

International School

**Capstone Project 1**

CMU-SE 450 AIS

**Project Plan**

**Version 1.0**

**Date: 03/10/2023**

**Shared Space Finder - SSF**

**Submitted by**

**Tran Quang Luan**

**Le Xuan Tan**

**Le Xuan Hoang**

**Nguyen Ba Phu Quy**

**Approved by Tran Kim Sanh**

**Proposal Review Panel Representative:**

Name Signature Date

**Capstone Project 2- Mentor:**

Name Signature Date

**PROJECT INFORMATION**

|  |  |  |  |
| --- | --- | --- | --- |
| **Project acronym** | SSF | | |
| **Project Tittle** | Shared Space Finder | | |
| **Start Date** | 03 Sep 2023 | **Start Date** | 03 Sep 2023 |
| **Lead Institution** | International School, Duy Tan University | | |
| **Project Mentor** | MSc.Tran Kim Sanh  Email: [sanhtk@gmail.com](file:///E:\sanhtk@gmail.com)  Tel: 0987409464 | | |
| **Project Manager & contact details** | Tran Quang Luan  Email: [quangluantran123@gmail.com](file:///D:\capstone%201\Document\2.%20Project%20Plan\quangluantran123@gmail.com)  Tel: 0834290477 | | |
| **Partner Organization** | Duy Tan University | | |
| **Project Web URL** |  | | |
| **Team members** | Name | **Team members** | Name |
| **26211235168** | Le Xuan Tan | **26211235168** | Le Xuan Tan |
| **25211217171** | Le Xuan Hoang | **25211217171** | Le Xuan Hoang |
| **26211235629** | Nguyen Ba Phu Quy | **26211235629** | Nguyen Ba Phu Quy |

**REVISION HISTORY**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Version** | **Date** | **Comments** | **Author** | **Approval** |
| 1.0 | 30/08/2020 | Initial Release | Tran Quang Luan |  |

**RECORD OF CHANGE**

\*A - Added M - Modified D – Deleted

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Effective Date** | **Changed Item** | **A\* M, D** | **Change Description** | **Reason for Change** | **Revision Number** |
|  | UI for tour details | M | Improve UI for tour details in app |  |  |
|  | Creating tour schedule on chatbot | M |  |  |  |
|  | Short video social network screen | A |  |  |  |
|  | Scan tickets | A |  |  |  |
|  | Integrate map checking places | A |  |  |  |
|  | Apply vouchers in app | A |  |  |  |
|  | Integrate advertisements in app | A |  |  |  |
|  | Creating and uploading video in social network | A |  |  |  |
|  | Interact emotions in videos | A |  |  |  |
|  | Comment in videos | A |  |  |  |
|  | Send and receive message in app | A |  |  |  |
|  | Gain social points | A |  |  |  |
|  | Develop user wallet | A |  |  |  |
|  | Account setting screen | M |  |  |  |
|  | Follow others users | A |  |  |  |
|  | Suggest video in social network | A |  |  |  |
|  | Detect harmful contents | A |  |  |  |
|  | Report videos | A |  |  |  |
|  | Notification in app | M |  |  |  |
|  | Manage all vouchers in app | A |  |  |  |
|  | Manage posts | A |  |  |  |
|  | Manage user points for admin | A |  |  |  |
|  | Manage messages | A |  |  |  |
|  | Manage user in the system | M |  |  |  |
|  | User seft-manage social network videos | A |  |  |  |
|  | User check history post-interaction | A |  |  |  |

**TABLE OF CONTENTS**

1. [PROJECT OVERVIEW 6](#_bookmark0)
   1. [Project Description 6](#_bookmark1)
   2. [Scope and Purpose 6](#_bookmark2)
   3. [Assumptions and Constraints 6](#_bookmark3)
   4. [Project Objectives 7](#_bookmark4)
   5. [Critical Dependencies 8](#_bookmark5)
   6. [Project Risk 8](#_bookmark6)
2. [PROJECT DEVELOPMENT APPROACH 9](#_bookmark7)
   1. [Project Process 9](#_bookmark8)
   2. [Requirement Change Management 9](#_bookmark9)
   3. [Product Integration Strategy 9](#_bookmark10)
   4. [Quality Management 10](#_bookmark11)
   5. [Unit Testing Strategy 12](#_bookmark12)
   6. [Integration Testing Strategy 13](#_bookmark13)
   7. [System Testing Strategy 13](#_bookmark14)
3. [ESTIMATE 14](#_bookmark15)
   1. [Size 14](#_bookmark16)
   2. [Effort 14](#_bookmark17)
   3. [Schedule 15](#_bookmark18)
   4. [Resource 17](#_bookmark19)
   5. [Infrastructure 17](#_bookmark20)
   6. [Training Plan 18](#_bookmark21)
   7. [Finance 18](#_bookmark22)
4. [PROJECT ORGANIZATION 20](#_bookmark23)
   1. [Organization Structure 20](#_bookmark24)
   2. [Project Team 20](#_bookmark25)
   3. [External Interfaces 22](#_bookmark26)
5. [COMMUNICATION & REPORTING 25](#_bookmark27)
6. [CONFIGURATION MANAGEMENT 27](#_bookmark28)
7. [SECURITY ASPECTS 28](#_bookmark29)

# PROJECT OVERVIEW

# Project Description

|  |  |  |  |
| --- | --- | --- | --- |
| **Project code** | SSF | **Contract type** | Fixed price |
| **Customer** |  | **2nd Customer** |  |
| **Project Level** | Group | **Project rank** | A |
| **Group** | Team C1SE.35 | **Division** |  |
| **Project Type** | External | **Project Manager/ Scrum master** | Luan, Tran Quang |
| **Project Category** | Development | **Business domain** |  |
| **Application type** | Commercial Product |  |  |

# Purpose and Scope

# Purpose

* + - Build the Shared Space Finder to help users proactively search for spaces that meet their needs. The project aims to provide businesses and individuals with convenience and affordable prices to find spaces that suit their needs.
    - Provide solutions for business needs and show the overview of system context and architecture.
    - Identify resources, time, budget, implement actual projects and ensure on schedule and budget.

# Scope

* Offers travel solutions to travelers in the process of finding places, selecting and paying for their favorite tours.
* As a means to share travel moments, earn bonus points and voucher redemption.
* Detect and identify harmful images, videos when user share the moment.
* Interaction between users and map of tourist attractions right on the application.
* The focus of the project is on building an intelligent chatbot and activities related to the selection of tours. Meanwhile, the management functions are built in to create a panorama of the application.
* Interact with external systems to support payments and build smart chatbots

# Assumptions and Constraints

|  |  |  |
| --- | --- | --- |
| No | Description | Note |
| Assumptions | | |
| 1 | Nodejs version v14.8.0 (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 withnin 14 weeks and quaterly deployed on the market. | Schedule |
| 2 | The project shall conform to security requirements specified by the customer in the NDA | 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 application operate in android 10 and IOS 14 (or above) | Scope |
| 5 | The project will be implemented by a team including 4 members | Resources |
| 6 | The financial estimation for the project is at a budget limit of $3360 | Budget |

# Project Objectives

# Standard Objectives

|  |  |  |  |
| --- | --- | --- | --- |
| Metrics | Unit | Committed | Note |
| Start Date | dd-mmm-yy | 01-Mar-21 |  |
| End Date | dd-mmm-yy | 06-Jun-21 |  |
| Duration | elapsed days | 98 |  |
| Maximum Team Size | Person | 4 |  |
| Billable Effort | Person-day | 220 |  |
| Number of work hours per day for one engineer | Person-hour | 4.5 |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 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, allowable time and budget, we will build a system using smart chatbot for tourists to support for their trip.
* The system operates with high performance and safety for the user. User security data is encrypted and stored carefully, avoiding data loss.
* The deployment system is minimized defects and good control of risks by the project team.
* Strengthen brand promotion activities and bring products to users.
* Deploying application will be operated quarterly for quick delivery to customers.

# Critical Dependencies

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Dependency** | **Expected delivery date** | **Note** |
| 1 | viBOTour | 15-Apr-2021 | Legacy system |
| 2 | Stripe system | 18-Mar-2021 | External System |
| 3 | Google Cloud | 16-May-2021 | External System |

# Project Risk

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Risk** | **Description** | **Probability** | **Impact** | **Mitigation Strategy** |
| Incorrect requirements | Developing the product which does not accord with the requirements | 3 | 5 | 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 | 2 | 4 | 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 | 4 | 3 | 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. | 4 | 4 | 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 | Conduct a meeting to share knowledge, experience and learning methods |
| External problems | It has power problems, laptop, personal computer, network system | 3 | 3 | Find another workplace (library, coffee shop, ...)  Notify the scrum master to assign appropriate tasks |
| Market | Other products are deployed at the same time and compete with the project team's product | 2 | 3 | Develop newer features and organize promotional activities |

.

# 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

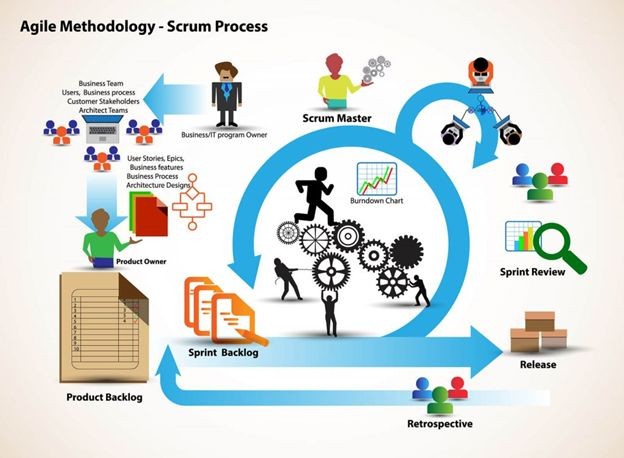
Agile software development refers to a group of software development methodologies based on iterative development, where requirements and solutions evolve through collaboration between self-organizing cross-functional teams.

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 particular context.

**2.1.2.1. Scrum Process**



#### 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 deliverables
* 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** | 50 |  |
| <Work product> |  |  |
| **Design** | 30 |  |
| <Work product> |  |  |
| **Coding** | 180 |  |
| <Work product> |  |  |
| **Other** | 50 |  |
| <Work product> |  |  |
| Total | 310 |  |

**Pre-release test defects**

|  |  |  |
| --- | --- | --- |
| **Process** | **Planned found by review** | **Actual found by review** |
| **Requirement** | 35 |  |
| <Work product> |  |  |
| **Design** | 30 |  |
| <Work product> |  |  |
| **Coding** | 160 |  |
| <Work product> |  |  |
| **Other** | 40 |  |
| <Work product> |  |  |
| Total | 265 |  |

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

|  |  |
| --- | --- |
| Strategy | Expected Benefits |
| Do defect prevention using the standard defect prevention guidelines and process; use standards developed in JavaScriot 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 | Man Nguyen, Sang Nguyen, Thuyen Pham, Tuan Doan, Loc Phung |  | Initial | | |
| Project plan Project schedule  Test Plan | | | | Group review Group review  One-person review | Man Nguyen, Sang Nguyen, Thuyen Pham, Tuan Doan, Loc Phung | | End of Initiation stage | | |
| Business analysis and requirements specification document, Use Case catalog | | | | Group review | Sang Nguyen, Thuyen Pham, Tuan Doan, Loc Phung | | End of requirements | 90% | of |
| Design document, object model | | | | Group review | Sang Nguyen, Thuyen Pham, Tuan Doan, Loc Phung | | End of 90% design | | |
| Stage plans | | | | One-person review | Man Nguyen | | Beginning of each stage | | |
| Complex/first specs incl. diagrams | time test | Genera ed cases, | program interactive | Group review | Man Nguyen, Sang Nguyen, Thuyen Pham, Tuan Doan, Loc Phung | | End of detailed design | | |
| Code | | | | Group review | Sang Nguyen, Thuyen Pham, Tuan Doan, Loc Phung | | 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 evalute 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, Appium.
* *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

* Total number of FP: 68

|  |  |
| --- | --- |
| **Software Scale Drivers** | |
| Precedentedness | *Nominal* |
| Development Flexibility | *Nominal* |
| Architecture / Risk Resolution | *Nominal* |
| Team Cohension | *Very High* |
| Process Maturity | *Nominal* |

|  |  |  |  |
| --- | --- | --- | --- |
| **Software Cost Drivers** | | | |
| **Product** | | **Personnel** | |
| Required Software Reliability | *Nominal* | Analyst Capability | *High* |
| Data Base Size | *Nominal* | Programmer Capability | *High* |
| Product Complexity | *Nominal* | Personnel Continuity | *Nominal* |
| Developed for Reusability | *High* | Application Experience | *High* |
| Documentation Match to Lifecycle Needs | *Nominal* | Platform Experience | *High* |
|  | | Language and Toolset Experience | *High* |
| **Project** | | **Platform** | |
| Use of Software Tools | *High* | Time Constraint | *Nominal* |
| Development | *Nominal* | Storage Constraint | *Nominal* |
| Required Development Schedule | *Nominal* | Platform Volatility | *Nominal* |

|  |
| --- |
|  |

**Software Development (Elaboration and Construction)**  
  
Effort = 9.6 Person-months  
Schedule = 7.7 Months  
Cost = $2873  
  
Total Equivalent Size = 5440 SLOC  
Effort Adjustment Factor (EAF) = 0.52

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Acquisition Phase Distribution**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Phase | Effort (Person-months) | Schedule (Months) | Average Staff | Cost (Dollars) | | Inception | 0.6 | 1.0 | 0.6 | $172 | | Elaboration | 2.3 | 2.9 | 0.8 | $690 | | Construction | 7.3 | 4.8 | 1.5 | $2184 | | Transition | 1.1 | 1.0 | 1.2 | $345 | |  |

**Software Effort Distribution for RUP/MBASE (Person-Months)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Phase/Activity | Inception | Elaboration | Construction | Transition |
| Management | 0.1 | 0.3 | 0.7 | 0.2 |
| Environment/CM | 0.1 | 0.2 | 0.4 | 0.1 |
| Requirements | 0.2 | 0.4 | 0.6 | 0.0 |
| Design | 0.1 | 0.8 | 1.2 | 0.0 |
| Implementation | 0.0 | 0.3 | 2.5 | 0.2 |
| Assessment | 0.0 | 0.2 | 1.7 | 0.3 |
| Deployment | 0.0 | 0.1 | 0.2 | 0.3 |

* 1. ***Effort***

The Effort estimation

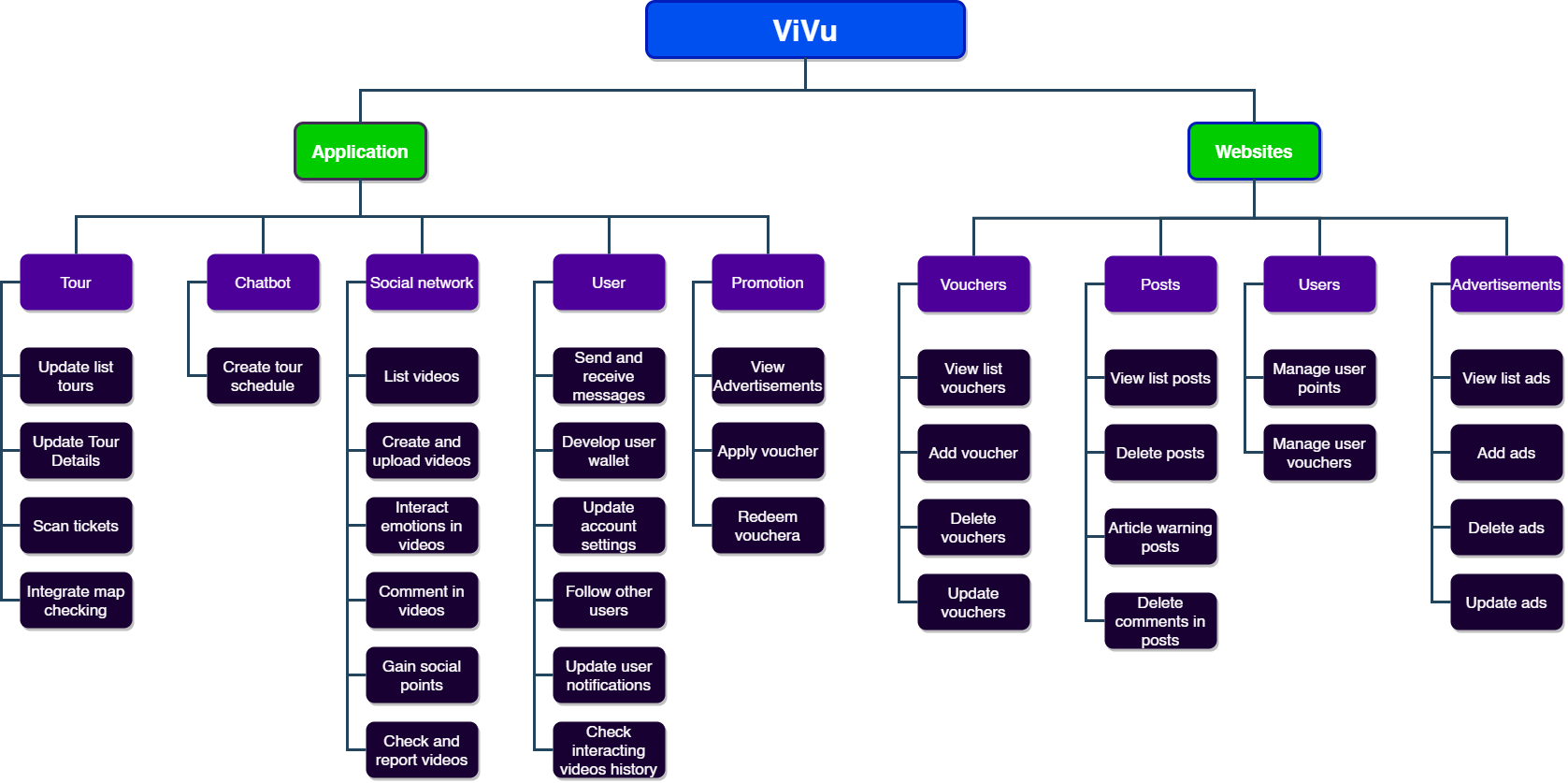
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Activity/**  **Process** | **Total budgeted Effort Usage (pd)** | **Total % budgeted Effort Usage (%)** | **<Stage 1/ Srpint 1>** | | **<Stage 2/ Sprint 2>** | | **<Stage 3 / sprint 3>** | | **<Stage 4/ sprint 4>** | | **<Stage 5 / sprint 5>** | | **<Stage 6/ sprint 6>** | |
| **No.** | **%** | **No.** | **%** | **No.** | **%** | **No.** | **%** | **No.** | **%** | **No.** | **%** |
| Requirement | 23 | 10.5 | 8 | 21.1 | 4 | 10.5 | 3 | 7.5 | 2 | 5.9 | 4 | 11.1 | 2 | 5.9 |
| Design | 11 | 5.0 | 3 | 7.9 | 2 | 5.3 | 2 | 5 | 2 | 5.9 | 1 | 2.8 | 1 | 2.9 |
| Coding | 88 | 40.0 | 10 | 26.3 | 14 | 36.8 | 18 | 45 | 16 | 47.1 | 16 | 44.4 | 14 | 41.2 |
| Unit Testing | 11 | 5.0 | 0 | 0.0 | 2 | 5.3 | 3 | 7.5 | 2 | 5.9 | 2 | 5.6 | 2 | 5.9 |
| Testing | 22 | 10.0 | 3 | 7.9 | 4 | 10.5 | 4 | 10 | 4 | 11.8 | 4 | 11.1 | 3 | 8.8 |
| Deployment | 11 | 5.0 | 0 | 0.0 | 2 | 5.3 | 2 | 5 | 2 | 5.9 | 2 | 5.6 | 3 | 8.8 |
| Support for Acceptance Test | 9 | 4.1 | 0 | 0.0 | 2 | 5.3 | 1 | 2.5 | 1 | 2.9 | 2 | 5.6 | 3 | 8.8 |
| Project Planning | 9 | 4.1 | 4 | 10.5 | 1 | 2.6 | 1 | 2.5 | 1 | 2.9 | 1 | 2.8 | 1 | 2.9 |
| Project monitoring | 14 | 6.4 | 3 | 7.9 | 2 | 5.3 | 3 | 7.5 | 2 | 5.9 | 2 | 5.6 | 2 | 5.9 |
| Quality Assurance | 14 | 6.4 | 2 | 5.3 | 2 | 5.3 | 3 | 7.5 | 2 | 5.9 | 2 | 5.6 | 3 | 8.8 |
| Training | 8 | 3.6 | 5 | 13.2 | 3 | 7.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total | 220 | 100 | 38 | 100 | 38 | 100 | 40 | 100 | 34 | 100 | 36 | 100 | 34 | 100 |

## Schedule

* + 1. **Project Milestone & Deliverables**
* Deployment App

* + 1. **Work Breakdown Structure**



* + 1. **Detailed Schedule**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Task Name** | **Duration (Days)** | **Start** | **Finish** | **Assign to** |
| **1.** | **Initial** | 7 | 01/03/2021 | 07/03/2021 | Team, Mentor |
| 1.1 | Project’s Kick-off Meeting | 1 | 01/03/2021 | 01/03/2021 | Team, Mentor |
| 1.2 | Collect and analyse requirements | 4 | 01/03/2021 | 04/03/2021 | Team |
| 1.3 | Setup Development Environment | 1 | 05/03/2021 | 05/03/2021 | Team |
| 1.4 | Research Technical | 3 | 05/03/2021 | 07/03/2021 | Team |
| **2** | **Development** | 84 | 08/03/2021 | 30/05/2021 | Team |
| 2.1 | Sprint 1 | 14 | 08/03/2021 | 21/03/2021 | Team |
| 2.1.1 | Collect all requirements of Travel system |  |  |  | Team |
| 2.1.2 | Collect all requirements of Short Video Social Network |  |  |  | Team |
| 2.1.3 | Analyze all requirements |  |  |  | Team |
| 2.1.4 | Update User Story |  |  |  | Team |
| 2.1.5 | Update Architecture Design |  |  |  | Team |
| 2.1.6 | Update Product Backlog |  |  |  | Team |
| 2.1.7 | Update UI Design |  |  |  | Team |
| 2.1.8 | Re-develop UI for home screen |  |  |  | Team |
| 2.1.9 | Re-develop UI for list tours |  |  |  | Team |
| 2.2 | Sprint 2 | 14 | 22/03/2021 | 04/04/2021 | Team |
| 2.2.1 | Re-develop UI for tour detail |  |  |  | Team |
| 2.2.2 | Develop continoursly creating tour schedule on chatbot |  |  |  | Team |
| 2.2.3 | Research Video Content Detection |  |  |  | Team |
| 2.2.4 | Develop social network in main screen |  |  |  | Team |
| 2.2.5 | Update User Story |  |  |  | Team |
| 2.2.6 | Develop scan ticket feature |  |  |  | Team |
| 2.2.7 | Integrate map checking places |  |  |  | Team |
| 2.2.8 | Apply voucher in app |  |  |  | Team |
| 2.3 | Sprint 3 | 14 | 05/04/2021 | 18/04/2021 | Team |
| 2.3.1 | Integrate advertisements in app |  |  |  | Team |
| 2.3.2 | Create and upload video in social network |  |  |  | Team |
| 2.3.3 | Interact emotion in videos |  |  |  | Team |
| 2.3.4 | Comment in videos |  |  |  | Team |
| 2.3.5 | User seft-manage social network videos |  |  |  | Team |
| **3.** | **Deploy the app on Google Play** | 2 | 31/05/2021 | 01/06/2021 | Team |
| **4.** | **Delivery and close project** | 5 | 02/06/2021 | 06/06/2021 | Team, mentor |
|  | **Duration** |  |  |  |  |

* + 1. **Project Schedule**

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Activity** | **Start date** | **Responsible** | **Note** |
| **Defect Prevention** | | | | |
|  | Task 1 |  |  |  |
|  | Task 2 |  |  |  |
| **Quality Control** | | | | |
|  | Review: Work Product 1 |  |  |  |
|  | Review: Work Product 2 |  |  |  |
|  | Review: Work Product 3 |  |  |  |
| **Project Tracking** | | | | |
|  | <Stage name> milestone review meeting |  |  |  |
|  | <Stage name> milestone review meeting |  |  |  |
| **Configuration Management** | | | | |
|  | <Baseline Name> |  |  |  |
|  | <Baseline Name> |  |  |  |
| **QA** | | | | |
|  | Final Inspection: Deliverable 1 |  |  |  |
|  | Final Inspection: Deliverable 2 |  |  |  |
|  | Baseline audit: Startup |  |  |  |
|  | Baseline audit: Wrap-up |  |  |  |

## Resource

Specified as in the section [*Project Team*](#_bookmark25)

## Infrastructure

|  |  |  |  |
| --- | --- | --- | --- |
| **Work/Product** | **Purpose** | **Expected Availability by** | **Note** |
| **Development Environment** | | | |
| Linux Server | Operating System | Initiation stage |  |
| Mainframe | Operating System | Initiation stage |  |
| PostgreSQL | DBMS | Initiation stage |  |
| JavaScript | Development language for Web interface | Initiation stage |  |
| Python | Development language forVideo Detection | Initiation stage |  |
| **Hardware & Software** | | | |
| 10GB space on server |  | Initiation stage |  |
| Rational Rose | Design | Initiation stage |  |
| **Other Tools** | | | |
| Git | Source version control | Definition stage |  |
| Nunit | Unit Test | Construction stage |  |
| DMS | Defect logging and tracking | Definition stage |  |
| Timesheet | Effort logging | Initiation stage |  |
| Jira | Task tracking | Initiation stage |  |

## Training Plan

|  |  |  |  |
| --- | --- | --- | --- |
| **Training Area** | **Participants** | **When, Duration** | **Waiver Criteria** |
| Technical | | | |
| JavaScript Language | All members | 7 days | If already trained |
| Detect harmful contents | All members | 10 hrs | If already trained |
| React Native | All members | 5 hrs | Mandatory |
| Business domain | | | |
| Banking | All members | 2 days |  |
| Process | | | |
| Quality system | All members | 3 hrs | If already trained |
| Configuration management(Git and bitbucket 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 | 4.5 hrs | If already trained |
| Agile Scrum | All members | 2 hrs | Mandatory |

## Finance

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Item** | **Total Budget** | **%**  **Budget** | **Budget in Period** | | | | | | | | | | | | | **Note** |
| **W1**  **-**  **Mar** | **W2**  **-**  **Mar** | **W3**  **-**  **Mar** | **W4**  **-**  **Mar** | **W1**  **-**  **Apr** | **W2**  **-**  **Apr** | **W3**  **-**  **Apr** | **W4**  **-**  **Apr** | **W1**  **-**  **May** | **W2**  **-**  **May** | **W3**  **-**  **May** | **W2**  **-**  **May** | **W1**  **-**  **Jun** |
| Purchases (COTS) | 150 | 15.6 | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 100 |  |
| Team building | 200 | 20.8 | 0 | 30 | 0 | 30 | 0 | 30 | 0 | 30 | 0 | 30 | 0 | 0 | 50 |  |
| Tools | 100 | 10.4 | 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 |  |
| Travel costs | 130 | 13.5 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |  |
| Training | 80 | 8.3 | 30 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| Review activities | 250 | 26.0 | 15 | 20 | 15 | 20 | 15 | 20 | 15 | 20 | 15 | 20 | 15 | 20 | 40 |  |
| Other | 50 | 5.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |  |
| Total | 960 | 100 | 135 | 110 | 25 | 85 | 25 | 60 | 25 | 85 | 25 | 60 | 25 | 30 | 270 |  |

# 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 Owner and Stakeholders accountable for their commitments * Continually work with the Team and business to find and implement improvements * As a timekeeper * Helping the team agree on what they can achieve during each development sprint (or other period of time). * Facilitating the daily standup (sometimes called the daily scrum) and helping the team reach consensus on each of the three questions. * 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 members’ progress, and protecting the team from distractions. |  |
| **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 a product. | Tuan, Doan Kim |
| **Developer** | * Responsible for quality * Responsible for delivering the potentially shippable product of the Application each sprint * Report progress based on the remaining time * Self-organized * Owns the Sprint backlog | All members |
| **Mentor** | * Guide on the process. * Monitoring all activities of the Team. * Help with anything. * Reviews project documents   - Reviews product | Man, Nguyen Duc |

## Project Team

|  |  |
| --- | --- |
| **Full Name** | **Position** |
| Man, Nguyen Duc | Mentor |
| Luan, Tran Quang | Scrum Master, Dev-team |
| Hoang, Nguyen Xuan | Product Owner, Dev-team |
| Tan, Nguyen Xuan | Dev-team |
| Quy, Nguyen Ba Phu | Dev-team |

# COMMUNICATION & REPORTING

|  |  |  |  |
| --- | --- | --- | --- |
| **Audience / Attendees** | **Topic / Deliverable** | **Frequency** | **Method** |
| Scrum Master, Members | Daily meeting | Daily | Face to Face / Discord / Slack Chat |
| Scrum Master, Members | Sprint Planning Meeting | When starting a sprint | Discord |
| Scrum Master, Members, Mentor | Sprint Review Meeting | When finishing a sprint | Face to face, Discord |
| Scrum Master, Members | Sprint Retrospective | When the sprint review finish | Face to Face |
| Scrum Master, Members | Individual Meeting | When need | Face to Face, Discord, 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/what-is-agile-what-is-scrum/> |  |
| <https://www.agilealliance.org/agile101/> |  |
| The Scrum Framework by International Scrum Institute |  |
| 2 | COCOMO II | 04-Apr-21 | <https://www.rose-hulman.edu/class/csse/csse372/201410/SlidePDFs/session12.pdf> |  |
| 3 | Software Standards | 05-Apr-21 | [https://www.nws.noaa.gov/oh/hrl/developers\_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/12208-2017.html> |  |
| <https://sw-eng.larc.nasa.gov/> |  |

### DEFINITIONS AND ACRONYMS

|  |  |  |
| --- | --- | --- |
| **Acronym** | **Definition** | **Note** |
| PM | Project Manager |  |
| PTL | Project Technical Leader |  |
| QA | Quality Assurance Officer |  |
| CC | Infrastructure Configuration Controller |  |
| DV | Developer |  |
| URD | User Requirement Document |  |
| SRS | Software Requirement Specification |  |
| ADD | Architecture Design Document |  |
| DDD | Detail Design Document |  |
| TP | Test Plan |  |
| TC | Test Case |  |
| SC | Source Code |  |
| CM | Configuration Management |  |
| CSCI | Computer Software Configuration Items |  |
| CI | Configuration Item |  |
| CCB | Change Control Board |  |