

**International School**

**Capstone Project 2**

CMU-SE 451

**Project Plan**

**Version 1.0 Date: 19/03/2024**

**Intelligence IT Job Finding - The Recruitment System support with Chatbot**

**Submitted by**

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Name Signature Date

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 19-Feb-2024

**Capstone Project 1 - Mentor:**

Name Signature Date

Hoang, Nguyen Thai \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 19-Feb-2024

**Project Information**

|  |  |  |  |
| --- | --- | --- | --- |
| **Project acronym** | IIJF | | |
| **Project Title** | Intelligence IT Job Finding | | |
| **Start Date** | 15th Feb 2024 | **End Date** | 27th May 2024 |
| **Lead Institution** | International School, Duy Tan University | | |
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| **Partner Organization** | Duy Tan University | | |
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**Proposal Document**

|  |  |  |  |
| --- | --- | --- | --- |
| **Document Title** | Project Plan | | |
| **Reporting Period** |  | | |
| **Author(s) & project** | Tuan, Nguyen Anh | | |
| **Role** | Dat, Nguyen Thanh | Member |  |
| Tri, Le Minh | Member |  |
| Duyet, Pham The | Member |  |
| **Date** | Mar 19th 2024 | Filename | ProjectPlan\_v1.0 |
| **URL** |  | | |
| **Access** | Project and CMU Program | |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Version** | **Date** | **Comments** | **Author** | **Approval** |
| 1.0 | 19/03/2024 | Initial Release | All members |  |
|  |  |  |  |  |

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# Project Overview

# Project Description

|  |  |  |  |
| --- | --- | --- | --- |
| **Project code** | IIJF | **Contract type** | Fixed price |
| **Customer** |  | **2nd Customer** |  |
| **Project Level** | Group | **Project rank** | A |
| **Group** | Team SE.06 | **Division** |  |
| **Project Type** | External | **Project Manager/ Scrum master** | Tuan, Nguyen Anh |
| **Project Category** | Development | **Business domain** |  |
| **Application type** | Commercial Product |  |  |

# Purpose and Scope

# Purpose

Build a smart job search application with CV creation feature. In addition, the application also develops the feature to merge employers and candidates.

Providing solutions to job search needs and saving time for employers and recruiters.

Building a chatbot system helps customers find jobs suitable for their profession, provides information about companies they want to learn about, and supports customers on how to use them. Use customer functions such as Create CV or send CV to employer.

Identify resources, time, budget, implement actual projects and ensure on schedule and budget.

# Scope

Providing job search solutions for employers, helping users create CVs easily. A place to help employers post job content and vacancies so users can apply.

Detect the match between employers and applicants to help make recruitment more effective.

This chatbot can offer a valuable resource for both job seekers and employers on your IT job web application. It can answer user questions, guide them through the platform, and even personalize recommendations. By incorporating this AI assistant, you can streamline user experience and improve overall satisfaction.

# Assumptions and Constraints

|  |  |  |
| --- | --- | --- |
| **No** | **Description** | **Note** |
| **Assumptions** | | |
| 1 | Nodejs version v18.8.0 (or above) and lower version not supported. | Scope |
| 2 | Customer reviewers will get seven days to approve a milestone document. If no comments are received within this time period, it will be considered as approved. | External Interfaces |
| **Constraints** | | |
| 1 | The project is developed within 24 weeks and quarterly deployed on the market. | Schedule |
| 2 | The project shall conform to security requirements specified by the customer | Security |
| 3 | The product operates at a high level of performance and has a page load of no more than 5 seconds. | Quality |
| 4 | The project will be implemented by a team including 4 members | Resources |
| 5 | The financial estimation for the project is at a budget limit of $5000 | Budget |

# Project Objectives

# Standard Objectives

|  |  |  |  |
| --- | --- | --- | --- |
| **Metrics** | **Unit** | **Committed** | **Note** |
| Start Date | dd-mmm-yy |  |  |
| End Date | dd-mmm-yy |  |  |
| Duration | days | 100 days |  |
| Maximum Team Size | Person | 4 Person |  |
| Billable Effort | Person-day | 21,5 days |  |
| Number of work hours per day for one engineer | Person-hour | 4 hours |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Metrics** | **Unit** | **Target** | | | **Basic for setting Goals** |
| **LSL** | **Average** | **USL** |
| **Quality** | | | | | |
| Customer Satisfaction | Point | 8.5 | 9 | 9.5 | Refer to Gx Target in the year 2020,  5% higher than previous project (A project) |
| Leakage | Wdef/UCP |  |  |  |  |
| Process Compliance | NC/Ob |  |  |  |  |
| **Cost** | | | | | |
| Effort Efficiency | % | 70 | 80 | 90 |  |
| Correction Cost | % | 60 | 65 | 70 |  |
| **Delivery** | | | | | |
| Timeliness | % | 85 | 90 | 95 |  |
| Requirement Completeness | % | 80 | 85 | 90 |  |

# Specific Objectives

Based on human resources, time and budget, we will build a system that uses intelligent algorithms to detect compatibility between candidates and employers. The system operates with high performance and is safe for users.

User security data is encrypted and stored carefully to avoid data loss.

The system implemented by the project team minimizes errors and controls risks well.

# Critical Dependencies

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Dependency** | **Expected delivery date** | **Note** |
| 1 | IIJF | 2024 | Legacy system |
| 2 | VNPay system | 2024 | External System |
| 3 | Firebase storage Cloud | 2024 | External System |
| 4 | Mapbox | 2024 | External System |
| 5 | Google | 2024 | External System |
| 6 | Facebook | 2024 | External System |
| 7 | RASA Chatbot | 2024 | External System |

# Project Risk

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Risk** | **Description** | **Probability** | **Impact** | **I \* P** | **Mitigation Strategy** |
| Incorrect requirements | Developing the product which does not accord with the requirements | 4 | 5 | 20 | Discuss and communicate frequently with Stakeholders |
| Estimate working time | Actual working time is not enough to finish a task compared to the estimated previous time | 3 | 5 | 15 | Review old tasks and evaluations to estimate for the new task.  Replan for each sprint. |
| People | Team member who is ill, has health problems, or busy | 3 | 3 | 9 | Notify the scrum master (or ask a colleague to help you)  Complete the assigned tasks when possible |
| Lack of technical experiences | Detect harmful content in the video is a difficult technique that all members need to research and develop. | 2 | 4 | 8 | Spend a lot of time for learning and training |
| Team Communication | Team members can conflict with each other while discussing something related to the project | 4 | 2 | 8 | Conduct a meeting to share knowledge, experience and learning methods |

# Project Development Approach

# Technical Process

# Reasons for selecting.

To keep up with today's increasingly changing technology trends, we want a truly flexible and easy project development model to adapt to that change. Our project will develop more new features in the future. We will continuously update and apply new technologies that increase the attractiveness and intelligence of the application.

Currently, our team is a small team with little experience in project development. Therefore, we cannot avoid problems that arise in the software development stages and requirements can be changed to be more suitable. For the traditional model that requires managerial skills and high accuracy, it will not suit our team. Applying Agile Scrum model will help us to solve these problems, bring a lot of experience and best performance for project development.

# Agile Methodology

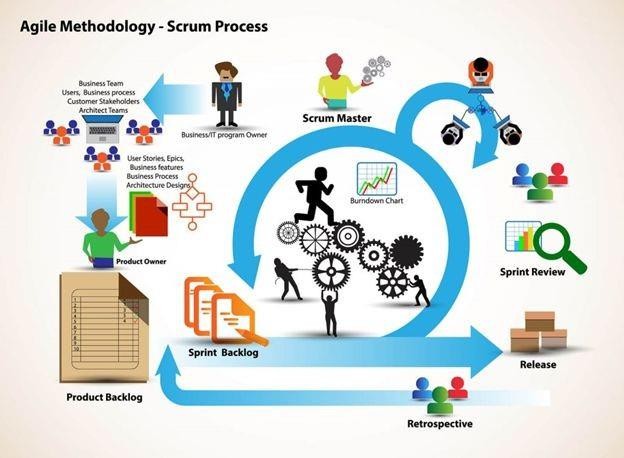
Agile software development refers to a group of software development methodologies based on iterative development, where requirements and solutions evolve through collaboration between self-organizing cross-functional teams.

Agile software development is more than frameworks such as Scrum, Extreme Programming, or Feature-Driven Development (FDD).

Agile software development is more than practices such as pair programming, test-driven development, stand-ups, planning sessions, and sprints.

Agile software development is an umbrella term for a set of frameworks and practices based on the values and principles expressed in the Manifesto for Agile Software Development and the 12 Principles behind it. When you approach software development in a particular manner, it’s generally good to live by these values and principles and use them to help figure out the right things to do given your context.

* + 1. **Scrum Process**



**Figure 1:** *Agile Methodology*

*About Scrum*:

Scrum is a subset of Agile. It is a lightweight process framework for agile development, and the most widely used one.

Scrum is most often used to manage complex software and product development, using iterative and incremental practices. Scrum significantly increases productivity and reduces time to benefits relative to classic “waterfall” processes. Scrum processes enable organizations to adjust smoothly to rapidly- changing requirements and produce a product that meets evolving business goals.

An agile Scrum process benefits the organization by helping it to:

* Increase the quality of the delivery.
* Cope better with change (and expect the changes).
* Provide better estimates while spending less time creating them.
* Be more in control of the project schedule and state.

# Quality Management

* + 1. **Estimates of Defects to be detected Pre-release review defects:**

|  |  |  |
| --- | --- | --- |
| **Process** | **Planned found by review** | **Actual found by review** |
| Requirement | 13 | 10 |
| Design | 10 | 0 |
| Coding | 50 | 25 |
| Other | 10 | 5 |
| **Total** | **73** | **40** |

**Pre-release test defects:**

|  |  |  |
| --- | --- | --- |
| **Process** | **Planned found by review** | **Actual found by review** |
| Requirement | 13 | 10 |
| Design | 10 | 0 |
| Coding | 50 | 25 |
| Other | 10 | 5 |
| **Total** | **73** | **40** |

* + 1. **Strategy for Meeting Quality Objectives**

|  |  |
| --- | --- |
| **Strategy** | **Expected Benefits** |
| Do defect prevention using the standard defect prevention guidelines and process; use standards developed in JavaScript for coding. | 15–25% Reduction in defect injection rate and about 5% improvement in productivity |
| Group review of program specs for first few/logically complex use cases.  Group review of design docs/first time- generated code by project leader, developer, and one consultant. | Improvement in quality as overall defect removal efficiency will improve; some benefits in productivity as defects will be detected early |
| Introduction of RUP methodology and implementing the project in iterations. Milestone analysis and defect prevention exercise will be done after each Iteration. | Approximately 5% reduction in defect injection rate and 1% improvement in overall productivity |

* + 1. **Quality Control**

|  |  |  |  |
| --- | --- | --- | --- |
| **Review Item** | **Type of Review** | **Reviewer** | **When** |
| Proposal | Group review | Hoang, Nguyen Thai  Tuan, Nguyen Anh  Dat, Nguyen Thanh  Duyet, Pham The  Tri Minh Le | Initial |
| Project plan Project schedule  Test Plan | Group review  One-person review | Hoang, Nguyen Thai  Tuan, Nguyen Anh  Dat, Nguyen Thanh  Duyet, Pham The  Tri Minh Le | End of Initiation stage |
| Business analysis and requirements specification document, Use Case catalog | Group review | Hoang, Nguyen Thai  Tuan, Nguyen Anh  Dat, Nguyen Thanh  Duyet, Pham The  Tri Minh Le | End of 90% requirements |
| Design document, object model | Group review | Hoang, Nguyen Thai  Tuan, Nguyen Anh  Dat, Nguyen Thanh  Duyet, Pham The  Tri Minh Le | End of 90% design |
| Stage plans | One-person review | Hoang, Nguyen Thai  Tuan, Nguyen Anh  Dat, Nguyen Thanh  Duyet, Pham The  Tri Minh Le | Beginning of each stage |
| Complex/first specsincl diagrams time test Generaed cases program interactive | Group review | Hoang, Nguyen Thai  Tuan, Nguyen Anh  Dat, Nguyen Thanh  Duyet, Pham The  Tri Minh Le | End of detailed design |
| Code | Group review | Hoang, Nguyen Thai  Tuan, Nguyen Anh  Dat, Nguyen Thanh  Duyet, Pham The  Tri Minh Le | After coding for first few programs |

* + 1. **Measurements Program**

|  |  |  |  |
| --- | --- | --- | --- |
| **Data to be collected** | **Purpose** | **Responsible** | **When** |
| Size: No. of KLOC/ FP | Early estimate project cost | PM/SM | At the end of stages |
| Effort: No. person-day | Calculate project effort for scheduling | Team members | Daily |
| Quality: No. defects detected | Early evaluate product quality and the feasibility of the project | Reviewer, Tester | Right after the review/test |
| Schedule | Divide work and allocate resources properly, ensure the project is completed on time and on budget | PM/SM | Weekly and at the end of stages |

# Unit Testing Strategy

***Grey Box:***

* It is a combination of a Black Box and White Box testing. It is the type of testing in which tester aware with internal functionality of a method or unit but not in a more deep level like white box testing. In this, the user partially aware of the internal functionality of a system.
* Write test cases before fixing the defect and independent of each other.
* Write cases to verify behavior, also write test cases to ensure the performance of the code.
* Execute test cases continuously and frequently.
* Using tool: Install and run Jest for writing unit test in NodeJS Isolation of a code.
* Isolate function to test it more rigorously. Isolate code to do Automated Unit Testing in a better way. Isolating functions/code helps to do testing in a good way. It helps to reveal dependencies between functions of code.

# Integration Testing Strategy

***Bottom up Strategy:***

* The components below are first written and these are integrated first. The integration happens from bottom to top. If the calling component is yet to be developed, it is replaced by a specially written component called a Drive
* When we finish each product backlog, we test it out before we finish.

***Bigbang Strategy:***

* All components are put together at the same time, there is no order, except all are integrated at the same time.
* Towards the end of the project, we started to apply this tactic to test the entire application.

# System Testing Strategy

***Automation strategy:***

* Automation Testing or Test Automation is a software testing technique that performs using special automated testing software tools to execute a test case suite.
* The automation testing software can also enter test data into the System Under Test, compare expected and actual results and generate detailed test reports. Software Test Automation demands considerable investments of money and resources.
* Testing tools: Katalon Studio.

***Customer testing(Beta testing) strategy:***

* Beta testing is a type of user acceptance testing where the product team gives a nearly finished product to a group of target users to evaluate product performance in the real world.
* We are rolling out a beta app on the Google Store early on for testing. After that, we gathered all the feedback and improved our system.

# Estimation

# Size

**(1 point = 2 hours)**

|  |  |
| --- | --- |
| **All of the Functions** | **Point** |
| Authentication (Candidate, Employer, Admin) | 18 |
| Dashboard View (Admin, Employer) | 16 |
| Manage Job (Employer, Admin) | 18 |
| Manage Candidate (Admin, Employer) | 18 |
| Manage Employer (Admin) | 16 |
| Manage Category Job (Admin) | 16 |
| Analysis CV and Recommendation (Employer) | 30 |
| Contact Message (Candidate, Employer) | 18 |
| Search, Filter, and View Job(Candidate) | 16 |
| Apply Job (Candidate) | 16 |
| Write CV Online (Candidate) | 30 |
| Job Recommendation (Candidate) | 30 |

* 1. **Effort**

The Effort estimation

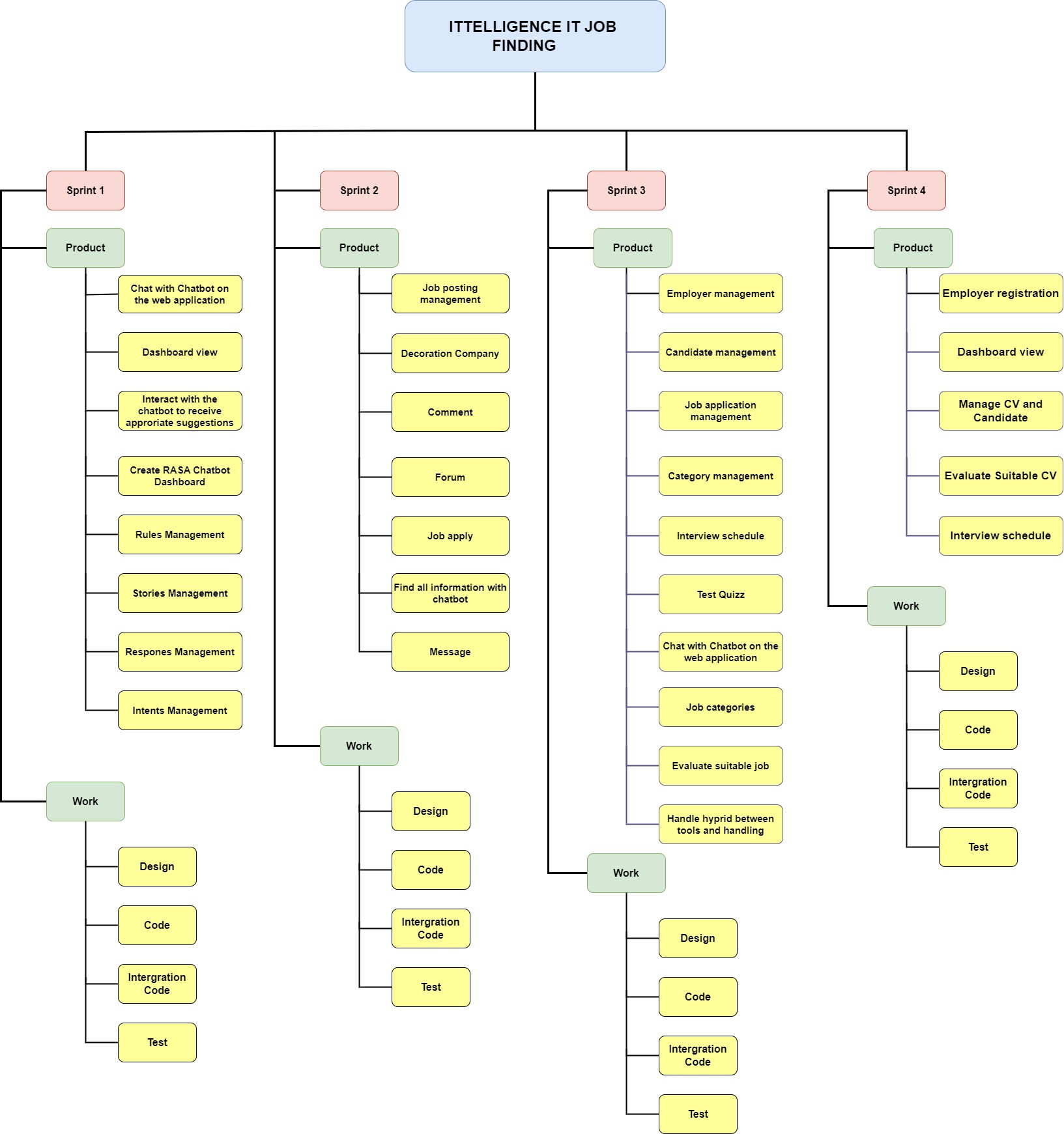
|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Activity /Process** | **Total budgeted Effort Usage (USD)** | **Total % budgeted Effort Usage (%)** | **Sprint 1** | | **Sprint 2** | | **Sprint 3** | | **Sprint 4** | |
| **USD** | **%** | **USD** | **%** | **USD** | **%** | **USD** | **%** |
| Requirement | 315.7$ | 5 | 80.68 | 2 | 78.57 | 1 | 78.16 | 1 | 78.38 | 1 |
| Design | 358.3$ | 10 | 90.38 | 3 | 90.27 | 3 | 89.35 | 2 | 89.38 | 2 |
| Coding | 1276.5$ | 25 | 320.5 | 7 | 310.6 | 5 | 322.1 | 6 | 323.1 | 7 |
| Testing | 695$ | 18 | 137.77 | 5 | 171.67 | 4 | 173.87 | 4 | 175.77 | 5 |
| Deployment | 419.1$ | 12 | 104.7 | 3 | 104.7 | 3 | 104.7 | 3 | 104.7 | 3 |
| Support for Acceptance Test | 328.8$ | 5 | 81.2 | 1 | 81.2 | 1 | 84.2 | 2 | 82.2 | 1 |
| Project Planning | 301.7$ | 5 | 74.43 | 1 | 74.59 | 1 | 77.43 | 2 | 75.33 | 1 |
| Project monitoring | 227.6$ | 5 | 56.69 | 1 | 56.23 | 1 | 56.57 | 1 | 58.12 | 2 |
| Quality Asurance | 457.2$ | 7 | 102.3 | 1 | 118.3 | 2 | 118.3 | 2 | 118.1 | 2 |
| Training | 220.1$ | 8 | 55.05 | 2 | 55.02 | 2 | 55.02 | 2 | 55.02 | 2 |
| **Total** | **4600$** | **100** | **1139** | **26** | **1141** | **23** | **1159** | **25** | **1160** | **26** |

# Schedule

* + 1. **Project Milestone & Deliverable**

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Milestone** | **Time** | **Product** |
| **1** | Initial | 22/02/2024 | The proposal  User Story  User Interface  Database Document  Product Backlog  Project Plan  Architecture Document |
| **2** | Development | 06/03/2024 | Database Design |
| **2.1** | Sprint 1 | 06/03/2024 | Test Plan  Test Case  Sprint Backlog  Product Backlog |
| **2.2** | Sprint 2 | 26/03/2024 |
| **2.3** | Sprint 3 | 15/04/2024 |
| **2.4** | Sprint 4 | 10/05/2024 |
| **3** | Project Meeting | 30/05/2024 | Meeting Document |
| **4** | Final Release | 31/05/2024 | Reflection Document |

* + 1. **Work Breakdown Structure**



* + 1. **Detailed Schedule**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Task Name** | **Duration (Days)** | **Start** | **Finish** | **Assign to** | |
| **I.** | **Initial** | **3** | **19/02/2024** | **21/02/2024** | **All Member** | |
| 1. | Discuss project ideal | 1 | 19/02/2024 | 19/02/2024 | All Member | |
| 2. | Gathering Requirement | 1 | 20/02/2024 | 20/02/2024 | All Member | |
| 3. | Create Proposal Document | 1 | 21/02/2024 | 21/02/2024 | All Member | |
| **II.** | **Start Up** | **15** | **22/02/2024** | **05/03/2024** | **All Member** | |
| 1. | Project Kick Off Meeting | 1 | 22/02/2024 | 22/02/2024 | All Member | |
| 2. | Create Document for project | 14 | 23/02/2024 | 05/03/2024 | All Member | |
| 2.1. | Create Project Plan document | 3 | 23/02/2024 | 25/02/2024 | All Member | |
| 2.2. | Create Product Backlog document | 1 | 26/02/2024 | 26/02/2024 |  | |
| 2.3. | Create User Story document | 1 | 27/02/2024 | 27/02/2024 |  | |
| 2.4. | Create Database document | 3 | 28/02/2024 | 01/03/2024 |  | |
| 2.5. | Create User Interface document | 1 | 28/02/2024 | 28/02/2024 |  | |
| 2.6. | Create Architecture document | 3 | 01/03/2024 | 03/03/2024 |  | |
| 2.7. | Pre-study | 1 | 04/04/2023 | 04/04/2024 | All Member | |
| 2.8. | Project kick off meeting | 1 | 05/03/2024 | 05/03/2024 | All Member | |
| **III.** | **Development** | **80** | **06/03/2024** | **25/05/2024** | **All Member** | |
| **1.** | **Sprint 1** | **20** | 06/03/2024 | 25/03/2024 | **All Member** | |
| 1.1 | Sprint Planning Meeting | 1 | 06/03/2024 | 06/03/2024 |  | |
| 1.2 | Create Sprint Backlog for Sprint 1 | 1 | 07/03/2024 | 07/03/2024 |  | |
| 1.3 | Create Test Plan document for Sprint 1 | 1 | 08/03/2024 | 08/03/2024 |  | |
| **1.4** | **Design UI** | **2** | 09/03/2024 | 10/03/2024 | **All Member** | |
| 1.4.1 | Design UI Chat with Chatbot on the web application [Admin] | 1 | 09/03/2024 | 09/03/2024 |  | |
| 1.4.2 | Design UI Dashboard view [Admin] | 1 | 09/03/2024 | 09/03/2024 |  | |
| 1.4.3 | Design UI Interact with the chatbot to receive approriate suggestions | 1 | 09/03/2024 | 09/03/2024 |  | |
| 1.4.4 | Design UI Create RASA Chatbot Dashboard [Admin] | 1 | 09/03/2024 | 09/03/2024 |  | |
| 1.4.5 | Design UI Rules Management | 1 | 09/03/2024 | 09/03/2024 |  | |
| 1.4.6 | Design UI Stories Management | 1 | 10/03/2024 | 10/03/2024 |  | |
| 1.4.7 | Design UI Respones Management | 1 | 10/03/2024 | 10/03/2024 |  | |
| 1.4.8 | Design UI Intents Management | 1 | 10/03/2024 | 10/03/2024 |  | |
| **1.5** | **Code** | **10** | **11/03/2024** | **20/03/2024** | **All Member** | |
| 1.5.1 | [Front End] Chat with Chatbot on the web application [Admin] | 3 | 11/03/2024 | 13/03/2024 |  | |
| 1.5.2 | [Front End] Dashboard view [Admin] | 2 | 11/03/2024 | 12/03/2024 |  | |
| 1.5.3 | [Front End] Interact with the chatbot to receive approriate suggestions | 2 | 13/03/2024 | 14/03/2024 |  | |
| 1.5.4 | [Front End] Create RASA Chatbot Dashboard [Admin] | 2 | 14/03/2024 | 15/03/2024 |  | |
| 1.5.5 | [Front End] Rules Management | 2 | 15/03/2024 | 16/03/2024 |  | |
| 1.5.6 | [Front End] Stories Management | 2 | 16/03/2024 | 17/03/2024 |  | |
| 1.5.7 | [Front End] Respones Management | 1 | 17/03/2024 | 17/03/2024 |  | |
| 1.5.8 | [Front End] Intents Management | 1 | 18/03/2024 | 18/03/2024 |  | |
| 1.5.10 | [Back End] Chat with Chatbot on the web application [Admin] | 2 | 11/03/2024 | 13/03/2024 |  | |
| 1.5.11 | [Back End] Dashboard view [Admin] | 2 | 11/03/2024 | 13/03/2024 |  | |
| 1.5.12 | [Back End] Interact with the chatbot to receive approriate suggestions | 2 | 14/03/2024 | 15/03/2024 |  | |
| 1.5.13 | [Back End] Create RASA Chatbot Dashboard [Admin] | 2 | 14/03/2024 | 15/03/2024 |  | |
| 1.5.14 | [Back End] Rules Management | 2 | 16/03/2024 | 17/03/2024 |  | |
| 1.5.15 | [Back End] Stories Management | 2 | 16/03/2024 | 17/03/2024 |  | |
| 1.5.16 | [Back End] Respones Management | 2 | 18/03/2024 | 19/03/2024 |  | |
| 1.5.17 | [Back End] Intents Management | 2 | 19/03/2024 | 20/03/2024 |  | |
| **1.6** | **Testing & Fix Bug** | **3** | 21/03/2024 | 23/03/2024 | **All Member** | |
| **1.7** | **Release Sprint 1** | **2** | 24/03/2024 | 25/03/2024 | **All Member** | |
| 1.7.1 | Sprint 1 Review Meeting | 1 | 24/03/2024 | 24/03/2024 | All Member | |
| 1.7.2 | Sprint 1 Retrospective | 1 | 25/03/2024 | 25/03/2024 | All Member | |
| **2** | **Sprint 2** | **20** | 26/03/2024 | 14/04/2024 | **All Member** | |
| 2.1 | Sprint Planning Meeting | 1 | 26/03/2024 | 26/03/2024 |  | |
| 2.2 | Create Sprint Backlog for Sprint 2 | 1 | 27/03/2024 | 27/03/2024 |  | |
| 2.3 | Create Test Plan document for Sprint 2 | 1 | 28/03/2024 | 28/03/2024 |  | |
| **2.4** | **Design UI** | **2** | 29/03/2024 | 30/03/2024 | **All Member** | |
| 2.4.1 | Design UI for Job posting Page | 1 | 29/03/2024 | 29/03/2024 |  | |
| 2.4.2 | Design UI for Decorating Company | 1 | 29/03/2024 | 29/03/2024 |  | |
| 2.4.3 | Design UI for Comment Page | 1 | 29/03/2024 | 29/03/2024 |  | |
| 2.4.4 | Design UI for Forum Page | 1 | 29/03/2024 | 29/03/2024 |  | |
| 2.4.5 | Design UI for Job Apply Page | 1 | 30/03/2024 | 30/03/2024 |  | |
| 2.4.6 | Design UI Message Page [Employer] | 1 | 30/03/2024 | 30/03/2024 |  | |
| 2.4.7 | Design UI Message Page [Employer] | 1 | 30/03/2024 | 30/03/2024 |  | |
| **2.5** | **Code** | **10** | 31/03/2024 | 09/04/2024 | **All Member** | |
| 2.5.1 | [Front End] for Job posting Page | 3 | 31/03/2024 | 02/04/2024 |  | |
| 2.5.2 | [Front End] for Decorating Company | 4 | 31/03/2024 | 03/04/2024 |  | |
| 2.5.3 | [Front End] for Comment Page | 4 | 03/04/2024 | 06/04/2024 |  | |
| 2.5.4 | [Front End] for Forum Page | 3 | 04/04/2024 | 06/04/2024 |  | |
| 2.5.5 | [Front End] for Job Apply Page | 3 | 07/04/2024 | 09/04/2024 |  | |
| 2.5.6 | [Front End] Message Page | 3 | 07/04/2024 | 09/04/2024 |  | |
| 2.5.7 | [Back End] for Job posting Page | 3 | 31/03/2024 | 02/04/2024 |  | |
| 2.5.8 | [Back End] for Decorating Company | 4 | 31/04/2024 | 03/04/2024 |  | |
| 2.5.9 | [Back End] for Comment Page | 4 | 03/04/2024 | 06/04/2024 |  | |
| 2.5.10 | [Back End] for Forum Page | 3 | 04/04/2024 | 06/04/2024 |  |
| 2.5.11 | [Back End] for Job Apply Page | 3 | 07/04/2024 | 09/04/2024 |  |
| 2.5.12 | [Back End] Message Page | 3 | 07/04/2024 | 09/04/2024 |  |
| **2.6** | **Testing & Fix Bug** | **3** | 10/04/2024 | 12/04/2024 | **All Member** |
| **2.7** | **Release Sprint 2** | **2** | 13/04/2024 | 14/03/2024 | **All Member** |
| 2.7.2 | Sprint 2 Review Meeting | 1 | 13/04/2024 | 13/04/2024 | All Member |
| 2.7.3 | Sprint 2 Retrospective | 1 | 14/03/2024 | 14/03/2024 | All Member |
| **3.** | **Sprint 3** | **20** | **15/04/2024** | **09/05/2024** | **All Member** |
| 3.1 | Sprint Planning Meeting | 1 | 15/04/2024 | 15/04/2024 |  |
| 3.2 | Create Sprint Backlog for Sprint 3 | 1 | 16/04/2024 | 16/04/2024 |  |
| 3.3 | Create Test Plan document for Sprint 3 | 1 | 17/04/2024 | 17/04/2024 |  |
| **3.4** | **Design UI** | **2** | **18/04/2024** | **19/04/2024** | **All Member** |
| 3.4.1 | Design UI for Employer management Page [Admin] | 1 | 18/04/2024 | 18/04/2024 |  |
| 3.4.2 | Design UI for Candidate management Page [Admin] | 1 | 18/04/2024 | 18/04/2024 |  |
| 3.4.3 | Design UI for Job application management Page [Admin] | 1 | 18/04/2024 | 19/04/2024 |  |
| 3.4.4 | Design UI for Category management Page [Admin] | 1 | 19/04/2024 | 19/04/2024 |  |
| 3.4.5 | Design UI for Test Quizz Page | 1 | 19/04/2024 | 19/04/2024 |  |
| 3.4.6 | Design UI for Chat with Chatbot on the web application [Candidate] | 1 | 19/04/2024 | 19/04/2024 |  |
| **3.5** | **Code** | **10** | **20/04/2024** | **29/04/2024** | **All Member** |
| 3.5.1 | [Front End] for Employer management Page [Admin] | 2 | 20/04/2024 | 21/04/2024 |  |
| 3.5.2 | [Front End] for Candidate management Page [Admin] | 2 | 20/04/2024 | 21/04/2024 |  |
| 3.5.3 | [Front End] for Job application management Page [Admin] | 2 | 22/04/2024 | 23/04/2024 |  |
| 3.5.4 | [Front End] for Category management Page [Admin] | 5 | 22/04/2024 | 26/04/2024 |  |
| 3.5.5 | [Front End] for Test Quizz Page | 5 | 23/04/2024 | 27/04/2024 |  |
| 3.5.6 | [Front End] for Chat with Chatbot on the web application [Candidate] | 3 | 27/04/2024 | 29/04/2024 |  |
| 3.5.7 | [Back End] for Employer management Page [Admin] | 3 | 20/04/2024 | 22/04/2024 |  |
| 3.5.8 | [Back End] for Candidate management Page [Admin] | 3 | 20/04/2024 | 22/04/2024 |  |
| 3.5.9 | [Back End] for Job application management Page [Admin] | 3 | 23/04/2024 | 25/04/2024 |  |
| 3.5.10 | [Back End] for Category management Page [Admin] | 3 | 23/04/2024 | 25/04/2024 |  |
| 3.5.11 | [Back End] for Test Quizz Page | 4 | 26/04/2024 | 29/04/2024 |  |
| 3.5.12 | [Back End] for Chat with Chatbot on the web application [Candidate] | 4 | 26/04/2024 | 29/04/2024 |  |
| **3.6** | **Testing & Fix Bug** | **3** | **05/05/2024** | **07/05/2024** | **All Member** |
| **3.7** | **Release Sprint 3** | **2** | **08/05/2024** | **09/05/2024** | **All Member** |
| 3.7.1 | Sprint 3 Review Meeting | 1 | 08/05/2024 | 08/05/2024 | All Member |
| 3.7.2 | Sprint 3 Retrospective | 1 | 09/05/2024 | 09/05/2024 | All Member |
| **4** | **Sprint 4** | **20** | **10/05/2024** | **29/05/2024** | **All Member** |
| 4.1 | Sprint Planning Meeting | 1 | 10/05/2024 | 10/05/2024 | All Member |
| 4.2 | Create Sprint Backlog for Sprint 4 | 1 | 11/05/2024 | 11/05/2024 |  |
| 4.3 | Create Test Plan document for Sprint 4 | 1 | 12/05/2024 | 12/05/2024 |  |
| **4.4** | **Design UI** | **2** | 13/05/2024 | 14/05/2024 | **All Member** |
| 4.4.1 | Design UI for Employer registration Page | 1 | 13/05/2024 | 13/05/2024 |  |
| 4.4.2 | Design UI for Dashboard view Page [Employer] | 1 | 13/05/2024 | 13/05/2024 |  |
| 4.4.3 | Design UI for Manage CV and Candidate Page [Employer] | 1 | 14/05/2024 | 14/05/2024 |  |
| 4.4.4 | Design UI for Interview Schedule [Candidate] | 2 | 14/05/2024 | 14/05/2024 |  |
| **4.5** | **Code** | **10** | 15/05/2024 | 24/05/2024 | **All Member** |
| 4.5.1 | [Front End] for Employer registration Page | 2 | 15/05/2024 | 16/05/2024 |  |
| 4.5.2 | [Front End] for Dashboard view Page [Employer] | 2 | 15/05/2024 | 16/05/2024 |  |
| 4.5.3 | [Front End] for Manage CV and Candidate Page [Employer] | 2 | 17/05/2024 | 18/05/2024 |  |
| 4.5.4 | [Front End] for Interview Schedule [Candidate] | 6 | 17/05/2024 | 22/05/2024 |  |
| 4.5.5 | [Back End] for Employer registration Page | 2 | 19/05/2024 | 20/05/2024 |  |
| 4.5.6 | [Back End] for Dashboard view Page [Employer] | 2 | 23/05/2024 | 24/05/2024 |  |
| 4.5.7 | [Back End] for Manage CV and Candidate Page [Employer] | 2 | 23/05/2024 | 24/05/2024 |  |
| 4.5.8 | [Back End] for Interview Schedule [Candidate] | 6 | 19/05/2024 | 24/05/2024 |  |
| **4.6** | **Testing & Fix Bug** | **3** | 25/05/2024 | 27/05/2024 | **All Member** |
| **4.7** | **Release Sprint 4** | **2** | 28/05/2024 | 29/05/2024 | **All Member** |
| 4.7.1 | Sprint 4 Review Meeting | 1 | 28/05/2024 | 28/05/2024 | All Member |
| 4.7.2 | Sprint 4 Retrospective | 1 | **10/05/2024** | **25/05/2024** | All Member |
| **IV.** | **Project's Meeting** | **1** | 30/05/2024 | 30/05/2024 | **All Member** |
| **V.** | **Final Release** | **1** | 31/05/2024 | 31/05/2024 | **All Member** |

* + 1. **Project Schedule**

The detailed project schedule is available here The Project Schedule is weekly updated by the Project Manager.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Activity** | **Start date** | **Responsible** | **Note** |
| **Defect Prevention** | | | | |
| 1 | Sprint 1 | 06/03/2024 | All members |  |
| 2 | Sprint 2 | 26/03/2024 | All members |  |
| 3 | Sprint 3 | 15/04/2024 | All members |  |
| 4 | Sprint 4 | 10/05/2024 | All members |  |
| **Quality Control** | | | | |
| 1 | Review: Work Product 1 |  | Mentor - Team members |  |
| 2 | Review: Work Product 2 |  | Mentor - Team members |  |
| 3 | Review: Work Product 3 |  | Mentor - Team members |  |
| 4 | Review: Work Product 4 |  | Mentor - Team members |  |
| **Project Tracking** | | | | |
| 1 | Sprint Plan Meeting |  | Mentor - Team members |  |
| 2 | Sprint 1 Review Meeting |  | Mentor - Team members |  |
| 3 | Sprint Plan Meeting |  | Mentor - Team members |  |
| 4 | Sprint 2 Review Meeting |  | Mentor - Team members |  |
| 5 | Sprint Plan Meeting |  | Mentor - Team members |  |
| 6 | Sprint 3 Review Meeting |  | Mentor - Team members |  |
| 7 | Sprint Plan Meeting |  | Mentor - Team members |  |
| 8 | Sprint 4 Review Meeting |  | Mentor - Team members |  |
| 9 | Final Plan Meeting |  | Mentor - Team members |  |
| 10 | Final Release Meeting |  | Mentor - Team members |  |
| **QA** | | | | |
| 1 | Deliverable 1 |  | Mentor - Team members |  |
| 2 | Deliverable 2 |  | Mentor - Team members |  |
| 3 | Deliverable 3 |  | Mentor - Team members |  |
| 4 | Deliverable 4 |  | Mentor - Team members |  |
| 5 | Baseline audit: Startup |  | Mentor - Team members |  |
| 6 | Baseline audit: Wrap-up |  | Mentor - Team members |  |

# Resource

Specified as in the section [*Project Team*](#_bookmark28)

# Infrastructure

|  |  |  |  |
| --- | --- | --- | --- |
| **Work/Product** | **Purpose** | **Expected Availability** | **Note** |
| **Development Environment** | | | |
| Window 10, 11 | Operating System | Initiation stage |  |
| Visual Studio Code | Source code editor | Initiation stage |  |
| MongoDB | DBMS | Initiation stage |  |
| JavaScript | Development language for Web interface | Initiation stage |  |
| JavaScript | Development language for Restful API | Initiation stage |  |
| Python | Development language for bulding Chatbot | Initiation stage |  |
| **Hardware & Software** | | | |
| 4 Personal Laptop | Design, Develop and Emulate | Initiation stage |  |
| **Other Tools** | | | |
| Git, Github | Source version control | Definition stage |  |
| Postman | API Testing | Construction stage |  |
| Figma | UI/UX Design | Definition stage |  |
| Draw.io | Diagramming | Initiation stage |  |
| Jira | Task tracking | Initiation stage |  |

# Training Plan

|  |  |  |  |
| --- | --- | --- | --- |
| **Training Area** | **Participants** | **Duration** | **Waiver Criteria** |
| **Technical** | | | |
| JavaScript Language | All members | 7 days | If already trained |
| Detect harmful contents | All members | 10 hrs | If already trained |
| ReactJS | All members | 10 days | If already trained |
| NodeJS | All members | 10 days | If already trained |
| Python | All members | 7 days | If already trained |
| **Business domain** | | | |
| Banking | All members | 2 days |  |
| **Process** | | | |
| Quality system | All members | 3 hrs | If already trained |
| Configuration management (Git and bit bucket tool) | All members | 2 hrs | If already trained for  CC. For others, on-the- job training |
| Group review | All members | 4 hrs | If already trained |
| Defect prevention | All members | 4.5 hrs | Mandatory |
| Jira tool | All members | 1 day | If already trained |
| Agile Scrum | All members | 2 hrs | Mandatory |

# Finance

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Criteria** | **Price (USD)** | **Amount** | **Total (USD)** |
| 1 | Working hour | $ 2 | 2300 | $ 4600 |
|  | | |  | $ 4600 |

|  |  |  |
| --- | --- | --- |
| **Description** | **Amount** | **Unit** |
| Number of members | 4 | Person |
| Number of working per day | 4 | Hours |
| Number of workdays per week | 5 | Days |
| The cost per member per week | 20 | USD |
| The number of working days | 100 | Days |

**Explain:** Amount of working hours = 4 member \* 4 hours \* 100 days

# Project Organization

# Organization Structure

|  |  |  |
| --- | --- | --- |
| Role | Responsibility | Name |
| Scrum Master | Communicate the value of Scrum.Teach the organization on Scrum to maximize business value.Preserve the integrity and spirit of the Scrum framework.Serve as a coach and mentor to members of the Team.Respectfully hold the Team, Product Owners and Stakeholders accountable for their commitments.ContinuAll Membery work with the Team and business to find and implement improvements.As a timekeeperHelping the team agree on what they can achieve during each development sprint (or another period of time).Helping the team continuously make progress on the project by making sure each person is working on the right tasks, helping to remove any obstacles to the team member’s progress, and protecting the team from distractions. | Tuan, Nguyen Anh |
| Product Owner | * A spokesperson for the customer and needs to represent them. * Gathers manages and prioritizes the product backlog. * Has technical product knowledge or specific domain expertise. * Tracks progress towards the release of the product. | Dat, Nguyen Thanh |
| Developer | * Responsible for quality * Responsible for delivering the potential Membery shippable product of the Application each sprint. * Report progress based on the remaining time. * Self-organized * Owns the Sprint backlog | All Member |
| Mentor | * Guide on the process. * Monitoring All Member activities of the Team. * Help with anything. * Reviews project documents * Reviews product | Hoang, Nguyen Thai |

# Project Team

|  |  |
| --- | --- |
| **Full Name** | **Position** |
| Hoang, Nguyen Thai | Mentor |
| Tuan, Nguyen Anh | Scrum Master, Dev-team |
| Dat, Nguyen Thanh | Product Owner, Dev-team |
| Duyet, Pham The | Dev-team |
| Tri, Le Minh | Dev-team |

# Communication & Reporting

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Audience / Attendees** | **Topic / Deliverable** | | **Frequency** | **Method** |
| Scrum Master, Members | Daily meeting | | Daily | Face to Face / Zoom Meeting / Zalo Chat |
| Scrum Master, Members | Sprint Planning Meeting | | When starting a sprint | Zoom Meeting |
| Scrum Master, Members, Mentor | Sprint Review Meeting | | When finishing a sprint | Face to face, Zoom Meeting |
| Scrum Master, Members | Sprint Retrospective | | When the sprint review finish | Face to Face |
| Scrum Master, Members | Individual Meeting | | When need | Face to Face, Zoom Meeting, Message |
| Scrum Master, Members, Mentor | Working report, review problems | Once a week | | Face to face |

# Configuration Management

<Refer to the CM plan or insert here the contents of the CM plan as appropriated>

# Security Aspects

* The credential data is carefully secured by multi-layer encryption and data integrity is ensured. Regularly back up system data.
* Research on network attack prevention solutions to ensure data security, avoid being exploited and stolen data by hackers.
* Deploy project architecture with a high priority in security. Optimized architectural solutions enable the deployment of data security with 99% reliability.
* Social media, sharing and use of data must be approved by the end user and verified by the organization's management.

# REFERENCES

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Reference item** | **Issued Date** | **Source** | **Note** |
| 1 | Agile Scrum | 04-Apr-21 | <https://www.atlassian.com/agile> |  |
| [https://www.cprime.com/resources/w](https://www.cprime.com/resources/what-is-agile-what-is-scrum/) [hat-is-agile-what-is-scrum/](https://www.cprime.com/resources/what-is-agile-what-is-scrum/) |  |
| [https://www.agilealliance.org/agile10](https://www.agilealliance.org/agile101/) [1/](https://www.agilealliance.org/agile101/) |  |
| The Scrum Framework by International Scrum Institute |  |
| 2 | Software Standards | 05-Apr-21 | [https://www.nws.noaa.gov/oh/hrl/de](https://www.nws.noaa.gov/oh/hrl/developers_docs/General_Software_Standards.pdf) [velopers\_docs/General\_So](https://www.nws.noaa.gov/oh/hrl/developers_docs/General_Software_Standards.pdf) [ftware\_Standards.pdf](https://www.nws.noaa.gov/oh/hrl/developers_docs/General_Software_Standards.pdf) |  |
| [https://standards.ieee.org/standard/12](https://standards.ieee.org/standard/12208-2017.html) [208-2017.html](https://standards.ieee.org/standard/12208-2017.html) |  |
| <https://sw-eng.larc.nasa.gov/> |  |