

**Capstone Project Report**

**Report 1 – Project Introduction**

– HoChiMinh, January 2025 –

# I. Record of Changes

|  |  |  |  |
| --- | --- | --- | --- |
| Date | A\*   M, D | In charge | Change Description |
| 15/01/2025 | A\* | Luan | Everything |
| 17/01/2025 | A | Luan | Mind map |
| 04/02/2025 | D | Luan | Mind Map |
| 04/02/2025 | M | Luan | Existing Systems |
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\*A - Added M - Modified D - Deleted

# II. Project Introduction

## 1. Overview

### 1.1 Project Information

•    Project name: Vin Shuttle - VinHome Grand Park Internal Transportation Service by Electric Vehicles

•    Project code: VS

•    Group name: SP25SE195

•    Software type: Web, Mobile App

### 1.2 Project Team

|  |  |  |  |
| --- | --- | --- | --- |
| **Full Name** | **Role** | **Email** | **Mobile** |
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## 2. Product Background

The VinShuttle project was initiated in response to the increasing demand for efficient and eco-friendly shuttle services within urban residential areas, particularly in large complexes such as VinHome Grand Park (VHGP) in Ho Chi Minh City. As urbanization accelerates, residents encounter difficulties in moving conveniently within these expansive communities. Traditional modes of transportation, such as walking or using personal vehicles, often prove inconvenient, especially when accessing amenities spread across the area. This issue is further exacerbated by the lack of a centralized system for booking electric shuttles, resulting in inefficiencies and decreased user satisfaction.

VinShuttle aims to address these challenges by providing a dedicated application for booking electric shuttles, streamlining the shuttle service within the VHGP community. The project was conceived based on input from both residents and VinHome management, who recognized the need for a sustainable and user-friendly shuttle service that aligns with modern urban living standards and environmental awareness.

## 3. Existing Systems

### 3.1. Grab

Grab is a well-known ride-hailing service that offers a range of transportation solutions, including car, bike, and electric vehicle rides. Users can book rides via a mobile app, which provides real-time tracking, estimated arrival times, and cashless payment options.



·        **Link**:<https://www.grab.com/vn/>

·        **System Actors:** Customer, drivers, app administrators.

·        **Features:**

o   On-demand ride booking

o   Multiple vehicle options

o   Real-time tracking

o   In-app payment

o   Customer support

·        **Pros**:

o   Wide availability and scalability

o   User-friendly interface

o   Integration with various payment methods

·        **Cons:**

o   High service fees

o   Limited to public roads, not optimized for intra-area transportation

o   Potential long wait times during peak hours

### 3.2. Xanh SM

Xanh SM is a ride-hailing service focused on eco-friendly electric vehicles, providing an environmentally sustainable transportation solution. It is designed to serve both urban and residential areas with a strong emphasis on green technology.



·        **System Actors**: Customer, drivers, app administrators.

·        **Link:**<https://www.xanhsm.com/>

·        **Features:**

o   Electric vehicle rides

o   Real-time tracking

o   In-app payment

o   Eco-friendly service

·        **Pros:**

o   Focus on sustainability and electric vehicle usage

o   User-friendly interface

o   Environmentally conscious brand

·        **Cons:**

o   Limited to specific areas

o   Smaller service network compared to larger competitors

o   Potential availability issues during high demand

## 4. Business Opportunity

The demand for sustainable and efficient intra-area shuttle services is rapidly growing, especially in fast-developing urban communities like VinHome Grand Park. The key business opportunity lies in addressing the mobility needs of a rising population of residents who seek both convenience and environmentally friendly solutions. While existing ride-hailing platforms such as Grab and Gojek offer general transportation services, they do not specifically cater to intra-area shuttle needs within residential complexes.

VinShuttle bridges this gap by providing a specialized service dedicated to internal shuttle transport within VHGP. This focused approach enhances the user experience by minimizing wait times and optimizing routes while also supporting global sustainability trends through the use of electric vehicles. By integrating advanced booking and management features, VinShuttle establishes itself as a superior alternative to existing options, offering a strong value proposition for residents while aligning with corporate strategies to promote green initiatives.

## 5. Software Product Vision

VinShuttle envisions a future where residents of urban residential complexes like VinHome Grand Park enjoy seamless and eco-friendly shuttle services within their communities. The application seeks to transform intra-area mobility by offering an intuitive, efficient, and sustainable electric shuttle booking system. By prioritizing user convenience and environmental responsibility, VinShuttle aims to become an essential part of residents' daily lives, setting a new standard for smart urban shuttle solutions.

VinShuttle’s vision extends beyond improving mobility—it is about redefining the urban living experience. By leveraging cutting-edge technology and aligning with global sustainability trends, VinShuttle contributes to the development of smarter, greener, and more interconnected communities. This vision harmonizes the needs of residents, the strategic objectives of VinHome management, and the broader mission of advancing eco-friendly transportation solutions.

## 6. Project Scope & Limitations

### 6.1 Major Features

#### 6.1.1 Web Application for Admin

As an admin user of the VinShuttle system, I would like to use the following features:

* **FE-01**: Login/Logout
* **FE-02**: Manage personal profile (View profile, update profile, change password)
* **FE-03**: Manage users (manager): View, add, update information
* **FE-04**: Manage price of services: View price, update price
* **FE-05**: Manage vehicle category: View category, update, delete, add
* **FE-06**: Manage vehicle information: View vehicle, update, delete, add
* **FE-07**: Manage route: Edit road, add stop station, update route, add route
* **FE-08**: Manage cash flow: View cash dashboard
* **FE-09**: Manage bus route: View, create, delete, update bus route

#### 6.1.2 Web Application for Manager

As a manager of the VinShuttle system, I would like to use the following features:

* **FE-10**: Login/Logout
* **FE-11**: Manage drivers: View driver, update driver, add driver, delete driver
* **FE-12**: Manage customers: View customer
* **FE-13**: Manage bookings: View booking, trip
* **FE-14**: Manage driver schedules: View, edit schedule and bus schedule
* **FE-15**: Manage feedback: View feedback

#### 6.1.3 Mobile Application for Driver

As a driver of the VinShuttle system, I would like to use the following features:

* **FE-16**: Login/Logout
* **FE-17**: Manage bookings: View booking, accept booking, view route
* **FE-18**: View personal schedule, check-in, check-out
* **FE-19**: Chat with customer
* **FE-20**: Pickup customer, complete trip
* **FE-21**: View feedback

#### 6.1.4 Web Application for Customer

As a customer of the VinShuttle system, I would like to use the following features:

* **FE-22**: Login/Logout
* **FE-23**: Book a service (rent by hour, rent by route, share on-demand bridge)
* **FE-24**: Real-time ride tracking (View driver and vehicle information: driver name, license plate, vehicle type)
* **FE-25**: Buy bus ticket
* **FE-26**: Rating and feedback
* **FE-27**: Manage profile
* **FE-28**: Chat with driver

### 6.2 Limitations

·        **LI-1: Geographic Scope**: The VinShuttle service is limited to the VinHome Grand Park (VHGP) area. It does not extend to external locations outside the VHGP boundaries, ensuring the service is optimized for intra-area transportation.

·        **LI-2: Service Availability**: The availability of VinShuttle services is dependent on the operational hours set by VinHome management. There may be limited service during off-peak hours or maintenance periods.

·        **LI-3: Vehicle Capacity**: The electric shuttles have a limited passenger capacity, which may result in longer wait times during peak usage periods.

·        **LI-4: Real-Time Tracking**: While real-time tracking is available, it is reliant on stable internet connectivity. Any disruption in connectivity may affect the accuracy of vehicle tracking.

·        **LI-5: User Access**: The service is primarily designed for VHGP residents and may require users to verify their residency to access full features.

·        **LI-6: Feedback and Support**: The feedback and customer support features are limited to in-app interactions, with no dedicated hotline for immediate assistance.