INTERNATIONAL INSTITUTE OF PROFESSIONAL STUDIES, DAVV

Subject: System Analysis And Design

Project report-

Software Test Plan [STP]

Topic: Online Examination Software

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1. INTRODUCTION

1.1 OBJECTIVES

The main objective for creating an online examination software is to reduce the amount of manual work required to conduct the examination. The focus is on automating the entire examination conducting process hence making the result generation quicker and more accurate. Automation of this process allows the users to access the software from any device at any location. The objective is also to create a comprehensive system with proper interface to ease the understanding of system for its users and other operations.

They are as follows :

- ✓ Developing a comprehensive user interface.
- ✓ Enabling students to register themselves.
- ✓ Restricting the function of copying and pasting from other pages.
- ✓ Setting up an automatic timer when student start the test.
- ✓ Random selection of questions from the question bank.
- ✓ Marking objective questions directly from the database.
- ✓ Generation and authentication of login credentials.
- ✓ To facilitate Experts to send a collection of questions in Question Bank
- ✓ The Exam Dept will manage the question bank sent by experts
- ✓ Develop a process to schedule and generate reports.

1.2 TESTING STRATEGY

Testing is the process of analysing a software item to detect the differences between existing and required conditions and to evaluate the features of the software item.

The strategy to testing the system is by running a mock trial by conducting a sample test, analyse the operations being performed, list down the user interface changes that are supposed to be made and ensure that all the requirements specified in the software requirement specification document are being fulfilled. Testing is also to be performed on the basis of data abstraction to be done i.e., the reports generated and the data that is visible to the student and the examiner. Proper testing is key process before implementing the software.

1.3 GENERAL DESCRIPTION AND SCOPE

Testing will be performed at several points in the life cycle as the product is constructed. Testing is a very 'dependent' activity. As a result, test planning is a continuing activity performed throughout the system development life cycle. Test plans must be developed for each level of product testing.

Testing must be performed for each and every module of the software. The front-end interface is tested. The backend functioning and database functions are also tested.

2. TEST ITEMS

Main items to be tested are:

- Fulfilment of the requirements specification
- Complete design of the software
- User's guide
- Operations guide
- Installation guide
- Features (availability, response time)

- Defect removal procedures
- Report generation

2.1 PROGRAM MODULES

A proper protocol for performing testing at every stage and for every module must be developed and performed by the developer.

This software can be divided broadly into 5 categories of modules:

2.1.1 Login Module

The Login Module is the first module in this project and is required for anyone who want to participate in this project/application. He or she must have passed through this module, which we can refer to as an authentication module because the user authenticates with his or her credentials. For students, experts, controllers, and Exam Dept Admin, user names and passwords should be provided, and credentials should be double-checked at the time of login.

2.1.2 Student Module

This is the registration page for a student who wants to register for participating in software related activity i.e., taking tests, getting result etc. He or she must have passed through this module, which we can refer to as an authentication module because the user authenticates with his or her credentials.

Subprocesses in this module include:

- Registration
- Viewing schedule
- Examination process
- Displaying the result

2.1.3 Exam controller Module

The controller has the authority to change the criteria presented to the examination controller and to provide an interface via which the controller can build new Expert and Admin for the Exam Department.

2.2.4 Exam Department Module

The question bank sent by experts will be managed by the test department. and create a timeline, as well as declare the outcome result.

2.1.5 Expert Module

Experts can send a compilation of questions (both objective and subjective) to the Questionnaire in the expert module.

3. FUNCTIONAL FEATURES TO BE TESTED

- ✓ Functionality of the entire system as a whole.
- ✓ User Interface of the system.
- ✓ Testing the dependent modules together with all the possible test data scripts.
- ✓ Verification and Validation testing.
- ✓ Testing the reports with all its functionality.

4. OPERATIONAL AND USER END TESTING

4.1 High Load Testing: This test assesses whether the system can handle the volume of activity that occurs when the system's processing demand is at its highest. Test the system by turning on all terminals at the same time, for example.

4.2 Storage Testing: This verifies the system's capacity for storing transaction data on a disc or in other files.

4.3 Performance Time Testing: It determines the amount of time the system takes to process transaction data. This test is carried out prior to implementation to see how long it takes to receive a response to a query, make a backup copy of a file, or send an email, send a message and wait for a response.

4.4 Recovery testing: This test examines the user's ability to recover data or restart the computer after the breakdown of the system. Load a backup copy of the data, for example, and resume processing without losing data or integrity.

4.5 Procedure testing : It determines the clarity of system operation and usage documentation by having users perform exactly what the manuals suggest. For example, turning off the system at the end of the week or responding to the printer's paper-out signal.

4.6 Human Factors Testing: It examines how users will interact with the system when processing data or creating reports.

5. GENERAL STEPS OF TESTING

- ✓ Integration of all the modules/forms in the system.
- ✓ Preparation of the test cases.
- ✓ Preparation of the possible test data with all the validation checks.
- ✓ Actual testing done manually. Recording of all the reproduced errors.
- ✓ Modifications done for the errors found during testing.
- ✓ Prepare the test result scripts after rectification of the errors.

Following the conclusion of system testing, Acceptance Testing is the next step. Clients accomplish this on their end and review the software to suggest any more modifications that are to be made.

BIBLIOGRAPHY

The information and details used in this document are mostly my original work referenced from some books and articles. I used google for problem solving, William S. Davis and David C. Yen's The Information System Consultant's Handbook and Analysis and Design of Information Systems by V. Rajaraman (PHI Publications). I learned about various general risks any software can have [https://studylib.net/doc/].I referred to the standard IEEE recommended format to write this software testing plan [https://profinit.eu/wp-content/uploads/2016/03/IEEE_TestPlanTemplate.pdf].

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