**Phase 1 S****cope Document for**

**AI-Powered Travel Booking Platform**

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# **Project Overview**

NeeloSewa is an innovative transport-tech startup based in Nepal, dedicated to digitizing and transforming the country's local and intercity transportation ecosystem. With the vision of making transportation more efficient, accessible, and transparent, NeeloSewa aims to create a unified digital platform that brings together passengers and a wide range of transportation services under one roof.

The platform will be available for mobile apps, ensuring maximum accessibility for users across different devices and regions. Through this platform, passengers will be able to directly connect with various types of public and private bus transport.

# Goal

* Enable real-time seat booking for local and intercity transport
  + Customers can book seats instantly in real time.
  + Applicable for both local and intercity transport.
  + Supports various types of buses, including AC/non-AC, sleeper, and sitting.
  + No need to visit physical counters—booking is fully digital.
* AI-powered travel suggestions
  + Uses AI to recommend the best travel options based on user preferences.
  + Suggests optimal routes, vehicles, and timings.
  + Considers factors like traffic, weather, seat availability, and past behavior.
  + Helps users discover faster, cheaper, or more comfortable travel options.
  + Also include AI chatbots and customer representatives.
* Offer live vehicle tracking
  + Allows users to track vehicles in real time on a map.
  + Provides accurate ETAs (Estimated Time of Arrival).
  + Helps reduce waiting time and improves trip planning.
  + Enhances safety and transparency for passengers.

# **Project Requirement Scope for Mobile Application**

# **Public Page**

## **Home Dashboard**

* 1. Quick view of travel stats & platform activity.
  2. Access bus listings, ticket booking flow, and support services
  3. Notifications, updates, and user role shortcuts

## **Login/Signup**

* 1. Login/Signup option for all user roles
  2. Unified login page with clean, minimal UI.

## **Search**

* 1. Search buses by location, date of journey,
  2. Instant filters, such as selecting buses by route, price, and availability.

## **Multiple travel options for every journey**

* 1. Wide traveling section.
  2. Mode-specific filters and listing.

## **FAQ Section**

* 1. Answers to common travel booking questions.
  2. Easy navigation by travel category or service type.
  3. How do I activate/deactivate my account?

## **AI Chatbot and 24/7 Customer Support**

* 1. Travel Suggestions, Chatting, entertainment suggestions, etc.
  2. Get real-time responses and quick issue resolution.

## **Multi-Language Selection**

* 1. Support multiple languages like Hindi, English, Nepali, and Maithili.

## **Dynamic Promotions**

* 1. Travel deals and seasonal discounts.
  2. Platform-driven campaigns & announcements.

# **End User**

## **End User Authentication**

* 1. Registration/Login (Email, Google, Facebook, Apple)
  2. Forgot Password Option
     1. Email, Phone -> OTP

## **Vehicle Search**

* 1. Search for an available vehicle
  2. Use filters like (bus type, ride, price, traveling location, date)

## **AI suggestions for the best route and times.**

* 1. Get smart route recommendations based on real-time traffic and road conditions.
  2. AI suggests the best departure times to avoid delays or peak hours.

## **Booking**

**→ For Seat Booking**

* 1. Real-time seat booking
     1. Name
        1. The user can select passenger details for booking from the existing list or add new ones
     2. Age
     3. Phone no
     4. Option to save (Name, Age, Phone number) for fast booking in the future
     5. Add from where to where (Source A to Source B)
     6. Seat preference
        1. View the live status of available, booked seats, and the graphical bus layout.
     7. Email ID (Optional)
     8. Payment using a wallet
  2. View seat layouts and availability for buses.
  3. Get digital tickets instantly in a PDF format after booking confirmation.
  4. Tickets are stored in the profile section and can be downloaded or shared.

## **Live Vehicle Tracking**

* 1. Track the vehicle in real time on an interactive map.
  2. Get accurate ETA (Estimated Time of Arrival) updates.
  3. See the vehicle’s route, stops, and current location.

## **AI Khalasi (Your Onboarding AI Assistant)**

* 1. **QR-based automatic ticket verification**
     1. Scan the ticket directly
     2. Upload the ticket via file
  2. **Real-time Announcements**
     1. TTS(Text-to-Speech) Announcement
        1. Real-time voice announcements for trip confirmation and updates.
        2. Notifies users about bus arrival, departure, next stop, and delays through voice
        3. Support multi-language audio announcements like Hindi, English, Nepali, and Maithili.
  3. **Emergency & Alerts**
     1. Send Emergency Alerts to Headquarters (Admin)
     2. AI-based Option to find nearby
        1. Hotels
           1. Show Name, Contact details, distance, location sharing option
        2. Police Station
           1. Show Name, Contact details, distance, location sharing option
        3. Doctors
           1. Show Name, Contact details, distance, location sharing option
        4. Alternate Travel Solution
           1. Show Name, Contact details, distance, location sharing option

## **Profile**

* 1. **Wallet** 
     1. Add money to your wallet using a predefined payment gateway for secure transactions.
     2. Earn rewards on the ride and through referrals.
     3. Get a reward like:
        1. Free rides
        2. Discount coupons
        3. Partner offers
     4. Track Tires: Bronze -> Silver -> Gold with increasing benefits.
     5. Redemption via app wallet or coupon code.
  2. **My Passenger Details** 
     1. The user can manage the passenger details
  3. **Ride History**
     1. View all past and upcoming rides in one place.
     2. Download and share tickets anytime.
  4. **Cancellation & Refund Management**
     1. Easy ticket & logistic cancellation
        1. Option to cancel ride before X minutes (Dynamic penalty if canceled on short notice)
        2. List of rules for refund/penalty (only for viewing purposes)
     2. Raised a refund request via the application
        1. Failed transaction
        2. Service not rendered
        3. Cancellation before ride start
        4. Track refund status (approved/refused)

**Note:** Refund takes X days (3-7)

* 1. **Journey Remainder & Alerts**
     1. Get notifications for boarding time, delays, etc
  2. **Monthly Passes**
     1. Purchase and Activation
        1. Purchase via wallet
        2. On payment success, the pass is activated and linked to the User ID/mobile/device.
     2. Strategy and Service Dual Role
        1. As a strategy, monthly passes support user retention and predictable monetization.
        2. As a service, they offer a seamless and premium travel experience, reducing the friction of repeated bookings.
     3. Pass Validity Types:
        1. **Day-wise Plan:** Valid for the continuous period (eg, 30 calendar days from activation).
        2. **Count-specific Plan:** Offer a fixed number of rides (eg, 20 rides/month), regardless of the date.
     4. Route-specific Configuration:
        1. Admin can create route-specific pass plans

Note: Passes are non-transferable and linked to the user via User ID, mobile number, or device.

- Implement an identity verification mechanism like OTP-based validation or OR code scanning at the time of use

* 1. **Rating & Review System**
     1. Rate the vehicle, driver, and amenities, and provide suggestions for improvement.

# **Vehicle Staff/Employee**

## **Vehicle Staff/Employee Authentication**

* 1. Login (Email, Google, Facebook, Apple)
  2. Forgot Password Option
     1. Email, Phone -> OTP

## **Ticket & Pass Validation**

* 1. Via QR code scanning

## **Passenger Monitoring**

* 1. Track passenger count per ride and maintain a record.

## **Incident Reporting**

* 1. Option to report incidents or violations directly to the vehicle owner and admin with location.
  2. Check the vehicle (before/after) every trip.
     1. Update status -> Available/Not Available

## **Schedule Access**

* 1. View assigned route schedule or trip details in real-time.

**Note:-** Initially, all the data will be verified by the admin.

# **Future Scope**

* **Booking Option For:**
  + AirLine, Hiaces, Tempo, e-rickshaws
* **Snacks and Drink ordering Feature for:**
  + End users can order snacks and Drinks while travelling
* **Hotels Booking Feature for:** 
  + Instant hotel booking in different cities by end users
* **Wifi Access Management & Advertising**
  + QR-based free internet access on onboarding
  + End users can see advertisements on wifi access
* **Logistic Feature for:** 
  + Goods Management from one location to another (managed by end users and agents)

# **Assumptions**

* The client must provide APIs for mobile App development.
* AI Khalise module will be implemented only from the end user's point of view, not for vendors, vehicle owners, etc.

# **Tech Stack**

| **Department** | **Tools and Technologies** |
| --- | --- |
| **Mobile** | ReactNative |
| **Maps** | Google Maps |
| **Social Login** | Firebase |
| **Error Tracking** | Sentry |
| **Crashalytics** | Firebase |
| **Analytics** | Google Analytics |
| **Payment Gateway** | Stripe, PayPal, RazorPay, Khalti |
| **Push Notification** | OneSignal |
| **Live Tracking (This is yet to be finalized)** | Integration IOT Platform (attached with vehicle) service API or ReactNative Plugin for GeoLocation Live Tracking (using driver) |
| **Realtime Updates** | Pusher or EMQX |

# **Project Timeline**

**Tentative Estimation is 19-25 weeks**

**====================================**

**Phase1 : Foundation, Authentication, Setup**

**Phase2 : Search, Booking, Payment**

**Phase3 : AI Features, Live Tracking**

**Phase4 : Profile, Passes, Advanced Features, Staff Features**

**Phase5 : Testing, Optimization, Deployment**