**9.SYSTEM TESTING**

The purpose of testing is to discover errors. Testing is the process of trying to discover every conceivable fault or weakness in a work product. It provides a way to check the functionality of components, sub assemblies, assemblies and/or a finished product It is the process of exercising software with the intent of ensuring that the Software system meets its requirements and user expectations and does not fail in an unacceptable manner. There are various types of test. Each test type addresses a specific testing requirement.

**TYPES OF TESTS**

9.1.Unit Testing:-

Unit testing involves the design of test cases that validate that the internal program logic is functioning properly, and that program inputs produce valid outputs. All decision branches and internal code flow should be validated. It is the testing of individual software units of the application .it is done after the completion of an individual unit before integration. This is a structural testing, that relies on knowledge of its construction and is invasive. Unit tests perform basic tests at component level and test a specific business process, application, and/or system configuration. Unit tests ensure that each unique path of a business process performs accurately to the documented specifications and contains clearly defined inputs and expected results.

**Test case for student login page**

**Description:**  Test the log in function of the application. Enter valid data into the username and invalid password field and click on login button then check it will be redirect to the home page or not.

Test objective : checking user name and password

Test description : test the login functions with invalid password

Request verified : yes

Test environment : web application

Action : expected results

Need to display valid user name : display error message has password should And Password be incorrect

Problem issues : nil

**TEST OBJECTIVES**

* All field entries must work properly.
* Pages must be activated from the identified from the identified link.
* The entry screen, messages and responses must not be delayed.

**FEATURES TO BE TESTED**

* Verify that the entries are of the correct format
* No duplicate entries should be allowed
* correct page.

TEST RESULTS

* All the test cases mentioned above passed successfully .no defected encountered.

**9.2.Integration Testing:-**

Integration tests are designed to test integrated software components to determine if they actually run as one program. Testing is event driven and is more concerned with the basic outcome of screens or fields. Integration tests demonstrate that although the components were individually satisfaction, as shown by successfully unit testing, the combination of components is correct and consistent. Integration testing is specifically aimed at exposing the problems that arise from the combination of components.

**Test case for login with and with valid username and password**

**Description:** Tests the login functions of the application. Enter valid and invalid data into the username and password and password field and click on login button then check it will be redirect to the home page or not.

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| --- | --- | --- | --- | --- | --- |
| Test case | Description | Input | Expected results | Actual results | Test pass/fail |

**TEST OBJECTIVES**

* All field entries must work properly.
* Pages must be activated from the identified from the identified link.
* The entry screen, messages and responses must not be delayed.
* **FEATURES TO BE TESTED**
* Verify that the entries are of the correct format.
* All links should take the user to the correct page.

**9.3.Test Result:-**

All the test cases mentioned above passed successfully. No defects encountered.

**Functional test**

Functional tests provide systematic demonstrations that functions tested are available as specified by the business and technical requirements, system documentation, and user manuals. Functional testing is cantered on the following items

Valid Input : identified classes of valid input must be accepted.

Invalid Input : identified classes of invalid input must be rejected.

Functions : identified functions must be exercised.

Output : identified classes of application outputs must be exercised.

Systems/Procedures: interfacing systems or procedures must be invoked.

**Test results**

All the test cases mentioned above passed successfully . no defects encountered.

Organization and preparation of functional tests is focused on requirements, key functions, or special test cases. In addition, systematic coverage pertaining to identify Business process flows; data fields, predefined processes, and successive processes must be considered for testing. Before functional testing is complete, additional tests are identified and the effective value of current tests is determined.

**System Test**

System testing ensures that the entire integrated software system meets requirements. It tests a configuration to ensure known and predictable results. An example of system testing is the configuration oriented system integration test. System testing is based on process descriptions and flows, emphasizing pre-driven process links and integration points.

**9.4.Test Case:-**

Test cases can be divided in to two types. First one is Positive test cases and second one is negative test cases. In positive test cases are conducted by the developer intention is to get the output. In negative test cases are conducted by the developer intention is to don’t get the output.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Test case Description** | **Actual value** | **Expected value** | **Result** |
| **1** | User Registration | Enter Username, Password, Location andMail Id , mobile no User registered successfully | Enter Username, Password, Location andMail Id , mobile no User registered successfully | True |
| **2** | User Login | Enter Correct Login ID and Password, User account is opened | Enter Correct Login ID and Password, User account is opened | True |
| **3** | Select the book | Select the book catageory it save in data base successfully | Select the book catageory it save in data base successfully | True |
| **4** | Print pass | Select the book pass and it is save in data base successfully | Select book pass and it is save in data base successfully | True |