**Assignment No 4**

**Problem statement:-**

Test tool selection and testing of various test cases for the project performed and generate various testing result charts, graphs etc. including reliability testing.

**Theory:**

**Testing:**

Testing is an activity that can be planned and conducted systematically. Testing begins at the module level and works towards the integration of entire computer based system. Nothing is complete without testing, as it is vital for success of the system.

**Testing Objectives:-**

1. Testing is a process of executing a program with the intent of finding errors.
2. A good test case is the one having highest probability of finding an undiscovered error.
3. It demonstrates that software functions appear to be working according to the specifications.

There are three reasons to test a program:

1. For correctness
2. For Implementation Efficiency
3. For Computational Complexity

**Test Cases:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Case** | **Test Case Objective** | **Expected Result** | **Status (Pass/Fail)** |
| **TC-001** | Leave all fields as blank and click Log-in button | By leaving all fields as blank and on click Log-in button then mandatory symbol ( \* ) should appear in front of Username and Password fields | Pass |
| **TC-002** | Enter Invalid Username | By entering invalid Username then an error message should appear as " Please Enter Valid Username " | Pass |
| **TC-003** | Enter valid Username | It should allow the user to proceed | Pass |
| **TC-004** | Enter password | The password field should display the encrypted format of the text typed as (\*\*\*\*) | Pass |
| **TC-005** | Enter wrong password | By entering invalid password then an error message should appear as " Please Enter Correct Password " | Pass |
| **TC-006** | Enter Correct password | It should allow the user to proceed | Pass |
| **TC-007** | Correct Inputs | It should lead the user to the respective page | Pass |

* **GUI and Usability Test Scenarios**

|  |  |  |  |
| --- | --- | --- | --- |
| **TC-001** | Check for Validation / Error Messages on all the Screen | Validation error messages Shall be displayed properly at correct position | Pass |
| **TC-002** | Check for all the input operation labels are in standard format. | Field labels Shall be standard e.g. field accepting user’s choice shall accepted in standard format. | Pass |
| **TC-003** | Check text on all pages for spelling and grammatical errors | All Spelling Shall be Correct and without Grammatical Errors | Pass |
| **TC-004** | Check functionality of buttons available on all pages | All Buttons on the Forms should be Functional | Pass |
| **TC-005** | Check all the Fields on the screen. | All fields on screen (e.g. text box, radio options, dropdown lists) shall be aligned properly | Pass |
| **TC-006** | Check the space between Fields application screen. | Enough space shall be provided between field labels, columns, rows, error messages etc. | Pass |

* **Database Testing Test Scenarios**

|  |  |  |  |
| --- | --- | --- | --- |
| **TC-001** | Check if correct data is getting saved in database upon successful page submit | Correct data shall be saved in database | Pass |
| **TC-002** | Check values generated by algorithms perform is stored in correct data set. | Correct values shall be generated by algorithms perform is stored in correct data set. | Pass |
| **TC-003** | Check for data integrity. | Data shall be stored in single or multiple tables based on design | Pass |
| **TC-004** | Check for Primary Key | Tables shall have primary key column | Pass |
| **TC-005** | Check if data is committed to database only when the operation is successfully completed | Data shall not be committed to database before committing | Pass |
| **TC-006** | Check the Database name | Database name shall be given as per the application type i.e. test, UAT, sandbox, live (though this is not a standard it is helpful for database maintenance) | Pass |
| **TC-007** | Check if database fields are designed with correct data type and data length | All the filed shall have correct data type and size | Pass |
| **TC-008** | Check if all table constraints like Primary key, Foreign key etc. are implemented correctly | All tables constraints shall be implemented correctly | Pass |

* **Performance Testing Test Scenarios**

|  |  |  |  |
| --- | --- | --- | --- |
| **TC-001** | Check if proper readings are send to respective doctor. | Patient must give valid readings to doctor. | Pass |
| **TC-002** | Check response time for any action under various circumstances. | Operation shall be perform within acceptable time range | Pass |
| **TC-003** | Check database query execution time | Database query execution time shall be within acceptable time range | Pass |
| **TC-004** | Check if prescription is generated in proper format. | Final output shall be generated correctly. | Pass |

**Test tools used for testing of various test cases:**

**SEO tools:**

1. plagiarism checker
2. Grammar checker
3. Team Gantt software(project planner)

**Conclusion:-**

Hence,We discussed about Test tool selection and testing of various test cases for the project performed and generate various testing result charts, graphs etc. including reliability testing.