

# **AUTOMATED TESTING TOOLS**

## **EtaCo Project**

### **Test Plan**

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# 1. Introduction

In our Website Project for **EtaCO**, here is the **Test Plan Document** which describes the test strategy, scope of testing, objectives, schedule, estimation, deliverables and resources required for testing. Let's have a look at each of the fields that need to be created in a Test Plan Document.

1.1 Scope : It defines which functional requirements, non-functional requirements and features of the software/website or product will be considered for testing.

1.1.1 In Scope : It includes the functional requirements and the features of the website **EtaCO** that will be considered for testing. So, all the modules that are mentioned in the **SRS** (Software Requirements Specifications) document are considered for testing.

S.NO	Module Name
1	Login
2	Logout
3	Registration
4	Search
5	Create Invoice
6	Edit/Delete Invoice
7	Add Cashier
8	Add Product
9	View Cashier Details
10	View Products
11	Order Product
12	Inventory

1.1.2 Out of Scope : It includes the following things :

- The website should be secure
- The website should be easy to maintain.
- The website should have a good response time.

1.2. Quality Objective : The objective of this test plan is to verify that whether the website **EtaCO** is meeting the functional requirements or not.

1.3. Roles and Responsibilities : There are different roles and responsibilities which are involved during testing of the website **EtaCO** which are as follow :

Number	Member/Role	Tasks
1	Test Manager	Manage the whole project. Define project directions. Acquire appropriate resources.
2	Software Quality Assurance Members	Check whether the testing process is meeting the specified requirements or not.
3	Test Administrator	Builds up test environment. Ensures test environment and assets are managed and maintained. Support tester to use the test environment for test execution.
4	Test Case Designer/Test Designer	Develops and designs the test cases.
5	Test Case Executor/Tester	Execute the test cases and report the bugs if any.

**2. Test Methodology :** In this phase, we have to define the Test Methodology( like Waterfall Model, Agile, etc.) which will be used for implementing testing within the project.It covers the following fields:

2.1. Test Levels : In this website Project **EtaCo**, following levels of testing should be performed :

- Unit Testing : In this, each of the individual module of website is tested.
- Integration Testing : In this, individual modules of website are combined and then tested as a group.
- System Testing: It is conducted on a complete and integrated system to evaluate the website's compliance with its specified requirements.

2.2 Suspension Criteria and Resumption Requirements :

If the team members report that there are 30% of test cases failed, then testing activities will be suspended until the development team fixes all the failed cases/bugs which are found during execution of the failed test cases.

2.3. Test Completeness : It defines the criteria that ensures that the testing process is complete.Following criteria can be used for ensuring the Test Completeness :

- When the Software Quality Assurance Members and Developers agree that testing is complete, the website is stable and the website meets specified requirements.
- All Manual & Automated Test cases have been executed.
- All bugs are fixed.

2.4. Project task and estimation and schedule :

In the Test Estimation phase, we break out the whole project into small tasks and after allocating each task to each of the team members, we tend to estimate the effort for each of the task by covering the estimation for the **size** of each task, estimation for the **duration** of each task and the **cost** estimation for each task as below :

## Functional Point Analysis for the task “Create the Test Specification” :

For estimating the effort of the task “**Create the Test Specification**”, we have to perform the **Functional Point Analysis** in the following method :

- 1) **Estimate size for the task :** First of all, we calculate the size of the task “**Create the Test Specification**” and for that purpose, we divide the functional points into three different categories, i.e, **Complex, Medium and Simple**. Let’s have a look at all the functional requirements and modules within the website **EtaCO**, along with their complexities.

### Categories of Functional Points and their weightage

Group	Weightage
Complex	5
Medium	3
Simple	1

**All the functional requirements and modules within the website  
EtaCO, along with their complexities :**

Number	Module Name	Type Of Complexity	Weightage
1	Login	Simple	1
2	Logout	Simple	1
3	Registration	Simple	1
4	Search	Medium	3
5	Create Invoice	Medium	3
6	Edit/Delete Invoice	Simple	1
7	Add Cashier	Medium	3
8	Add Product	Medium	3
9	View Cashier Details	Medium	3
10	View Products	Complex	5
11	Order Product	Simple	1
12	Inventory	Medium	3

**2. Estimate duration for the task:** Duration means how much time is needed to finish the task. Duration for the task can be estimated by the following method :

**Total Estimated Effort = Total Function Points \* Estimate defined per function point**

**Total Estimated Effort :** The effort performed or estimated to completely test all the functions/modules of the website.

**Estimate defined per Function Point :** The average effort to complete one function point. This value depends on the productivity of the member who will perform the task.

Our Project Team has **Estimate Defined per Function Point** of 4 hours/points.

Group	Weightage	#Function Points	Total
Complex	5	1	15
Medium	3	6	18
Simple	1	5	5
Function Total Points			38
Estimate defined per point			4
Total Estimated Effort (Total Function Points * Estimate defined per function point)			38*4=152 (person-hours)

**The Total Function Points can be calculated from the table given above:**

Task	Members	Estimate Effort
<b>Create the test specification.</b>	Test Case Designer/Test Designer	152 person-hours
<b>Perform test execution.</b>	Test Case Executor/Tester, Test Administrator	60 person-hours
<b>Test report.</b>	Test Case Executor/Tester	8 person-hours
<b>Test delivery.</b>		13 person-hours
<b>Total</b>		233 person-hours

### Estimated Effort for each task

**3. Estimate Cost for the task:** The average salary of our team is **\$14** per hour and the estimated time required for “Create the Test Specification” task is **152 hours**. So, accordingly, the cost for this task is  $14 \times 152 = \$2128$

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Task	Members	Estimate Effort	Estimate Cost
<b>Create the test specification.</b>	Test Case Designer/Test Designer	152 person-hours	\$2128
<b>Perform test execution.</b>	Test Case Executor/Tester, Test Administrator	60 person-hours	\$840
<b>Test report.</b>	Test Case Executor/Tester	8 person-hours	\$112
<b>Test delivery.</b>		13 person-hours	\$182
<b>Total</b>		233 person-hours	\$3262

### Estimate Effort and Cost for each task:



### **3. Test Deliverables :** Test deliverables are provided as below :

#### **3.1 Before Testing Phase :**

- Test Plans Document.
- Test Design Specifications.
- Test Cases Documents.

#### **3.2 During Testing :**

- Test Tool Simulators.
- Test Data.
- Test Traceability Matrix - Error Logs and Execution Logs.

#### **3.3 After the Completion of Testing Cycle :**

- Test Results/Reports.
- Defect/Bug Report.
- Installation/Test Procedures Guidelines.
- Release Notes.

### **4. Resource and Environment Needs :**

#### **4.1 Testing Tools :**

Number	Resources	Description
1	Server	Database server is required which will install MySQL server Web server which installs Apache Server.
2	Test tool	Develop a Test tool which can auto generate the test result to the predefined form and automated test execution.
3	Network	Setup a LAN Gigabit and 1 internet line with the speed at least 10 Mb/s.
4	Computer	At least 4 computer should run Windows 8, Ram 2GB, CPU 3.4GHZ.

## 4.2 Test Environment :

Following are the software and hardware requirements that need to be used for testing the website :

- Windows 8 and above
- Mac OS
- Office 2013 and above
- MS Exchange, etc.

## **5. Test Scenarios and Test Cases :**

A **TEST SCENARIO** is defined as any functionality that can be tested. It is also called **Test Condition** or **Test Possibility**. It consists of test cases which are basically the steps needed to test the functionality of the software or system.

Following are the **Test Scenarios** for our Website Project “**EtaCO**” :

Test Scenario ID : TS1

Test Scenario Description : Check the **Registration** functionality.

Test Scenario ID : TS2

Test Scenario Description : Check the **Login** functionality.

Test Scenario ID : TS3

Test Scenario Description : Check the **logout** functionality.

Test Scenario ID : TS4

Test Scenario Description : Check the **Search** functionality.

Test Scenario ID : TS5

Test Scenario Description : Check the **Create Invoice** functionality.

Test Scenario ID : TS6

Test Scenario Description : Check the **Edit/Delete Invoice** functionality.

Test Scenario ID : TS7

Test Scenario Description : Check the **Add Product** functionality.

Test Scenario ID : TS8

Test Scenario Description : Check the **Add Cashier** functionality.

Test Scenario ID : TS9

Test Scenario Description : Check the **View Cashier Details** functionality.

Test Scenario ID : TS10

Test Scenario Description : Check the **View Product** functionality.

Test Scenario ID : TS11

Test Scenario Description : Check the **Order Product** functionality.

Test Scenario ID : TS12

Test Scenario Description : Check the **Inventory** functionality.

### Test Case:

A **TEST CASE** is a set of actions executed to verify a particular feature or functionality of the software/application/website. A Test Case contains test steps, test data, precondition, postcondition developed for specific test scenario to verify any requirement.

### Test Cases for all the Test Scenarios:

Test Scenario ID	Test Scenario	Test Case ID	Test Case Name	Test Case Data	Test Case Steps	Expected Outcome	Actual Outcome	Result
TS1	Check the <b>Registration</b> functionality.	TC1.1	Check Registration with all the valid data.	Full Name: Robin Username: Sharma Email: <u>robin16@gmail.com</u> Password: Robin@123	1.Enter all the test data in their respective fields.  2.Click on Create Account button.	User should be able to register an account.	User is able to register an account.	Pass

Test Scenario ID	Test Scenario	Test Case ID	Test Case Name	Test Case Data	Test Case Steps	Expected Outcome	Actual Outcome	Result
		TC1.2	Check Registration with all the empty fields.		1.Click on Create Account button.	User should not be able to register an account and the message “Form should be filled completely” should be displayed	User is not able to register an account and the message “Form should be filled completely” is displayed	Pass

Test Scenario ID	Test Scenario	Test Case ID	Test Case Name	Test Case Data	Test Case Steps	Expected Outcome	Actual Outcome	Result
		TC1.3	Check Registration with the weak password length of less than 8 characters.	Full Name: Robin Username: Sharma Email: <u>robin16@gmail.com</u> Password: Robin	1.Enter all the test data in their respective fields.  2. Click on Create Account button.	User should not be able to register an account and the message “Password should contain at least 8 characters ” should be displayed	User is not able to register an account and the message “Password should contain at least 8 characters” is displayed	Pass

Test Scenario ID	Test Scenario	Test Case ID	Test Case Name	Test Case Data	Test Case Steps	Expected Outcome	Actual Outcome	Result
TS2	Check the <b>Login</b> functionality	TC2.1	Check Login with both valid Username and Password.	Username : Anmol Password: Kannu@456	1. Enter Username and Password  2. Click on Sign in button.	User should be able to Login into website.	User is able to login into website.	Pass
		TC2.2	Check Login with valid Username and invalid Password.	Username : Anmol Password: Kannu	1. Enter Username and Password  2. Click on Sign in button.	User should not be able to Login into website and the message "Password should contain at least 8 characters" should be displayed.	User is not able to login into website and the message "Password should contain at least 8 characters" is displayed.	Pass
		TC2.3	Check Login with invalid Username and valid Password.	Username : AnmolPreet Password: Kannu@456	1. Enter Username and Password  2. Click on Sign in button.	User should not be able to Login into website and the message "Please enter the correct username" should be displayed.	User is not able to Login into website and the message "Please enter the correct username" is displayed.	Pass

Test Scenario ID	Test Scenario	Test Case ID	Test Case Name	Test Case Data	Test Case Steps	Expected Outcome	Actual Outcome	Result
		TC2.4	Check Login with both invalid Username and Password.	Username : Kannu Password: Kannu@45612345	1. Enter Username and Password  2. Click on Sign in button.	User should not be able to Login into website and the message "Please enter the correct username and password" should be displayed.	User is not able to Login into website and the message "Please enter the correct username and password" is displayed.	Pass
		TC2.5	Check Customer Login when both Username and Password are empty.		Click on Sign in button.	User should not be able to Login into website and the message "Please fill the fields" should be displayed.	User is not able to login into website and the message "Please fill the fields" is displayed.	Pass
		TC2.6	Check Customer Login when only Username is empty.	Password : Kannu@456	1. Enter Password.  2. Click on Sign in button.	User should not be able to Login into website and the message "Please fill the fields" should be displayed.	User is not able to Login into website and the message "Please fill the fields" Is displayed.	Pass
		TC2.7	Check Customer Login when only Password is empty.	Username : Anmol	1. Enter Username.  2. Click on Sign in button.	User should not be able to Login into website and the message "Please fill the fields" should be displayed.	User is not able to Login into website and the message "Please fill the fields" Is displayed.	Pass

Test Scenario ID	Test Scenario	Test Case ID	Test Case Name	Test Case Data	Test Case Steps	Expected Outcome	Actual Outcome	Result
TS3	Check the <b>Logout</b> functionality.	TC3.1	Check Logout by checking whether the logout button is working as expected.		1.Log in to the account.  2. Click on Logout button.	User should be able to logout and should be redirected to Home Page.	User is able to logout and is redirected to Home Page.	Pass
		TC3.2	Check Logout by reopening the website.		Click on Login button on Home Page.	Login page should be opened instead of User Account which also means that User has already been logged out of his/her account.	Login page is opened instead of User Account which means that User has been logged out of his/her account.	Pass

Test Scenario ID	Test Scenario	Test Case ID	Test Case Name	Test Case Data	Test Case Steps	Expected Outcome	Actual Outcome	Result
TS4	Check the <b>Search</b> functionality.	TC4.1	Check Search Functionality with the valid keyword.	Apple	1.Enter the test case data in the search bar. 2.Click on Search Button.	Search should display the results for Apple.	Search is displaying result for Apple	Pass
		TC4.2	Check Search Functionality with the invalid keyword.	ABC	1.Enter the test case data in the search bar. 2.Click on Search Button.	Search should display the message "Enter Valid Keyword"	Search is displaying the message "Enter Valid Keyword"	Pass
		TC4.3	Check Search Functionality with empty data.		1.Click on the search bar. 2.Click on Search Button.	The message "Please enter any item to search" should be displayed.	The message "Please enter any item to search" is displayed.	Pass

Test Scenario ID	Test Scenario	Test Case ID	Test Case Name	Test Case Data	Test Case Steps	Expected Outcome	Actual Outcome	Result
TS5	Check the Create Invoice functionality	TC5.1	Check Create Invoice Functionality with the valid data.	Invoice No.: 101 Date : 03/08/2021 Customer Name/Party : Sameer Ohri Address : 350,Downtown,Montreal, Quebec,Canada S.No : 1 Product ID : 54677 Item Name : Apple Quantity : 3 Price : 4.35 Amount : 13.05	1. Enter all the data in their respective fields.  2. Click on Create Invoice button.	“Invoice Created” message should be displayed.	“Invoice Created” message is displayed.	Pass
		TC5.2	Create Invoice Functionality with the invalid Invoice No.,S.No., Product ID,Quantity ,Price and Amount.	Invoice No.: Sam Date : 03/08/2021 Customer Name/Party : Sameer Ohri Address : 350,Downtown,Montreal, Quebec,Canada S.No : abc Product ID : Sameer Item Name : Apple Quantity : ab Price :sa Amount :ohri	1. Enter all the data in their respective fields.  2. Click on Create Invoice button.	“Please Enter the valid value” message should be displayed.	“Please Enter the valid value” message is displayed.	Pass
		TC5.3	Check Create Invoice Functionality with the empty data.		1. Click on Create Invoice button.	“Form should be filled completely” message should be displayed.	“Form should be filled completely” message is displayed.	Pass



Test Scenario ID	Test Scenario	Test Case ID	Test Case Name	Test Case Data	Test Case Steps	Expected Outcome	Actual Outcome	Result
TS6	Check the Edit/Delete Invoice functionality	TC6.1	Check Edit/Delete Invoice Functionality with the valid data.	Invoice No.: 101 Date : 03/08/2021 Customer Name/Party : Sameer Ohri Address : 350,Downtown ,Montreal,Quebec,Canada S.No : 1 Product ID : 54677 Item Name : Apple Quantity : 3 Price : 4.35 Amount : 13.05	1. Enter all the data in their respective fields.  2. Click on Edit/Delete Invoice button.	Data filled in the Invoice should be disappeared/ removed/ deleted.	Data filled in the Invoice is disappeared/ removed/deleted.	Pass

Test Scenario ID	Test Scenario	Test Case ID	Test Case Name	Test Case Data	Test Case Steps	Expected Outcome	Actual Outcome	Result
TS7	Check the Add Cashier functionality.	TC7.1	Check Add Cashier Functionality with all the valid data.	Cashier Name : Rahul Kumar City : Montreal State : Quebec Country : Canada PIN : H3H1K4 Phone : 5149189678 Email : <a href="mailto:rahul100@gmail.com">rahul100@gmail.com</a>	1.Enter all the test data in their respective fields.  2.Click on Save Changes button.	Cashier should be added.	Cashier is added.	Pass
		TC7.2	Check Add Cashier Functionality with the invalid PIN and Phone.	Cashier Name : Rahul Kumar City : Montreal State : Quebec Country : Canada PIN : 1000 Phone : Sam Email : <a href="mailto:rahul100@gmail.com">rahul100@gmail.com</a>	1.Enter all the test data in their respective fields.  2.Click on Save Changes button.	"Invalid Value" message should be displayed.	"Invalid Value" message is displayed.	Pass
		TC7.3	Check Add Cashier Functionality with the empty data.		1.Click on Save Changes button.	"Form should be filled completely" message should be displayed.	"Form should be filled completely" message is displayed.	Pass

Test Scenario ID	Test Scenario	Test Case ID	Test Case Name	Test Case Data	Test Case Steps	Expected Outcome	Actual Outcome	Result
TS8	Check the <b>Add Product</b> functionality.	TC8.1	Check Add Product Functionality with all the valid data.	Product Name : Apple iPhone 12 Pro Product ID : 235 Department : Mobile Brand Name : Apple	1.Enter all the test data in their respective fields.  2.Click on Save Changes button.	Product should be added.	Product is added.	Pass
		TC8.2	Check Add Product Functionality with the Product ID.	Product Name: Apple iPhone 12 Pro Product ID : Sam Department : Mobile Brand Name : Apple	1.Enter all the test data in their respective fields.  2.Click on Save Changes button.	“Product ID should only contain digits” message should be displayed.	“Product ID should only contain digits” message is displayed.	Pass
		TC8.3	Check Add Product Functionality with the empty data.		1.Click on Save Changes button.	“Form should be filled completely” message should be displayed.	“Form should be filled completely” message is displayed.	Pass

Test Scenario ID	Test Scenario	Test Case ID	Test Case Name	Test Case Data	Test Case Steps	Expected Outcome	Actual Outcome	Result
TS9	Check the <b>Order Product</b> functionality.	TC9.1	Check Order Product Functionality by entering the valid quantity	QTY: 2	1.Enter quantity.  2.Click on Add to Cart button.	Product should be ordered.	Product is ordered and added to cart.	Pass
		TC9.2	Check Order Product Functionality by entering the invalid quantity	QTY:-1	1.Enter quantity.  2.Click on Add to Cart button.	Product should not be ordered.	Product is not ordered and not added to cart.	Pass
		TC9.3	Check Order Product Functionality by not entering any quantity		1.Enter quantity.  2.Click on Add to Cart button.	“Please enter the quantity” message should be displayed.	“Please enter the quantity” message is displayed.	Pass

Test Scenario ID	Test Scenario	Test Case ID	Test Case Name	Test Case Data	Test Case Steps	Expected Outcome	Actual Outcome	Result
TS10	Check the <b>Inventory</b> functionality.	TC10.1	Check Inventory Functionality by entering the valid Product ID and Product Name.	Product ID : 101 Product Name : Bread	1.Enter data in respective fields.  2.Click on Search button.	No error message should be displayed.	No error message is displayed.	Pass
		TC10.2	Check Inventory Functionality by entering the invalid Product ID.	Product ID : abc Product Name : Bread	1.Enter data in respective fields.  2.Click on Search button.	“ProductID should only contain digits” message should be displayed.	“Product ID should only contain digits” message is displayed.	Pass
		TC10.3	Check Inventory Functionality by not entering any data.		1.Click on Search button.	“Please fill the fields” message should be displayed.	“Please fill the fields” message is displayed.	Pass

## **Contributors:**

SAMEER OHRI 1994886  
ANMOL PREET 1995356  
ROBIN SHARMA 1995117  
JAGDEEP SINGH 1995400