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**FACULTY OF COMPUTER SYSTEM & SOFTWARE ENGINEERING**

**BCS3323: Software Testing & Maintenance**

### TEST DESIGN

### SPECIFICATIONS

FOOD ORDERING SYSTEM (FOS)

MANAGE MENU

Independent Verification and Validation

Version: 1.0.0

Date: 21/11/2016

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# Document Control

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# 1.0 Introduction

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| 1.1 Purpose This test design specification support the following objectives:  i. To identify the test items covered  ii. To further refine the test approach from test plan  iii. To define the sources of the information used to prepare the plan  iv. To identify the general cases of test to be executed 1.2 Scope This test design specification covers Manage Menu features developed in FOS. |

## 1.3 References

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

i. 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 Document (FOS\_SDD\_2.0)

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# 2.0 Test Design

## 2.1 Features To Be Tested

The following table contains the features to be tested based on FOS Software Requirement Specification (SRS) for this iteration. Listed together are the function ID and its corresponding function and its risk level.

|  |  |  |
| --- | --- | --- |
| **Feature ID** | **Description** | **Risk Level** |
| F005 | Manage Menu | Medium |

## 2.2 Approach Refinements

Feature ID: F005

Test Technique: Decision table testing, Use case testing, State Transition Testing

Result Analysis Method:

### 2.2.1 Decision Table Testing

|  |  |
| --- | --- |
| Test Condition ID | Test Condition |
| TCON-05-001 | Click “Login” button |
| TCON-05-002 | Click “Select” button |
| TCON-05-003 | Click “Update” Set Meals button |
| TCON-05-004 | Click “Update” Add Ons button |
| TCON-05-005 | Click “Update” AlaCarte button |
| TCON-05-006 | Click “Update” Drink button |
| TCON-05-007 | Click “Save” button |
| TCON-05-008 | Save menu in database |
| TCON-05-009 | Click ”View” button |
| TCON-05-010 | Display menu |

**Table 2.2.1a Session Verification Decision Table Test Conditions**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Condition | T  C  O  V  -  05  -  001 | T  C  O  V  -  05  -  002 | T  C  O  V  -  05  -  003 | T  C  O  V  -  05  -  004 | T  C  O  V  -  05  -  005 | T  C  O  V  -  05  -  006 | T  C  O  V  -  05  -  007 | T  C  O  V  -  05  -  008 | T  C  O  V  -  05  -  009 | T  C  O  V  -  05  -  010 |
| Click “Login” button | Y | Y | Y | Y | Y | Y | Y | Y | N | Y |
| Click “Select” button | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Click “Update” Set Meals button | N | Y | N | N | N | Y | Y | Y | Y | Y |
| Click “Update” Add Ons button | N | N | Y | N | N | Y | Y | Y | Y | Y |
| Click “Update” AlaCarte button | N | N | N | Y | N | Y | Y | Y | Y | Y |
| Click “Update” Drink button | N | N | N | N | Y | Y | Y | Y | Y | N |
| Click “Save” button | N | Y | Y | Y | Y | N | Y | Y | Y | Y |
| Click ”View” button | N | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Save menu in database | N | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Output |  |
| Display Menu | Y | N | N | N | N | Y | N | N | N | N |

**Table 2.2.1b Session Verification Decision Table**

**2.2.2 Use Case Testing**

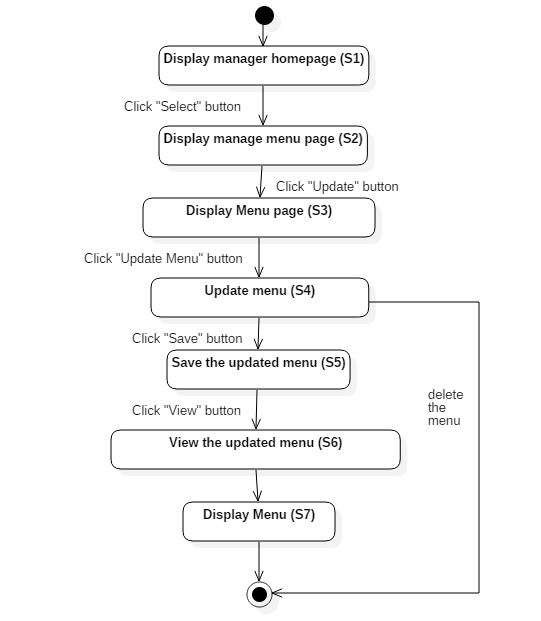
|  |  |  |
| --- | --- | --- |
| Use case ID | UC005 | |
| Use case | F005 Manage Menu | |
| Purpose | To allow manager to update the menu | |
| Actor | Manager | |
| Trigger | User click 'Select' button | |
| Precondition | Manager login to the system | |
| Scenario Name | Step | Action |
| Main Flow | 1 | Manager enter to the manager home |
| 2 | Manager click the button ‘select’ manage menu |
| 3 | Manager enter the manage menu page |
| 4 | Manager may choose to click the ‘update’ button on Set Meals, Add On, Ala Carte and Drinks. |
| 5 | If manager click the ‘update’ button for Set Meals, then it will display the Set Meals page. |
| 6 | Manger needs to click ‘update’ button so it will display the database manage menu. |
| 7 | After manager update the menu, he needs to click the ‘save’ button to save the updated menu |
| 8 | Then he can click the ‘view’ button to view the updated menu in the customer interface |
| 9 | System displays menu |
| 10 | Manager ends session |
| Alternate Flow 1 (Click 'Delete Menu’ button) | 6.1 | Manager delete the menu |
| 6.2 | Back to main flow number 7 until 10 |

**Table 2.2.2a Session Verification Use Case**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Condition ID | Test Condition | Test coverage ID | Test coverage | Test data |
| TCON-02-001 | Main Flow | TCOV-02-001 | Main Flow |  |
| TCON-02-002 | Alternate Flow 1 (Click 'Delete Menu’ button) | TCOV-02-002 | Alternate Flow 1 (Click 'Delete Menu’ button) |  |

**Table 2.1.1.2b Session Verification Use Case Test Conditions & Coverage**

### 2.2.3 State transtition Testing



**Figure 2.2.3 Session Verification State Transition Diagram**

The test condition for state transition testing is as follows:

1. TCON-05-014 Session Verification State Transition

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Input\**  **State** | **Click “Select”**  **(CS)** | **Click “Update”**  **(CU)** | **Click “Update Menu”**  **(CUM)** | **Click “Save Menu”**  **(CSM)** | **Click “View”**  **(CV)** |
| **Display Manager Homepage (S1)** | S2/DMH  TCOV-05-014 | S1/- | S1/- | S1/- | S1/- |
| **Display Manage Menu page (S2)** | S2/- | S3/DMMP TCOV-05-015 | S2/- | S2/- | S2/- |
| **Display Menu page (S3)** | S3/- | S4/DMP TCOV-05-016 | S3/- | S3/- | S3/- |
| **Update Menu (S4)** | S4/- | S4/- | S5/UM TCOV-05-017 | S4/- | S4/- |
| **Save Updated Menu (S5)** | S5/- | S5/- | S5/- | S6/SUM TCOV-05-018 | S5/- |
| **View Menu (S6)** | S6/- | S6/- | S6/- | S6/- | S7/VM TCOV-05-019 |
| **Display Menu (S7)** | S7/- | S7/- | S7/- | S7/- | S7/- |

**Table 2.2.3a Session Verification State Table**

|  |  |
| --- | --- |
| **Test Coverage ID** | **Test Coverage** |
| TCOV-05-014 | S1 to S2 with input CS |
| TCOV-05-015 | S2 to S3 with input CU |
| TCOV-05-016 | S3 to S4 with input CU |
| TCOV-05-017 | S4 to S5 with input CUM |
| TCOV-05-018 | S5 to S6 with input CSM |
| TCOV-05-019 | S6 to S7 with input VM |

**Table 2.2.3b Session Verification State Coverage**

## 2.3 Test Identification

This section should contain information at least as below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Condition ID | Test Condition | Test coverage ID | Test coverage | Test data |
| TCON-05-001 | Main Flow | TCOV-05-001 | Main Flow | TCON-05-001 |
| TCON-05-002 | Alternate Flow 1 (Click 'Delete Menu’ button) | TCOV-05-002 | Alternate Flow 1 (Click 'Delete Menu’ button) | TCON-05-002 |

**Table 2.1.3 Session Verification Test Identification**

## 2.4 Feature Pass/Fail Criteria

This section should contain information at least as below:

Each feature must satisfy the following criteria in order to pass:

i. pass all its test cases

ii. no deadlock

iii. fulfill its requirement

## 2.5 Test Deliverable

The following documents will be generated by the system test group and will be delivered after test completion.

Test documentation:

i. test plan

ii. test design specifications

iii. test case specification

iv. test procedure specification

vi. test logs

vii. test incident report

vii. test summary report