**SOFTWARE TESTING**

**What do you mean by software testing?**

Testing involves operation of a system or application under controlled conditions and evaluating the results. The controlled conditions should include both normal and abnormal conditions. Testing should intentionally attempt to make things go wrong to determine if things happen when they shouldn't or things don't happen when they should. It is oriented to 'detection'.

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**7.1 Unit Testing:**

Unit testing is a software development process in which the smallest testable parts of an application, called units, are individually and independently scrutinized for proper operation. Unit testing is often automated but it can also be done manually. This testing mode is a component of Extreme Programming (XP), a pragmatic method of software development that takes a meticulous approach to building a product by means of continual testing and revision.

Unit tests are written from a programmer's perspective. They ensure that a particular method of a class successfully performs a set of specific tasks. Each test confirms that a method produces the expected output when given a known input.

**7.2 Performance Testing:**

Performance testing is the process of determining the speed or effectiveness of a computer, network, software program or device. This process can involve quantitative tests done in a lab, such as measuring the response time or the number of MIPS (millions of instructions per second) at which a system functions. Qualitative attributes such as

Reliability, scalability and interoperability may also be evaluated. Performance testing is often done in conjunction with stress testing.

Performance testing can verify that a system meets the specifications claimed by its manufacturer or vendor. The process can compare two or more devices or programs in terms of parameters such as speed, data transfer rate, bandwidth, throughput, efficiency or reliability.

Performance testing can also be used as a diagnostic aid in locating communications bottlenecks. Often a system will work much better if a problem is resolved at a single point or in a single component. For example, even the fastest computer will function poorly on today's Web if the connection occurs at only 40 to 50 Kbps (kilobits per second).

**7.3 Integration Testing:**

Integration testing, also known as integration and testing (I&T), is a software development process which program units are combined and tested as groups in multiple ways. In this context, a unit is defined as the smallest testable part of an application. Integration testing can expose problems with the interfaces among program components before trouble occurs in real-world program execution. Integration testing is a component of Extreme Programming (XP), a pragmatic method of software development that takes a meticulous approach to building a product by means of continual testing and revision.

**7.4 Test cases:**

**Test case for Login form:**

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| --- | --- |
| **FUNCTION:** | **LOGIN** |
| **EXPECTED RESULTS:** | Should Validate the user and check his existence in database |
| **ACTUAL RESULTS:** | Validate the user and checking the user against the database |
| **LOW PRIORITY** | **No** |
| **HIGH PRIORITY** | **Yes** |

**Test case2:**

**Test case for User Registration form:**

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| --- | --- |
| **FUNCTION:** | **USER REGISTRATION** |
| **EXPECTED RESULTS:** | Should check if all the fields are filled by the user and saving the user to database. |
| **ACTUAL RESULTS:** | Checking whether all the fields are field by user or not through validations and saving user. |
| **LOW PRIORITY** | **No** |
| **HIGH PRIORITY** | **Yes** |

**Test case3:**

**Test case for Change Password:**

When the old password does not match with the new password ,then this results in displaying an error message as “ OLD PASSWORD DOES NOT MATCH WITH THE NEW PASSWORD”.

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| **FUNCTION:** | **Change Password** |
| **EXPECTED RESULTS:** | Should check if old password and new password fields are filled by the user and saving the user to database. |
| **ACTUAL RESULTS:** | Checking whether all the fields are field by user or not through validations and saving user. |
| **LOW PRIORITY** | **No** |
| **HIGH PRIORITY** | **Yes** |

**Test case 4:**

**Test case for Forget Password:**

When a user forgets his password he is asked to enter Login name, ZIP code, Mobile number. If these are matched with the already stored ones then user will get his Original password.

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| **Module** | **Functionality** | **Test Case** | **Expected Results** | **Actual Results** | **Result** | **Priority** |
| User | Login Usecase | 1. Navigate To Www.Sample.Com 2. 2.Click On Submit Button Without Entering Username and Password | A Validation Should Be As Below “Please Enter Valid Username & Password” | A Validation Has Been Populated As Expected | Pass | High |
|  |  | 1. aNavigate To Www.Sample.Com 2. 2. Click On Submit Button With Out Filling Password And With Valid Username Test UsernameField | A Validation Should Be As Below “Please Enter Valid Password Or Password Field Can Not Be Empty “ | A Validation Is Shown As Expected | Pass | High |
|  |  | 1. NNavigate To Www.Sample.Com 2. Enter Both Username And Password Wrong And Hit Enter | A Validation Shown As Below “The Username Entered Is Wrong” | A Validation Is Shown As Expected | Pass | High |
|  |  | 1. Navigate To Www.Sample.Com 2. Enter Validate Username And Password And Click On Submit | Validate Username And Password In DataBase And Once If They Correct Then Show The Main Page | Main Page/ Home Page Has Been Displayed | Pass | High |