

GHURBO: Bangladesh Tour Planning and Travel Agency System

A Junior Design Project

Developed by:

MD. Rakibul Hasan

MD. Rokib Hasan Oli

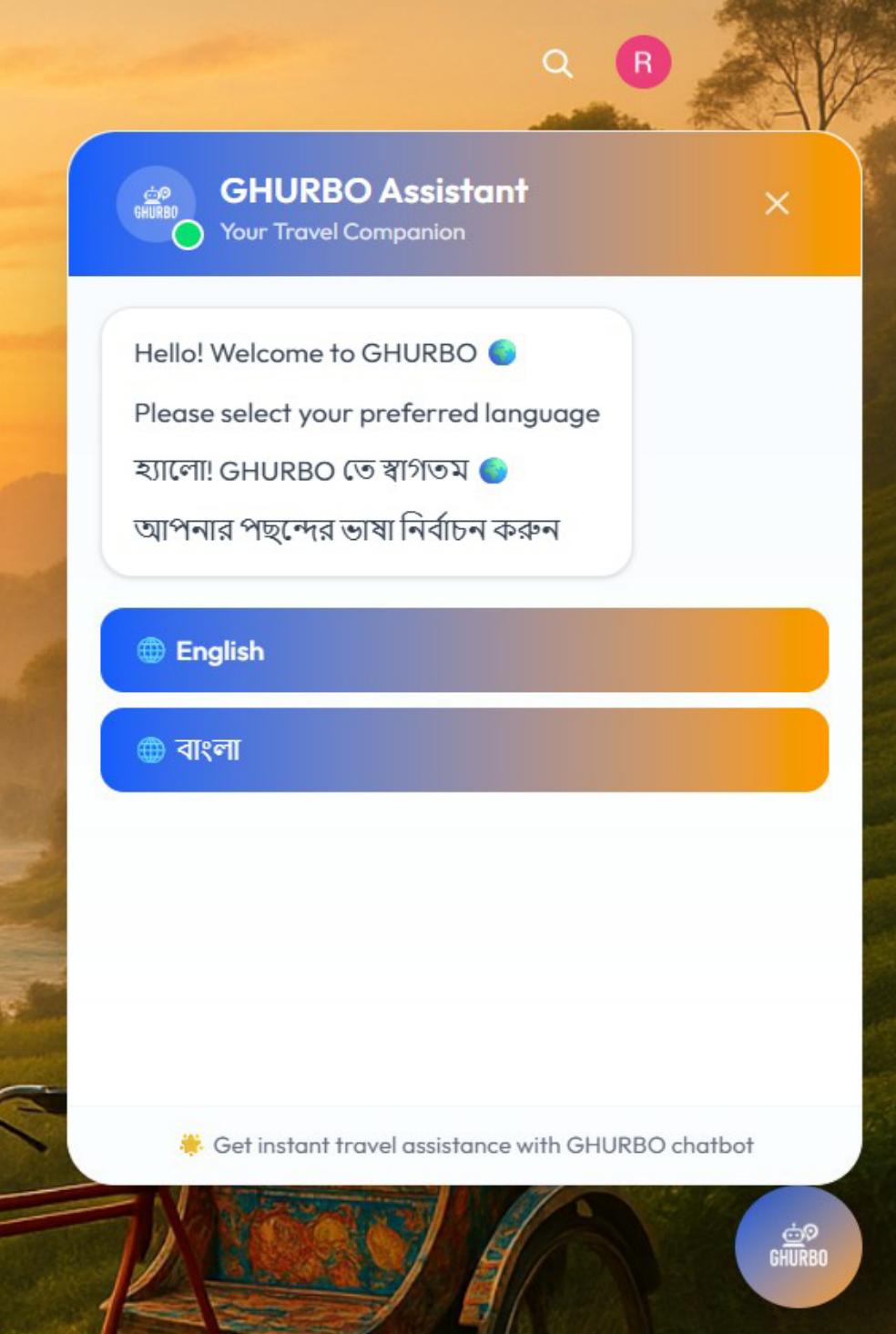
MD. Nafees Ahommed

Faculty Advisor:

Dr. Riasat Khan

Assistant Professor, ECE Department





Project Overview: GHURBO

AI Chatbot

An intelligent chatbot helps users find ideal tour packages based on their budget, preferences, and destinations.

Instant Booking & Payments

Enables secure, real-time bookings and payments, with immediate email confirmations.

Operator Dashboard

A dashboard for tour operators to easily register, list, and manage their tour packages.

GHURBO is a web platform designed to make tour planning in Bangladesh easier. It connects travelers with trusted tour providers, streamlining the whole process and improving user experience with smart features.

Motivation & Goals

Bangladesh's tourism is growing, but travelers face scattered information and limited personalization. Small agencies lack effective marketing tools. GHURBO aims to digitize the sector, boost transparency, and make travel planning accessible.

1 Simplify Travel Planning

Enable easy search, comparison, and booking of tour packages.

2 Integrate AI Assistance

Provide guided package selection with a multilingual AI chatbot.

3 Empower Tour Operators

Offer a dashboard for package management and sales tracking.

4 Enhance Tourism

Drive digital transformation in Bangladesh's tourism industry.

Addressing Existing Limitations

Current tourism platforms often lack multilingual support, AI personalization, and integrated tools for local operators. GHURBO fills these gaps by transforming these limitations into key contributions.

Current Limitations:



Generic Recommendations

No AI-driven package recommendations, leading to a one-size-fits-all approach.



Language Barriers

Lack of Bengali language support, excluding a significant portion of the local population.



Limited Operator Tools

Minimal real-time management tools for tour operators to control their offerings.



Poor Local Adaptation

Weak adaptation to local cultural and seasonal trends, offering generic packages.

GHURBO's Solutions:



Intelligent AI Chatbot

Multilingual AI chatbot offering personalized package recommendations.



Extensive Language Support

Comprehensive support including Bengali, making travel planning accessible to all.



Real-time Dashboards

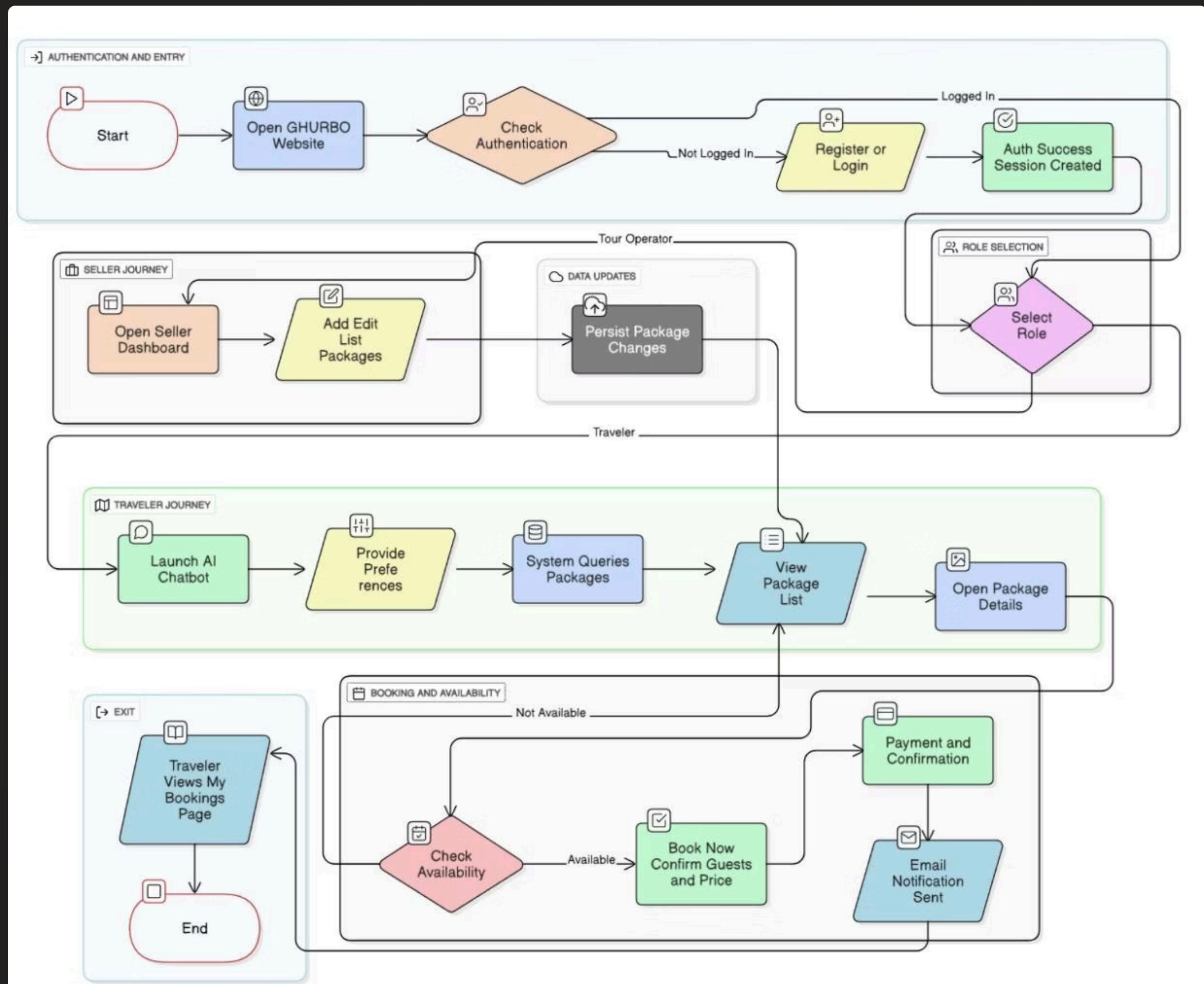
Intuitive seller dashboards for real-time management and package updates.



Seamless Cloud Booking

Cloud-based booking with instant confirmations for a smooth user experience.

System Design & Components



GHURBO is a software-based project utilizing various cloud services and APIs for advanced features.

Technology	Function	Why Selected
React.js	Frontend UI	High performance, reusable components
Node.js + Express.js	Backend server & API	Lightweight, scalable, RESTful APIs
MongoDB Atlas	Cloud-hosted NoSQL DB	Flexible schema, cloud scalability
Cloudinary	Media storage	Easy integration, image optimization
Brevo	Email automation	Reliable delivery, simple API
Clerk	Authentication	Easy integration, multi-factor auth
AI Chatbot Framework	Multilingual chatbot	Supports Bangla/English, customizable
Vercel	Deployment	Simple deployment, CI/CD

Implementation Process

The development followed a structured approach from UI to deployment.

01

Frontend Development

Reusable UI components in React.js,
responsive design with Tailwind CSS.

02

Backend Development

Express.js routes for authentication,
package management, and booking;
API integrations.

03

Database Setup

MongoDB collections for users,
packages, bookings; indexed for
performance.

04

Chatbot Integration

Multilingual chatbot with intent recognition for
recommendations.

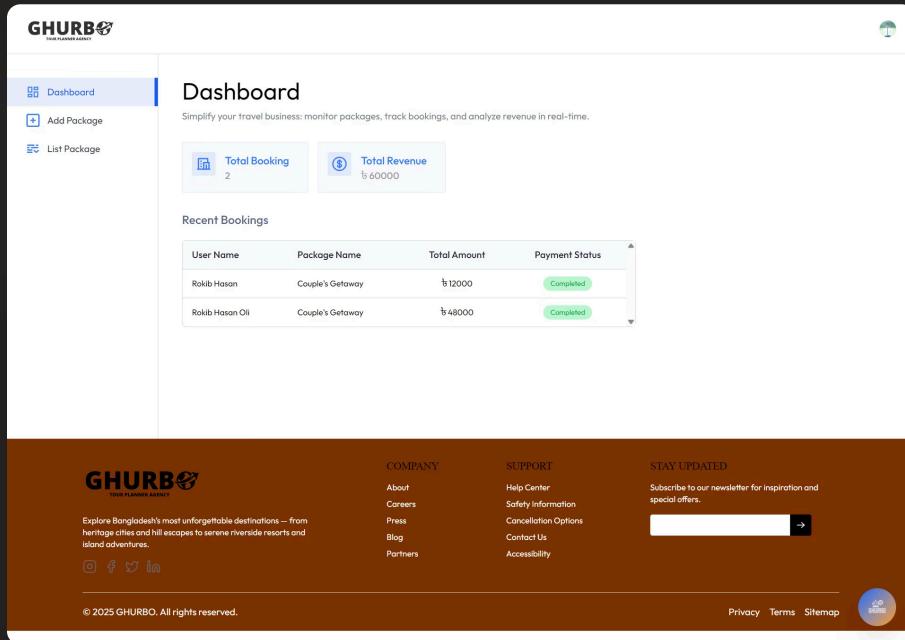
05

Deployment

Frontend/backend on Vercel with continuous deployment;
MongoDB Atlas cloud-hosted.

Results & Performance

Our development focused on achieving optimal performance in key areas, delivering measurable results in chatbot accuracy, booking efficiency, and dashboard responsiveness:



Metric	Description	Result	Achieved
Booking Speed	Average completion time	≈15s	Yes
Dashboard Update Latency	Time to reflect changes	≈5s	Yes
Email Notification Delivery	Delivery success rate	≈98%	Yes

Project Impact

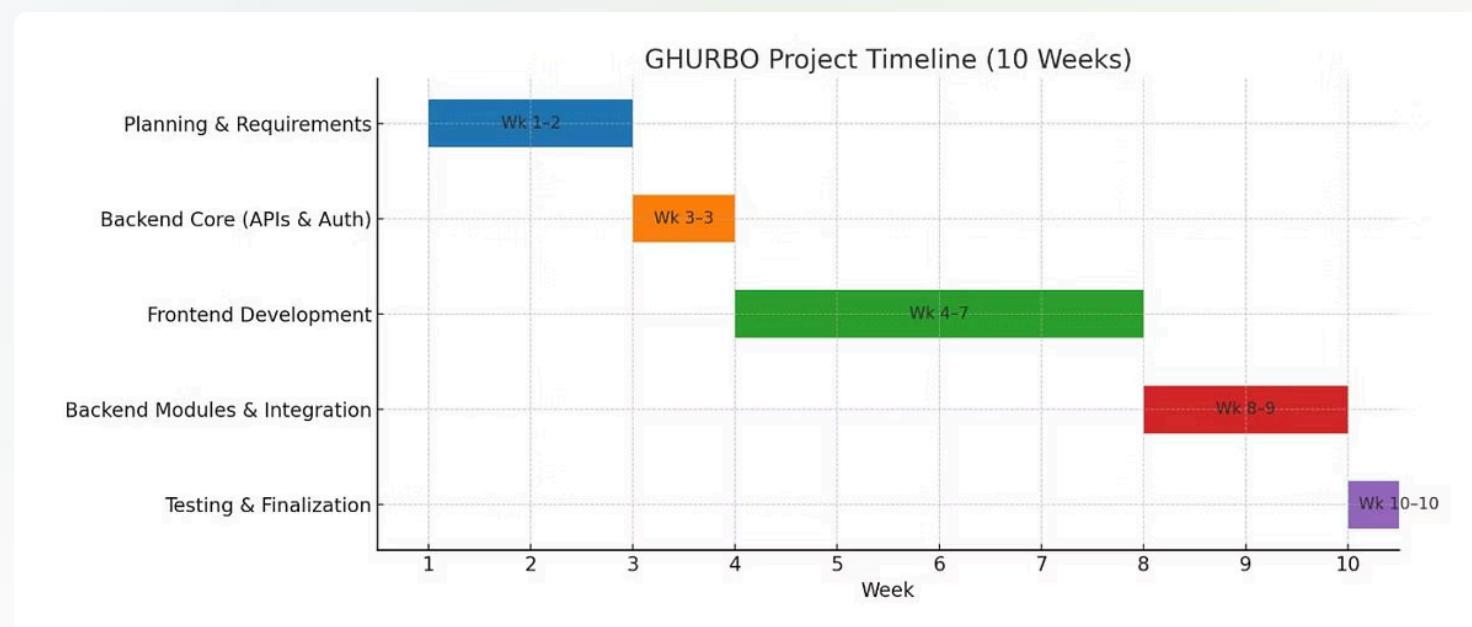
GHURBO contributes positively across societal, legal, cultural, and environmental dimensions.

Societal & Legal

- Increases accessibility to verified tourism services.
- Supports local operators in reaching broader markets.
- Complies with digital transaction and data privacy laws.
- Enhances traveler safety by reducing fraud risk.

Cultural & Environmental

- Promotes diverse destinations and cultural exchange.
- Supports eco-tourism and environmentally friendly packages.
- Reduces paper waste by digitizing services.
- Contributes to sustainable tourism by spreading demand.



Project Planning & Budget

The GHURBO project was planned over 10 weeks, with no direct financial expenditure.

Key Milestones:

- Weeks 1-2: Research & Requirements, GitHub Setup.
- Weeks 3-4: Backend Logic, Frontend Structure.
- Weeks 5-6: Home Page, Authentication, Dashboard Structure.
- Weeks 7-8: Package Features, Backend Modules.
- Weeks 9-10: Final Fixes, UI Enhancements, Testing, Presentation.

Cost-Effective Approach:

- Free tier deployment: Vercel, MongoDB Atlas.
- Free developer plans: Clerk, Brevo, Cloudinary.
- Open-source tools: VS Code, open-source libraries.
- Total Cost: 0 BDT.

Conclusion & Future Improvements

GHURBO is a pioneering, intelligent tourism platform for Bangladesh. It centralizes fragmented information, offers a seamless, personalized travel experience via a multilingual AI chatbot, and empowers local operators with real-time tools, fostering a sustainable and efficient tourism ecosystem.

Future Plans:

- Expand multilingual support for the AI chatbot with voice-to-text and real-time translation.
- Integrate diverse payment options, including local mobile, international cards, and cryptocurrency.
- Enhance AI to a predictive recommendation engine for dynamic itinerary personalization.
- Release native Android and iOS mobile apps with offline capabilities and AR navigation.
- Implement robust user review systems with verified badges and AI sentiment analysis.
- Integrate with local transport and accommodation providers for comprehensive travel solutions.
- Develop advanced, real-time analytics dashboards for tour operators.

Thank you for exploring GHURBO – your gateway to seamless travel in Bangladesh.