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

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

| **GFA24SE06** | |
| --- | --- |
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| **Capstone Project code** | FA24SE085 |

- Ho Chi Minh, Dec 2024 -

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# Acknowledgment

*[Fill team’s acknowledgment 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** |
| --- | --- | --- | --- |
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## 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, porter selection 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 houses without the typical challenges of dealing with multiple service providers and unclear processes.

## 3. Existing Systems

### 3.1 Lalamove

Lalamove is a logistics service that helps individuals and businesses move goods by booking trucks on demand. The platform focuses on providing fast and flexible delivery options through a large fleet of vehicles, including vans and trucks.

#### Pros:

▪ Fast and flexible delivery options.

▪ Real-time tracking for transparency.

▪ Wide range of vehicle options for different delivery needs.

▪ Convenient mobile app.

#### Cons:

▪ Doesn’t offer specific house-moving services.

▪ Limited scope in terms of customized pricing for larger homes and offices.

## 

### 3.2 Ahamove

▪ Ahamove is a logistics service designed for both individuals and businesses to book trucks and vehicles for moving goods on demand. It focuses on fast delivery and real-time tracking, similar to Lalamove

#### Pros:

▪ Easy-to-use app for booking deliveries.

▪ Real-time tracking and pricing transparency.

#### Cons:

▪ Lacks specific house-moving services.

▪ Limited coverage for larger, customized moves like office relocations.

▪ Pricing options may not be suitable for complex moving needs.

## 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

## For individuals and families looking to move who need a simple and efficient way to schedule moving services. The MoveMate is a comprehensive moving service platform that streamlines the booking process, connects users with reliable movers, and offers real-time tracking, unlike traditional moving services that often involve lengthy phone calls and fees not clear. Our Product provides a transparent, user-friendly interface with integrated features for scheduling, communication, and payment.

## 6. Project Scope & Limitations

### 6.1 Major Features

### 

| **Feature ID** | **FEATURE DESCRIPTION** |
| --- | --- |
| FE1: Booking Management | This feature enables customers to create, manage, and modify booking requests by specifying details such as date, time, truck type, and pick-up/drop-off locations. Once a booking request is made, drivers and porters receive notifications and can review the details. Reviewers assess the booking information to recommend suitable trucks based on customer requirements. Additionally, customers have the option to approve or reject any proposed changes to their booking, including adjustments to services, fees, or truck type. Drivers and porters can request real-time updates to the booking details, ensuring flexibility and responsiveness throughout the booking process. |
| FE2: Service Management | This feature allows managers to define and manage the various services offered, including standard truck rentals, specialty services (like packing or loading). Customers can browse and select from available services when making a booking, ensuring they receive the right support for their booking needs. Reviewers can assess the demand for specific services and suggest updates or changes based on customer feedback and usage data. Drivers are informed about the specific services included in each rental request, allowing them to prepare accordingly for each job. |
| FE3: Truck Management | This feature allows managers to manage the fleet of trucks, including adding new trucks and updating truck information. Reviewers can view truck availability and assign trucks to specific rental requests based on customer needs and truck suitability. Drivers can update the status of their assigned trucks(PENDING, AVAILABLE, IN\_USE, MAINTENANCE). |
| FE4: User Management | This feature enables administrators to create, update, and manage user accounts, including setting roles and permissions for users, reviewers, drivers, and porters. Admins can update their personal information. Additionally, managers can review, approve, and reject driver and porter registrations |
| FE5: Fee Management | This feature enables managers to set and adjust rental fees based on factors like truck type, rental duration, distance, and additional services. Customers can view estimated costs for their rental requests, receive detailed invoices, and choose from multiple payment options such as credit cards or digital wallets. Reviewers can verify fee calculations for each rental request to ensure accuracy before confirming the booking. |
| FE6: Discount Management | This feature enables customers to collect and apply vouchers to their bookings. Managers are responsible for managing discount codes, ensuring customers benefit from special offers. Customers can view available discounts and apply them to their rental requests at checkout. |
| FE7: Payment Management | This feature enables customers to pay for their moving service either online or via cash. Drivers are responsible for updating the payment status when cash is received. Managers can monitor and oversee financial reports, ensuring payment accuracy and proper accounting. |
| FE8: Real-Tracking Booking | This feature allows customers to track the progress of their booking in real-time, including the current location of the truck, estimated arrival time, and status updates throughout the move. Drivers, reviewers and porters can update their status during each phase of the move, such as when they are en route, arriving, loading, or unloading. They can also notify customers and administrators of any delays or issues. Managers can monitor the overall progress of all active bookings, ensuring that services are delivered on time and addressing any potential issues promptly. |
| FE9: Incident Management | This feature allows customers to report issues during the booking process. Drivers and porters can also report incidents like vehicle breakdowns or furniture damage. Managers then review and handle compensation requests |
| FE9: Communication Management | This feature allows seamless communication between customers, drivers, porters, reviewers, and managers through an in-app chat. |
| FE10: Notifications Management | All roles receive notifications for updates, incidents, and other booking-related information, allowing for swift response and coordination. |
| FE11: Schedule management | This feature allows managers to create and manage the work schedules of reviewers, drivers, and porters, ensuring optimal coverage for bookings and operations. Reviewers can view their assigned shifts, manage their availability, and request time off or shift changes as needed. Drivers can access their schedules, receive notifications for upcoming assignments, and report their availability for new bookings. Porters can manage their shifts and communicate with drivers regarding loading and unloading schedules to ensure efficient operations. |

### 

### *6.2 Limitations & Exclusions*

#### 6.2.1. Limitations

*This system is not the best and most optimal solution.*

*The mobile application only supports Android OS*

*The system lacks integration with certain third-party services such as Lalamove or Ahamove specialized logistics providers and additional transport systems.*

*MoveMate's integration with payment services is currently limited to basic features, and advanced financial services like installment payments are not available.*

#### 6.2.2. Exclusions

*The system does not handle damage insurance claims for goods in transit. Customers will receive process claims directly after finishing the payment.*

*MoveMate does not offer a service for storing goods temporarily if the move-in location is unavailable.*

*It does not support direct communication between customers and drivers before a booking is confirmed.*

# II. Project Management Plan

## 1. Overview

### 1.1. Scope & Estimation

| **No** | **WBS Item** | **Complexity** | **Est. Effort**  **(man-days)** |
| --- | --- | --- | --- |
| **1** | **Initiating** |  | **14** |
| 1.1 | Create a project management plan | Complex | 7 |
| 1.2 | Rent a server, buy a domain | Medium | 3 |
| 1.3 | Define required functionality | Medium | 2 |
| 1.4 | Define required screens | Medium | 1 |
| 1.5 | Define tables, relationships, and data schemas | Medium | 10 |
| **2** | **Planning** |  | **53** |
| 2.1 | Technology Training | Medium | 7 |
| 2.2 | Requirement Analysis | Complex | 6 |
| 2.3 | BRS – Business requirement specification | Complex | 6 |
| 2.4 | ERD Design | Complex | 6 |
| 2.5 | UI Design (Figma Design) | Medium | 14 |
| 2.6 | Database Design | Medium | 2 |
| 2.7 | Create test cases | Medium | 4 |
| 2.8 | Team meeting | Simple | 1 |
| 2.9 | Supervisor meeting | Medium | 1 |
| 2.9 | Create Source Base | Complex | 6 |
| **3** | **Executing** |  | **167** |
| **3.1** | **Iteration 1** |  | **30** |
| 3.1.1 | Write software requirement specification | Complex | 14 |
| 3.1.2 | Write software design document | Complex | 12 |
| 3.1.3 | Create test cases | **Medium** | 10 |
| 3.1.4 | Login and logout | Simple | 12 |
| 3.1.5 | Forgot password | Simple | 8 |
| 3.1.6 | Re-generate tokens | Simple | 4 |
| **3.2** | **Iteration 2** |  | **86** |
| 3.2.1 | Create a new booking | Medium | 3 |
| 3.2.2 | Update an existed booking information | Medium | 3 |
| 3.2.3 | View list of booking and view booking details | Simple | 4 |
| 3.2.4 | Update a booking status | Medium | 5 |
| 3.2.5 | Delete an existed booking | Medium | 2 |
| 3.2.6 | Track the moving process | Medium | 10 |
| 3.2.7 | View moving schedule | Simple | 1 |
| 3.2.8 | Update moving schedule | Medium | 2 |
| 3.2.9 | Delete moving schedule | Medium | 4 |
| 3.2.10 | Create a new promotion | Medium | 1 |
| 3.2.11 | View list of promotion | Simple | 4 |
| 3.2.12 | Delete a promotion | Medium | 1 |
| 3.2.13 | Review staff quality | Medium | 2 |
| 3.2.14 | Report problems during moving | Medium | 3 |
| 3.2.15 | Report damage to items during transportation | Medium | 4 |
| 3.2.16 | Resolve issues | Complex | 4 |
| 3.2.17 | Recharge money into the wallet in the system | Medium | 4 |
| 3.2.18 | View wallet information | Simple | 7 |
| 3.2.19 | Create payment for customer | Medium | 9 |
| 3.2.20 | View transaction history | Simple | 13 |
| **3.3** | **Iteration 3** |  | **30** |
| 3.3.1 | Create a new driver, porter, reviewer and manager | Medium | 3 |
| 3.3.2 | Update an existed driver, porter, reviewer and manager information | Medium | 3 |
| 3.3.3 | View list of driver, porter, reviewer and manager and view driver, porter, reviewer and manager details | Simple | 1 |
| 3.3.4 | Updatedriver, porter, reviewer and manager status | Medium | 2 |
| 3.3.5 | Delete an existed driver, porter, reviewer and manager | Medium | 2 |
| 3.3.6 | Refund to customer's wallet | Complex | 3 |
| 3.3.7 | View list of truck category and view truck details | Complex | 1 |
| 3.3.8 | Update a truck status | Medium | 4 |
| 3.3.9 | Create a new service | Medium | 2 |
| 3.3.10 | View list of services and view service details | Medium | 6 |
| 3.3.11 | Update an existed service | Simple | 9 |
| 3.3.12 | Delete an existed service | Complex | 3 |
| 3.3.13 | Chat between customers and reviewer, driver, porter and manager | Complex | 8 |
| 3.3.14 | Create a new fee | Complex | 5 |
| 3.3.15 | View list of fees and view fee details | Simple | 3 |
| 3.3.16 | Update an existed fee | Medium | 9 |
| 3.3.17 | Delete an existed fee | Simple | 1 |
| **3.4** | **Iteration 4** |  | **21** |
| 3.4.1 | Unit testing | Simple | 7 |
| 3.4.2 | Integration testing | Medium | 10 |
| 3.4.3 | System testing | Complex | 12 |
| 3.4.4 | Optimizing Performance and Security | Medium | 3 |
| 3.4.5 | Testing in staging environment | Medium | 12 |
| 3.4.6 | Deploy code in product environment | Medium | 3 |
| 3.4.7 | Testing in product environment | Medium | 14 |
| 4 | **Monitoring and Controlling** |  | **10** |
| 4.1 | Monitoring and Controlling | Complex | 10 |
| 4.2 | Scope of control | Medium | 2 |
| 4.3 | Tracking progress | Medium | 3 |
| 4.4 | Monitoring and controlling risks | Complex | 5 |
| **5** | **Closing** |  | **3** |
| 5.1 | Lesson learn | Simple | 1 |
| 5.2 | Final project report | Simple | 1 |
| 5.3 | Project archive | Simple | 1 |
| ***Total Estimated Effort (man-days)*** | | | ***246*** |

### 1.2. Project Objectives

| No | Testing Stage | Test Coverage | No. of Defects | % of Defect | Notes |
| --- | --- | --- | --- | --- | --- |
| 1 | Reviewing |  |  |  |  |
| 2 | Integration Test | 300 | 25 | 8,3% |  |
| 3 | System Test | 300 | 25 | 8,3% |  |

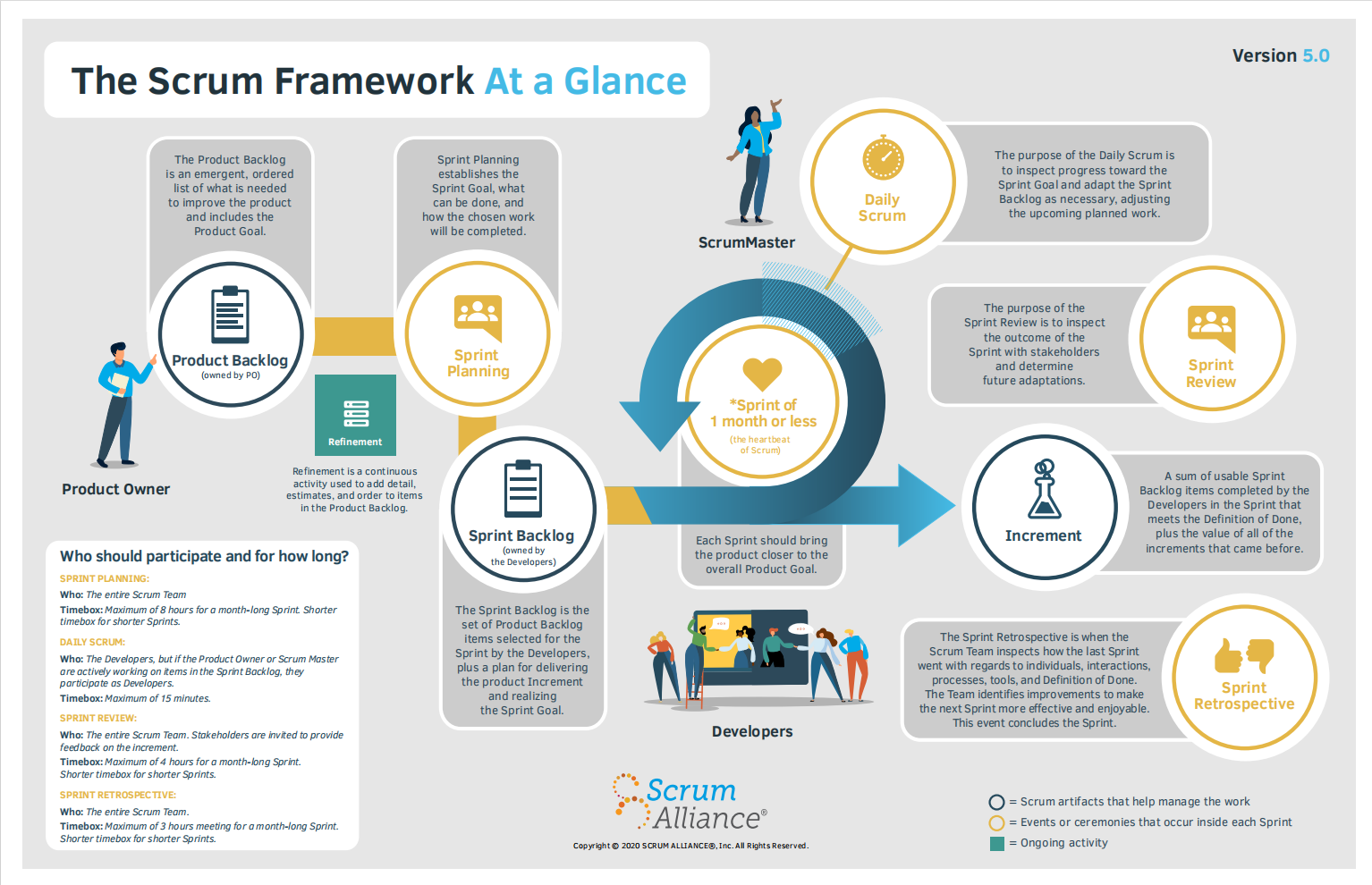
### 

### 1.3. Project Risks

| No | Risk Description | Impact | Possibility | Response Plans |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

## 2. Management Approach

### 2.1 Project Process

**

*Source:* [*https://www.scrumalliance.org/about-scrum*](https://www.scrumalliance.org/about-scrum)

We chose to build this project using the Scrum framework from Agile because:

It allows us to adapt to the unpredictable requirements of customers. By breaking the development down into smaller, manageable parts, we can refine the process step by step, ensuring that the final system truly meets the customer’s vision.

### 2.2 Quality Management

In this project, we employ the following strategy to raise project quality:

· API convention:

o Name the API Route that corresponds to the system entity.

o The response of APIs must be returned following:

* 200, 400, 401, 403, 404, 500 and 520 are the status codes used in the system.
* Message body must be returned in JSON format.

· Coding convention:

o Set the meaningful names for variables.

o Add comments to code can be confusing.

o Use Pascal case for naming Class, Interface, Method, Property, Constant.

o Use Camel case for naming Variable.

o Use Screaming snake case for naming Enum.

· CI/CD:

o Use GitHub Action to continue deploying, testing on server site

· Source code:

o Create new branch/pull request for every new feature/fix/enhance

o Branches: main, development, and features

o New branch is merged to develop after reviewed by leader or assigned member

· System testing:

o All team members must run all test cases and free tests again after completing the code for the entire system to make sure the system is operating smoothly.

### 2.3. Training Plan

| **Training Area** | **Participants** | **When, Duration** | **Waiver Criteria** |
| --- | --- | --- | --- |
| ASP.NET Web API Core 8 with Entity Framework | Cổ Phước Vinh  Lê Hàn Anh | Week 1, 7 days | Mandatory |
| Flutter | Nguyễn Thành Vinh  Phan Văn Tuấn  Đặng Nguyễn Hoài Phương | Week 1, 7 days | Mandatory |
| SQL Server | All members | Week 1, 7 days | Mandatory |
| GitHub | All members | Week 1, 7 days | Mandatory |
| Trello | All members | Week 1, 7 days | Mandatory |
| Figma | All members | Week 1, 7 days | Mandatory |
| Firebase | All members | Week 1, 7 days | Mandatory |

## 3. Project Deliverables

| **Iteration** | **Sprint objective** | **Duration** | **Deliverable** |
| --- | --- | --- | --- |
| 1 | Project Plan Document, SRS Document | 14 days | Project Planning, Software Requirement |
| 2 | Design Document | 20 days | Architecture Design, Basic Design, Detail Design and Database Design |
| 3 | Authentication module, Booking management module | 21 days | Code & System test cases |
| 3 | Service Management module, Staff Management module, | 28 days | Code & System test cases |
| 3 | Discount module, Fee module, Truck Management module, Schedule Management module | 21 days | Code & System test cases |
| 3 | Wallet and Transactions Module | 21 days | Code & System test cases |
| 4 | Test Reports, Guide Documents | 20 days | User manual guides,  Final report, documents |

## 

## 4. Responsibility Assignments

| **Fullname** | **Role** | **Responsibility** |
| --- | --- | --- |
| Nguyễn Thị Cẩm Hương | Supervisor | · Instruct project team  · Supervise project status  · Review deliverables  · Answer questions about the project |
| Cổ Phước Vinh | Leader | · Managing process  · Track backlog  · Clarifying requirements  · Prepare documents  · Quality management  · Support other team members  · Arrange meeting |
| Lê Hàn Anh  Đặng Nguyễn Hoài Phương  Phan Văn Tuấn  Nguyễn Thành Vinh | Team members | · Designing database  · Clarifying requirements  · Prepare documents  · Coding  · Create test plan  · Testing  · GUI design  · Support other team members |

## 

## 5. Project Communications

| Communication Item | Who/ Target | Purpose | When, Frequency | Type, Tool, Method(s) |
| --- | --- | --- | --- | --- |
| Supervisor  communication | Nguyen Thi Cam Huong and team members | · Review documentation  · Demonstrate features  · Evaluate progress and result | 2 times per week | Face to face, Google Meet, Zalo |
| Daily meeting | Team members | · Raise opinions, problems  · Ask for help from other members  · Report working status to leader | Always | Face to Face, Messenger, Google Meet,  Zalo |

## 

## 6. Configuration Management

### 

### 6.1. Document Management

We use Google Drive, Office 365, Trello to manage documents since they supply real-time data synchronization. Team members can easily collaborate in real-time thanks to Google Drive. Each participant can at once view the outcomes of the others. We can also evaluate document updates in Office 365 so that we can do so whenever necessary.

### 

### 6.2. Source Code Management

We decided to manage our source code on GitHub. The version control system makes it possible for team members to work together on source code efficiently, conveniently, and easily to resolve conflict. It is especially useful for looking back in time and at once recognizing changes a collaborator made.

### 

### 6.3. Tools & Infrastructures

#### 6.3.1. Tools

| Type | Tools |
| --- | --- |
| IDEs/Editors | Visual Studio Code, Visual Studio, Figma, |
| UML tools | lucid.app |
| Source Version Control | GitHub |
| Project Management Tool | Trello |

#### 

#### 6.3.2. Infrastructures

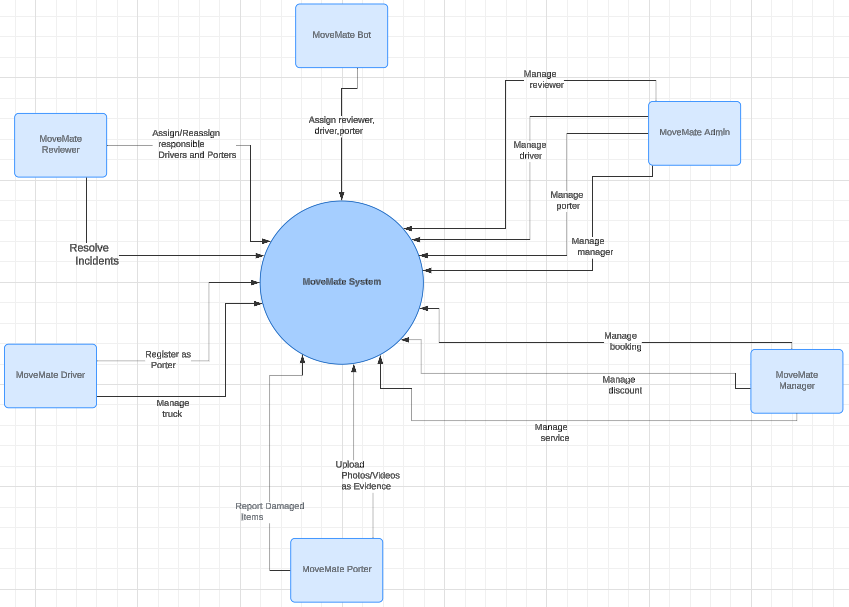
| Type | Infrastructure |
| --- | --- |
| Framework | Entity Framework Core 8 (Backend),  Flutter (Mobile),,  Nest, |
| Programming Languages | Typescript, C#, Dart |
| DBMS | SQL Server |
| Deployment Server | Github Action, VPS - Ubuntu server - NGINX |
| Storage | Firebase Database, Cloudiary |

# III. Software Requirement Specification

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

## 1. Product Overview

MoveMate is a web and mobile app created to make moving houses easier for individuals, families, and small businesses. It simplifies everything, from planning to execution, by offering features like vehicle booking, loading services, and real-time tracking. MoveMate takes care of the tough parts of moving, helping users figure out the right truck size, manage labor, and get clear, upfront pricing. It’s designed to remove the hassle and uncertainty, making the moving process smoother and more efficient.



## 2. User Requirements

### 2.1 Actor

| **No** | **Actor** | **Description** |
| --- | --- | --- |
| 1 | Admin | The admin is responsible for managing the system related to managing accounts in the system including accounts of Managers, Drivers, Porters, Reviewers, and Customers. |
| 2 | Manager | Manages bookings, services, and discounts. Reviews and approves driver and their truck registrations. Reviews and approves compensation claims, assigns driver, porter and reviewer in case of incidents |
| 3 | Driver | Receives moving jobs and may register as a porter. Updates the status of the booking and handles cash payments if required. |
| 4 | Porter | Receives jobs for loading/unloading services. Updates booking statuses, reports any issues or damages, and provides proof (photos/videos) of completed tasks. Reports incidents during the move. |
| 5 | Reviewer | Visits the customer’s house to review and assess the moving requirements. Updates booking details based on customer information, recommend services (e.g., vehicle type), and assigns lead drivers and lead porters for the job. |
| 6 | Customer | The customer books moving services, provides details about their house, and tracks their booking in real-time. They can modify their booking or submit claims if occur incident. |

### 2.2. Use Case Diagram

#### 2.2.1. Admin and Manager Use Case Diagram

#### 2.2.2. Driver, Porter, Reviewer Use Case Diagram

#### 2.2.2. Customer Use Case Diagram

### 2.3. List of Use Case Descriptions

### 

| **Role** | **Description** |
| --- | --- |
| As a Customer,  I want to | - see information about each service so that I can compare and make a reasonable choice.  - see all the trucks available so that I can make my choice more easily.  - receive information updates regarding my booking so that I can receive information about any delays or changes.  - manage my booking so that I can change the day to perform my booking one time or cancel my booking if my plans change.  - book a moving service so that I can easily schedule my move, select the right truck, and specify any additional services like loading or unloading.  - track the progress of my move in real time, so I can get notified of when the driver and porters will arrive and view the booking status.  **-** pay part of the deposit in advance so that I can commit to the order and secure my purchase.  - pay for my moving service online so that I can complete the transaction securely and conveniently without needing cash on hand.  **-** pay in cash so that I can have flexibility in paying for services  - manage my wallet so that I can recharge and withdraw money from my wallet for payment services within the app.  **-** view deposit history so that I can keep track of how much money for my booking.  **-** filter my transactions by time and status, so that I can easily find specific transactions in my wallet history.  - view my transaction history when I make a booking for a rental truck so that I can check the details of my previous payment.  **-** collect available vouchers so that I can apply them to my orders and save money.  **-** chat with the reviewer, driver, or porter so that I can receive advice and assistance regarding my inquiries.  **-** report issues about my belongings being broken during the move so that I can seek resolution and compensation for the damages.  **-** review the driver, porter and truck rental booking to move my house so that I can share how I really feel about the company and provide feedback for future improvements.  - give a bonus to the driver and porter so that I can encourage drivers and porters to maintain a high standard of service for future jobs.  - book a round-trip truck so that I can complete the transportation if it cannot be finished on the first trip.  - upload photos, videos or notes about the condition of the house or items so that I can receive appropriate reviews about the service I choose  - approve or reject changes to bookings (such as modifications in vehicle type, additional services, or fees) so that I can have control over any updates that affect the service I have booked and ensure that the changes align with my budget. |
| As a Driver,  I want to | **-** receive assignments so that I know when and where I need to be for each moving job.  **-** navigate to the customer’s location with real-time map integration so that I can arrive on time and avoid delays.  **-** update status booking when I have arrived at the location, loading and unloading so that I can inform to the customer the proceed of work and ensure the job is logged as finished, and payment can be processed.  **-** update the payment status when a customer pays in cash so that I can ensure accurate records keep track of completed transactions, and ensure that the system reflects the payment accurately.  **-** report incidents such as truck breakdowns or traffic jams to the system so that I can notify the system and customer of delays and request support and seek help from the system or support team if necessary, such as vehicle replacement.  **-** register as a porter so that I can earn additional income to increase my earnings by offering both driving and loading services.  **// update booking (thêm service, đổi xe, thêm fee)**  - create a request to the system to update a booking (such as adding services, changing the vehicle, or adjusting fees) when I see that the current details are not suitable, so that the system can notify the customer of the changes and allow them to either accept or reject the update. |
| As a Porter,  I want to | **-** confirm that all porter team members have arrived,  so that we can begin the packing, loading, and transportation process.  **-** update booking status so that I can make sure everything is on schedule and clear.  // nhận thông báo khi có cuốc, xem chi tiết booking  **-** receive notifications when a new booking is assigned to me so that I can be aware of upcoming jobs and respond promptly.  **-** view the detailed information of a booking so that I can fully understand the tasks and requirements for the job.  // báo cáo đc sự cố (bản thân và hư hại đồ đạt)  **-** report an issue if I cannot reach the designated location so that I can notify the team and customer promptly and receive assistance.  **-** report any damage to items during transportation so that I can promptly inform the team and customer, ensuring transparency and a resolution.  // up ảnh or video làm bằng chứng để tracker  **-** upload photos or videos as evidence, so that I can provide verified proof for incidents or completed tasks.  **// update booking (thêm service, đổi xe, thêm fee)**  - create a request to the system to update a booking (such as adding services, changing the vehicle, or adjusting fees) when I see that the current details are not suitable, so that the system can notify the customer of the changes and allow them to either accept or reject the update. |
| As a Manager,  I want to | - manage and monitor all ongoing bookings, including tracking the booking status, ~~assigned drivers, porters, vehicles~~, and customer details, so that I can ensure smooth operations and timely moving service by having control over the entire process.  - receive customer feedback and complaints so that I can address any issues, maintain customer satisfaction, and continuously improve service quality.  - review reports on completed jobs, and financials so that I can evaluate operational efficiency and make informed decisions to improve performance.  - connect with drivers, porters, and reviewers via chat or notification so that I can ensure clear coordination and handle any issues or updates in real-time.  // quản lý discount  - manage discounts, including setting, updating, and applying discount codes or promotions, so that I can control and optimize pricing strategies to attract customers.  // quản lý service  - manage services, including adding, modifying, or removing services offered, so that I can ensure the service list is accurate, up-to-date, and aligned with business objectives.  // duyệt driver, porter, review  - approve or reject drivers, porters, and reviewers, ensuring only qualified staff and valid reviews are processed, so that I can maintain service quality and operational standards.  // duyệt review bồi thường  - approve or reject compensation claims, based on the review of incident reports and customer feedback, so that I can ensure fair and transparent handling of damage claims and maintain customer trust. |
| As an Admin,  I want to | **-** manage customer list so that I can view, ban, or remove customer information  **-** manage driver list so that I can create account, update or remove driver details.  **-** manage porter list so that I can create an account including the ability to update or remove their profiles.  **-** manage manager list so that I can create account, update information about manager |
| As a Reviewer,  I want to | - assign or reassign drivers and porters to bookings as needed so that I can optimize resource allocation and handle changes in workload  - view detailed information about the house provided by the customer (house type, number of rooms, floors, etc.) so that I can assess the moving requirements accurately.  - update status to the system after completing the house review so that the moving process can proceed to the next stage (booking confirmation).  - provide recommendations for customer regarding truck type, equipment needed, and other specifics based on my review so that the moving house is well-prepared.  - send a notification to the customer confirming that the review is complete so that they can proceed with the next steps.  // nhận được thông báo có booking, và xem đc booking đó là ONL hay OFFL  - receive notifications when a new booking is made, and view whether the booking is offline or online so that I can prioritize and manage the review process accordingly, preparing for either an online review or scheduling an offline review.  // có thể connect Customer qua chat  connect with the customer via chat so that I can quickly clarify details, answer questions, and provide timely support during the review process.  // có thể up ảnh or video khi tiến hành review Off  - upload photos or videos during the offline review to document the house details so that I can provide authenticity evidence for any updates to the booking, ensuring transparency and proper documentation for the customer and company.  // có thể update booking (đổi loại xe, time booking, thêm bớt service, thêm fee, ..)  - Update booking information, such as changing the truck type, modifying the booking time, adding or removing services, or adjusting fees so that I can ensure the booking reflects the most accurately and provide the customer with the correct services and pricing. |

## 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

…