  |
| TC | Test Case |  |
| TR | Test Report |  |
| UAT | User Acceptance test |  |
| UT | Unit test |  |

## References

| Title/File name | Author | Version | Effective Date |
| --- | --- | --- | --- |
| HOWE\_Software-Requirement Specification |  |  |  |
| HOWE\_Architecture-Design |  |  |  |
| HOWE\_Data-Design |  |  |  |
| HOWE\_ScreenDesign |  |  |  |
| HOWE\_TestCase |  |  |  |
| HOWE\_UnitTest |  |  |  |
| HOWE\_ProjectPlan |  |  |  |

## Background information

The goal of the test is to ensure that the software runs properly according to the requirement specification, all of the functions work exactly as customer’s requirements. Ensure the accuracy of functions when operating alone or when integrating them together to form a complete functional group or system and minimize errors that may occur during software use. The test process is deployed on some popular browsers and on some different devices.

All stages of test process will be done: unit testing, integrating testing, system testing and acceptance testing. Function testing, user interface testing, data integrity and data testing will be also implemented.

Perform testing on popular browsers such as chrome, firefox and some other devices

## Scope of testing

The test process is performed by following stages:

* Unit testing: Performed by development team to make sure this unit is the same as the design. We can solve problems as quickly as possible.
* Integration testing: Combine all units in a program and examine them as a functional group to evaluate interoperability among units. This stage is implemented to find interface defects between functions or modules.
* System testing: Performed by testing team when the system was fully built to determine if the system has compiled with all the requirements.
* Acceptance testing: Verification of the complete system in the actual environment.

The test process is performed limited on: chorme, firefox.

## Constraints

* Deadline for testing only can be met if development progress is on time
* At least one round of testing must be performed for requirements

## Risk list

|  |  |  |  |
| --- | --- | --- | --- |
| No | **Risk** | **Mitigation** | **Contingencies** |
| 1 | PCs have problem during test | Fix a problem | Find a other PC |
| 2 | Members of test team may be sick in test phase or may leave the project before completion | * Discussing * Committing * Assigning tasks appropriately | * Persuading * Reviewing and re-planning the whole project |
| 3 | Scope of SRS/SAD may be changed | * Discussing * Reviewing the whole project frequently | * Re-planning test phase * Re-create test case |

# Requirements for Test

## Test items

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | Name of features and functions | Outline of features and functions | Number of Test case(Estimate) | Note |
|  | Guest | Search room |  |  |
|  | Booking room |  |  |
|  | View hotel page |  |  |
|  | Cancel booking room |  |  |
|  | Send feedback, Q&A |  |  |
|  | Receptionist\_Common | Send E-mail |  |  |
|  | Change password |  |  |
|  | Search room |  |  |
|  | Room’s status management |  |  |
|  | Receptionist\_Booking Room Management | Check-in |  |  |
|  | Check-out |  |  |
|  | View reservated rooms |  |  |
|  | Edit booking room information |  |  |
|  | Cancel booking room |  |  |
|  | Create bill |  |  |
|  | Manager\_Account Management | Add account |  |  |
|  | Edit account |  |  |
|  | Manager\_Room Management | View room information |  |  |
|  | Edit room detail |  |  |
|  | Manager\_Page Management | Add content |  |  |
|  | Edit content |  |  |
|  | Delete content |  |  |
|  | Accountant | Handover finance |  |  |
|  | Search bill |  |  |
|  | Monthly revenue report |  |  |
|  | Common | Login |  |  |
|  | Logout |  |  |
|  | View account information |  |  |

## Acceptance Test Criteria

List of criteria to define what levels of test quality are sufficient to move to the next testing phase

* Test coverage: 100%
* Successful Test coverage: 90%
* Number of defects/Weighted defects: 3~4 defects/KLOC

List of criteria which are based on to accept the products, for Test team to accept source code after Unit test of Development team:

* Number of UTC/KLOC: 80 UTC/KLOC
* Number or Weighted defects/KLOC: 3~4 defects/KLOC
* Statement coverage: 90%
* Branch coverage: 100%
* Path coverage: 100%

List of criteria which are based on to accept the products, for Intergration test:

* Number of UTC/KLOC: 60 UTC/KLOC
* Number or Weighted defects/KLOC: 3~4 defects/KLOC
* Statement coverage: 100%
* Branch coverage: 100%
* Path coverage: 100%

List of criteria which are based on to accept the products, for System test:

* Number of UTC/KLOC: 50 UTC/KLOC
* Number or Weighted defects/KLOC: 2~3 defects/KLOC
* Statement coverage: 100%
* Branch coverage: 100%
* Path coverage: 100%

List of criteria which are based on to accept the products, for Acceptance test:

* Number or Weighted defects/KLOC: 3~4 defects/KLOC
* Statement coverage: 100%
* Branch coverage: 100%
* Path coverage: 100%

## Feature not to be tested

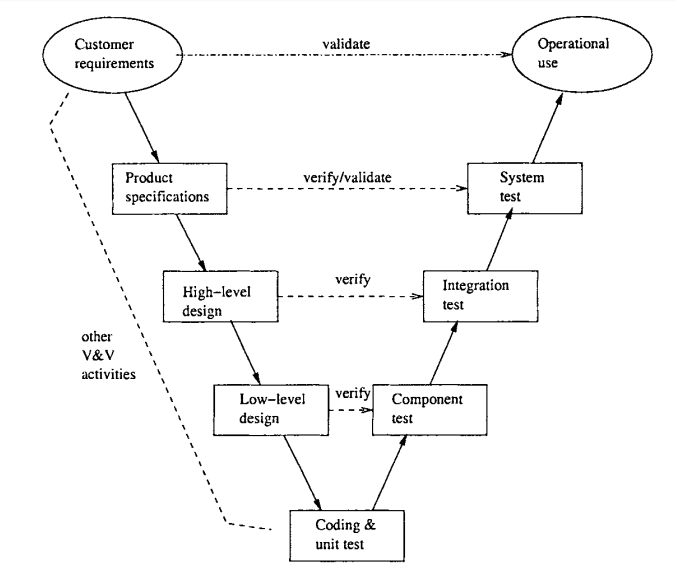
Manage payment activities

Manage sending email activities

# TEST STRATEGY

## Test model

The V-Model process is used for testing the HOWE system. Each software development process will be perfomed in parallel with a corresponding test process. By this model, bugs will be discovered early and solved in an ealier stage.



### Unit testing

* Unit testing will be perfomed by developers
* When executing unit testing, if any bugs are found, developers have to log bugs on “Bug Management file and fix it until it is correct
* Developer may be use white-box testing technique to do

### Integration testing

* After finishing component testing, integration testing will be performed by testers
* Material are integration test case, high-level design, and test tools
* When executing integration testing, if any bugs are found, testers have to log bugs on “Bug Management” file and assign to developer fix it and redo process until it is correct

### System testing

* After finishing integration testing, developers collect al functions and features, testers will perform system testing with whole system
* Material are system testcase and SRS
* When executing system testing, if any bugs are found, testers have to log bugs on “Bug Management” file and assign to developer fix it and tester will verify them. System testing will be finished only all test case are passed or no bug is found

### Acceptance testing

* After finishing system testing, acceptance testing will be performed
* Acceptance testing is based on business and user requirement specification, to ensure system is not lacking and mistake any requirement
* If any problem, developers have to fix and testers will verify them
* Acceptance testing will be finished only when system met requirement specification

## Test types

### Function Testing

Function testing will be performed to verify proper data acceptance, processing and retrieval, and appropriate implementation. Function testing can be traced directly to use cases or business functions and business rules.

|  |  |
| --- | --- |
| Test Objective: | Ensure proper target-of-test functionality, including navigation, data entry, processing, and retrieval. |
| Technique: | Execute each use case, use-case flow, or function, 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.  - Use Test tool |
| Completion Criteria: | -   All planned tests have been executed.  -     All identified defects have been addressed and closed |
| Special Considerations: | Identify or describe those items or issues (internal or external) that impact the implementation and execution of function test |

### User Interface Testing

User Interface (UI) testing verifies a user’s interaction with the software. User interface testing will be performed to ensure that the User Interface provides the user with the appropriate access and navigation through the functions of the target-of-test.  In addition, UI testing ensures that the objects within the UI function as expected and conform to corporate or industry standards

|  |  |
| --- | --- |
| 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: | Each window successfully verified to remain consistent with benchmark version or within acceptable standard |
| Special Considerations: | Not all properties for custom and third party objects can be accessed. |

### Data and Database Integrity Testing

The databases and the database processes should be tested as a subsystem within the Project. These subsystems should be tested without the target-of-test’s User Interface as the interface to the data.  Additional research into the Database Management System (DBMS) needs to be performed to identify the tools and techniques that may exist to support the testing identified below

|  |  |
| --- | --- |
| Test Objective: | Ensure database access methods and processes function properly and without data corruption. |
| Technique: | Invoke each database access method and process, seeding each with valid and invalid data or requests for data.  Inspect the database to ensure the data has been populated as intended, all database events occurred properly, or review the returned data to ensure that the correct data was retrieved for the correct reasons |
| Completion Criteria: | All database access methods and processes function as designed and without any data corruption. |
| Special Considerations: | Testing may require a DBMS development environment or drivers to enter or modify data directly in the databases.  Processes should be invoked manually.  Small or minimally sized databases (limited number of records) should be used to increase the visibility of any non-acceptable events. |

## Test stages

| Type of Tests | Stage of Test | | | |
| --- | --- | --- | --- | --- |
| Unit | Integration | System | Acceptance |
| Function Test | X | X | X | X |
| User Interface test | X |  | X |  |
| Data and Database Integrity Test |  | X | X |  |

# 

# RESOURCE

## Human Resource

This table shows the staffing assumptions for the project*.*

|  |  |  |  |
| --- | --- | --- | --- |
| Worker/Doer | Role | Specific Responsibilities/Comments | Location |
| HoangVT | Test Leader | Manage Test resource and assign test tasks  Create TP  Review TC  Create Test report | FPT University, HoaLac |
| QuyenTB | Tester | Create TC for modules …  Execute test  Report test result | FPT University, HoaLac |
| ManhDD | Tester | Create TC for modules  Execute test  Report test result | FPT University, HoaLac |

## System Resource

|  |  |  |
| --- | --- | --- |
| Name | Detail | Purpose |
| Laptop Acer Insprion E5-571 | Microsoft windows 10 Professional | Create testing material and execute test |
|  |  |  |
|  |  |  |
| Chrome | Execute test | Chrome 59 |

## Test management

*<Define about the following items’ method:*

Test management (Test planning and tracking, Communication)

Defect management (Defect management tool and defect process follow……)

*Refer to the sample in Guideline Test Plan>*

# TEST MILESTONES

|  |  |  |  |
| --- | --- | --- | --- |
| Milestone Task | Effort (pd) | Start Date | End Date |
| Create Test Plan | 4 | <YY-MM-DD> | <YY-MM-DD> |
| Review & update TP | 1 |  |  |
| Create Unit Test case | 3 |  |  |
| Review & update UTC | 1 |  |  |
| Create Integration Test case | 2 |  |  |
| Review & Update Integration TC | 1 |  |  |
| Create System Test case | 2 |  |  |
| Review & Update System TC | 1 |  |  |
| Execute Unit Test iterative 1 | 3 |  |  |
| Execute Integration test iterative 1 | 3 |  |  |
| Execute System test iterative 1 | 3 |  |  |

# 

# DELIVERABLES

| No | Deliverables | Responsibilities | Delivered Date |
| --- | --- | --- | --- |
|  | Test Plan |  |  |
|  | Unit Test cases |  |  |
|  | Integration Test Cases |  |  |
|  | System Test cases |  |  |
|  | Defect log |  |  |
|  | Test reports |  |  |