### 

**FACULTY COMPUTER SYSTEM & SOFTWARE ENGINEERING**

### TEST PLAN

FOOD ORDERING SYSTEM (FOS)

Independent Verification and Validation

Version: 1.0.0

Date: 17/11/2016

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# Introduction

## 1.1 Purpose

This test case specification supports the following objective:

i. To detail the activities required to prepare for and conduct the system test.

ii.To define the sources of the information used to prepare the plan.

**1.2 Scope**

The scope of this test plan is to test the result of the FOS after start. This test plan only covers system level test, excluding unit test, static test, integration test, acceptance test, regression test, confirmation test and as well as other type of test not mentioned in this Test Plan. It would focus on meeting the requirement of the system and making sure the system is fit for purpose.

## 1.3 References

The following IEEE standards have been referenced in preparation of this document:

1. IEEE 829-1998 Standard for Software and System Test Documentation
2. IEEE 829-2008 Standard for Software and System Test Documentation

The following documents provide the test basis for this test design:

i. The FOS Software Requirement Specifications (FOS\_SRS\_2.0)

ii. The FOS System Design Documentation (FOS\_SDD\_2.0)

# Test Plans

## 2.1 Test Items

The following documents will provide the basis for defining correct operation:

i. The FOS Software Requirement Specifications 2.0 (SRS)

ii. The FOS System Design Documentation 2.0 (SDD)

The test items include all system features in FOS, as described in table 2.2 below.

## 2.2 Test Traceability Matrix

|  |  |  |  |
| --- | --- | --- | --- |
| Function ID | Function Description | Risk Level | Source of Function |
| F001 | Login and Register | High | SDD |
| F002 | Order Food and Drink | High | SDD |
| F003 | Update Order Status | High | SDD |
| F004 | Payment and Generate Bill | High | SDD |
| F005 | Manage Menu | High | SDD |

**2.3 Features to be tested**

The following table contains the features to be tested based on FOS Software Design Documentation (SDD) for this iteration. Listed together are the function ID and its corresponding functions and estimated risk level.

|  |  |  |  |
| --- | --- | --- | --- |
| Function ID | Function Description | Risk Level | Source of Function |
| F001 | Login and Register | High | SDD |
| F002 | Order Food and Drink | High | SDD |
| F003 | Update Order Status | High | SDD |
| F004 | Payment and Generate Bill | High | SDD |
| F005 | Manage Menu | High | SDD |

## 

## 2.4 Features not to be tested

Aside from the features listed in section 2.2, other aspects of the system are not covered in this test plan. This includes:

i. Operation procedure

This test plan is for system level test, operation procedure is not covered here.

ii. Network Security

This test plan is designed for functional test, security is not covered here.

**2.5 Test Approach or Test Strategy**

The test on FOS is a system level functional test that focuses only on the functional part of the system. Testing will be using risk-based strategy.

## 2.6 Item Pass/Fail Criteria

The system must satisfy the following criteria in order to pass:

i. All test cases must be passed.

ii. 0% calculation in any function .

iii. No deadlock during operation.

Other than that, all test items must fulfill is requirement as stated in SDD.

## 2.7 Suspension Criteria and Resumption Requirements

Suspension Criteria:

In case where a Java-enabled environment is not available, all test will be suspended.

Resumption requirement:

Java-enabled environment is prepared.

## 

## 2.8 Test Deliverables

i. Test Plan

ii. Test Design Specifications

iii. Test Case Specifications

iv. Test Procedure Specification

v. Test Incident Report

vi. Test Summary Report

## 2.9 Entry Criteria

The following items are needed before the testing can begin:

i. Requirement documents for FOS 2.0

## 2.10 Exit Criteria

## The following items are needed before the testing can end:

i. All test Deliverables in Section 2.8 Test Deliverables have been delivered to client.

ii. Test execution has been completed.

# 

# Test Management

**3.1 Planned Tasked and Activities**

The following table shows the set of tasks necessary to prepare for and perform testing for FOS. It was identify dependencies of other tasks and significant constraint such as test item availability, testing resources availability and deadlines.

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Task | Activities | Target Date |
| 1 | Test Planning and Control | i. Define test project scope and objectives  ii. Requirement view  iii. Identified risks, staffing and scheduling  iv. Documenting test plan  v. Technical review  vi. Submission and approval of test plan | 17/11/2016 |
| 2 | Test Analysis and Design | i. Analyze product  ii. Develop test design specification  iii. Prepare test case specification | 25/11/2016 |
| 3 | Test Environment | i. Setup FOS  ii. Identify and required test data | 23/11/2016 |
| 4 | Test Implementation and Execution | i. Prepare test procedure specification  ii. Perform smoke test  iii. Perform functional test  iv. Record test result  v. Analyze test result | 14/12/2016 |
| 5 | Documentating Test Summary Report | i. Summarize test result | 14/12/2016 |
| 6. | Documenting Test Closure | i. Collecting test process data from completed activities to consolidate experience, testware, facts and numbers | 15/12/2016 |
| 7 | Test Complete | i. Delivery of product to client | 15/12/2016 |

## 3.2 Environment & Infrastructure

**3.2.1 Software**

The following table shows the software requirements of FOS that will be used to install FOS.

|  |  |
| --- | --- |
| Application Name | Food Ordering System (FOS) |
| Version | 2.1 |
| Type of file | Executable Jar File (.jar) |
| Size of Application | 65.7KB |
| Size on Disk | 68.0KB |
| Operating System | Windows CE 5.0, Windows CE 6.0 |

**3.2.2 Publications**

The following documents are required to support system testing:

1. FOS System Requirements Specifications 2.0 (SRS)
2. FOS Software Design Documentation 2.0 (SDD)

## 

## 3.3 Responsibility and Authority

The following table shows the set of tasks necessary to prepare for and perform testing for FOS. It was identify dependencies of other tasks and significant constraint such as team item availability, testing resources availability and deadlines.

|  |  |  |
| --- | --- | --- |
| **Name** | **Roles** | **Responsibilities** |
|  | Test Manager | Negotiating the ongoing purpose and deliverables of the test effort  Ensuring the appropriate planning and management of the test resources  Assessing the progress and effectiveness of the test effort.  Advocating the appropriate level of quality by the resolution of important defects.  Advocating an appropriate level of testability focus in the software development process |
|  | Test lead | Deploying and managing the appropriate testing framework to meet the testing mandate.  Implementing and evolving appropriate measurement and metrics.  Planning, deploying and managing the testing effort for any given engagement  Managing and growing testing assets required for meeting and testing mandate. |
|  | Test Analyst | Identifying the target test items to be evaluated by the test effort.  Defining the appropriate tests required and any associated test data.  Gathering and managing data the test data.  Evaluating the outcome of each test cycle. |
|  | Tester | Test requirements analysis  Test case development  Test data preparation  Test execution  Defect analysis  Re-tests for fixes. |

## 

## 3.4 Resources and Allocation

This section will describe any additional resources that are not already documented by other parts of the plan. This is including internal or external resources.

3.4.1 External Resources

There are no external resources required in system testing.

3.4.2 Internal Resources

The internal quality assurance team of Tzaria Inc. shall be responsible for reviewing the test deliverables for adherence to compliance.

## 

## 3.5 Training

All personnel that involve in this testing are require training on FOS according to their responsibility.

i. Training on the operation flow of FOS.

ii. Training on the business role that related food ordering services.

## 3.6 Schedules, Estimates and Costs

This section will describe the project schedule and task milestones. The schedule will include estimated time that required for each testing task. Cost is not included for this testing.

|  |  |  |  |
| --- | --- | --- | --- |
| **Task** | **Milestone** | **Days** | **Duration** |
| Test planning and control | Submission of test plan for sign-off | 7 | 17/11/2016 |
| Test analysis and design | Submission of test design specification, test case specification and test procedure specification | 8 | 25/11/2016 |
| Test environment | Setup of test environment | 4 | 23/11/2016 |
| Test implementation and execution | Execution of system test of FOS | 17 | 14/12/2016 |
| Documenting test summary report | Submission of test summary report | 1 | 14/12/2016 |
| Documenting test closure | Submission of test closure | 1 | 15/12/2016 |
| Test complete | Delivery of product to client | 1 | 15/12/2016 |

## 3.7 Risk and Contingency

This section identifies the risk issues that may impact successful completion of the system testing of FOS. The potential likelihood, impact and mitigation plan was described in the following tables.

|  |  |
| --- | --- |
| Rating for Likelihood for each risk | |
| 1 | Rated as low |
| 2 | Rated as medium |
| 3 | Rated as high |
| 4 | Rated as extreme |

**Table 3.7.1 Likelihood Rating Table**

|  |  |
| --- | --- |
| Rating for Impact for each risk | |
| 1 | Rated as low |
| 2 | Rated as medium |
| 3 | Rated as high |
| 4 | Rated as extreme |

**Table 3.7.1 Priority Rating Table**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Function ID** | **Risk description** | **Likelihood** | **Impact** | **Risk exposure** | **Risk treatment plan** | **People responsible** | **Cost** |
| F001 | Login and Registration | 3 | 3 | 9 | Perform functional test and use at least 5 test techniques | Test team | - |
| F002 | Order Food and Drink | 3 | 3 | 9 | Perform functional test and use at least 2 test techniques | Test team | - |
| F003 | Update Order Status | 3 | 3 | 9 | Perform functional test and use at least 2 test techniques | Test team | - |
| F004 | Payment and Generate Bill | 4 | 4 | 16 | Perform functional test and use at least 2 test techniques | Test team | - |
| F005 | Manage Menu | 2 | 2 | 4 | Perform functional test and use at least 3 test techniques | Test team | - |

# 

# 4.0 General

## 4.1 Metrics

|  |  |  |
| --- | --- | --- |
| **Metric list** | **Metric description** | **Goals** |
| Actual duration vs. plan | Metric to monitor the project progress compared to the plan | 10% delay |
| Percentage of test cases run during test execution | Metric to monitor total number of test cases executed | 100% |
| Percentage of test case passed against total of test cases executed | Metric to monitor total number of test cases executed with passed criteria | All high risk test cases passed |
| Percentage of baseline requirement covered against total test cases | Metric to monitor total number of baseline requirement coverage | 100% |

## 4.2 Glossary

|  |  |
| --- | --- |
| **Term** | **Definition** |
| SDD | Software design documentation |
| SRS | Software requirement specification |
| FOS | Food Ordering System |
| TP | Test plan |

## 4.3 Incident Classification

|  |
| --- |
| **Impact** |
| Mission critical: application will not function or system fails  Major: Severe problems but possible to work around  Minor: does not impact the functionality or usability of the process is not according to requirements/design specification. |
| **Priority** |
| Immediate: Must be fixed as soon as possible  Delayed: System is unstable but incident must be fixed prior to next level of test  Deferred: Defect can be left in if necessary due to time or costs |