**1 TEST PLAN IDENTIFIER** MTP-01

**2 REFERENCES**

* Project Plan
* Requirements specifications

**3 INTRODUCTIONS**

We have to make a test plan for the program that has been built recently for the students of AIUB. Basically, it is a web-based system for online course registration where any student can do their registration, there will be sections. Every section should have a maximum number of slots for the students to register. Every section should have a class room and time span assigned for it. Every student and faculty have to belong to single/multiple departments, and their information will be recorded in this system. We are going to test this system up to acceptance testing where we can make sure the acceptability. The purpose of this test is to evaluate the system’s compliance with the business requirements and assess whether it is acceptable for delivery.

**4 TEST ITEMS**

* Login package, Version 1.0
* Student details package, Version 1.0
* Course management package, Version 1.0
* Registration package, Version 1.0

**5 SOFTWARE RISK ISSUES**

* Abnormal system response due to power failure.
* System reliability issues.
* Database security and access must be defined and verified.

**6 FEATURES TO BE TESTED**

The following is a list of the areas to be focused on during testing of application.

1. 24/7 service.
2. Login to the portal (Both administrator and student).
3. Editing profile information by students.
4. Displaying the previous semester courses, results and Faculty to a student
5. Semester registration done by students (Maintaining all the security features for registration).
6. Semester registration done by advisor for complicated cases.
7. Course and section management done by administrator.
8. Changing password for all type of users.
9. Displaying the schedule for any student.
10. Displaying all the details for a section.
11. Allowing the users to identify the number of students in each section of a course.
12. Implementation of some security features.

**7 FEATURES NOT TO BE TESTED**

A. Network Issues

Network related issues will not be tested in this case.

B. Power Related Issues

Issues that usually occurs from sudden power failure will not be tested.

C. Database management

Database related issues will not be tested.

**8 APPROACH (STRATEGY)**

**8.1 Testing Levels**

The testing for a robust web-based system for online course registrationwill consist of Unit, System/Integration (combined) and Acceptance test levels. It is hoped that there will be at least one full time independent test person for system/integration testing. However, with the budget constraints and time line established number of testers involved in different kinds of testing may vary.

Unit Testing will be done by the developer and will be approved by the development team leader. Proof of unit testing (test case list, sample output, data printouts, defect information) must be provided by the programmer to the team leader before unit testing will be accepted and passed on to the test person. All unit test information will also be provided to the test person.

Since it is a web-based system, so load testing is very important for this system. Load Testing is type of performance testing to check system with constantly increasing the load on the system until the time load is reaches to its threshold value. Here Increasing load means increasing number of concurrent users, transactions & check the behavior of application under test. It is normally carried out underneath controlled environment in order to distinguish between two different systems. It is a type of performance testing.

System/Integration Testing will be performed by the test manager and development team leader with assistance from the individual developers as required. No specific test tools are available for this project. The system will enter into System/Integration test after all critical defects have been corrected.

Acceptance Testing will be performed by the actual end users with the assistance of the test manager and development team leader. The acceptance test will be done for a period of 15 days after completion of the System/Integration test process.

The system 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 student test representative.

* 1. **Test Tools**
* Microsoft Excel will be used to write test cases.
* JIRA Testing & QA Tool will be used to manage test cases and reporting.
  1. **Meetings**

The test team will meet once every one week to evaluate progress to date and to identify  
error trends and problems as early as possible. The test team leader will meet with  
development and the project manager once every one week as well. Additional meetings can be called as required for emergency situations.

* 1. **Measures and Metrics**

The following information will be collected by the Development team and will be provided to the test team on a continuous basis during the all testing process.

* Defects by modules and severity.
* Origin of the defects.
* Time needed to investigate and solving the defects.
* Number of times the system is submitted to the testing team to test.
* Unusual defects found in different levels of testing.

**9 ITEM PASS/FAIL CRITERIA**

The test process will be completed once it is ensured all the features are correctly implemented, working perfectly and providing accurate results.

**10 SUSPENSION CRITERIA AND RESUMPTION REQUIREMENTS**

**10.1 Suspension Criteria**

* Unavailability of different resources needed for testing.
* If there is a defect found that cannot allow any further testing.
* Problem regarding the contract.

**10.2 Resumption Requirement**

* When the resources become available again.
* Defect is fixed.
* Contract renegotiation.

**11 TEST DELIVERABLES**

* Test cases
* Test plans for different kind of testing
* Problem reports and corrective actions
* Error logs and execution logs.

**12 ENVIRONMENTAL NEEDS**

Testing tools:

* Automated testing tools: JIRA, Selenium, Appium.
* Bug tracking tools: BugZilla, Trac, Redmine.
* Requirement tracking tools: Microsoft word and Microsoft Excel

Testing environment:

* Operating system: Windows 8 or above
* Microsoft Office 2013 or above

**13 STAFFING AND TRAINING NEEDS**

It is preferred that there will be at least one (1) full time tester assigned to the project for the system/integration and acceptance testing phases of the project. This will require assignment of a person part time at the beginning of the project to participate in reviews etc... and approximately four months into the project they would be assigned full time. If a separate test person is not available the project manager/test manager will assume this role. In order to provide complete and proper testing the following areas need to be addressed in terms of training:

* The developers and tester(s) will need to be trained on the basic operations of the JIRA interface.
* The administration staff will require training on the new screens and reports.
* At least one developer and operations staff member needs to be trained on the installation and control of the project package. The distributors personnel will also have to be trained on the operational characteristics.

**14 RESPONSIBILITIES**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | PM | TM | Development  Team | Testing  Team | Client  (Students) | Client  (Teachers) |
| Testing criteria and directives. |  |  |  |  |  |  |
| Test scheduling |  |  |  |  |  |  |
| Assigning test cases/modules |  |  |  |  |  |  |
| Supervising testing process |  |  |  |  |  |  |
| Selection of system features to be tested first |  |  |  |  |  |  |
| Testing training |  |  |  |  |  |  |
| Defect fixing |  |  |  |  |  |  |
| Gathering testing resources(staff/tools) |  |  |  |  |  |  |
| Test planning |  |  |  |  |  |  |
| Regression testing |  |  |  |  |  |  |
| System testing |  |  |  |  |  |  |
| Unit testing |  |  |  |  |  |  |
| Integration testing |  |  |  |  |  |  |
| Functional testing |  |  |  |  |  |  |
| Validation of product |  |  |  |  |  |  |
| Requirements gathering |  |  |  |  |  |  |
| Project planning |  |  |  |  |  |  |
| System detail design |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

**15 SCHEDULE**

The project must be completed within the deadline. Thus, the last two months are considered and reserved for testing purposes. Moreover, along with development, developers are said to check functionalities- sort of validation of modules. The Project manager (PM) is the major planner who thereby handles task collaborations, team managements, makes decision and lastly monitors testing necessities.

The project therefore tends to maintain deadline specified for each module or partitioned jobs in order to avoid time slippage or wastage of time.

Following are the testing activities that are grouped together and is supposed to take place during the project testing phases: -

1. Requirements specification is clearly understood by the testing team in order to visualize the project’s objectives.
2. Testing team manager develops a testing plan and approximate time is allocated that includes a minimum of two sets of reviews.
3. Development of the mentioned test plans and testing criterions such as System testing/Integration testing or Acceptance testing by the individuals who are held responsible for (the above section deals with the responsibilities).
4. Review of the System Detail and Design Detail view that includes the client’s perceptions.
5. Developers in the meantime continues with the unit testing to make sure functionalities actually provides desired outcomes.
6. Once all the test cases are performed, defects are figured out and resolved successfully. The process is repeated to look for further defects as theirs is no end of testing/ nothing said as complete testing.

**16 PLANNING RISKS AND CONTINGENCIES**

1. Uncertain political issues- The state might be in troublesome situation due to political conflicts that hampers daily life. As a result, developers or testing team members may be unable to work or attend properly which affects the project.

-Hire an apartment to get jobs done throughout the unstable situation to get work going.

-Use clients as testers to ensure their satisfaction.

1. Non-favourable weather conditions- This is another uncertainty that might slow down the testing process and as a result the project is delayed or certain features remain untested.

-Hire an apartment to get jobs done throughout the unstable situation to get work going.

1. Change in requirements of clients- Clients sometimes tend to change requirements out of nowhere. This is a huge problem and results in increase of development jobs as well as testing jobs.

-Testing team members with knowledge of programming can start working to help developers.

1. Budget issues- Due to lack of resources or time, resources were hired that increases cost. The planning did not work as it was supposed to do. Third party involvement increases cost as a result overall budget increase.

-Manage client about increase in payment. In case of system testing, use clients and get the works done.

1. Inappropriate requirements understanding of the testing team lead- As a result the objection is totally blur.

-Manage two or three testing team members while discussing about the requirements specifications.

1. Staff Shortage-Incomplete works that results in delay of submission.

-Use clients for testing wherever it is possible to ensure their satisfaction is met or not.

-Hire resources based on the project’s progress.

1. Lack of testing tools- Advanced testing tools makes testing easier, less time consumption.

-Talk with PM to arrange testing tools to make testing more efficient.

**17 APPROVALS**

The project has to be approved by the listed individuals in order to ensure success. Following are the list of individuals: -

* + Project Manager
  + Faculty members as client
  + Students as client
  + Administrative officials as client
  + Testing team
  + Development team
  + University authority as accounts