

## || ARKA ||

### Arka – The Ultimate 5T-Based Smart Travel App

(  *Tourism* |  *Transport* |  *Technology* |  *Trekking* |  *Tradition* )

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Arka is a smart travel & transport platform integrating:

- ✓ Real-time bus tracking 
- ✓ Easy ticket booking 
- ✓ AI-powered tourism insights 
- ✓ Trekking routes & weather updates 
- ✓ Local culture & traditions 


This app connects **private bus operators, passengers, and tourists**, ensuring a **smarter, more connected journey** .

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#### Features of PARMi


##### Real-Time Bus Tracking (Transport)

- **Live GPS Tracking** – Track private buses in real-time.
- **Arrival Time Estimation** – AI predicts arrival & delays.
- **Route & Stop Info** – Find the closest stop and route details.
- **Bus Status Notifications** – Alerts for approaching, departing, and delayed buses.
- **Driver & Conductor Contact** – Directly call or chat for real-time updates.

 **Use Case:** Passengers can see **which private bus is arriving next** and track its **real-time movement** instead of waiting blindly.


##### AI-Powered Tourism Guide (Tourism)

- **Explore Nearby Attractions** – AI recommends **historical sites, temples, beaches, hidden gems.**
- **AR/VR-Based Virtual Tours** – Experience destinations before visiting.
- **Local Food & Handicrafts** – Discover **must-try dishes & traditional market hubs.**
- **Personalized AI Travel Itineraries** – Smart planning based on user interests.
- **3D Temple Map & Virtual Navigation** – A **Three.js-powered** 3D map of heritage sites for immersive exploration.

 **Use Case:** A tourist in Bhubaneswar can open **Arka** and get real-time suggestions on famous sites like **Konark Temple, Lingaraj Temple, and Puri Beach.**


### **Trekking & Adventure (Trekking)**

- **Trekking Trail Maps & GPS Guidance.**
- **Difficulty Levels & Safety Tips.**
- **AI-Based Weather & Risk Alerts.**
- **Group Trek Planning & Coordination.**

 **Use Case:** Someone planning to trek **Daringbadi hills** can use **Arka** to check routes, weather forecasts, and fellow trekkers.


### **Smart Ticket Booking (Technology)**

- **Book Private Bus Tickets** – Pay via **UPI, Cards, Wallets, or Cash on Boarding.**
- **QR-Based Ticketing** – Paperless **QR-code boarding.**
- **Seat Selection & Discounts.**
- **Passenger History & Refund System.**





 **Use Case:** A daily commuter can use **Arka** to book a **bus seat for their regular route** instead of standing in long lines.

### **Cultural & Traditional Events (Tradition)**

- Festival Alerts & Local Event Suggestions.
- Local Handicrafts & Artisan Marketplaces.
- Heritage Walks & Storytelling Experiences.
- Exclusive AI-Powered Cultural Insights.

 **Use Case:** A tourist in **Puri** gets a notification about a **local sand art exhibition on Puri Beach**, enhancing their experience.

## Why Choose ARKA?

- ✓ Revolutionizing Private Bus Tracking 
- ✓ AI-Powered Smart Tourism 
- ✓ Bringing Tech into Trekking 
- ✓ Preserving & Showcasing Traditions 
- ✓ Seamless & Secure Travel Experience.
- ✓ Interactive 3D & AR-Powered Temple Tours.

## Future Add-Ons (Advanced Features)

- ☒ AI Chatbot – Instant travel recommendations.
- ☒ Multilingual Support – English, Hindi, Odia, Bengali.
- ☒ SOS Emergency Button – Safety alert for trekkers & solo travelers.
- ☒ Community Travel Forum – Users can share experiences & reviews.
- ☒ AR-Powered Temple Exploration – Users can explore temple ruins with an interactive AR experience.

## App UI/UX Flow

 **Splash Screen** – Animated Arka logo appears.

 **Home Screen** – Tabs: Bus Tracking | Tourism | Trekking | Tradition

 **Live Bus Tracking** – Real-time GPS tracking & arrival time.

 **Ticket Booking** – Select bus, date, seat, & pay.

 **Tourism Guide** – AI-based suggestions & virtual AR tours.

 **Trekking Trails** – Find best treks, safety tips & group planning.

 **Cultural Events & Shopping** – Explore local markets & festivals.

 **3D Temple Map** – Explore temples and heritage sites with interactive 3D maps.

 **User Profile** – See booking history, saved places & preferences.

## Taglines for ARKA

"Travel Smarter, Explore Deeper."

"Your Journey, Simplified with AI."

"Bridging Tradition & Technology."

"One App for Travel, Culture & Exploration."

## Technology Stack for ARKA

### Web App Development

- **Frontend:** HTML, CSS, JS
- **Backend:** Firebase
- **Database:** Firestore (NoSQL for scalability).

### AI & ML Integration

- **Route Optimization & AI Predictions** – TensorFlow for transport efficiency.
- **User Preference-Based Recommendations** – AI-driven insights.
- **Chatbot for Travel Assistance** – NLP-powered support.

#### **Maps & GPS Tracking**

- **Openstreet Maps API + Firebase GeoFire** for real-time bus tracking.
- **Three.js** for 3D Temple Mapping & Virtual Navigation.
- **Geofencing API** for tourism and safety alerts.

#### **Security & Authentication**

- **Firebase Authentication** – Google, OTP, and biometric login.
- **AES-256 Encryption** – Secure payment & user data storage.

#### **Payments & Monetization**

- **Payment Gateway:** Razorpay / Stripe / UPI.
- **Subscription Model for Bus Operators.**
- **Commission on Ticket Bookings & Cultural Event Listings.**

#### **Admin Panel & Dashboard**

- **Admin Web Dashboard** – React.js
  - **Bus Operator & User Management via Firebase Admin SDK.**
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