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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 | Agung Yuda Pratama |

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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: 21-07-2023 |

## 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

# **1. Introduction**

## **A. Project Overview: ABC Jobs Portal**

ABC Job Portal is a community portal website facilitating interaction and networking among Software Developers. React and the Spring Boot backend framework is used in the design and development of Portal. This project's major objective is to build a data-driven platform that enables users to sign up, search for other users, browse their public profiles, and update them. Software developers and administrators will be this service's two main user groups.

## **B. Objectives**

The Objectives of this project are as follows:

**Create a Community Portal:** Create a functional community portal with collaboration and networking opportunities for software developers, akin to LinkedIn.com.

**User Registration and Management:** Implement a robust user registration system, enabling Software Programmers to register, receive registration confirmation emails, and manage their profiles.

**User Search Function:** Create a search engine that enables users to locate other programmers based on criteria like First Name, Last Name, Company Name, City, and Country.

**Login and Forget Password:** Offers a password retrieval feature for those who have forgotten their passwords and a secure login page for registered users to access their accounts.

**User Profile Update:** Enable Software Programmers to update their profile with relevant information.

**Administrator Functionality:** Implement features for Administrators to manage user data and send bulk emails inviting programmers to register on the community portal.

**Database Design:** Create an efficient and well-structured database to store user information, messages, threads, job opportunities, and responses.

**Testing Phase:** Plan, design, and execute comprehensive tests to ensure the Portal's functionality, security, and user experience meet desired standards.

# **2. Test Scope**

Test Scope for the ABC Job Portal project will focus on testing critical functionality related to user registration, login, and related processes. The purpose is to verify that this functionality meets user expectations, is safe, and is secure. The identified test scope includes:

**User registration:**

A. Verify the user can successfully register on the portal using the Registration Page.

B. Confirm that a registration confirmation email is sent to the user after successful registration.

C. Validate that the Registration Confirmation Page displays a thank you message and confirms that registration was successful.

**Login User:**

A. Test login functionality to ensure registered users can access their accounts securely.

B. Verify that the user received the appropriate error message for invalid login credentials.

C. Validate that the Password Reset Page allows users to reset their password if it is forgotten.

**User Profile Update:**

A. Test Profile Page Update to ensure users can change their profile information accurately.

B. Verify that the updated profile information is properly stored in the database.

**Search User:**

A. Validate Search User Page functionality to search for other programmers based on various parameters (First et al., Company Name, City, and Country).

B. Confirm that the List Search Results Page displays accurate search results.

**Administrator Functions:**

A. Test administrator's ability to manage user data effectively.

B. Verify that Administrators can send bulk emails inviting programmers to register on the community portal.

**Security Testing:**

A. Perform security testing to identify and address potential user registration and login process vulnerabilities.

B. Ensure sensitive user information is handled securely and protected from unauthorized access.

**Usability Testing:**

A. Evaluate the user interface and user experience of the Registration, Login, and Profile Update pages for ease of use and clarity.

B. Gather user feedback to identify areas for improvement in the user registration and login process.

**Cross-Browser and Device Testing:**

A. Test user registration and login capabilities on several web browsers (such as Chrome, Edge) to verify compatibility.

B. Verify that the portal functions flawlessly across various gadgets, including computers, tablets, and cell phones.

# **3. Test Strategy**

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| --- | --- | --- | --- | --- |
| 1.  Functional Testing - UAT test cases | | |  |  |
| Test Id | **Test Scenario** | **Test Objective** | **Technique** | **Expected Result** |
| 1 | TS001 | Identify whether 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 the user can successfully 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 successfully 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 | Make sure users can accurately edit their profile information. | Functional Testing | The database should correctly store the modified data. |
| 5 | TS005 | Find different programmers 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 Google Chrome. | 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. | 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. | 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** | **Technique** | **Expected Result** |
| 9 | TS009 | Identify if the index load time is within 10 – 15 | 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 | 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 | 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** | **Technique** | **Expected Result** |
| 12 | TS012 | 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. |
| 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 Mobile. | Portability Testing | The portal should have a responsive look and feel, which scales down to a mobile view. |

# **4. Test Environment**

* 1. Hardware
     1. Processor: Dual Core Cpu or more.
     2. RAM: 4 GB or more.
     3. HDD: 60 GB or more.
     4. Graphics Card: Intel HD / Radeon Graphics or more.
  2. Software
     1. OS: Windows 10
     2. Spring boot
     3. VSCODE
     4. React
     5. MySQL Workbench 8.0
  3. Testing Tools

Chrome Developer Tools

**Phase Test Plan**

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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 | 24-7-2023 | 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

# **Defect Reporting**

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| Deflect Id | Test Id | Test Scenario | Severity | Priority | Detected By | Date Detected | Desc. Of Detect |
| D0001 | TS0003 | User Forgot Password | High | High | UAT Tester | 21-07-2023 | The user cannot create a new password. |
| D0002 | TS0004 | Update Profile User | High | High | UAT Tester | 21-07-2023 | The data cannot add or update. |
| D0003 | TS0005 | Search Other Profile | Medium | Medium | UAT Tester | 21-07-2023 | The other profile is not showing. |

# **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 whether 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 successfully 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 successfully 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 | Make sure users can accurately 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 different programmers 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. |

# **Resource Allocation**

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

# **Test Deliverables**

|  |  |
| --- | --- |
| Test | Expectation |
| Functional Testing - UAT test cases | The functional testing phase will involve User Acceptance Testing (UAT) to ensure that the community portal's features and functionality meet specified requirements. All UAT test cases were expected to be executed, and any defects identified were addressed and resolved. |
| Compatibility - Cross-browser testing | Cross-browser testing will be conducted to verify that the community portal functions consistently and correctly across various web browsers such as Chrome, Firefox, and Edge. The Portal is expected to work fine, with no major issues in all supported browsers. |
| Performance Efficiency - Load Testing | Load testing will be carried out to assess the Portal's performance under various user loads. The Portal hopes to handle the expected number of concurrent users without significant performance degradation or crashes. |
| Portability - Multi platforms | The portability testing phase will involve testing the compatibility of the community portal with multiple platforms, including desktop computers, laptops, tablets, and mobiles. The Portal should be responsive and work smoothly across various devices and screen sizes. |

# **Approval**

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| --- | --- | --- |
| Deliverable | Approver | Signed Off Date |
| 1. Test Scope | Arvinder Kaur | 21-07-2023 |
| 2. Test Strategy | Arvinder Kaur | 21-07-2023 |
| 3. Test environment | Arvinder Kaur | 21-07-2023 |
| 4. Test Plan Phase | Arvinder Kaur | 21-07-2023 |
| 5. Defect Reporting | Arvinder Kaur | 21-07-2023 |
| 6. Risk Assessment | Arvinder Kaur | 21-07-2023 |
| 7. Resource Allocation | Arvinder Kaur | 21-07-2023 |