# Chapter 5 – Testing

## 5.1 Introduction

The testing is performing on system features to check if actual results is as expected result. It also helps to ensure that the system is free from errors. Testing allows us to detect errors, bug and missing requirement that are disturbing end user. It can be done manually or by using different automated tool. Software with bugs can cause huge consequence such as human loss, etc. There are three types of testing and they are: - functional testing, Non-functional testing and maintenance.

## 5.2 Types of Testing

There are different types of testing and are good at its own. Usability testing, Integration testing, Regression testing, Acceptance testing, Unit testing, White box testing, Black box testing, etc. are different type of testing.

I prefer Unit testing and black box testing.

### 5.2.1 Unit Testing

A software testing method by which individual units/components of source code are being tested that verifies the correctness of test code is known as Unit testing (Rouse, TechTarget, 2017).

It helps to ensure each unit of the software performs are as expected. Unit testing helps to increase confidence while changing code and we can detect any defect occur due to change.

Unit testing can be implement manually or automatically but are often done automatically.

### 5.2.2. Black Box Testing

A behavioral testing method which is performed to test without knowing internal structure of code/program is known as Black box testing. Black box testing only focus on the inputs and outputs ignoring the internal structure of the system (folks, 2014).

It helps to check whether functionality of the system is working properly or not and finds out the defect in the functionality/behavior. It helps to detect the defect early during development phase.

It is performing by end user by checking all the function of system are working properly or not by comparing output result and expected output.

**Test Name: User Registration and Login**

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| **Test ID** | **Test Scenario** | **Test Data** | **Expected Result** | **Actual Result** | **Result** |
| T1 | Registration Input Validation | First Name, Last Name, Email, Telephone, Address, City, Country, Region, Password, Confirm Password | If any fields are left empty then error message must appear | Error Message Appeared | Pass |
| T2 | User Registration | First Name, Last Name, Email, Telephone, Address, City, Country, Region, Password, Confirm Password | User must be register successfully | User registered successfully | Pass |
| T3 | Email and Password Validation | Email and Password | If email or password is incorrect or invalid error message should appear | Error Message Appeared | Pass |
| T4 | User Login | Email and Password | User should authenticate and redirected to their dashboard | User logged in successfully and redirected to their respective dashboard | Pass |

**Test Name: User Logout**

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| **Test ID** | **Test Scenario** | **Test Data** | **Expected Result** | **Actual Result** | **Result** |
| T5 | If user logs out of the system | Email and Password | User must be logged out of the system | Logged out successfully out of the system | Pass |

**Test Name: Admin Login and Logout**

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| **Test ID** | **Test Scenario** | **Test Data** | **Expected Result** | **Actual Result** | **Result** |
| T6 | Admin Username and Password Validation | Username and Password | If username or password fields are left empty error message must be displayed | Error Message Appeared | Pass |
| T7 | Admin Login | Username and Password | Admin should authenticate and redirected to admin’s dashboard | Admin logged in successfully and redirected to admin’s dashboard | Pass |

**Test Name: Add Admin and Add, Update, Select and Delete product by admin**

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| --- | --- | --- | --- | --- | --- |
| **Test ID** | **Test Scenario** | **Test Data** | **Expected Result** | **Actual Result** | **Result** |
| T8 | Add Admin Validation | Username, Password, Email, Contact Number | If any fields are left empty then error message must appear | Error Message Appeared | Pass |
| T9 | Register Admin | Username, Password, Email, Contact Number | Admin must be register successfully | Admin registered successfully | Pass |
| T10 | View Registered Admin and Delete | Delete selected admin Action | Selected Admin must be deleted | Selected admin is deleted successfully | Pass |
| T11 | Add Product | Product Name, Product Original Price, Product Discounted Price, Product Description, Product Image | All fields must be filled and should be added successfully | Product is added successfully | Pass |
| T12 | Product Update | Product Name, Product Original Price, Product Discounted Price, Product Description, Product Image | Any changes in the fields must be updated in the database | Product is updated successfully | Pass |
| T13 | View added Products | Product Name, Product Original Price, Product Discounted Price, Product Description, Product Image | All the details of product must be viewed | All the product is viewed successfully | Pass |

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| T14 | Delete Product | Product Name, Product Original Price, Product Discounted Price, Product Description, Product Image | Data of Product must be deleted | Product Deleted Successfully | Pass |

**Test Name: View, Update and Delete Users, View and Delete Contact and Subscribed Emails by admin**

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| **Test ID** | **Test Scenario** | **Test Data** | **Expected Result** | **Actual Result** | **Result** |
| T15 | View Register Users | First Name, Last Name, Email, Address, Telephone, City, Gender | Should display all registered users | All registered users displayed | Pass |
| T16 | Register User Delete | First Name, Last Name, Email, Address, Telephone, City, Gender | Selected user must be deleted with warning | Registered user deleted with warning | Pass |
| T17 | Update User | First Name, Last Name, Email, Address, Telephone, City, Gender, Country, Region | All fields must be filled and should be added successfully | User Updated Successfully | Pass |
| T18 | View Contact | Name, Email, Subject, Message | Should display all contacts | All contact displayed | Pass |
| T19 | Delete Contact Information | Name, Email, Subject, Message | Should delete selected contact information | Contact information successfully deleted | Pass |
| T20 | View Subscribed Email | Email | Should display all subscribed email | All subscribed email displayed | Pass |
| T21 | Delete Subscribed Email | Email | Should delete selected or required subscribed email address | Selected email deleted successfully | Pass |

**Test Name: Contact and Subscribe**

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| --- | --- | --- | --- | --- | --- |
| **Test ID** | **Test Scenario** | **Test Data** | **Expected Result** | **Actual Result** | **Result** |
| T22 | Contact Validation | Name, Email, Subject, Message | If any fields are left empty then error message must appear | Error Message Appeared | Pass |
| T23 | Contact Admin | Name, Email, Subject, Message | Message must be send successfully | Message Sent Successfully | Pass |
| T24 | Subscribe Validation | Email Address | Error message is displayed if field is empty | Error Message displayed | Pass |
| T25 | Subscribe Newsletter | Email Address | Email must be successfully send | Email sent successfully | Pass |

**Test Name: Update Profile and Change Password**

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| **Test ID** | **Test Scenario** | **Test Data** | **Expected Result** | **Actual Result** | **Result** |
| T26 | Update Profile Fields Validation | First name, Last name, Email Address, Telephone, Address, Gender, City, Country, Region | If fields are empty error message should be displayed | Profile Updated | Failed |
| T27 | Update Profile | First name, Last name, Email Address, Telephone, Address, Gender, City, Country, Region | Profile should be updated successfully | Profile updated successfully | Pass |
| T28 | Change Password fields validation | Old Password, New Password, Re Password | If old password is correct and new password matches re password then only password can be changed | Error Message displayed | Pass |
| T29 | Change Password | Old Password, New Password, Re Password | Password Should be changed successfully | Password Changed Successfully | Pass |

**Test Name: Update Profile and Change Password**

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| --- | --- | --- | --- | --- | --- |
| **Test ID** | **Test Scenario** | **Test Data** | **Expected Result** | **Actual Result** | **Result** |
| T30 | Forum Question Validation | Question, Date, Name | If field is empty error message should be displayed | Error message displayed | Pass |
| T31 | Forum Question | Question, Date, Name | Question should be posted | Question is successfully posted | Pass |
| T32 | Display Questions | Question, Date, Name | If any question is asked by any user then question should be displayed | Question is displayed successfully | Pass |
| T33 | Post Comment | Comment, Date, Name | Comment should be posted if no any field is left empty | Comment Posted Successfully | Pass |
| T35 | Show comment on respective post | Comment, Date, Name | Comment should be displayed on the respective question | Comment is displayed on respective question | Pass |

**Test Name: Product Searching and Ordering**

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| --- | --- | --- | --- | --- | --- |
| **Test ID** | **Test Scenario** | **Test Data** | **Expected Result** | **Actual Result** | **Result** |
| T36 | Search Product | Write Keywords | If Matching keywords are found, product is displayed | Product Displayed | Pass |
| T37 | Select Product | Details and Buy | Should redirect to details and order now page | Successfully Redirected | Pass |
| T38 | Order Product | Product Details | Should redirect to confirm order with small invoice or bill | Successfully Redirected | Pass |