**Web-based Ordering & Ingredient Estimating for Bakery Manufacturer**

Test Plan

By

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**Document History**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Document Name** | **Version** | **Status** | **Date** | **Viewable** | **Reviewer** | **Responsible** |
| **Documents** | | | | | | |
| Web-based Ordering & Ingredient Estimating for Bakery Manufacturer – Test Plan\_V.1.1.docx | V.1.1  - Add Chapter 1  - Add Chapter 2  - Add Chapter 4 | Drafted | 8-10-2014 | NM, PP, PS | NM, PP | NM, PP |
| Web-based Ordering & Ingredient Estimating for Bakery Manufacturer – Test Plan\_V.1.4.docx | V.1.4  - Add Chapter 3  - Adjust Chapter 4 | Drafted | 10-10-2014 | NM, PP, PS | NM, PP | NM, PP |
| Web-based Ordering & Ingredient Estimating for Bakery Manufacturer – Test Plan\_V.1.6.docx | V.1.6  - Adjust Chapter 3  - Adjust Chapter 4  - Fix inappropriate word | Drafted | 11-10-2014 | NM, PP, PS | NM, PP | NM, PP |
| Web-based Ordering & Ingredient Estimating for Bakery Manufacturer – Test Plan\_V.2.0.docx | V.2.0  - Adjust Chapter 4 | Released | 22-10-2014 | NM, PP, PS | NM, PP | NM, PP |

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**Table of contents**

[**Chapter One | Introduction** 4](#_Toc394509606)

[1.1 Objectives 4](#_Toc394509607)

[1.2 Scope 4](#_Toc394509608)

[1.3 Acronyms and Definitions 4](#_Toc394509609)

[1.3.1 Acronyms 4](#_Toc394509610)

[1.3.2 Definitions 4](#_Toc394509611)

[**Chapter Two| Test Plan and Test Procedure** 6](#_Toc394509612)

[2.1 Test Objectives 6](#_Toc394509613)

[2.2 Scope of Testing 6](#_Toc394509614)

[2.3 Test Duration 6](#_Toc394509615)

[2.4 Test Responsibility 6](#_Toc394509616)

[2.5 Result of Testing 6](#_Toc394509617)

[2.6 Test Environment 7](#_Toc394509618)

[2.6.1 Hardware 7](#_Toc394509619)

[**Chapter Three | Unit Testing of Web-based Ordering & Ingredient Estimating for Bakery Manufacturer** 8](#_Toc394509620)

[**Chapter Four | System Testing of Web-based Ordering & Ingredient Estimating for Bakery Manufacturer** 13](#_Toc394509621)

# **Chapter One | Introduction**

## 1.1 Objective

The objectives of the test plan of Web-based Ordering & Ingredient Estimating for Bakery Manufacturer are used to create test plan of the unit testing. It makes sure that the defects are discovered and fixed all case in progress I. The user requirements system is covered by system testing. The unit testing covers all of implemented methods in Web-based Ordering & Ingredient Estimating for Bakery Manufacturer project.

## 1.2 Scope

The test plan describes the unit testing activities to find out the defect in the system and describes the system testing activities for testing a completely integrated system to check that it cover all of user’s requirements.

## 1.3 Acronyms and Definitions

### 1.3.1 Acronyms

SRS Software Requirement Specification

URS User Requirement Specification

SDD Software Design Document

UI User Interface

UTC Unit Test Case

STC System Test Case

### 1.3.2 Definitions

Feature Transformation of input parameters to output parameters based on a specified algorithm. It describes the functionality of the product in the language of the product. Used for requirements analysis, design, coding, testing or maintenance. [IEEE90]

IEEE Institute for Electrical and Electronics Engineers. Biggest global interest group for engineers of different branches and computer scientists. [IEEE90]

Requirement (1) A condition or capability needed by a user to solve a problem or achieve an objective. (2) A condition or capability that must be met or possessed by a system or system component to satisfy a contract, standard, specification, or other formally imposed document. (3) A documented representation of a condition or capability as in definition (1) or (2). [IEEE90]

Specification Precise description of an activity or work product which reserves as basis or input for further activities or work product. A specification can comprise requirements to a product and how they will be solved. Different parts of a specification (e.g., what is to bed one, how it will be done) must not be mixed. [IEEE90]

White box testing A software testing method in which the internal structure/design/implementation of the item being tested is known to the tester. The tester chooses inputs to exercise paths through the code and determines the appropriate outputs. Programming know-how and the implementation knowledge is essential. White box testing is testing beyond the user interface and into the nitty-gritty of a system.

Unit testing A level of the software testing process where individual units/components of a software/system are tested. The purpose is to validate that each unit of the software performs as designed.

System testing A level of the software testing process where a complete, integrated system/software is tested. The purpose of this test is to evaluate the system’s compliance with specified requirements.

Null Define values represent missing unknown data.

# **Chapter Two| Test Plan and Test Procedure**

## 2.1 Test Objectives

The objectives of testing Web-based Ordering & Ingredient Estimating for Bakery Manufacturer project are:

1. The defects are detected.

2. The defects are fixed.

3. Functionalities and user interface covered all requirements that user want.

4. All functionalities and features that are define and feature that are define in progress 2, must be follow in project plan

## 2.2 Scope of Testing

Web-based Ordering & Ingredient Estimating for Bakery Manufacturer will test by press button testing techniques that are unit testing in web application side.

## 2.3 Test Duration

|  |  |
| --- | --- |
| **Progress** | **Date and Duration** |
| **Progress II** | **Start:** 19 October 2014  **End:** 22 October 2014  **Duration:** 4 Days |

## 2.4 Test Responsibility

|  |  |
| --- | --- |
| **Item** | **Responsibility** |
| **Unit Test** | Parinya Panyanak |
| **System Test** | Parinya Panyanak |

## 2.5 Result of Testing

1. Actual Output: The actual output that are performed by each test case.

2. Pass/Fail criteria:

2.1 Pass: The result of actual result is same with expected result.

2.2 Fail: The result of actual result is not same with expected result.

## 2.6 Test Environent

### 2.6.1 Hardware

* Computers

**- Name:** Sony VAIO-VAIO

**Processor:** Intel® Pentium® Processor T4300 (2.10 GHz)

**Memory:** 2.00 GB

**Graphics:** Intel® Graphics Media Accelerator HD

**Operating System:** Window® 7 Home Basic (64-bit)

**- Name:** Sony VAIO

**Processor:** Intel® Core (TM) I3-3120M (2.5 GHz)

**Memory:** 4.00 GB

**Graphics:** Radeon Graphics System

**Operating System:** Window® 8 Based Processor (64-bit)

**2.6.2 Software**

* Microsoft SQL Server Management Studio
* Microsoft Visual Studio Ultimate
* Selenium

# **Chapter Three | Unit Testing of Web-based Ordering & Ingredient Estimating for Bakery Manufacturer**

**Class:** IngredientController

**Unit Test Case-22 (UTC-22):** public ActionResultDetails (int id = 0)

**Description:** This unit test case used to check Details (int id=0) method that can go to the correct page.

**Test Cases:**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Description** | **Input** | **Expected output** |
| 1 | Return to an ingredient details page and valid ingredient id | {id == 2} | return View ("Details",  {Name == “Raisin”, Size == 50, ingreID ==2, Category == Raisin, Picture == \\UploadImages\\210733446\_10202588282381156\_594892420\_n.jpg}); |
| 2 | Return to an ingredient details page and Invalid ingredient id | {id == 500} | return HttpNotFound (); |

**Class:** IngredientController

**Unit Test Case-23 (UTC-23):** public ActionResult Create ()

**Description:** This unit test case used to check Create () method that can return to the correct page.

**Test Cases:**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Description** | **input** | **Expected output** |
| 1 | Return to create ingredient information page of user layout | - | return View ("Create"); |

**Class:** IngredientController

**Unit Test Case-24 (UTC-24):** public ActionResultCreate(Ingredient ingre)

**Description:** This unit test case used to check Create (Ingredient ingre) method that can create new ingredient information to the database.

**Test Cases:**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Description** | **Input** | **Expected output** |
| 1 | Test with input correct information | {Name ==“Raisin”, Size == 1, Category == Raisin ,  Picture \\UploadImages\\210733446\_10202588282381156\_594892420\_n.jpg } | return RedirectToAction ("Index"); |
| 2 | Test with input incorrect information | {Name ==“Raisin”, Size == xxx, Category == Raisin ,  Picture \\UploadImages\\210733446\_10202588282381156\_594892420\_n.jpg } | {Name ==“Raisin”, Size == xxx, Category == Raisin ,  Picture \\UploadImages\\210733446\_10202588282381156\_594892420\_n.jpg } |

**Class:** IngredientController

**Unit Test Case-25 (UTC-25):** public ActionResultEdit (int id = 0)

**Description:** This unit test case used to check Edit (int id = 0) method that can return to the correct page.

**Test Cases:**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Description** | **Input** | **Expected output** |
| 1 | Return to edit ingredient information page that is selected | {id == 2} | return View ("Edit",  {Name == “Raisin”, Size == 1, ingreID ==2, Category == Raisin, Picture == \\UploadImages\\210733446\_10202588282381156\_594892420\_n.jpg}); |
| 2 | Return to edit ingredient information page that is not selected | {id == 500} | return HttpNotFound (); |

**Class:** IngredientController

**Unit Test Case-26 (UTC-26):** public ActionResultEdit (Ingredient ingre)

**Description:** This unit test case used to check Edit (Ingredient ingre) method that can update ingredient information to the database.

**Test Cases:**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Description** | **Input** | **Expected output** |
| 1 | Test with input correct information | {Name ==“Raisin”, Size == 20, Category == Raisin, Picture \\UploadImages\\210733446\_10202588282381156\_594892420\_n.jpg } | return RedirectToAction ("Index", "Ingredient", {Name ==“Raisin”, Size == 20, Category == Raisin, Picture \\UploadImages\\210733446\_10202588282381156\_594892420\_n.jpg } |
| 2 | Test with input incorrect information | {Name ==“Raisin”, Size == xxx, Category == Raisin , Picture \\UploadImages\\210733446\_10202588282381156\_594892420\_n.jpg } | return View {Name ==“Raisin”, Size == xxx, Category == Raisin , Picture \\UploadImages\\210733446\_10202588282381156\_594892420\_n.jpg }); |

**Class:** IngredientController

**Unit Test Case-27 (UTC-27):** public ActionResultDelete (int id = 0)

**Description:** This unit test case used to check Delete (int id = 0) method that can return to the correct page.

**Test Cases:**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Description** | **Input** | **Expected output** |
| 1 | Return to delete ingredient page that is selected | {id == 2} | return View ("Delete",  {Name ==“Raisin”, Size == 1, Category == Raisin, Picture \\UploadImages\\210733446\_10202588282381156\_594892420\_n.jpg }); |
| 2 | Return to delete ingredient page that is not selected | {id == 500} | return HttpNotFound (); |

**Class:** IngredientController

**Unit Test Case-28 (UTC-28):** public ActionResultDeleteConfirmed (int id)

**Description:** This unit test case used to check procedure of DeleteConfirmed (int id) method that can delete ingredient information from the database.

**Test Cases:**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Description** | **Input** | **Expected output** |
| 1 | Delete with valid ingredient id | {id == 2} | return View ("Index"); |

**Class:** HomeController

**Unit Test Case-29(UTC-29):** public SendCart (Order ord, string submit)

**Description:** This case used to check SendCart (Order ord, string submit) method that can add order to datatabase.

**Test Cases:**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Description** | **Input** | **Expected output** |
| 1 | Return to history page and add order to database | {id==22,orderDate,Duedate== {10/28/2014 12:00:00 AM},orderStatus==0,user\_id==5} | return View ("History",  {id==22,orderDate,Duedate== {10/28/2014 12:00:00 AM},orderStatus==0,user\_id==5}  ); |
| 2 | Return to product page of Homecontroller | - | return View("Product", "Home"); |

**Class:** HomeController

**Unit Test Case-30(UTC-30):** public ActionResult Product ()

**Description:** This case used to check Product () method that can return correct page.

**Test Cases:**

|  |  |  |
| --- | --- | --- |
| **No.** | **Description** | **Expected output** |
| 1 | Return to product page and load list of product | return View ("Product", List of product); |

**Class:** HomeController

**Unit Test Case-31(UTC-31):** public ActionResult Product (IList<Product> products)

**Description:** This case used to check Product () method that can save product to session and send to cart page.

**Test Cases:**

|  |  |  |
| --- | --- | --- |
| **No.** | **Description** | **Expected output** |
| 1 | Return to cart page and show and show list of product in session | Return RedirectToAction("Cart", "Home"); |

**Class:** HomeController

**Unit Test Case-32(UTC-32):** public ActionResult History ()

**Description:** This case used to check History() method that can return correct page.

**Test Cases:**

|  |  |  |
| --- | --- | --- |
| **No.** | **Description** | **Expected output** |
| 1 | Return to History page and show order history. | return View("History", {List of order of user}); |

**Class:** OrderController

**Unit Test Case-33(UTC-33):** public ActionResult Index ()

**Description:** This case used to check Index () method that can return correct page.

**Test Cases:**

|  |  |  |
| --- | --- | --- |
| **No.** | **Description** | **Expected output** |
| 1 | Return to Index page and show list of order . | return View ("Index",List of order); |

# 

# **Chapter Four | System Testing of Web-based Ordering & Ingredient Estimating for Bakery Manufacturer**

**System Test Case-11 (STC-11):** Wholesaler can order bakery products from the product list.

**Description:** This test case is a system testing for URS-07. Wholesaler can order bakery products from the product list. An order can select by input bakery product name, bakery product quantity and delivery date.

**Prerequisite:** User must login with wholesaler account.

**Test Script:** 1. On left menu bar of wholesaler main layout page, wholesaler clicks “Product” link.

2. Wholesaler inputs new order information into the order product form.

3. Wholesaler clicks “Submit” button for add bakery product into the list.

4. Wholesaler clicks “Send Order” button.

**Test Cases:**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Description** | **Input** | **Expected output** |
| 1 | Test with input all correctly information to the order product form and order information can send into database. | **Bakery product:** “Difuku”  **Bakery product quantity:** 340  **Delivery Date:** 13 October 2014 | Send new order information success and keep into the database. After that the system will redirect to details pages. |
| 2 | Test with do not inputs bakery product quantity to the order product form. | **Bakery product:** “Difuku”  **Bakery product quantity: Delivery Date:** 13 October 2014 | Send new order information unsuccessful and not keep into the database. After that the system give wholesaler input information again. |
| 3 | Test with do not inputs delivery date to the order product form. | **Bakery product:** “Difuku”  **Bakery product quantity:** 340  **Delivery Date:** | Display error message “The Delivery Date field is required.” After that the system give wholesaler input information again. |

**System Test Case-12 (STC-12):** Wholesaler can manage own order information by edit bakery product name, bakery product quantity and delivery date in the order.

**Description:** This test case is a system testing for URS-08. Wholesaler can manage own order information; bakery product name, bakery product quantity and delivery date in the order page.

**Prerequisite:** The wholesaler must has login to the system and current order information has been created.

**Test Script:** 1. On left menu bar of wholesaler main layout page, wholesaler clicks “History” link.

2. Wholesaler selects one label from all order list to edit order information.

3. Wholesaler inputs update order information into the order product form.

4. Wholesaler clicks “Submit” button for add bakery product into the list.

5. Wholesaler clicks “Send Order” button.

**Test Cases:**

**Wholesaler updates order information.**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Description** | **Input** | **Expected output** |
| 1 | Test with input all correctly information to the order product form and order information can send into database. | **Bakery product quantity:** 340  **Delivery Date:** 13 October 2014 | Send new order information success and keep into the database. After that the system will redirect to details pages. |
| 2 | Test with do not inputs bakery product quantity to the order product form. | **Bakery product:** “Difuku”  **Bakery product quantity: Delivery Date:** 13 October 2014 | Send new order information unsuccessful and not keep into the database. After that the system give wholesaler input information again. |
| 3 | Test with do not inputs delivery date to the order product form. | **Bakery product:** “Difuku”  **Bakery product quantity:** 340  **Delivery Date:** | Display error message “The Delivery Date field is required.” After that the system give wholesaler input information again. |

**System Test Case-13 (STC-13):** Wholesaler can manage own order information by cancel all bakery product information from the system.

**Description:** This test case is a system testing for URS-08. Wholesaler can manage own order information; bakery product name, bakery product quantity and delivery date in the order page.

**Prerequisite:** The wholesaler must has login to the system and current order information has been created.

**Test Script:** 1. On left menu bar of wholesaler main layout page, wholesaler clicks “History” link.

2. Wholesaler selects one label from all order list to cancel order.

3. Wholesaler clicks “Cancel” link for remove own order.

4. Wholesaler clicks “Delete” button for clear order information from the database.

**Test Cases:**

**Wholesaler cancel order information.**

|  |  |  |
| --- | --- | --- |
| **No.** | **Description** | **Expected output** |
| 1 | Test with order information can remove from the database and return to history page. | Not found order information remain in the system and the system redirect to history page. |
| 2 | Test with cancel order information before midday and order information can remove from the databse. | Not found order information remain in the system and the system redirect to history page. |
| 3 | Test with cancel order information after midday and the system display conditional message to the wholesaler. | Display conditional message “After midday, you cannot cancel the order because the bakery product list are manufacture stage.” After that the system give wholesaler accept all condition. |

**System Test Case-14 (STC-14):** Wholesaler can view their current order’s information.

**Description:** This test case is a system testing for URS-09. Wholesaler can view their current order’s information; all list of bakery product name, bakery product quantity, price of each bakery product, the total price and discount of the order.

**Prerequisite:** Wholesaler must login first.

**Test Script:** 1. On left menu bar of wholesaler main layout page, wholesaler clicks “History” link.

2. Wholesaler selects one label from all order list to view order information.

**Test Cases:**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Description** | **Input** | **Expected Result** |
| 1 | Test with order list can retrieve order information from the system and return to order details page. | - | Display order information from the system successful. And the system redirect to order details page. |

**System Test Case-15 (STC-15):** Admin can view current order’s information of all members by search keyword.

**Description:** This test case is a system testing for URS-10. Admin can view current order’s information of all members by search keyword of wholesaler name, bakery product ID, bakery product name and delivery date in the database.

**Prerequisite:** User must login with admin account.

**Test Script:** 1. On left menu bar of admin main layout page, admin clicks “Order Management” link.

2. Admin inputs keywords into the search box.

3. Admin selects one label from all order list to view order information.

**Test Cases:**

**Admin search order information.**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Description** | **Input** | **Expected Result** |
| 1 | Test with valid information in the database | “Nontra” | Found information and display order information are related. |
| 2 | Test with invalid information in the database | “xxx” | Not found order information and display the empty page. |

**System Test Case-16 (STC-16):** Admin can mark progressive of order status while the order in the preparation stage.

**Description:** This test case is a system testing for URS-11. Admin can mark progressive of order status while the order in the preparation stage.

**Prerequisite:** User must login with admin account.

**Test Script:**1.On left menu bar of admin main layout page, admin clicks “Order Management” link.

2. Admin clicks “Edit” link on the order.

3. Admin selects “Available” status on drop down list.

4. To confirms, admin clicks “Save” button again.

**Test Cases:**

|  |  |  |
| --- | --- | --- |
| **No.** | **Description** | **Expected output** |
| 1 | Test with order status can marked and display in the system. | Order status has been marked and keeps in the database. After that the system will display update status to the web application. |

**System Test Case-17 (STC-17):** Wholesaler can view their progress order status while the order in the preparation stage.

**Description:** This test case is a system testing for URS-12. Wholesaler can view their progress order status while the order in the preparation stage.

**Prerequisite:** User must login with wholesaler account.

**Test Script:** 1. On left menu bar of wholesaler main layout page, wholesaler clicks “History” link.

2. Wholesaler views own order status.

**Test Cases:**

|  |  |  |
| --- | --- | --- |
| **No.** | **Description** | **Expected output** |
| 1 | Test with clicks history link on the menu bar. | Display all order list on history page. |
| 2 | Test with order status can display in the system. | Order status has been display to the web application. |

**System Test Case-18 (STC-18):** Admin can manage all ingredient information by create new ingredient information.

**Description:** This test case is a system testing for URS-13. Admin can manage all ingredient information by creating ingredient ID, ingredient name, category and ingredient picture in the database.

**Prerequisite:** User must login with admin account.

**Test Script:** 1. On left menu bar of admin main layout page, admin clicks “Ingredient Management” link.

2. Admin clicks “Create new” link.

3. Admin inputs new ingredient information to the ingredient information form.

4. Admin clicks “create” button to save product.

**Test Cases:**

**Admin create ingredient information.**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Description** | **Input** | **Expected output** |
| 1 | Test with input all correctly information to the ingredient form and new ingredient information can add into database. | **Ingredient Name:** “Garlic”  **Ingredient Id:** “56789”  **Category:** “Bread”  **Picture**  http://upload.wikimedia.org/wikipedia/commons/thumb/f/fb/Allium_sativum._Restra_de_allos_de_Oroso-_Galiza.jpg/1024px-Allium_sativum._Restra_de_allos_de_Oroso-_Galiza.jpg  Garlic.jpg | Add ingredient information success and keep in the database. After that the system will redirect to Ingredient management page. |
| 2 | Test with do not inputs name information to the bakery product form. | **Ingredient Name:** “ ”  **Ingredient Id:** “56789”  **Category:** “Bread”  **Picture:**  http://upload.wikimedia.org/wikipedia/commons/thumb/f/fb/Allium_sativum._Restra_de_allos_de_Oroso-_Galiza.jpg/1024px-Allium_sativum._Restra_de_allos_de_Oroso-_Galiza.jpg  Garlic.jpg | Display error message “Ingredient Name is required.” After that the system give admin input information again. |

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Description** | **Input** | **Expected output** |
| 3 | Test with do not inputs ingredient ID information to the ingredient form. | **Ingredient Name:** “Garlic”  **Ingredient Id:**  **Category:** “Spices”  **Picture:**  http://upload.wikimedia.org/wikipedia/commons/thumb/f/fb/Allium_sativum._Restra_de_allos_de_Oroso-_Galiza.jpg/1024px-Allium_sativum._Restra_de_allos_de_Oroso-_Galiza.jpg  Garlic.jpg | Display error message “Ingredient ID is required.” After that the system give admin input information again. |
| 4 | Test with do not inputs category information to the ingredient form. | **Ingredient Name:** “Garlic”  **Ingredient Id:** “56789”  **Category:** “ ”  **Picture:**  http://upload.wikimedia.org/wikipedia/commons/thumb/f/fb/Allium_sativum._Restra_de_allos_de_Oroso-_Galiza.jpg/1024px-Allium_sativum._Restra_de_allos_de_Oroso-_Galiza.jpg  Garlic.jpg | Display error message “Category is required.” After that the system give admin input information again. |
| 5 | Test with do not inputs picture information to the ingredient form. | **Ingredient Name:** “Garlic”  **Ingredient Id:** “56789”  **Category:** “Spices”  **Picture:** | Display error message “Ingredient Picture is required.” After that the system give admin input information again. |
| 6 | Test with input invalid information type. To the ingredient form. | **Ingredient Name:** “Garlic”  **Ingredient Id: hgdu**  **Category:** “Spices”  **Picture:**  http://upload.wikimedia.org/wikipedia/commons/thumb/f/fb/Allium_sativum._Restra_de_allos_de_Oroso-_Galiza.jpg/1024px-Allium_sativum._Restra_de_allos_de_Oroso-_Galiza.jpg  Garlic.jpg | Display error message “Please input with number only.” After that the system give admin input information again. |

**System Test Case-19 (STC-19):** Admin can manage all ingredient information by edit the existing ingredient information.

**Description:** This test case is a system testing for URS-13. Admin can manage all ingredient information by editing ingredient ID, ingredient name, category and ingredient picture in the database.

**Prerequisite:** User must login with admin account.

**Test Script:** 1. On left menu bar of admin main layout page, admin clicks “Ingredient Management” link.

2. Admin clicks “Edit” link.

3. Admin inputs update ingredient information to the ingredient information form.

4. Admin clicks “Save” button to update ingredient information to the system.

**Test Cases:**

**Admin search bakery product information.**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Description** | **Input** | **Expected Result** |
| 1 | Test with input valid information in the database | “Garlic” | Found information and display ingredient information. |
| 2 | Test with input invalid information in the database | “ld” | Not found ingredient information and display empty page. |

**Admin updates bakery product information.**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Description** | **Input** | **Expected output** |
| 1 | Test with input all correctly information to the ingredient form and new ingredient information can add into database. | **Ingredient Name:** “Garlic”  **Ingredient Id:** “56789”  **Category:** “Bread”  **Picture**  http://upload.wikimedia.org/wikipedia/commons/thumb/f/fb/Allium_sativum._Restra_de_allos_de_Oroso-_Galiza.jpg/1024px-Allium_sativum._Restra_de_allos_de_Oroso-_Galiza.jpg  Garlic.jpg | Add ingredient information success and keep in the database. After that the system will redirect to Ingredient management page. |

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| --- | --- | --- | --- |
| **No.** | **Description** | **Input** | **Expected output** |
| 2 | Test with do not inputs name information to the bakery product form. | **Ingredient Name:** “ ”  **Ingredient Id:** “56789”  **Category:** “Bread”  **Picture**  http://upload.wikimedia.org/wikipedia/commons/thumb/f/fb/Allium_sativum._Restra_de_allos_de_Oroso-_Galiza.jpg/1024px-Allium_sativum._Restra_de_allos_de_Oroso-_Galiza.jpg  Garlic.jpg | Display error message “Ingredient Name is required.” After that the system give admin input information again. |
| 3 | Test with do not inputs ingredient ID information to the ingredient form. | **Ingredient Name:** “Garlic”  **Ingredient Id:**  **Category:** “Spices”  **Picture:**  http://upload.wikimedia.org/wikipedia/commons/thumb/f/fb/Allium_sativum._Restra_de_allos_de_Oroso-_Galiza.jpg/1024px-Allium_sativum._Restra_de_allos_de_Oroso-_Galiza.jpg  Garlic.jpg | Display error message “Ingredient ID is required.” After that the system give admin input information again. |
| 4 | Test with do not inputs category information to the ingredient form. | **Ingredient Name:** “Garlic”  **Ingredient Id:** “56789”  **Category:** “ ”  **Picture:**  http://upload.wikimedia.org/wikipedia/commons/thumb/f/fb/Allium_sativum._Restra_de_allos_de_Oroso-_Galiza.jpg/1024px-Allium_sativum._Restra_de_allos_de_Oroso-_Galiza.jpg  Garlic.jpg | Display error message “Category is required.” After that the system give admin input information again. |
| 5 | Test with do not inputs picture information to the ingredient form. | **Ingredient Name:** “Garlic”  **Ingredient Id:** “56789”  **Category:** “Spices”  **Picture:** | Display error message “Ingredient Picture is required.” After that the system give admin input information again. |
| 6 | Test with input invalid information type. To the ingredient form. | **Ingredient Name:** “Garlic”  **Ingredient Id: hgdu**  **Category:** “Spices”  **Picture:**  http://upload.wikimedia.org/wikipedia/commons/thumb/f/fb/Allium_sativum._Restra_de_allos_de_Oroso-_Galiza.jpg/1024px-Allium_sativum._Restra_de_allos_de_Oroso-_Galiza.jpg  Garlic.jpg | Display error message “Please input with number only.” After that the system give admin input information again. |

**System Test Case-20 (STC-20):** Admin can manage all ingredient information by delete the existing ingredient information.

**Description:** This test case is a system testing for URS-13. Admin can manage all ingredient information by deleting ingredient ID, ingredient name, category and ingredient picture in the database.

**Prerequisite:** User must login with admin account.

**Test Script:** 1. On left menu bar of admin main layout page, admin clicks “Ingredient Management” link.

2. Admin clicks “Delete” link.

3. Admin inputs update ingredient information to the ingredient information form.

4. Admin clicks “Save” button to delete ingredient information from the system.

**Test Cases:**

**Admin delete ingredient information**

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| --- | --- | --- | --- |
| **No.** | **Description** | **Input** | **Expected Result** |
| 1 | Test with ingredient information can delete from the database. | - | Ingredient information has been deleted and keeps update in the database. After that the system will redirect to the ingredient management page. |

**System Test Case-21 (STC-21):** Admin can view all ingredient information by search keywords of ingredient information.

**Description:** This test case is a system testing for URS-14. Admin can view all ingredient information by search keyword of ingredient ID, ingredient name category and category in the database.

**Prerequisite:** The admin must has login to the system and the ingredient information has been created in the system.

**Test Script:** 1. On left menu bar of admin main layout page, admin clicks “Ingredient Management” link.

2. Admin inputs a keywords in a search box.

3. Admin clicks “Search” button to find ingredient information

4. Admin clicks “Details” button to view ingredient information from the ingredient list

**Test Cases:**

**Admin search ingredient information.**

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| --- | --- | --- | --- |
| **No.** | **Description** | **Input** | **Expected output** |
| 1 | Test with clicks ingredient management link. | - | Display all ingredient list on ingredient management page. |
| 2 | Test with search valid ingredient information in database. | **Keyword:** “Garlic” | Found information and display ingredient information that matched with keyword. |
| 3 | Test with search invalid ingredient information in database. | **Keyword:** “l[[[k” | Not found information of ingredient information and display empty page. |