Design and Implementation of a Collaborative Academic Platform with Inter-University Leader board Competitions

CHAPTER 1

INTRODUCTION

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Overview

Recently, technology has improved tourism, enabling travelers to find their place to stay. However, many African countries are underappreciated, particularly Nigeria, where the only places highlighted are Abuja and Lagos, leaving Nigeria unrepresented on major travel and accommodation platforms. This is where Avira comes in; it is a web-based platform that promotes local tourism and connects travelers with authentic destinations, local events, and experiences, plus accommodation options.

Avira makes it easy for travelers to find good accommodation, also explore the city by attending events, which can be modern events and also the local/cultural events, and go for local experiences all within a single platform. It uses Modern web technologies such as Next.js, Tailwind CSS, Node.js, and Prisma to bring a fast, responsive, and engaging interface.

**Background and Motivation**

Tourism has an important role in a country's economic status. Technology has made it easier for travelers to plan and book trips. Platforms like Airbnb and Booking.com have changed how travelers find accommodation (Ajao, 2023).

However, in Africa, particularly Nigeria, there is still a gap in the tourism sector. Many local destinations and cultural events are not well represented online, making it hard for travelers to explore beyond the major Nigerian cities like Lagos and Abuja (Adamu & Oluyemi, 2025).

The Motivation behind Avira came from the gap left by this large platform. This project was inspired by the idea of promoting local tourism and giving travelers access to a wider range of authentic Nigerian experiences, also making it more Nigerian friendly like the payment system that uses Pay stack In contrast Airbnb and booking.com you need to use PayPal or a foreign account which most Nigerians don't use, also it focuses more on traveler travelling for leisure which is not how Nigerians travel, they travel for other reasons to attend festival, wedding and so on which is what Avira tries to bring. That is why Avira's goal is to make discovering and booking local stays, events, and experiences more convenient, while also helping local hosts showcase their communities.

**Statement of the Problem**

In spite of the growing use of technology in global tourism, Nigerian destinations and experiences remain poorly represented online. Most platforms, including those for destination information, reviews, and booking tools, are often geared towards international users; local cultural contexts, languages, and payment systems.

Most of these big platform payment methods are usually tailored to international users, which means you need international cards, foreign currencies. And visibility to lesser-known cities is very low, leaving their unique destinations, events, and experiences largely unrepresented. Also, existing booking systems may not reflect local currencies, further limiting Nigerian users.

And the lack of all these just hinders travelers from discovering authentic Nigerian destinations and also prevents local hosts and event organizers from showcasing their offerings to a wider audience. Therefore, a platform like Avira is very well needed, which bridges this gap by integrating local destinations, events, and payment solutions into a unified and user-friendly system.

**Aim and Objectives**

Aim:

The main purpose of this Project is to develop a web-based platform that promotes Nigerian tourism by addressing the gaps left by existing platforms and integrating accommodation, events, and local experience, and it also looks to empower local hosts and simplify the booking and planning process into a single, user-friendly system.

Objectives:

1. To design and implement an interactive web platform using Next.js, Tailwind CSS, and Node.js

2. To create a database system with Prisma and MongoDB that allows hosts to list stays, events, and experiences.

3. Support price in Nigerian currency along with a local payment method that will increase accessibility for Nigerians.

4. Integrate a platform for local hosts, not just limited to property owners, to list stays, tours, culturally-rooted experiences, and events, which can include festivals, artisan visits, food, and tours, thereby promoting community-based tourism.

5. Develop an AI trip planner that creates personalized itineraries that use the user's budget, dates, and vibe.

Significance of the Project

The significance of Avira adds to the digital transformation of Nigeria's tourism sector, despite Nigeria's rich cultural diversity, historical landmarks, and natural attractions, a lot of which are unrepresented due to poor online visibility. This project addresses these gaps by providing a tailored, technology-driven platform that promotes inclusivity, transparency, and cultural awareness in the travel experience, which in turn improves the tourism sector.

Avira is significant in so many ways. Firstly, it enhances visibility and accessibility to indigenous areas around Nigeria, events, and experiences with rural attractions that are often ignored by global platforms like Airbnb, booking.com, etc. Secondly, it helps in enabling local hosts, artisans, and even event organizers to reach a wider audience, thereby supporting community-based tourism, and could also be a source of income for these people.

From the point of view of technology, Avira proves how modern web technologies such as Next.js, Tailwind CSS, Node.js, Prisma, and MongoDB can be integrated to build a scalable, responsive, and intelligent travel platform.

Ultimately, this project is not just to close the gap in Nigerian tourism but also to promote and preserve Nigeria's deep-rooted culture and innovation in travel technology.

**Project Risks Assessment**

There is no software project that does not face a potential risk affecting its success. Well, for Avira, there are several that have been highlighted during the design and development phase, and ways to mitigate them as follows:

1. Technical Issues

Risk:

There might be delays in integrating frontend and backend systems, and API failures, which in turn affect the project timeline.

Mitigation:

I am going to use an agile development approach with continuing testing, version control (GitHub), and documentation.

2. Data Security

Risk:

Avira involves user accounts, bookings, and payments, which makes data security essential. Unauthorized access or data breaches could destroy trust in the system and also result in some NDPR punishment.

Mitigation:

I am going to use encryption methods like bcrypt hashing and follow web security standards. Additionally, we are going to comply with data protection regulations (NDPR)

3. Payment Failures

Risk:

Problems like failed transactions, chargebacks, etc., might occur due to an unreliable payment gateway or network interruptions.

Mitigation:

I am going to use a reliable payment gateway like Paystack and Flutterwave, which support multiple payment methods and provide a strong fraud prevention mechanism.

**Scope of the project**

The scope of this project is to create a platform that can improve the Nigerian tourism industry. It serves both the host and travelers a single platform where users can discover accommodation, go to a local event, and explore the different experiences in Nigeria.

Avira is scope are:

1. User authentication and user profile

User can sign up and sign in with Google or GitHub

2. Listing accommodation, event, and experiences

The host will be able to create, edit, and upload images, give descriptions, availability, pricing, and publish them

3. Event and experience discovery

Users can go to an event in the city they are staying in, and also go see rural attractions, and go for the experiences the city offers

4. Booking and reservation system

Users can book in real-time with confirmation and an availability tracker

5. Secure Payment integration

A secure payment gateway like Paystack and Flutterwave will be integrated

6. Review and Rating System

This gives transparency and feedback, which strengthens the trust in the platform

7. AI trip planner

Using the Gemini API, the AI will create a trip plan for the users.

**Limitations of the Project**

The limitations of this project are:

1. Flight and Transportation booking

2. No mobile Application, might be left for the future

3. The platform focuses more on Nigeria and has no foreign listing

4. No AI recommendations and personalized suggestion algorithm might be left for the future

**Project Organization**

Chapter 1: Introduction

This is the Overview of the project, including background, outlining its motivation, objectives, significance, problem statement, and risk assessment.

Chapter 2: Literature Review

This is the review of the already existing platform and its gaps.

Chapter 3: Methodology

This is about the system analysis and design, system requirements, system architecture, and the design approach.

Chapter 4: Implementation and Testing

This explains how the system was implemented and outlines the tools, framework, code, and test cases used when building the system.

Chapter 5: Conclusion

This gives the conclusion for the project, key findings and future enchantments.