|  |  |
| --- | --- |
|  | **MINISTRY OF EDUCATION AND TRAINING** |

|  |
| --- |
| **FPT UNIVERSITY** |
| Capstone Project Document |
| [MoveMate Application] |

|  |  |
| --- | --- |
| **GFA24SE06** | |
| **Group Members** | Cổ Phước Vinh – Team Leader – SE161891  Lê Hàn Anh – Team Member – SE161941  Đặng Nguyễn Hoài Phương – Team Member – SE161958  Nguyễn Thành Vinh – Team Member – SE161950  Phan Văn Tuấn – Team Member – SE162029 |
| **Supervisor** | Mrs. Nguyễn Thị Cẩm Hương |
| **Capstone Project code** | FA24SE085 |

- Ho Chi Minh, Jun 2024 -

**Table of Contents**

[Acknowledgement 4](#_Toc82376799)

[Definition and Acronyms 4](#_Toc82376800)

[I. Project Introduction 5](#_Toc82376801)

[1. Overview 5](#_Toc82376802)

[2. Product Background 5](#_Toc82376803)

[3. Existing Systems 5](#_Toc82376804)

[4. Business Opportunity 5](#_Toc82376805)

[5. Software Product Vision 5](#_Toc82376806)

[6. Project Scope & Limitations 5](#_Toc82376807)

[II. Project Management Plan 6](#_Toc82376808)

[1. Overview 6](#_Toc82376809)

[2. Management Approach 6](#_Toc82376810)

[3. Master Schedule 6](#_Toc82376811)

[4. Project Organization 6](#_Toc82376812)

[5. Project Communication 6](#_Toc82376813)

[6. Configuration Management 6](#_Toc82376814)

[III. Software Requirement Specification 7](#_Toc82376815)

[1. Overall Description 7](#_Toc82376816)

[2. User Requirements 7](#_Toc82376817)

[3. Functional Requirements 7](#_Toc82376818)

[4. Non-Functional Requirements 7](#_Toc82376819)

[5. Other Requirements 7](#_Toc82376820)

[IV. Software Design Description 8](#_Toc82376821)

[1. Overall Description 8](#_Toc82376822)

[2. System Architecture Design 8](#_Toc82376823)

[3. System Detailed Design 8](#_Toc82376824)

[4. Class Specification 8](#_Toc82376825)

[5. Data & Database Design 8](#_Toc82376826)

[V. Software Testing Documentation 9](#_Toc82376827)

[1. Overall Description 9](#_Toc82376828)

[2. Test Plan 9](#_Toc82376829)

[3. Test Cases 9](#_Toc82376830)

[4. Test Reports 9](#_Toc82376831)

[VI. Release Package & User Guides 10](#_Toc82376832)

[1. Deliverable Package 10](#_Toc82376833)

[2. Installation Guides 10](#_Toc82376834)

[3. User Manual 10](#_Toc82376835)

[VII. Appendix 10](#_Toc82376836)

[1. Glossary [Optional] 10](#_Toc82376837)

[2. References [Optional] 10](#_Toc82376838)

[3. Others [Optional] 10](#_Toc82376839)

# Acknowledgement

*[Fill team’s acknowledgement here…]*

# Definition and Acronyms

*[Fill all the definitions, acronyms,… used within the document] in the table format as below]*

|  |  |
| --- | --- |
| **Acronym** | **Definition** |
| PWM | Psychology website |
| AWS | Amazon Web Services |
| BA | Business Analysis |
| BR | Business Rule |
| ERD | Entity Relationship Diagram |
| GUI | Graphical User Interface |
| PM | Project Manager |
| SDD | Software Design Description |
| SPMP | Software Project Management Plan |
| SRS | Software Requirement Specification |
| UAT | User Acceptance Test |
| UC | Use Case |
| API | Application Program Interface |

# I. Project Introduction

## 1. Overview

### 1.1 Project Information

* Project name: MoveMate Application
* Project code: GFA24SE06
* Group name: FA24SE085
* Software type: Web application and Mobile application

### 1.2 Project Team

|  |  |  |  |
| --- | --- | --- | --- |
| **Full Name** | **Role** | **Email** | **Mobile** |
| Nguyễn Thị Cẩm Hương | Lecturer | HuongNTC2@fe.edu.vn | 0909912347 |
| Cổ Phước Vinh | Leader | vinhcpse161891@fpt.edu.vn | 0374027409 |
| Lê Hàn Anh | Member | anhlhse161941@fpt.edu.vn | 0915714533 |
| Đặng Nguyễn Hoài Phương | Member | phuongdnhse161958@fpt.edu.vn | 0386751935 |
| Nguyễn Thành Vinh | Member | vinhntse161950@fpt.edu.vn | 0382703625 |
| Phan Văn Tuấn | Member | tuanpvse162029@fpt.edu.vn | 0394581438 |

## 2. Product Background

Moving houses or offices can be a stressful and time-consuming process for individuals, families, and small businesses. Traditionally, people spend hours coordinating with moving services, trying to determine the right vehicle size, managing labor for loading and unloading, and dealing with costs that are often unclear. This process typically involves multiple calls, in-person meetings, and unforeseen issues that add to the stress.

Users often face challenges such as miscommunication with service providers, and time-consuming to find an appropriate service provider. These inefficiencies lead to wasted time, frustration, and sometimes even increased costs. Additionally, with no real-time tracking available, customers are left in the dark about the status of their service, increasing anxiety about the entire process.

Recognizing these pain points, the MoveMate app was created to streamline and simplify the entire moving experience. By integrating essential features like vehicle booking, porter service selection, transparent pricing, and real-time tracking. The idea was raised by customers who wanted a more efficient, modernized approach to managing moving house without the typical challenges of dealing with multiple service providers and unclear processes.

## 3. Existing Systems

## Lalamove, Ahamove - Logistics services that help individuals and businesses move goods by booking trucks on-demand. It provides real-time tracking and pricing transparency but doesn’t offer specific house-moving services and limited scope doesn’t cover customized pricing for larger homes and offices.

## 4. Business Opportunity

## The demand for moving services is on the rise, particularly in urban areas where more people are relocating for work and lifestyle changes. However, the moving process remains stressful due to unclear pricing, and unreliable labor. Traditional moving companies often lack transparency, leading to inefficiencies and customer dissatisfaction.

## Market Trends: As urban relocations and demand for convenient, digital services rise, MoveMate is perfectly positioned to offer a mobile-first, on-demand solution, aligning with modern consumer preferences for transparency and efficiency.

## 5. Software Product Vision

## MoveMate envisions moving is stress-free and transparent. By combining vehicle booking, porter service selection, and real-time tracking into one cohesive platform, we aim to eliminate the chaos and uncertainty of moving house. Whether it's a family relocating to a new home or a small business changing offices, MoveMate provides a reliable, customer-centric solution that adapts to individual needs. Our vision is to set a new standard for convenience and efficiency in the moving industry, offering transparent pricing and smart recommendations while ensuring a smooth transition for every user.

## MoveMate will not only simplify the moving process but also foster trust through reliable service and transparent operations. By aligning with the growing trend toward digitization and on-demand services, MoveMate positions itself as a leader in the future of moving solutions, balancing customer expectations with operational efficiency for long-term success.

## 6. Project Scope & Limitations

*[The project scope defines the concept and range of the proposed solution. It’s also important to define what will not be included in the product. Clarifying the scope and limitations helps to establish realistic expectations of the many stakeholders. It also provides a reference frame against which proposed features and requirements changes can be evaluated. Proposed requirements that are out of scope for the envisioned product must be rejected, unless they are so beneficial that the scope should be enlarged to accommodate them (with accompanying changes in budget, schedule, and/or resources)]*

# II. Project Management Plan

*[Provide final project plan information follow the template as part II in the Report #2]*

## 1. Overview

### 1.1 Scope & Estimation

[Create/Provide the list of software product following the table template as below. In this table, we categorize each software function into three levels of complexity (Simple, Medium, Complex) and estimate the total effort to complete each one in man-day]

### 1.2 Project Objectives

*[Provide the overall project objective description and then the specific target metrics of your project in term of quality, time, and cost (allocated effort distribution for project activities: requirement, design, coding, testing, project management, etc)]*

### 1.3 Project Risks

*[List out the details on project risks in the table below]*

## 2. Management Approach

*[Describe the approach you would use the manage and implement your project]*

### 2.1 Project Process

*[Draw and describe the software development process model that the team would apply into the project implementation]*

### 2.2 Quality Management

*[Provide the approach you would apply to improve the project quality, reach the project quality objectives*

### 2.3 Training Plan

*[You need to plan the training activities in case any of your team member lack of knowledge/skills to handle the project works]*

## 3. Project Deliverables

*[Given the main project deliverables. Those can be internal and/or external deliverables]*

## 4. Responsibility Assignments

*[Describe the main responsibilities in your project (to complete the outputs as defined in the above section), in the format as the sample below]*

## 5. Project Communications

*[Provide the details of project communication plan, the to-be-used tools, the project interface, etc.]*

## 6. Configuration Management

### 6.1 Document Management

*[Describe how you would manage project documents & their changes/versions]*

### 6.2 Source Code Management

*[Describe how you would manage project source codes & their changes/versions]*

### 6.3 Tools & Infrastructures

*[List out the tools & infrastructure that you would use in the software development and deployment]*

# III. Software Requirement Specification

*[Provide final software requirement specification follow the template as part II in the Report #3]*

## 1. Product Overview

*[This section presents a high-level overview of the product and the environment in which it will be used, the anticipated users, and known constraints, assumptions, and dependencies]*

## 2. User Requirements

*[Provide specification of the user requirement: actor, use case diagram(s), use case description, etc.]*

## 3. Functional Requirements

### 3.1 System Functional Overview

*[Provide functionality overview of software system: screen flow, screen descriptions, system user roles, screen authorization, non-screen functions, ERD]*

### 3.2 <Feature Name 1>

*[Profile functional specification for the feature, with the details on each function]*

#### 3.2.1 <Function Name 1.1>

…

### 3.3 <Feature Name 2>

#### 3.3.1 <Function Name 2.1>

…

## 4. Non-Functional Requirements

### 4.1 External Interfaces

*[This section provides information to ensure that the system will communicate properly with users and with external hardware or software elements.]*

### 4.2 Quality Attributes

*[List all the required system characteristics (quality attributes) specification]*

## 5. Requirement Appendix

*[List out other requirements, appendix information etc. in this part]*

### 5.1 Business Rules

*[Provide common business rules that you must follow. The information can be provided in the table format as the sample below]*

### 5.2 Common Requirements

*[Fill all the common requirements here..]*

### 5.3 Application Messages List

### 5.4 Other Requirements…

# IV. Software Design Description

*[Provide final software design information follow the template as part II in the Report #4]*

## 1. System Design

### 1.1 System Architecture

*[The content of this section includes the overall diagram which includes the sub-systems, the external systems, and the relationship/connection among them. You need also provide the explanation for each of the diagram components (modules, sub-systems, external systems, etc.)].*

### 1.2 Package Diagram

*[Provide the package diagram for each sub-system. The content of this section includes overall package diagram(s) and the explanation for each package (or namespace)]*

## 2. Database Design

*[Provide the files description, database table relationship & table descriptions]*

## 3. Detailed Design

### 3.1 <Feature/Function Name1>

*[Provide the detailed design for the feature <Feature Name1>. It includes Class Diagram, Class Specifications, and Sequence Diagram(s);* ***For the features/functions with the same structure of class & sequence diagrams, you need to provide the diagrams once for one feature/function and refer to those diagrams from other features/functions****]*

#### 3.1.1 Class Diagram

*[This part presents the class diagram for the relevant feature]*

***3.1.2 <Sequence Diagram Name1>***

*[Provide the sequence diagram(s) for the feature]*

***3.1.2 <Sequence Diagram Name2>***

***3.1.3 …***

### 3.2 <Feature/Function Name2>

…

# V. Software Testing Documentation

*[Provide final software testing information follow the template as part II in the Report #5]*

## 1. Scope of Testing

*[Describe the scopes of the test. Those include the target-of-test’s features, functions, and non-functional requirements that will or will not be tested.*

*Describe the stages/levels of testing that would be applied to your project­ - Unit, Integration, or System test. Each includes the in-charge, inputs/time, focuses, acceptance criteria.*

*List any constraints or assumptions made during the development of this document that may impact the design, development or implementation of testing]*

## 2. Test Strategy

*[List out and describe all testing types (you can refer the test types listed below or any other test types to selected the suitable ones for the project; for each selected test types you need to provide the following information: test objective, technique, completion criteria, etc.), test levels that those test types would be performed, & the details of test supporting tools would be used in the project]*

### 2.1 Testing Types

*[List out and describe here the testing types which you would apply in your project. You need to mention following information for each type of testing: objective, technique, completion criteria]*

### 2.2 Test Levels

*<List out and describe here the testing levels which you would execute in your project. Besides, clearly state the test types which are performed in each test level that you plan for this project>*

### 2.3 Supporting Tools

*<List of the test supporting tools which will be employed for this project>*

## 3. Test Plan

### 3.1 Human Resources

*[List and provide the details on roles and responsibilities of the project members who would involve in testing works]*

### 3.2 Test Environment

*[List and provide the details about the tools (software, hardware, infrastructure) which the project would use for testing]*

### 3.3 Test Milestones

*[Separate test milestones, which should be identified to communicate project status accomplishments]*

## 4. Test Cases

*[Prepare the details on the test cases following the provided template*

* *Unit Test Cases: Report5\_Unit Test.xls*
* *Other Test Cases (IT, ST, AT): Report5\_Test Report.xls]*

## 5. Test Reports

*[Provide the test result, statistics and the relevant test analysis for your testing in the project]*

# VI. Release Package & User Guides

*[Provide final software testing information follow the template as part II in the Report #6]*

## 1. Deliverable Package

*[The section will list all source programs, scripts, documents with version number in this release. You can see the example following table for reference, can customize or delete if not using belong to each project characteristics]*

| **No.** | **Deliverable Item** | **Description** |
| --- | --- | --- |
| 1 | Schedule/Task Tracking |  |
| 2 | Project Backlog |  |
| 3 | Source Codes |  |
| 4 | Database Script(s) |  |
| 5 | Final Report Document |  |
| 6 | Test Cases Document |  |
| 7 | Defects List |  |
| 8 | Issues List |  |
| 9 | Slide |  |

## 2. Installation Guides

### 2.1 System Requirements

*[Define any system requirements necessary to support the application, including the software and relevant configurations]*

### 2.2 Installation Instruction

*[Includes installation instructions and configuration guidelines]*

## 3. User Manual

### 3.1 Overview

*[Descript the overview of the application and if could, insert the features workflow to help user has the overview of all the features in this application]*

### 3.2 Workflow 1

*[Describe the purpose of this workflow, draw workflow diagram and other relevant diagrams]*

*[Describe the detailed guides for the workflow by providing the brief description, step by step guides (attached with user interface) of how to use that function]*

### 3.3 Workflow 2

…