



Test Plan of Student Registration System for A University

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1. Test Plan Identifier

Student Registration System (Version 1.0)

2. References

- SRS Document
- Project Plan
- Technical Specification
- Requirements specifications

3. Introduction

A Web-based Online Course Registration system have to be implemented for American International University – Bangladesh (AIUB). We are going develop a test plan for it.

The objective of Online Course Registration is to permit the students to registration for the course, where the system will keep the information about every course such as (course Title, Timings etc.). Every course can have many sections any particular year also indifferent semester. Students must have to complete the pre-requisite otherwise he/she will not able to register for the course. On the other side, every section belongs to a specific course. Every section has maximum slot for the register students and also has a classroom and time span assigned to it.

System will keep all the records of the students such as:

- First Name
- Last Name
- Student ID
- Gender
- Address
- Department
- Phone number
- Email

System also store the information of the faculties such as:

- First Name
- Last Name
- Faculty ID
- Gender
- Address
- Department
- Phone number
- Email
- Research Interests
- Degrees obtained and the corresponding University details

So, the main purpose is to store all information of faculties and students and help the students to register online.

The scope of the project is:

Registration module: this will help the students to register from anywhere through internet.

Login module: students who have the valid id and password only they can log in to the system.

4. Test Items

- Login package, Version 1.0
- Registration package, Version 1.0
- Student's info package, Version 1.0
- Course management package, Version 1.0

5. Software Risk Issues

- Interruption of third-party software
- Errors in time of registration
- Absence of backup system
- Database security and access must be defined and verified.
- Abnormal system response due to power failure.

6. Features to Be Tested

1. Student can remove a course after he/she has added this to system.
2. Student can view all the courses and course schedule he/she has added for the upcoming semester.
3. Advisor can permit a student to add/remove a course if the student has any constraints.
4. Administrator can login to system and add a new course, delete an existing course or edit a course description for the selected semester.

7. Features Not to Be Tested

1. 24/7 service
2. Student shall be able to login to their portal
3. Student shall be able to edit their profile (Name and ID are not editable)
4. Student shall be able to display the previous semester courses, results and Faculty
5. Administrator can open a new section or close a section for a course
6. Administrator can make a course list, edit a course list, adjust number of credits per course list
7. A user can change password
8. The system shall display the schedule for any student (provided the semester details)
9. The system shall allow the users to identify the number of students in each section of a course

8. Approach (Strategy)

8.1 Test Tools

- A. Selenium Tools will be used for testing web application. Selenium is a testing framework tools for perform web application testing across various browser like (Google Chrome, Mozilla

FireFox, Microsoft Edge, Apple Safari) etc. and platform like (Microsoft Windows, Apple Mac OS, Linux Distributions).

- B. HPE Unified Function Testing tools will be used for test functional testing. HPE Unified Functional Testing offers testing automation for functional and regression testing for the software application. It provides error handling mechanism, automated documentation, unique smart object recognition.
- C. Test Complete/Smart Bear Software Tools will used for testing platform that offers various solutions to automated testing desktop, web, mobile applications. This tool offers testing GUI application, scripting language, test visualizer also this tool auto recording testing and playback.

8.2 Software

Some software will be used there Microsoft Word, Microsoft Excel for documentation, Microsoft Visual Studio for programming language also Microsoft Visual Studio Code for editing scripting language, Oracle SQL Database for database management. Record Editor for recording data, file editor for CSV and fixed filed position files.

8.3 Measures and Metrics

The following information will be collected by the development team during unit testing process.

1. Defects Origin
2. Defects by module
3. Time spent for run testcase

The following information will be collected by the test team during all testing phases.

1. Defects by module
2. Time spent for run testcase
3. Number of time program crashed
4. Number of defects occurs when testcase execute
5. Defect level

There are more than 400+ different configurations tested by developer team and testing team during development phases and testing phases.

8.4 Meetings

The testing team will meet once every week to evaluate progress to date and to identify error and problems and defect as early as possible. The testing team also meeting with programmer once every two weeks for collect there metrics and problems and defect. There two meeting will be scheduled on different date.

9. Item Pass/Fail Criteria

9.1 Test Cases

Test Case ID	Feature ID	Case Name	Input Data	Expected Data	Actual Result	Status
TC211	FEA331	Add course to next semester	Select course	Successfully course added to upcoming semester		
TC202	FEA332	Remove course if already taken	Remove course	Successfully remove course from upcoming semester		
TC203	FEA333	Add course to next semester	Select course those are clash with other courses	System show error message because cannot take more than one course in same time		
TC204	FEA334	View upcoming semester course	View all course those are added	All courses are added upcoming semester those are selected		
TC205	FEA335	Advisor add course	Add course to student system	Successfully course added to student system		
TC206	FEA336	Advisor remove course if already taken	Remove course from student system	Successfully course removed from student system		
TC207	FEA337	Advisor add course	Add another course to student system in same time	System show error message because cannot take more than one course in same time		
TC208	FEA338	Admin add course	Add new course	Successfully new course added		
TC209	FEA339	Admin edit course description	Add or remove course description	Successfully edit description		

TC220	FEA340	Admin delete an existing course	Remove existing course	Successfully course deleted		
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The test process will be completed once the initial set of students have successfully registered for courses of a new semester for a period of one month and the faculties are assigned in courses in parallel. When the students, faculties & registration staffs are satisfied that the data is correct the initial set of students & faculties will be able to register to courses parallelly. At this point the next set of students & faculties will begin the parallel process, if not already doing so. Only the initial set of students & faculties must pass the data comparison test to complete the testing, at that point the application is considered live. All additional activations will be on an as ready basis.

10. Suspension Criteria and Resumption Requirements

10.1 Suspension Criteria

- A. No platform ready for testing at initial phase.

The testing team will be delayed until at least platforms are ready for testing. No additional elements will be added.

- B. Unavailability of Testing Tools.

The testing team unable to check all testing manual and execute all test manually. Testing team will be delay for testing tools.

- C. Distributor PC software delay.

In the event of delay in the delivery or availability of the software package, the only major delay will be in unit testing. Unit, Integration and systems testing will be delay for PC software.

- D. The build contains many serious defects which seriously affect or limit testing progress.

- E. Significant change in requirements suggested by client.

- F. Software or hardware problems.

- G. Unavailability of assigned resources when needed by the testing team.

10.2 Resumption Requirements

Resumption will only occur when the problem(s) that caused in the suspension have been resolved.

11. Test Deliverables

- Test design specifications
- Acceptance test plan
- System/integration test plan
- Unit test plans
- Test cases
- Screen prototypes
- Report mock-ups
- Defect reports & summary

- Test logs & turnover reports
- Tools (Selenium, Mind Map, MS Excel, MS Word) and their outputs

12. Remaining Test Tasks

Task	Assigned to	Status
Prepare test design specifications	TM, PM, Client, Developer	
Prepare acceptance test plan	TM, PM, Client	
Prepare system/integration test plan	TM, PM, Developer	
Prepare unit test rules & procedures	TM, PM, Developer	
Prepare test case & test suite	TM, PM, Developer	
Verify prototypes of screens	TM, Client, Developer	
Verify prototypes of reports	TM, Client, Developer	
Acquire Tools & COTS	TM, PM, Developer	

13. Environmental Needs

13.1 Testing Tools

Process	Tool
Test case creation	Microsoft Excel
Test case tracking	Microsoft Excel
Test case execution	Selenium
Test case management	Microsoft Excel
Defect management	Microsoft Word
Test reporting	PDF
Check list creation	Microsoft Excel
Project structure	Mind Map (.xmind)

13.2 Configuration Management

- Documents CM: SVN
- Code CM: GitHub

13.3 Test Environment

Support Level 1 (browsers):

- Windows 10: Edge, Chrome (latest), Firefox (latest), Yandex (latest), Opera (latest)
- MacOS Mojave: Chrome (latest), Firefox (latest), Safari (latest)
- Linux Ubuntu: Chrome (latest), Firefox (latest)
- iOS 12: Safari (latest), Edge, Chrome (latest), Firefox (latest), Opera Mini (latest)
- Android Pie: Edge, Chrome (latest), Firefox (latest), Opera Mini (latest)

Support Level 1 (devices):

- Dell Inspiron 5552 laptop
- MacBook Air 2

- iPhone 6
- iPhone XS
- iPad 6th generation
- Samsung Galaxy S10
- Xiaomi Note 7
- Sony Xperia XZ2

Support level 2 (browsers):

- Windows 7: Internet Explorer 9+, Chrome (latest), Firefox (latest), Yandex (latest), Opera (latest)
- Windows XP: Internet Explorer 8, Chrome (latest), Firefox (latest), Safari (latest)
- MacOS X: Chrome (latest), Firefox (latest), Safari (latest)
- iOS 11: Safari (latest), Edge, Chrome (latest), Firefox (latest), Opera Mini (latest)
- Android Oreo: Edge, Chrome (latest), Firefox (latest), Opera Mini (latest)

Support Level 2 (devices):

- Dell Inspiron 5552 laptop
- MacBook Air 2015
- iPhone 6
- Xiaomi Note 5

14. Staffing & Training Needs

As some members of Software Quality Assurance team is new, they need to have the clear understanding of the system requirements. They need to have a training session arranged by Lead Software Quality Assurance & Lead Software Requirement Engineer to clear up the requirements and to have a transparent view of the system.

These new members of Software Quality Assurance team are also new to Selenium & Mind Map tools. They will need to have a training session about Selenium & Mind Map tools. This tutorial training session will be arranged by Senior Software Quality Engineers.

15. Responsibilities:

Responsibilities	Test Manager	Project Manager	Development Team	Test Team	Client
Review Recruitments	X	X		X	
Acceptance Testing, Documentation and Execution	X	X		X	X
System Testing, Documentation and Execution	X		X	X	
Integration Testing, Documentation and Execution	X		X	X	
Unit Testing, Documentation and Execution	X		X	X	
System Design Review	X	X	X	X	
User Interface Review	X	X	X		X

Test Procedures and rules	X	X	X	X	
Change Control	X	X			X

The development team leader will overlook the verification and acceptance testing for all unit test plans and documentation. The project manager and test manager will participate in all test plans and documentation. Clients requirement will be considered in all the design and data correction and review processes.

A Personnel from the AIUB course management department will be a part of testing and development team throughout the project to verify test results and answer any questions if occurred. This person will also be taking part in the execution of the acceptance test plan along with Test manager when needed.

16. Schedule

The schedule of the project testing plan has been described below with specific date and time for each activity:

SL	Task Name	Duration	Slack Time	Predecessors
1	Review Requirements	2 days	0 days	-
2	Review Test Procedures and Rules	2 days	0 days	1
3	Develop the master test plan	3 days	0 days	2
4	Plan System and interface review	1 days	9 days	3
5	Plan System, unit, acceptance, integration testing	4 days	1 days	3
6	Review system layout	2 days	9 days	4
7	Review user interface	3 days	9 days	4
8	Unit test	2 days	1 days	5
9	Integration	2 days	1 days	8
10	System test	2 days	1 days	9
11	Acceptance test	2 days	1 days	10
12	Documentation	12 days	0 days	3

17. Planning Risks and Contingencies

(i) Lack of personnel resources when testing is to begin:

The Personnel from the AIUB course management department who will be the part of testing and development team may not suitable for it.

(ii) The requirement may be changes or updated:

The Student user cannot edit Name and Id, but there is no provision on Gender, blood group Email, Department or Address. To maintain correct data accusation and for administration to send messages and emails to students those needs to be only editable by some administration so that the update is recorded each time. Which requires a 3rd user type as data entry personnel. Which will result the delivery dates to be postponed. To avoid that the developer team can make the arrangements ahead of time before the customer suggesting it and keep it as bonus feature and the schedule can include a specific slack time to the student management test task.

(iii) Low staff and pressure on specific personnel:

In documentation, the project and test manager may require an assistance with is as it is a course management project and needs intricate documentation. Reassigning someone from the test team

won't be an option, so budget for a part time tester to right contents could be kept available until the situation calls it. Also, it is a good option if the test team requires also.

18. Approvals

Approval	Personnel
Documentation	Project Manager
System Layout	Development Team Leader then Project Manager
Acceptance testing	Project Manager then Test Manager
Integration and Unit testing	Test Manager
Test Procedures and rules	Project Manager then Test Manager
Data Validation results	Administration Personnel Then Test Manager
Over all Test cases	Test Manager
Final Project completion	Project Manager then Test Manager