**CHAPTER – 6**

**TESTING & TEST CASES**

**Testing Methodology:**

Companies rely on software more than ever to provide and manage information with strategic and operational importance and to provide key decision support. Rising customer expectations for fault-free, requirements-exact software have increased awareness of the importance of software testing as a critical activity.

We begin the testing process by developing a comprehensive plan to test the general functionality and special features on a variety of platform combinations. Strict quality control procedures are used. The process verifies that the application meets the requirements specified in the system requirements document and is bug free. At the end of each testing day, we prepare a summary of completed and failed tests. Applications are not allowed to launch until all identified problems are fixed. A report is prepared at the end of testing to show exactly what was tested and to list the final outcomes.

Our software testing methodology is applied in three distinct phases: unit testing, system testing.

**Unit Testing**: The programmers conduct unit testing during the development phase. Programmers can test their specific functionality individually or with other units. However, unit testing is designed to test small pieces of functionality rather than the system as a whole. This allows the programmers to conduct the first round of testing to eliminate bugs before they reach the testing staff. In unit testing the analyst tests the programs making up a system.

For this reason, unit testing is sometimes called program testing. Unit testing gives stress on the modules independently of one another, to find errors. This helps the tester in detecting errors in coding and logic that are contained within that module alone. The errors resulting from the interaction between modules are initially avoided.

For example, a hotel information system consists of modules to handle reservations; guest checking and checkout; restaurant, room service and miscellaneous charges; convention activities; and accounts receivable billing. For each, it provides the ability to enter, modify or retrieve data and respond to different types of inquiries or print reports. The test cases needed for unit testing should exercise each condition and option.

Unit testing can be performed from the bottom up, starting with smallest and lowest-level modules and proceeding one at a time. For each module in bottom-up testing a short program is used to execute the module and provides the needed data, so that the module is asked to perform the way it will when embedded within the larger system.

**System Testing*:*** The objective of system testing is to ensure that all individual programs are working as expected, that the programs link together to meet the requirements specified and to ensure that the computer system and the associated clerical and other procedures work together.

The initial phase of system testing is the responsibility of the analyst who determines what conditions are to be tested, generates test data, produced a schedule of expected results, runs the tests and compares the computer produced results with the expected results with the expected results.

The analyst may also be involved in procedures testing. When the analyst is satisfied that the system is working properly, he hands it over to the users for testing. The importance of system testing by the user must be stressed. Ultimately it is the user must verify the system and give the go-ahead.

During testing, the system is used experimentally to ensure that the software does not fail, i.e., that it will run according to its specifications and in the way users expect it to. Special test data is input for processing (test plan) and the results are examined to locate unexpected results.

A limited number of users may also be allowed to use the system so analysts can see whether they try to use it in unexpected ways. It is preferably to find these surprises before the organization implements the system and depends on it. In many organizations, testing is performed by persons other than those who write the original programs. Using persons who do not know how certain parts were designed or programmed ensures more complete and unbiased testing and more reliable software.

The system is tested as a complete, integrated system. System testing first occurs in the development environment but eventually is conducted in the production environment. Functionality and performance testing are designed to catch bugs in the system, unexpected results, or other ways in which the system does not meet the stated requirements.

The testers create detailed scenarios to test the strength and limits of the system, trying to break it if possible. Editorial reviews not only correct typographical and grammatical errors, but also improve the system’s overall usability by ensuring that on-screen language is clear and helpful to users. Accessibility reviews ensure that the system is accessible to users with disabilities.

**Test Report with test data**

|  |  |  |
| --- | --- | --- |
| **TEST REPORT WITH TEST DATA** | | |
| **Project Name : Get2Gether** | | |
| **S No.** | **Testing Parameter** | **Observations** |
| A. | INTERFACE TESTING   1. User-friendliness 2. Consistent menus | OK  OK |
| B. | CONTROL FLOW TESTING   1. IF-THEN-ELSE 2. DO WHILE   3) CASE-SWITCH | OK  OK  NA |
| C. | VALIDATION TESTING   1. Check for improper or inconsistent typing 2. Check for erroneous initialization or default values 3. Check for incorrect variable names 4. Check for inconsistent Data Types 5. Check for relational/arithmetic operators | OK  OK  OK  OK  OK |
| D. | DATA INTEGRITY/SECURITY TESTING   1. Data Insertion/ Deletion/ Updating 2. Boundary condition (Underflow, Overflow Exception) 3. Check for unauthorized access of data   4) Check for data availability | OK  OK  OK  OK |
| E. | EFFICIENCY TESTING   1. Throughput of the system 2. Response time of the system 3. Online disk storage required by the system   4) Primary memory required by the system | OK  OK  OK  OK |

CHAPTER – 7

CONCLUSION AND FUTURE ENHANCEMENT

**7.1 Conclusion:**

We have successfully planned and implemented the basic requirements of the social networking website. And including the huge enhancement regarding the EASYLIFE section which provide the efficient interaction with the outer world of reality.

We can share images, send text messages, add different friends and edit our profile efficiently. We can create albums and add more photos to the album.

EASYLIFE involves the various shortcuts to the educational websites in the study section and in the quick links sections we provided the quick responding links for users. The online phone directory gives the efficient manner to utilize the contacts and delete those contacts globally.

This creates a global database of the phone records.

**7.2 Extensions:**

* **Chat-Box** – The most important future task is to implement the chat box in Get2Gether which will provide the platform of live interaction between friends.
* **Video Chat** – If we are able to implement the chat boxes then we will pursue video conferencing and voice chatting as well as video chatting.
* **Video Uploads** – Now Get2Gether supports the image and text upload only. We have not introduced the attachments of videos till now.
* **Easy Life –** This is a vast field having lots of informatory, knowledge sources and fun giving applications. These apps can be put to a large number because this expansion has no endings.

**CHAPTER – 8**

**BIBLIOGRAPHY**

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**APPENDIX**

**General Instructions regarding use of Get2Gether Website:-**

1. Change your Account setting using the section Settings.

2. Account setting consist of

* Change Password.
* Edit Album Photo.
* Edit Profile.
* Edit Posts.
* Edit Friends.

3. Use Easy Life for using additional gadgets.

4. Create your album, add picture as much you want in the Create Albums section.

5. Add more friends in your account by using the special feature of Find Friends.

6. Change/Add your required Profile Picture to make your account more identifiable and attractive.

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