## 

American International University-Bangladesh (AIUB)  
Department of Computer Science  
Faculty of Science &Technology (FST)  
Spring 22-23

Section: J  
Software Quality Assurance and Testing

Student Community

A Report submitted

By

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Software Test Plan

for

<STUDENT COMMUNITY>

Version 1.0 approved

Prepared by <ABDULLAH, APU, ASIBUL, WASIF>

<AMERICAN INTERNATIONAL UNIVERSITY BANGLADESH>

<25-APR-2023>

**Checked By Industry Personnel**

Name:

Designation:

Company:

Sign:

Date:

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# Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| Revision | Date | Updated by | Update Comments |
| 0.1 | 24-04-2023 | ABDULLAH | FIRST DRAFT |
| 0.2 | 24-04-2023 | ABDULLAH | SECOND DRAFT |
| 0.3 | 24-04-2023 | ASIBUL | THIRD DRAFT |
| 0.4 | 25-04-2023 | APU | FORTH DRAFT |
| 0.5 | 25-04-2023 | WASIF | FINAL |

# TEST PLAN IDENTIFIER:RS-MTP01.3

# REFERENCES

1. Software Requirement Specification (SRS) Document

# INTRODUCTION

## Background to the Problem

In today’s day and age every one is connected one way or another. But getting help of finding solution on the internet can sometimes be tough. In the field of education, students can benefit most from internet but, finding a solution or trying to understand a topic can sometimes take searching through many web pages. Sometimes the even after many searches’ student are unable to find the specific solution. This can lead to in time west and demotivation. One can join a topic specific discussion forum, but finding and searching through is time consuming and all problems may not be from the same topic. So, a place that can facilitate all or most of the education related problems can increase productivity and decease distraction.

## Solution to the Problem

We are proposing a web-based platform that is fully dedicated to students of all discipline. Our platform will provide student with a place where they can discuss field specific topics, collaborate with others in projects. Our platform will greatly reduce the searching time and the distractions that come with internet. Because this place will include all disciplines, finding solution of multiple fields will become easy. From the business perspective this solution has a great chance of being profitable. With the increase of internet connectivity more and more students are searching topics they want to learn online and this population will grow with the population boom.

The main purpose of our student community is to increase productivity and decrease distraction. This platform will have topic specific discussion channels and a place where student can collaborate on projects. This platform will help students to meet like minded individuals. Sometimes students come up with great ideas but because not getting help they become discouraged. So, our platform will help students by connecting them with others with similar interests.

There is very few websites or platforms that are solving this problem same way as us. There are topic or field based online communities but combined communities are few to none. One example can be [Human Brain Project](https://www.humanbrainproject.eu/en/education/student-community/). This platform only works with field of science. But our platform will work with all or most of the education fields.

# REQUEIREMNT SPECIFICATION

## System Features

1. **System Registration**

Functional Requirements

* + 1. The software must allow users to register with the necessary information.
    2. If the username is not unique, the system will prompt the user to try registration with a different username again.

Priority Level: High

Precondition: No previous account with the same email address.

1. **System Login**

Functional Requirements

1. Users must be able to log in using their assigned username and password.
2. If the username and/or password have been entered incorrectly more than three times, the random verification code will be generated by the system to retry login.

Priority Level: High

Precondition: The user must have a valid user ID and password.

1. **Search for Field specific channel**

Functional Requirements

1. Users will be able to search for field specific channel from their personal dashboard.

Priority Level: High

Precondition: User must have valid account

1. **Create Project (Private/Public)**

Functional Requirements

* + 1. Users will be able to create field specific projects.
    2. They can declare if the project is public or private (this can be changed)

Priority Level: High

Precondition: User must have valid account

1. **Chat with other members**

Functional Requirements

1. Users will be able to chat with other members in the specific channels.
2. They can edit and delete messages.

Priority Level: High

Precondition: User must have valid account

1. **Edit Profile**

Functional Requirements

1. Users will be able to edit their profile information (username cannot be changed).

Priority Level: Medium.

Precondition: User must have valid account

1. **Log Out**

Functional Requirements

1. Users will be able to log Out from the website.

Priority Level: Low.

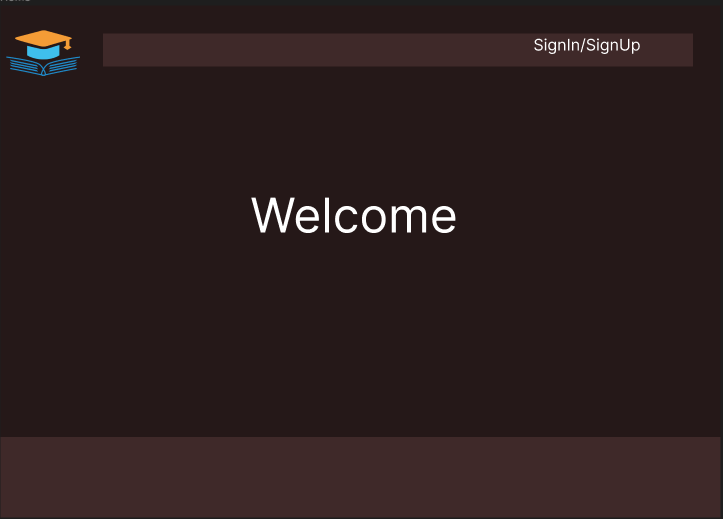
Precondition: User must have valid account

## System Quality Attributes

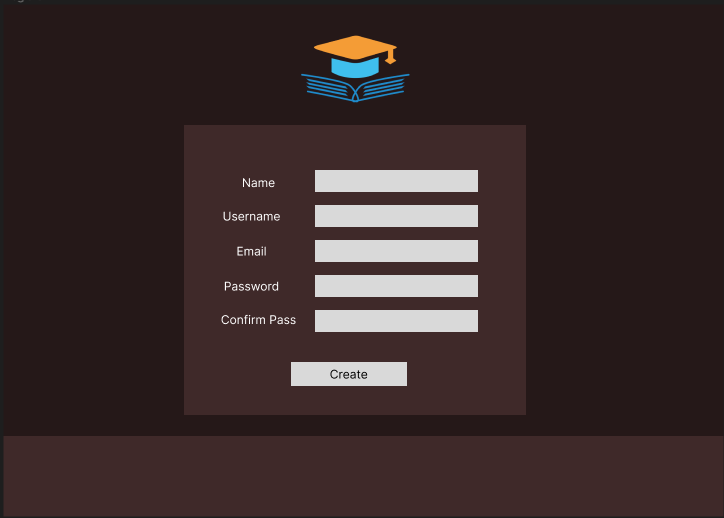
* Usability: The website will be user-friendly. It will be intuitive and simple to navigate.
* Efficiency: The website will complete task with optimal efficiency.
* Security: System security should be sufficient to prevent unauthorized access to system functions in order to prevent information loss, protect data privacy, and safeguard the system against viruses.
* Modularity: The system’s every block of code must be under separate and acceptable modules.
* Testability: The system should be simple to test and identify flaws.
* Flexibility: The system should be flexible enough to be modified.
* Reusability: Code library classes should be general enough to be utilized on multiple versions of an application or new projects.

## System Interface

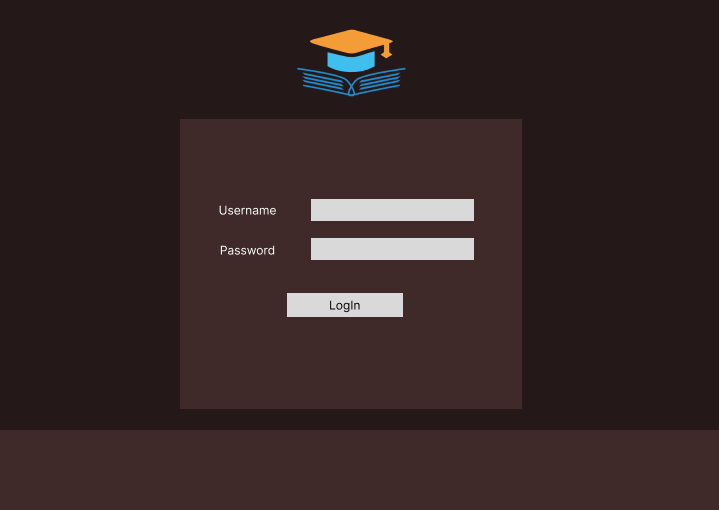
**Home**



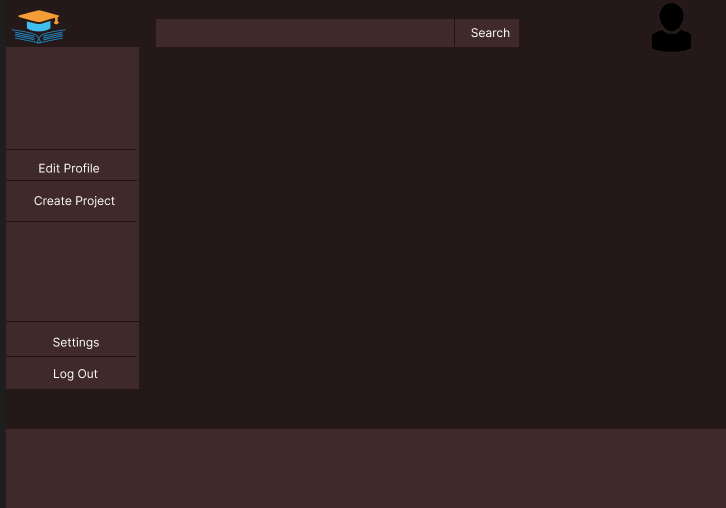
**Registration**



**Log In**



**Dashboard**



## Project Requirements

Constructive Cost Model

|  |
| --- |
| Software project type: Organic; [p=1.05]  Coefficient<Effort Factor> = 2.4  So, P = 1.05 and T = 0.38  SLOC = 25000 Lines  Persons-months, PM = Coefficient<Effort Factor> \* (SLOC / 1000) P = 2.4 \* (25000/1000) ^1.05  = 29.37  Development time, DM = 2.50 \* (PM) ^T  = 2.50 \* (29.37) ^0.38  = 9.03 = 10 months  = 1600 Working hours in total (Per week 40 hours)  Required number of people, ST = PM/DM  = 29.37/10  = 2.937 = 3 people |

Budgeting

|  |
| --- |
| Developer/Tester salary of 10 months:  Per employee salary per month = 40000 Taka = 400 Taka per hour  Total salary = 400 \* 1600 = **6, 40, 000 Taka**  Requirement analysis:  Required time = 1 month = 25 working days = 200 working hour  Requirement analysis persons per hour salary = 250 Taka  Total requirement analysis salary = 250 \* 200 = **50,000 Taka**  Transportation cost: **15,000 Taka** (Approximate)  Hardware expense: **1, 20, 000 Taka** (Approximate)  Rent expenses:  Total in 10 months = **1, 65, 000 Taka** [Per month = 15,000 Taka]  Total utilities in 10 months: **15,000 Taka** (Approximate)  Maintenance (Till 4 months after delivery):  Cost per hour = 1,200 Taka  Total estimated time needed for maintenance = 40 hours  Total estimated maintenance cost = 1,200 \* 40 = **48,000 Taka**  Project manager’s salary of 10 months:  Per month salary = 40,000 Taka  Total salary = 40,000 \* 10 = **4, 00, 000 Taka**  Accountant’s salary of 10 months:  Per month salary = 12,000 Taka  Total salary = 12, 000 \* 10 = **1, 20, 000 Taka**  Total expense: 6, 40, 000 + 50,000 + 15,000 + 1, 20, 000 + 1, 65, 000 + 15,000 + 48,000  + 4, 00, 000 + 1, 20, 000 = **1, 573, 000 Taka**  Profit: 25% of total expense = 1, 573, 000 \* 25% = 3, 93,250 Taka  Total budget: 1,573, 000 + 3, 93,250 = **1, 966, 000 Taka** |

# FEATURES NOT TO BE TESTED

The following is a list of the areas that will not be specifically addressed. All testing in these areas will be indirect as a result of other testing efforts. For example:

* Networks
* Hardware

# TESTING APPROACH

## Testing Levels

* The testing for the Student Community project will 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 timeline established; most testing will be done by the test manager with the development teams’ participation.
* UNIT Testing: Initially, we'll conduct unit testing during system development. In this testing, we will test different software modules. Occasionally, the developer may also test the product as a whole. The code will be inspected line by line by the programmer using a few ways. It will be a "white box" test in which no code execution is performed.
* SYSTEM/INTEGRATION: Then, in the second section, we will do the integration. During this testing, we will ensure that all software components are logically integrated, tested as a group, and functioning properly. This level of testing seeks to identify weaknesses in how different software components interact when they are combined. In this step, we will implement "bottom-up integration."
* ACCEPTANCE Testing: Our testing concludes with acceptance testing. The purpose of this testing is to determine whether or not our product is acceptable. This test will determine if any defects were overlooked during the functional testing phase. This level will utilize the "Black Box Testing" methodology. After that, we may conduct unit tests once again.

## Test Tools

* At first the Selenium IDE of chrome browser will be used for automated testing based on usage of the user/development team member. After the automated testing we will be able to identify that which features/functions are working or not.
* The Selenium Web Driver Tool will be used for automated testing. We utilize this instrument to discover errors and verify that our systems are of high quality, responsive, progressive, and consistent.
* Jira project management tool will be used to share documents, communicate with team members, to keep track of schedule and planning, the progress of the testing project and so on.

## Meetings

The test team will meet once in every 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 two weeks as well. These two meetings will be scheduled on different weeks. Additional meetings can be called as required for emergency situations.

# TEST CASES/TEST ITEMS

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Project Name: Student Community | | | Test Designed by: APU | | |
| Test Case ID: FR\_2 | | | Test Designed date:26/04/23 | | |
| Test Priority (Low, Medium, High): Medium | | | Test Executed by: APU | | |
| Module Name: Login Session | | | Test Execution date: 27/04/23 | | |
| Test Title: verify login with valid username and password | | |  | | |
| Description: Test website login page | | |  | | |
| Precondition (If any): User must have valid username and password | | | | | |
| Test Steps | Test Data | Expected Results | | Actual Results | Status (Pass/Fail) |
| 1. Go to the website 2. Enter username 3. Enter password 4. Click submit | Username: rahmanapu@gmail.com  Password: 1235#@ | User should login into the application | | As expected, | Pass |
| Post Condition: User is validated with database and successfully login to account. The account session details are logged in the database. | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Project Name: Student Community | | | Test Designed by: Abdullah | | |
| Test Case ID: FR\_1 | | | Test Designed date: 25/04/23 | | |
| Test Priority (Low, Medium, High): Medium. | | | Test Executed by: Abdullah | | |
| Module Name: Registration session | | | Test Execution date: 26/04/23 | | |
| Test Title: Verify that user have given valid Gmail, fulfill the correct password criteria. | | | | | |
| Description: Test website registration feature. | | | | | |
| Precondition (If any): User must have valid email id/phone number, password. | | | | | |
| Test Steps | Test Data | Expected Results | | Actual  Results | Status  (Pass/Fail) |
| 1. Open the website account login page. 2. Click registration button. 3. Enter Name, Email id or Phone number, Password. 4. Enter Submit button. 5. Enter the confirmation code sent to the Gmail. | Username: abdullah  E-Mail:  abdullah@gmail.com  phone: 016\*\*\*\*\*\*\*4  Password:  Soad2022@  Code: 1610 | User should register into the webpage | | As expected, | Pass |
| Post Condition: User can successfully register his/her account. | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Project Name: Student Community | | | Test Designed by: Wasif | | |
| Test Case ID: FR\_3 | | | Test Designed date:27/04/23 | | |
| Test Priority (Low, Medium, High): Medium | | | Test Executed by: Wasif | | |
| Module Name: Search Session | | | Test Execution date: 29/04/23 | | |
| Test Title: Verify user search for field specific channel. | | |  | | |
| Description: Test search for field specific channel from dashboard | | |  | | |
| Precondition (If any): User must have valid account | | | | | |
| Test Steps | Test Data | Expected Results | | Actual Results | Status (Pass/Fail) |
| 1. Go to the website 2. Enter username 3. Enter password 4. Click submit 5. Search on dashboard | Username: mustafawasif875@gmail.com  Password: Fifa23@xv  Search for: SQAT demo testing document. | User should be able to search the specific field | | As expected, | Pass |
| Post Condition: Users will be able to search for field specific channel from their personal dashboard. | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Project Name: Student Community | | | Test Designed by: Wasif | | |
| Test Case ID: FR\_4 | | | Test Designed date:27/04/23 | | |
| Test Priority (Low, Medium, High): Medium | | | Test Executed by: Wasif | | |
| Module Name: Create Project Session | | | Test Execution date: 29/04/23 | | |
| Description: Test create project feature | | |  | | |
| Precondition (If any): User must have valid account | | | | | |
| Test Steps | Test Data | Expected Results | | Actual Results | Status (Pass/Fail) |
| 1. Go to the website 2. Enter username 3. Enter password 4. Log In 5. Open website dashboard 6. Go to Create Project | Username: mustafawasif875@gmail.com  Password: Fifa23@xv  Button: Create project | User should be able create a new project | | As expected, | Pass |
| Post Condition: Users will be able to create field specific projects and make it public/private. | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Project Name: Student Community | | | Test Designed by: Wasif | | |
| Test Case ID: FR\_5 | | | Test Designed date:27/04/23 | | |
| Test Priority (Low, Medium, High): Medium | | | Test Executed by: Wasif | | |
| Module Name: Create Edit Profile Session | | | Test Execution date: 29/04/23 | | |
| Description: Test Edit Profile feature | | |  | | |
| Precondition (If any): User must have valid account | | | | | |
| Test Steps | Test Data | Expected Results | | Actual Results | Status (Pass/Fail) |
| 1. Go to the website  2. Enter username  3. Enter password  4. Log In  5. Open website dashboard  6. Go to Edit Profile | Username: mustafawasif875@gmail.com  Password: Fifa23@xv | User should be able edit his/her profile information except the username | | As expected, | Pass |
| Post Condition: Users will be able to edit his/her profile information. | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Project Name: Student Community | | | Test Designed by: Wasif | | |
| Test Case ID: FR\_6 | | | Test Designed date:27/04/23 | | |
| Test Priority (Low, Medium, High): Medium | | | Test Executed by: Wasif | | |
| Module Name: Log out Session | | | Test Execution date: 29/04/23 | | |
| Test Title: verify log out successfully | | |  | | |
| Description: Test website log out feature | | |  | | |
| Precondition (If any): User must have valid username and password | | | | | |
| Test Steps | Test Data | Expected Results | | Actual Results | Status (Pass/Fail) |
| 1. Go to the website  2. Enter username   1. Enter password 2. Log In to the dashboard 3. Go to Log Out option | Username: rahmanapu@gmail.com  Password: 1235#@ | User should be able to log out from the application | | As expected, | Pass |
| Post Condition: Users will be able to successfully log out from the website. | | | | | |

# ITEM PASS/FAIL CRITERIA

The test process will be completed once the initial set of distributors have successfully sent in reassigned sales data for a period of one month and the new EDI data balances with the old ZIP/FAX data received in parallel. When the sales administration staff is satisfied that the data is correct the initial set of distributors will be set to active and all parallel stopped for those accounts.

# TEST DELIVERABLES

* Acceptance test plan
* System/Integration test plan
* Unit test plans/turnover documentation
* Screen prototypes
* Report mock-ups
* Defect/Incident reports and summaries
* Test logs and turnover reports

# STAFFING AND TRAINING NEEDS

This part covers personnel and test job preparation. At least one full-time tester is recommended for system/integration and acceptance testing. Most employees will embrace challenging tasks. Job descriptions follow:

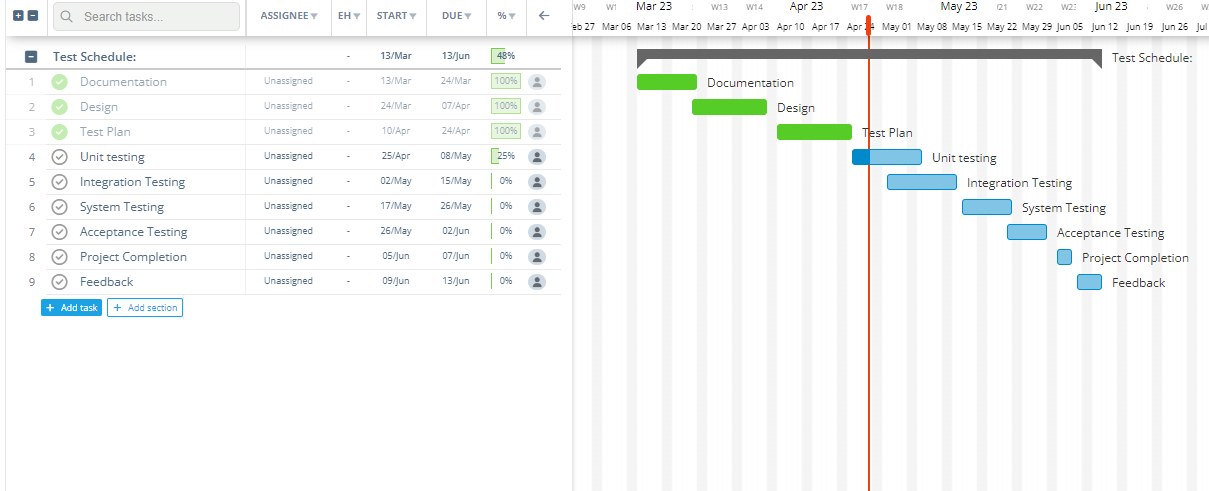
* Project Manager: Responsible for the overall project execution. This includes drafting requirements and managing the testing cycle, among other tasks. Therefore, project managers need training in these areas.
* Test Manager: Responsible for creating expert test strategies, evaluating test deliverables, managing test cycles, and recommending testing completion. Test managers must be qualified to evaluate professional standard test designs.
* Test Engineer: Responsible for designing tests, creating test methods, generating test data, executing tests, constructing automated test strategies, and providing the test administrator with measurement information. Test engineers should therefore be able to plan and execute any test case using automated technologies.

# RESPONSIBILITIES

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | TM | PM | Dev Team | Test Team | Client |
| Acceptance test documentation & execution | X | X |  |  |  |
| System/Integration test documentation &  execution | X | X |  |  | X |
| Unit test documentation & execution | X | X |  | X | X |
| System Design Reviews |  |  | X |  | X |
| Detail Design Reviews |  |  | X |  | X |
| Test procedures and rules | X | X |  | X |  |
| Screen & Report prototype reviews |  |  | X |  | X |
| Change Control and regression testing | X | X | X | X |  |

# TESTING SCHEDULE

* Project Proposal
* Requirement
* Project Planning
* System Design
* Coding
* Testing
* Implement and Unit Testing
* System Integration and Testing



# PLANNING RISKS AND CONTINGENCIES

* Software Failure: We will keep a primary and a backup hardware system up and running, and printers and workstations must be regularly serviced and kept in good shape.
* Illness or Injury: Regular medical checkups are arranged for the employees.

# APROVALS

|  |  |
| --- | --- |
| Project Sponsor- APU | Approved |
| Development Management-SOAD | Approved |
| EDI Project Manager- ASIBUL | Approved |
| RS Test Manager-WASIF | Approved |
| RS Development Team Manager- SOAD | Approved |
| Reassigned Sales- APU | Approved |
| Order entry EDI Team Manager- ASIBUL | Approved |