**Software Test Plan (STP) Template**

Items that are intended to stay in as part of your document are in **bold**; explanatory comments are in *italic* text. Plain text is used where you might insert wording about your project.

This document is an annotated outline for a Software Test Plan, adapted from the IEEE Standard for Software Test Documentation (Std 829-1998).

Tailor as appropriate. Where you decide to omit a section, you might keep the header, but insert a comment saying why you omit the element.

**SAMEEKSHAK**

**Software Quality Assurance Plan**

**Version: (1.1) Date: (06/15/2012)**

**Document History and Distribution**

1. Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| Revision # | Revision Date | **Description of Change** | **Author** |
| Version 1.1 | 15/06/2012 | Test Plan | Nikhil Sharma |
|  |  |  |  |

1. Distribution

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| --- | --- | --- |
| Recipient Name | Recipient Organization | **Distribution Method** |
| Rohith G | C-DAC |  |
| Nikhil Sharma | C-DAC |  |
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# Introduction

The project objective is to build a computer automated evaluation of programming skill system for C-DAC. Its foundation must be based on feasible development plan and process description. The DBMS designed aims at the simplification of the on-line evolution system. The project team has been tasked with the testing the new system.

* 1. **Objectives**

This test Plan document for On-line sameekshak supports the following objectives:

* *Identify existing project information and software components to be tested.*
* *List recommended Requirements for Test (high level).*
* *Recommend and describe testing strategies to be employed.*
* *Identify required resources and provide a test effort estimate.*
* *List the test project deliverable elements.*

* 1. **Testing Strategy**

Specific test plan components include:

* *Purpose for this level of test,*
* *Items to be tested: Specify the test items included in the plan*
* *Features to be tested,*
* *Features not to be tested,*
* *Management and technical approach,*
* *Pass / Fail criteria,*
* *Individual roles and responsibilities,*
* *Milestones,*
* *Schedules,*
* *Risk assumptions and constraints.*
  1. **Scope**
* *Replacing the old system of exam.*
* *Changing the old environment to newly computerized environment.*
* *Performing calculations automatically and accurately.*
* *Reducing time consumption.*
* *Achieving 100% accuracy in the result.*
  1. **Reference Material**

*Documents and other sources referenced in the Software Test Plan. Reference to the following documents (when they exist) is required for the high-level test plan:*

* *Project authorization,*
* *Project plan,*
* *Quality assurance plan,*

# Test Items

* *Requirements specification,*
* *Design specification,*
* *Operations guide,*
* *Features (availability, response time, Verification and validation plans.)*

**2.1 Program Modules**

* **Test:** Verify scheduling date, upload questions, conduct exam, and submit the exam.
* **Assignment:** Verify the uploaded questions, submit the questions, and maintain the attempts
* **Profile:** Verify the login, and user should view the profile.
* **Generate Report:** Verify that the Admin is getting the appropriate data to make a report.

# Features To Be Tested

* Login
* Change password
* Rich text editor
* Upload questions
* Submit test
* Make test case
* Schedule the test.
* Selecting the eligible student

# Features Not To Be Tested

Test case timing and format is not checked by sameekshak. It is test by Faculty Admin.

Ex: Set time can be 1sec or 5 min will be accepted

Output test case format like new line, space etc are not checked

# Approach

* 1. **Component Testing**

1. *Login*

|  |  |
| --- | --- |
| Input | Result |
| Valid userId valid Password | Login successful, Display Profile page |
| Other all cases | Display “invalid username or password” in login box. |

*Change password*

|  |  |
| --- | --- |
| Input | Result |
| Correct old password, new password and re-enter password is same. | Password Changed successfully |
| Invalid old password, new password and re-enter password is same. | Display “Invalid old password”. |
| Correct old password, new password and re-enter password is not same. | Display “password miss-match.” |

*Rich Text Editor*

|  |  |
| --- | --- |
| Input | Result |
| Java or C keywords | Keyword color will change. |
| Open Braces | Close Braces will appear. |
| Full Screen | Editor should be in full screen mode. |
| Cut Copy Paste from rich editor. | Scope of this function will be in the editor only |
| Cut Copy Paste from outside editor | Not allow to paste inside editor. |
| After ctrl+space | Show the list of classes. |

*Schedule test*

|  |  |
| --- | --- |
| Input | Result |
| Date, time and specific faculty is selected | Faculty will see the schedule test. |
| If anyone(date,time,faculty) is missing | Test cannot be schedule |

*Upload Question*

|  |  |
| --- | --- |
| Input | Result |
| Question file size <= 1MB and .doc or .odt | Upload the file |
| Question file size > 1MB and .doc or .odt | Upload Unsuccessful |
| Question file size <= 1MB and other format | Upload Unsuccessful |
| Test case and time for each case is set | Upload Test case successful |

*Upload Assignment*

|  |  |
| --- | --- |
| Input | Result |
| Question file size <= 1MB and .doc or .odt | Upload the file |
| Question file size > 1MB and .doc or .odt | Upload Unsuccessful |
| Question file size <= 1MB and other format | Upload Unsuccessful |
| Test case and time for each case is set | Upload Test case successful |

*Test/ Assignment*

|  |  |
| --- | --- |
| Input | Result |
| IF the student switch between question and editor | The code should be resumed |
| Make test cases | Should be visible in the selected test cases. |
| Compilation button | Output of the compilation is available on the output screen. |
| Test button | Output of the execution is shown in the output screen. |
| Submit button | Evaluation is done. And result is displayed. |

*Profile*

|  |  |
| --- | --- |
| Input | Result |
| If the student profile | List of all student will be displayed |
| If the faculty profile is selected | List of all the faculty is displayed |
| If the academics details is clicked | All the academics details is displayed. |

**5.2 Integration Testing**

*We will use the top down approach and while integrating we will maintain a stub for each module which will provide a simulated output and allow other module to performs successful test while integrating. The stub may have hardcoded output.*

* Schedule/Reschedule Test

Course Admin Schedule or Reschedule the test, then it should reflect on corresponding Faculty Admin

* Upload Question

When faculty upload the question it should be visible at the time of the test.

* Assignment submitted

When student submit the assignment or attempt the assignment. It should reflect back to the user profile and assignment list.

* Test submitted and result.

When the test will over its result will be uploaded in his profile.

**5.5 Interface Testing**

*The emphasis is on verifying exchange of data, transmission and control, and processing times. External interface testing usually occurs as part of System Test. Unit, functional, and integration testing should successfully completed and all critical errors should have been addressed.*

* *Verify whether the correct data is coming from the client(student) to the server. And get saved in his respective memory space.*
* *Compilation and execution is done using provided library only. And output send to the corresponding student.*

**5.6 Security Testing**

Security tests will determine how secure the new Online SAMEEKSHAK is. The tests will verify that unauthorized user access to the system is prevented. And the security testing is done by the following conditions.

* *Password is saved as hash code in the database.*
* *Sameekshak provides for each student separate memory space in the server, so other can't interrupt their files or data.*
* *Only authorized person can user the system.*
  1. **Recovery Testing**
* ***Network failure****: Server will keep all the record of student and*
* ***Server failure****: If in case of server failure all the information regarding student, test, and faculty is stored in the database.*
* ***Power failure****: While test if the electricity failure than all the data should be saved at the server. So at the restart of the test all the student information regarding the test will be recollected.*
  1. **Performance Testing**

***Speed:***

*i. Tested over various networks*

***Load:*** *i. Max no. of student per time?  
 ii. Check for peak loads and how system behaves  
 iii. Large amount of data accessed by student****Stress:*** *i. Continuous Load  
 ii. Performance of memory, CPU, file handling etc..*

***Portability:***

*i. System should run on different machines, O.S., and web browser and give the same performance.*

* 1. **Regression Testing**

*TBD*

* 1. **Acceptance Testing**

ACCEPTANCE Testing will be performed by the actual end users with the assistance of the test manager and development team leader. Programs will enter into Acceptance test after all critical and major defects have been corrected. Prior to final completion of acceptance testing all open critical and major defects MUST be corrected and verified by the Customer test representative.A limited number of student and faculty will participate in the initial acceptance test process.

* 1. **Beta Testing**

The OOSE department will do the beta tests the new “On line Sameekshak System” and will report any defects if they find. This will subject the system to tests that could not be performed in our test environment.

# Pass / Fail Criteria

Pass or fail of the system will be based on the following points.

**6.1 Suspension Criteria**

If any defects are found which seriously impact the test progress, the QA manager may choose to Suspend testing. Criteria that will justify test suspension are:

* Hardware/software is not available at the times indicated in the project schedule.
* If Source code contains one or more critical defects, which seriously prevents or limits testing progress.
* Assigned test resources are not available when needed by the test team.

**6.2 Resumption Criteria**

If testing is suspended, resumption will only occur when the problem(s) that caused the suspension has been resolved. When a critical defect is the cause of the suspension, the “FIX” must be verified by the test department before testing is resumed.

**6.3 Approval Criteria**

If the Testing is successfully conducted and execution of the application is successfully done without any faults and defects it will passed to the review team. And the review team and team guides will only decide to approve the system.

# Testing Process

Developer team is not using the any specific testing tool. Testing is conducted manually, only by giving input and checking output.

**7.1 Test Deliverables**

1. Program function specifications
2. Program source code
3. Test plan document - this document should address testing objectives, criteria, standards, schedule and assignments, and testing tools.

* Unit Testing Plan
* Integration Plan
* System Testing Plan

1. Test Design Document

* Unit white-box test design – covers white testing criteria, methods and test cases
* Unit black-box test design – covers black-box testing criteria, methods and test cases
* System test design – covers system test criteria, methods, and test cases, scripts.

1. Test report document

* Unit white-box test report – covers unit white box test results, problems, summary and analysis
* Unit black-box test report – covers unit black box test results, problems, summary and analysis
* System Test report – covers system test results, problems, summary and analysis

**7.2 Testing Tasks**

*Prototype should be ready and reviewed by the leads.*

**7.4 Resources**

*As allotted by the department.*

# Environmental Requirements

**8.1 Hardware**

No specific hardware is required for testing.

**8.2 Software**

No specific software is required for testing. Testing is done manually only.

**8.3 Security**

One backup is created before submission for testing. So if any default or bug is arising or system failure is happen our basic software is secured.

**8.4 Tools**

*N/A*

**8.5 Publications**

N/A

# Change Management Procedures

Whenever a change in occurred in the requirement, those changes along with the feasibility of that change and approval from the higher authority will be documented.

# Project Plan Approval Signatures

Project Name: Project Management Improvement

**Project Manager**

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(Signature) (Date)

Vikram Maurya

Sameekshak Project Manager

CDAC fpgdst-11

**Project Guide**

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(Signature) (Date)

Srinivas N K

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Division of Information Technology – CIO Office

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(Signature) (Date)

Gopinath

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