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**Formative Assignment 2**

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| Module Name | Application Implementation (Agile Project Management) |
| Course Name | Bachelor of Technology in Software Engineering |
| Assignment Title | Phase Test Plan to test the community portal |

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| Learner Name | Syukur Sidiq Nur Alam |

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| Learner declaration |
| I certify that the work submitted for this assignment is my own and research sources are fully acknowledged.  Student signature: Date: 22/07/2023 |

## Purpose of this assignment

To demonstrate your capabilities in the following areas:

* Preparing Test Plan for a software application

## Submission Format

The submission is in the form of an individual written report with examples and illustrations. This should be written in a concise, formal academic style using single spacing and font size 12.You are required to make use of headings, paragraphs, and subsections as appropriate, and all work must be supported with research and referenced using the Harvard referencing system. Please also provide a bibliography using the Harvard referencing system.

## Submission file

Submission File Name format: Cohort Code \_Full Name\_Assignment Number

E.g.: AIM-1222A\_AliceTan\_A2.docx

## Scenario

## You have been approached by ‘ABC Jobs Pte Ltd’ as a website developer to develop a community portal for Software Developers. For this module the scope is to Design, Develop, Implement & Document the data-driven website using the framework Spring boot and react.

The Scope of the Project is to design a Community Portal Similar to Linkedin.com. Users will be able to register in the portal using the Registration Page. Users of the portal can search for other users using various parameters such as First Name, Last Name, Company Name, City & Country. Users will be able to view the Public Profile of users after searching them. The portal allow users to login, request for forgotten password and Update their profile information.

The overview of the project is as below

There are 2 types of users in this Community portal. They are

1. Software Programmer
2. Administrator

Software Programmer should be able to perform following functions in the portal

1. Allow the programmers to register in the portal, show a thank you page & send a registration confirmation email.
2. Search & Find Other Programmers after login and view their profile.
3. Provide Login Page
4. Provide password retrieval functionality.
5. Update their Profile after logging in.

**Following Functionality is part of Database Design & will be enhanced as features as required in the Capstone Project, depending on time availability.**

1. Send Messages to Each Other on the Portal
2. Create Threads & Post Replies to a Thread
3. Post Job Opportunities in the Portal

## Administrator should be able to perform following functions in the portal

## Administer user data.

## Send bulk email inviting programmers to register on the community portal

## The portal consist of the following Key pages (For Reference)

## Community Portal Home Page

## Registration Page

## Registration Confirmation Page (with Registration Confirmation Email)

## Login Page

## Reset Password Page

## Reset Password Confirmation Page

## Update Profile Page

## Search Users Page

## List Search Results

## Public Profile Page

## *Pages for enhancement (depending on time availability)*

## *Send Messages*

## *Read Messages*

## *Post thread in Message Board*

## *List threads in Message Board*

## *Read A Thread*

## *List Job Opportunities & Responses*

## *Post Job Opportunities*

1. *Apply for Jobs*

You will be required to:

Create a testing plan document for the community portal project. The document should include the following sections:

1. Introduction: Provide an overview of the project and its objectives.
2. Test Scope: Define the scope of testing, including the specific functionalities and features to be tested.
3. Test Strategy: Describe the overall approach and strategy for testing the community portal.
4. Test Environment: Specify the hardware, software, and testing tools required for the testing process.
5. \*Test Schedule: Create a schedule that outlines the timeline for different testing activities.
6. \*Test Cases: Develop a set of test cases that cover different scenarios and functionalities of the community portal.
7. \*Test Data: Identify the test data required for executing the test cases.
8. \*Test Execution: Explain how the test cases will be executed, including the test environment setup and execution process.
9. Defect Reporting: Define the process for reporting and tracking defects encountered during testing.
10. Risk Assessment: Identify potential risks and mitigation strategies for the testing process.
11. Resource Allocation: Determine the resources needed for testing, including the number of testers and their roles.
12. Test Deliverables: Specify the expected deliverables from the testing process, such as test reports and documentation.
13. Approval: Include a section for approval and review of the testing plan.

*\* Items e – h (above) / 5 – 8 (in the template below) will be covered in Assignment 3*

## Evidence to exhibit

* Phase Test Plan

Example Template:

1. **Introduction**
   1. Project Overview

The project aims to develop a community portal for professionals, designed to be similar to Linkedin.com. The portal will provide a platform for individuals to interact, network, and share their professional profiles. The website will be built using the Spring Boot framework for the backend and React for the frontend, combining their strengths to create a robust and user-friendly platform.

* 1. Objectives
* User Registration and Authentication: Allow new users to register on the portal and implement a secure login system to authenticate users.
* User Search Functionality: Develop a user search feature based on various parameters like First Name, Last Name, Company Name, City, and Country.
* Public Profile View: Design public user profiles showcasing professional information, skills, and experiences, accessible to other users after a successful search.
* Password Recovery: Implement a password recovery mechanism for users who forget their passwords.
* Profile Information Update: Enable users to update their profile information, including personal details, experiences, education, and skills.
* Documentation: Provide comprehensive documentation of the development process, including technical specifications and project structure.

1. **Test Scope**

* **User Registration and Authentication:**

**User Registration Testing:**

* Ensure users can successfully register by providing valid information.
* Verify that the user-provided information is correctly stored in the database.

**Login Testing:**

* Ensure registered users can log in to the portal with correct credentials.

- Verify that non-registered users cannot log in to the portal.

**Security Testing:**

* Verify that passwords are stored in encrypted form and not accessible to unauthorized parties.
* Conduct security testing to prevent common attacks such as SQL injection or XSS attacks.
* **User Search Functionality:**

**Search Function Testing:**

* Ensure user search based on parameters like First Name, Last Name, Company Name, City, and Country returns relevant results.
* Verify that search results display user profiles that match the search criteria.

**Performance Testing:**

* Perform testing to ensure user search runs quickly and efficiently, even with a large number of users in the database.
* **Public Profile View:**

**Public Profile Display Testing:**

* Ensure public profiles display relevant information about users correctly.
* Verify that public profiles are only accessible to other users after successful search.
* **Password Recovery:**

**Password Recovery Process Testing:**

* Ensure users can request password recovery by providing their registered email address.
* Verify that the recovery email is sent correctly to the valid address.

**Password Reset Testing:**

* Ensure users can reset their passwords through the provided recovery link.
* Verify that the password is successfully updated after the recovery process.
* **Profile Information Update:**

**Profile Information Update Testing:**

* Ensure users can update their profile information, including experiences, education, and skills.
* Verify that profile changes are properly saved and reflected in the public profile.
* **Documentation:**

**Documentation Quality Testing:**

* Ensure technical documentation covers installation, configuration, and usage steps of the portal.
* Verify that the documentation provides clear descriptions of the project's architecture and how to develop or modify it.

1. **Test Strategy**

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| 1.  Functional Testing - UAT test cases | | |  |  |
| Test Id | **Test Scenario** | **Test Objective** | **Technique** | **Expected Result** |
| 1 | TS001 | Identify the user can log in to the portal with registered credentials. | Functional Testing | Upon attempt of authentication, users will be authenticated to the portal and given authorization of member or user as default. |
| 2 | TS002 | Identify whether users can register or not. | Functional Testing | Upon registration, they can use the registered credentials to authenticate to the User to System. |
| 3 | TS003 | Identify whether the user can use forgot password feature. | Functional Testing | The Reset Password Page should allow the user to enter a new password and confirm the password change. |
| 4 | TS004 | test function users can edit their profile information | Functional Testing | The database should correctly store the modified data. |
| 5 | TS005 | Find People by using the search function. | Functional Testing | The profile displayed must match the search parameters entered (eg, First Name, Last Name, and City). |

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| 2.  Compatibility - Cross-browser testing/responsiveness | | | |  |
| Test Id | **Test Scenario** | **Test Objective** | **Technique** | **Expected Result** |
| 6 | TS006 | Identify if the Result portal works as intended on Microsoft Edge. | Cross-browser Testing | The look and feel are working as intended on Microsoft Edge. |
| 7 | TS007 | Identify if the result portal works as intended on Mozilla Firefox. | Cross-browser Testing | The look and feel are working as intended on Mozilla Firefox. |
| 8 | TS008 | Identify if the Result portal works as intended on Chrome. | Cross-browser Testing | The look and feel are working as intended on Google Chrome. |

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| 3. Performance Efficiency - Load Testing/Stress Testing | | | |  |
| Test Id | **Test Scenario** | **Test Objective** | **Technique** | **Expected Result** |
| 9 | TS09 | Identify if the register page load time is within 10 – 15 | Performance Testing | The register page will load in less than 15 seconds |
| 10 | TS010 | Identify if the login page load time is within 10 – 15 | Performance Testing | The login page will load in less than 15 seconds |
| 11 | TS011 | Identify if the index load time is within 10 – 15 | Performance Testing | The index page will load in less than 15 seconds |

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| 4.  Portability - Multi platforms (different platforms, different devices) | | | | |
| Test Id | **Test Scenario** | **Test Objective** | **Technique** | **Expected Result** |
| 12 | TS012 | Identify whether the portal functionality works as intended using various platforms and Mobile. | Portability Testing | The portal should have a responsive look and feel, which scales down to a mobile view. |
| 13 | TS013 | Identify whether the portal functionality works as intended using various platforms and Tablets. | Portability Testing | The portal should have a responsive look and feel, which scales down to a Tablet view. |
| 14 | TS014 | Identify whether the portal functionality works as intended using various platforms and Dekstop. | Portability Testing | The portal should have a responsive look and feel with a Dekstop view. |

1. **Test Environment**
   1. Hardware

Processor: Dual Core Cpu or more.

RAM: 4 GB or more.

HDD: 60 GB or more.

Graphics Card: Intel HD / Radeon Graphics or more.

* 1. Software

OS: Windows 9

Spring boot

VSCODE

React

MySQL Workbench 8.0

* 1. Testing Tools

Chrome

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| No | Task | Start | End | Person Days | Resource |
| 1 | Prepare Test Plan | 17-7-2023 | 17-7-2023 | 1 | Project Manager |
| 2 | Review Test Plan | 17-7-2023 | 17-7-2023 | 1 | Quality Assurance |
| 3 | Prepare Test Scripts | 18-7-2023 | 18-7-2023 | 1 | Software Engineer |
| 4 | Review Test Scripts | 18-7-2023 | 18-7-2023 | 1 | Quality Assurance |
| 5 | Set up Test Environment | 19-7-2023 | 19-7-2023 | 1 | Software Engineer |
| 6 | Maintain Test Environment | 19-7-2023 | 19-7-2023 | 1 | Software Engineer |
| 7 | Establish Test Procedures | 20-7-2023 | 20-7-2023 | 1 | Quality Assurance |
| 8 | Promote Software from Development to Test Environment | 20-7-2023 | 20-7-2023 | 1 | Software Engineer |
| 9 | Execute Testing/Record Faults | 21-7-2023 | 21-7-2023 | 1 | Tester |
| 10 | Re-execute Tests as Needed | 21-7-2023 | 21-7-2023 | 1 | Tester |
| 11 | Provide Support/Resolve Faults | 22-7-2023 | 22-7-2023 | 1 | Tester |
| 12 | Promote Software from Test to Development Environment | 23-7-2023 | 23-7-2023 | 1 | Software Engineer |
| 13 | Certify Application for Release to Beta Test Group | 23-7-2023 | 24-7-2023 | 1 | Project Manager |

1. **\*Test Schedule**
2. **\*Test Cases**
3. **\*Test Data**
4. **\*Test Execution**
   1. Test Environment Setup
   2. Test Execution Process
5. **Defect Reporting**

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| Deflect Id | Test Id | Test Scenario | Severity | Priority | Detected By | Date Detected | Desc. Of Detect |
| D0001 | TS0001 | User Forgot Password | High | High | UAT Tester | 21-07-2023 | The user cannot create a new password. |
| D0002 | TS0002 | Search Other Profile | Medium | Medium | UAT Tester | 21-07-2023 | The other profile is not showing. |
| D0003 | TS0003 | Update Profile User | High | High | UAT Tester | 21-07-2023 | The data cannot add or update. |

1. **Risk Assessment**

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| 1.  Functional Testing - UAT test cases | | |  |  |  |  |
| Test Id | **Test Scenario** | **Test Objective** | **Technique** | **Pro** | **Risk** | **Expected Result** |
| 1 | TS001 | Identify the user can log in to the portal with registered credentials. | Functional Testing | High | May login without details. | Upon attempt of authentication, users will be authenticated to the portal and given authorization of member or user as default. |
| 2 | TS002 | Identify whether the user can register or not | Functional Testing | Medium | The user will not be able to use the website. | Upon registration, they can use the registered credentials to authenticate to the User to System. |
| 3 | TS003 | Identify whether the user can use forgot password feature. | Functional Testing | High | The password will forget forever, and the user cannot log in. | The Reset Password Page should allow the user to enter a new password and confirm the password change. |
| 4 | TS004 | test function users can edit their profile information | Functional Testing | Medium | The modified data cannot store in the database, and the user’s profile cannot update. | The database should correctly store the modified data. |
| 5 | TS005 | Find People by using the search function. | Functional Testing | Low | Other programmers will not show. | The profile displayed must match the search parameters entered (eg, First Name, Last Name, and City). |

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|  | |  | | 2.  Compatibility - Cross-browser testing/responsiveness | | | |  |
| Test Id | **Test Scenario** | | **Test Objective** | | **Pro** | **Risk** | **Technique** | **Expected Result** |
| 6 | TS006 | | Identify if the Result portal works as intended on Google Chrome. | | High | Users may get annoyed with the different look and feel of the portal and lose credibility on the portal. | Cross-browser Testing | The look and feel are working as intended on Google Chrome. |
| 7 | TS007 | | Identify if the Result portal works as intended on Microsoft Edge. | | High | Users may get annoyed with the different look and feel of the portal and lose credibility on the portal. | Cross-browser Testing | The look and feel are working as intended on Microsoft Edge. |
| 8 | TS008 | | Identify if the result portal works as intended on Mozilla Firefox. | | High | Users may get annoyed with the different look and feel of the portal and lose credibility on the portal. | Cross-browser Testing | The look and feel are working as intended on Mozilla Firefox. |

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|  | |  | | 3. Performance Efficiency - Load Testing/Stress Testing | | | |  |
| Test Id | **Test Scenario** | | **Test Objective** | | **Pro** | **Risk** | **Technique** | **Expected Result** |
| 9 | TS009 | | Identify if the index load time is within 10 – 15 | | High | Users will lose interest and not want to use the application. | Performance Testing | The index page will load in less than 15 seconds. |
| 10 | TS010 | | Identify if the login page load time is within 10 – 15 | | High | Users will lose interest and not want to use the application. | Performance Testing | The login page will load in less than 15 seconds. |
| 11 | TS011 | | Identify if the register page load time is within 10 – 15 | | High | Users will lose interest and not want to use the application. | Performance Testing | The register page will load in less than 15 seconds. |

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|  | |  | | 4.  Portability - Multi platforms (different platforms, different devices) | | | | |
| Test Id | **Test Scenario** | | **Test Objective** | | **Pro** | **Risk** | **Technique** | **Expected Result** |
| 12 | TS012 | | Identify whether the portal functionality works as intended using various platforms and Dekstop. | | High | Users cannot fully utilize the function on the portal page in a Desktop view. | Portability Testing | The portal should have a responsive look and feel with a Dekstop view. |
| 13 | TS013 | | Identify whether the portal functionality works as intended using various platforms and Tablets. | | High | Users cannot fully utilize the function on the portal page in a Desktop view. | Portability Testing | The portal should have a responsive look and feel, which scales down to a Tablet view. |
| 14 | TS014 | | Identify whether the portal functionality works as intended using various platforms and Mobile. | | High | Users cannot fully utilize the function in the portal page in a Desktop view. | Portability Testing | The portal should have a responsive look and feel, which scales down to a mobile view. |

1. **Resource Allocation**

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| Task | Resource Name |
| Sprint 1 |  |
| Determine the scope and requirements. | Syukur Sidiq Nur Alam |
| Create project plans and schedules. | Syukur Sidiq Nur Alam |
| Analysis and make The Flowchart. | Syukur Sidiq Nur Alam |
| Design the database schema. | Syukur Sidiq Nur Alam |
| Create wireframes and Storyboard. | Syukur Sidiq Nur Alam |
| Develop Register & Login. | Syukur Sidiq Nur Alam |
| Testing Phase. | Syukur Sidiq Nur Alam |
| Sprint 2 |  |
| Develop Search & Search Result. | Syukur Sidiq Nur Alam |
| Develop Edit Profile Users. | Syukur Sidiq Nur Alam |
| Implement View Others' Profile. | Syukur Sidiq Nur Alam |
| UAT Testing. | Syukur Sidiq Nur Alam |
| UT Testing. | Syukur Sidiq Nur Alam |
| Develop administrator functions. | Syukur Sidiq Nur Alam |
| Sprint 3 |  |
| Testing Phase. | Syukur Sidiq Nur Alam |
| Start Documentation. | Syukur Sidiq Nur Alam |
| Review and Final Adjustments |  |
| Final testing and bug fixes. | Syukur Sidiq Nur Alam |
| Documentation review and finalization. | Syukur Sidiq Nur Alam |

1. **Test Deliverables**

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| --- | --- |
| Test | Expectation |
| Functional Testing - UAT test cases | The Functional Testing phase will involve User Acceptance Testing (UAT) to ensure that the features and functionality of the Community Portal meet the specified requirements. All UAT test cases are executed and all identified bugs will be addressed and resolved. |
| Compatibility - Cross-browser testing | Cross-browser testing will be performed to verify that the Community Portal works stably and correctly on various web browsers such as Chrome, Firefox and Edge. The portal should work fine without major issues in all supported browsers. |
| Performance Efficiency - Load Testing | Load testing will be performed to evaluate the performance of the portal under different user loads. The portal is expected to handle the expected number of concurrent users without significant performance degradation or outages. |
| Portability - Multi platforms | The mobile testing phase will test the compatibility of the Community Portal with multiple platforms, including desktops, laptops, tablets, and mobile phones. The portal should be responsive and work smoothly on different devices and screen sizes. |

1. **Approval**

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| Deliverable | Approver | Signed Off Date |
| 1. Test Scope | Arvinder Kaur | 22-07-2023 |
| 2. Test Strategy | Arvinder Kaur | 22-07-2023 |
| 3. Test environment | Arvinder Kaur | 22-07-2023 |
| 4. Test Plan Phase | Arvinder Kaur | 22-07-2023 |
| 5. Defect Reporting | Arvinder Kaur | 22-07-2023 |
| 6. Risk Assessment | Arvinder Kaur | 22-07-2023 |
| 7. Resource Allocation | Arvinder Kaur | 22-07-2023 |