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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 | Francis Roel L. Abarca – bdse-0922-113 |

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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: 7/18/2023 |

## 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

Task Wise Solutions:

1. **Introduction**

**1.1. Project Overview**

ABC Jobs Pte Ltd has approached you as a website developer to develop a community portal for software developers. The scope of the project is to design, develop, implement, and document a data-driven website using the Spring Boot and React frameworks. The portal will be similar to Linkedin.com and will allow users to register, search for other users, view public profiles, log in, retrieve forgotten passwords, and update their profile information. **1.2. Objectives**

The objective of this testing plan is to ensure that the Community Portal meets the requirements specified by ABC Jobs Pte Ltd and functions as intended. This includes verifying that all functionalities for both software programmers and administrators are working correctly.

1. **Test Scope**

The scope of testing for the Community Portal includes the following functionalities and features:

* User registration, including confirmation email and thank you page.
* User search, including search by first name, last name, company name, city, and country.
* Public profile viewing
* User login and password retrieval
* Profile management, including updating profile information.
* Administrator functions, including user data administration and bulk email invitations.

1. **Test Strategy**

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| --- | --- | --- | --- | --- | --- |
| **1.  Functional Testing - UAT test cases** | | |  |  | |
| **Test Id** | **Test Scenario** | **Test Objective** | **Expected Result** | |
| 1 | TS001 | Ensure users can register to the website. | After registration, the users will be able to log-in to the system and access their information. | |
| 2 | TS002 | Identify when users can Login to the page with non-existing credentials. | Login will fail and indicate that this user doesn’t exist. | |
| 3 | TS003 | Ensure users can post. | User should be able to see their post on their profile and dashboard. | |
| 4 | TS004 | Ensure users can search what they are looking for. | User should be able to see the person or company they are searching for. | |
| 5 | TS005 | Ensure users can reset their password. | User should be able to replace their password as easy as possible. | |

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| **2.  Compatibility - Cross-browser testing / responsiveness** | | | |  | |
| **Test Id** | **Test Scenario** | **Test Objective** | **Expected Result** | |
| 6 | TS006 | Identify if the community portal looks good on Google Chrome. | The look of the portal and its user experience should be the same. | |
| 7 | TS007 | Identify if the community portal looks good on Apple Safari. | The look of the portal and its user experience should be the same. | |
| 8 | TS008 | Identify if the community portal looks good on Mozilla Firefox. | The look of the portal and its user experience should be the same. | |
| 9 | TS009 | Identify if the community portal looks good on Microsoft Edge | The look of the portal and its user experience should be the same. | |

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| **3. Performance Efficiency - Load Testing/ Stress testing** | | | |  | |
| **Test Id** | **Test Scenario** | **Test Objective** | **Expected Result** | |
| 10 | TS010 | Ensure the homepage loads in less than 10 seconds. | Homepage loads in less than 10 seconds. | |
| 11 | TS011 | Ensure the Login page loads less than 10 seconds. | Login page loads in less than 10 seconds. | |
| 12 | TS012 | Ensure the Dashboard loads in less than 15 seconds. | Dashboard loads in less than 15 seconds. | |
| 13 | TS013 | Ensure the Profile loads in less than 10 seconds. | Profile loads in less than 10 seconds. | |

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| 4**.  Portability - Multi platforms (different platforms, different devices)** | | | | |
| **Test Id** | **Test Scenario** | **Test Objective** | **Expected Result** |
| 14 | TS014 | Check if the website is still usable on an iPhone 14 Pro Max device. | Portal maintains the same feature-set of the desktop on the iPhone 14 Pro Max device. |
| 15 | TS015 | Check if the website is still usable on a 12.9in iPad Pro device. | Portal maintains the same feature-set of the desktop on the 12.9in iPad Pro device. |
| 16 | TS016 | Check if the website is still usable on the 2020 iPhone SE device. | Portal maintains the same feature-set of the desktop on the 2016 iPhone SE device. |
| 17 | TS017 | Check if the website is still usable on a 7.9in iPad mini device. | Portal maintains the same feature-set of the desktop on the 7.9in iPad mini device. |

1. **Test Environment**

**4.1. Hardware**

CPU: Intel Core i7-8700K

RAM: 48GB of DDR4

Storage: 120GB SATA SSD

**4.2. Software**

Host Operating System: Windows 11 Enterprise

Hypervisor: Microsoft Hyper-V

Guest Operating System: Windows 10 Pro

Web Server: Apache Tomcat 9

Back-End Platform: Spring Boot 2.7.13

Front-End Platform: ReactJs

Database System: MySQL 8.0

IDE: Jetbrains IntelliJ IDEA Ultimate 2023.2

**4.3. Testing Tools**

- Java Junit

- React Developer Tools

- Google’s Lighthouse Test

**Phase Test Plan**

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

1. **Defect Reporting**

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| **Test Metric** | **Testing Phase** |
| Number of Test Cases: **15**  Number of Test Cases: | Test Development Phase  Test Exection Phase |
| Number of Test Cases Executed  Number of Test Cases Failed | Test Execution Phase  Test Execution Phase |
| Number of Test Cases under Investigation | Test Development Phase |
| Number of Test Cases Blocked | Test Development Phase |
| Number of Test Cases Re-executed | Test Developing Phase / Execution Phase |
| Number of First Run Failures  Total Executions | Test Execution Phase Test Reporting Phase |
| Total Passes and Failures  Test Case Execution Time | Test Reporting Phase  Test Reporting Phase |
| Test Execution Time | Test Reporting Phase |

At Test Reporting Phase, the following calculated metrics are created/calculated:

• % of Test Case Passed

• % of Test Coverage

• % of Defects Corrected

• % of Test Case Blocked

• % of Rework

• % of Test Effectiveness

• 1st Run Fail Rate

• Defect Discovery Rate

• Overall Fail Rate

1. **Risk Assessment**

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| **1.  Functional Testing - UAT** | | |  |  |  |  |
| **Test Id** | **Test Scenario** | **Test Objective** | **Technique** | **Priority** | **Expected Result** | |
| 1 | TS001 | Ensure users can register to the website. | Functional Testing | High | After registration, the users will be able to log-in to the system and access their information. | |
| 2 | TS002 | Identify when users can Login to the page with non-existing credentials. | Functional Testing | High | Login will fail and indicate that this user doesn’t exist. | |
| 3 | TS003 | Ensure users can post. | Functional Testing | High | User should be able to see their post on their profile and dashboard. | |
| 4 | TS004 | Ensure users can search what they are looking for. | Functional Testing | Medium | User should be able to see the person or company they are searching for. | |
| 5 | TS005 | Ensure users can reset their password. | Functional Testing | High | User should be able to replace their password as easy as possible. | |

**2. Compatibility - Cross-browser testing / responsiveness**

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| **Test Id** | | **Test Scenario** | | | **Test Objective** | | **Technique** | **Priority** | | **Expected Result** | | | |
| 6 | | TS006 | | | Identify if the community portal looks good on Google Chrome. | | Compatibility Testing | High | | The look of the portal and its user experience should be the same. | | | |
| 7 | | TS007 | | | Identify if the community portal looks good on Apple Safari. | | Compatibility Testing | Medium | | The look of the portal and its user experience should be the same. | | | |
| 8 | | TS008 | | | Identify if the community portal looks good on Mozilla Firefox. | | Compatibility Testing | Medium | | The look of the portal and its user experience should be the same. | | | |
| 9 | | TS009 | | | Identify if the community portal looks good on Microsoft Edge | | Compatibility Testing | High | | The look of the portal and its user experience should be the same. | | | |
| **3. Performance Efficiency – Load Testing / Stress Testing** | | | | | | | | | | | |  |  |
|  | | |  | | | | | | | | |  |  |
| **Test Id** | **Test Scenario** | | | **Test Objective** | | **Technique** | | | **Priority** | | **Expected Result** | | |
| 10 | TS010 | | | Ensure the homepage loads in less than 10 seconds. | | Performance Efficiency | | | High | | Homepage loads in less than 10 seconds. | | |
| 11 | TS011 | | | Ensure the Login page loads less than 10 seconds. | | Performance Efficiency | | | High | | Login page loads in less than 10 seconds. | | |
| 12 | TS012 | | | Ensure the Dashboard loads in less than 15 seconds. | | Performance Efficiency | | | High | | Dashboard loads in less than 15 seconds. | | |
| 13 | TS013 | | | Ensure the Profile loads in less than 10 seconds. | | Performance Efficiency | | | High | | Profile loads in less than 10 seconds. | | |

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| **4. Portability - Multi platforms (different platforms, different devices)** | | | | | | |
| **Test Id** | **Test Scenario** | | **Test Objective** | **Technique** | **Priority** | **Expected Result** |
| 14 |  | TS014 | Check if the website is still usable on an iPhone 14 Pro Max device. | Portability Testing | High | Portal maintains the same feature-set of the desktop on the iPhone 14 Pro Max device. |
| 15 |  | TS015 | Check if the website is still usable on a 12.9in iPad Pro device. | Portability Testing | High | Portal maintains the same feature-set of the desktop on the 12.9in iPad Pro device. |
| 16 |  | TS016 | Check if the website is still usable on the 2020 iPhone SE device. | Portability Testing | High | Portal maintains the same feature-set of the desktop on the 2016 iPhone SE device. |
| 17 |  | TS017 | Check if the website is still usable on a 7.9in iPad mini device. | Portability Testing | High | Portal maintains the same feature-set of the desktop on the 7.9in iPad mini device. |

**7. Resource Allocation**

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| **Task Name** | **Resource Name** |
| Gathering Requirements | Project Manager |
| Defining Project Scope | Project Manager |
| Creating Project Plan | Project Manager |
| Identifying risks and mitigation strategies. | Project Manager |
| Formulating Relationships and Entities | UI/UX Designer |
| Creating the Database Design | UI/UX Designer |
| Develop Personas | UI/UX Designer |
| Creating wireframes | UI/UX Designer |
| Developing Storyboards | UI/UX Designer |
| Designing user interface | UI/UX Designer |
| Conducting user testing | UI/UX Designer |
| Finalizing design based on feedback | UI/UX Designer |
| Writing test cases | Backend Developer |
| Identify modules for testing | Backend Developer |
| Executing the tests | Backend Developer |
| Identifying and reporting bugs | Backend Developer |

**8. Test Deliverables**

**1. Functional Testing - UAT test cases**

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| --- | --- | --- |
| **Test Scenario** | **Test Objective** | **Expected Result** |
| TS001 | Ensure users can register to the website. | After registration, the users will be able to log-in to the system and access their information. |
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| TS003 | Ensure users can post. | User should be able to see their post on their profile and dashboard. |
| TS004 | Ensure users can search what they are looking for. | User should be able to see the person or company they are searching for. |
| TS005 | Ensure users can reset their password. | User should be able to replace their password as easy as possible. |

**2. Compatibility - Cross-browser testing / responsiveness**

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| **Test Scenario** | **Test Objective** | | **Expected Result** | | |
| TS006 | Identify if the community portal looks good on Google Chrome. | | The look of the portal and its user experience should be the same. | | |
| TS007 | Identify if the community portal looks good on Apple Safari. | | The look of the portal and its user experience should be the same. | | |
| TS008 | Identify if the community portal looks good on Mozilla Firefox. | | The look of the portal and its user experience should be the same. | | |
| TS009 | Identify if the community portal looks good on Microsoft Edge | | The look of the portal and its user experience should be the same. | | |
| **3. Performance Efficiency - Load Testing/ Stress testing** | | | | |
| **Test Scenario** | **Test Objective** | | | **Expected Result** | |
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| TS017 | Check if the website is still usable on a 7.9in iPad mini device. | Portal maintains the same feature-set of the desktop on the 7.9in iPad mini device. |

**9. Approval**

Dear Investors/Stakeholders,

Our team is pleased to inform you that we have successfully reviewed the proposal from ABC Jobs Pte Ltd to develop a community portal for software developers. This project involves designing, developing, implementing, and documenting a data-driven website using the Spring Boot and React frameworks. The portal will be similar to LinkedIn.com and will allow users to register, search for other users, view public profiles, log in, retrieve forgotten passwords, and update their profile information.

After careful consideration, we have decided to approve this project. We believe that the Community Portal will meet the requirements specified by ABC Jobs Pte Ltd and function as intended. This includes verifying that all functionalities for both software programmers and administrators are working correctly.

We are confident that this project will be a valuable addition to our portfolio, and we look forward to seeing its successful completion.

Thank you for considering this proposal.

Sincerely,

Francis Roel L. Abarca

Project Manager