**PART A**

**EXPERIMENT NO. 10**

**A.1 Aim: -** To Design Test Cases

**A.2 Outcome**

After successful completion of this experiment students will be able to design the test cases

1. Learn different testing methods and design test cases for their project

**A.3 Theroy**

* Testing is the process of analyzing a system or system component to detect the differences between specified (required) and observed (existing) behavior.
* Activities involved in testing are:
  + Establish the test objectives
  + Design the test cases
  + Write the test cases
  + Test the test cases
  + Execute the tests
  + Evaluate the test results
  + Change the system
  + Do regression testing

1. Select what has to be tested
   * Analysis: Completeness of requirements
   * Design: Cohesion
   * Implementation: Source code
2. Decide how the testing is done
   * Review or code inspection
   * Proofs (Design by Contract)
   * Black-box, white box,
   * Select integration testing strategy (big bang, bottom up, top down, sandwich)
3. Develop test cases
   * A test case is a set of test data or situations that will be used to exercise the unit (class, subsystem, system) being tested or about the attribute being measured
4. Create the test oracle
   * An oracle contains the predicted results for a set of test cases

The test oracle has to be written down before the actual testing takes place.

**Important testing documents are**

* Test plan
  + Focuses on managerial aspects of testing
  + Documents the scope, approach, resources and schedule of testing activities
  + Requirements and the components to be tested are identified in this document
* Test case specification
  + Writing **effective test cases** is a skill and that can be achieved by some experience and in-depth study of the application on which test cases are being written
* Test Incident Report
  + Each execution of each test is documented by test incident report
  + Actual results of the tests and differences from the expected output are recorded
* Test summary reports
  + It lists all the failures discovered during the tests that need to be investigated
  + Developers analyze and prioritize each failure
  + And plan for changes in the system.
  + These changes in turn can trigger new test cases and new test executions

Test Case Specification Template:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test case id** | **Test cases** | **Priority** | **Preconditions** | **Input test data** | **Steps to be executed** | **Expected results** | **Actual results** | **Pass/fail** | **Comments** |
| 1 | Test if user is able to login successfully. | A | User must be registered already | correct username,correct password | 1)Enter input(correct )username and password on the respective fields 2)click submit/login | User must successfully login to the web page | (note down the results you have observed) |  |  |
| 2 | Test if unregistered users is not able to login to the site | A |  | incorrect username,incorrect password | 1)Enter input(incorrect )username and password on the respective fields 2)click submit/login | Proper error must be displayed and prompt to enter login again | (note down the results you have observed) |  |  |

**A.4 Task:**

**For Selected case Study write appropriate test cases.**

**PART B**

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| --- | --- |
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| Class: B. Tech. Comp. Engg. | Batch: B1 |
| Date of Experiment: 4.4.2016 | Date of Submission: |
| Grade: A+ |  |

Test Case Specification Template:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test case id** | **Test cases** | **Priority** | **Preconditions** | **Input test data** | **Steps to be executed** | **Expected results** | **Actual results** | **Pass/fail** | **Comments** |
| 1 | Fetching data from dish database and categorizing it | A | There should be data (dishes) in the database | Select category | 1)Open Application  2)Choose Category  3)Read Database as per Category  4)Check if right data is Displayed | Dishes should be displayed | Dishes have been displayed as per category | Pass |  |
| 2 | Adding And Removing From Cart | B | There should be data in dishes database,  For removing there should be dishes in Cart Database | 1)Select dish to add in cart, 2)Select dish to remove from Cart | 1) Select dish from the categorized dishes.  2)Open Cart  3) Check if the dishes  Are added to the cart.  4)Remove  Dishes from Cart | 1) Dishes should be added in Cart as a Stack.  2) Dishes should be removed from cart, update the cart database. | 1)Dishes were added successfully  2) If two items of the same quantity are added, it adds them as two separate products. | Fail | Adding a mathematical logic to keep count of quantity in cart of similar dishes.  And decreasing the value of these quantity one |
| - | - | - | - | - | - | - | - | - | - |
| 3 | Clear of Cart on Order confirmation &  Notification on completion of order | B | Order Should be successfully placed. | 1)Cart  2)Payment details | 1) Add dishes to cart  2)Complete payment and confirm order  3) Clear cart.  4)Complete order from server  5) Send notification to client | 1)Cart should be Cleared  2)Notification should be sent on  Completion of order. | 1)Cart cleared  2)Notification sent | Pass |  |

**B.1 Conclusion**

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Test cases are used to test if every module of the software system/ project works appropriately. These test cases involve testing each module separately, and then testing all modules after integrating them. After making changes, if necessary, it ensures that the entire system is in a good working condition.

In this practical, we have mentioned the test cases for our project module, a bakery mobile application.

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