Kathmandu University

Department of Computer Science and Engineering

Dhulikhel, Kavre

A Project Proposal on
"Kavre Guide"

[Code No: COMP 308]

(For partial fulfillment of 3rd Year/2nd Semester in Computer Engineering)

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Abstract

As tourism grows, the need for accessible, affordable, and organized travel information in places of Kavrepalanchok becomes increasingly important. This project aims to develop a web-based platform where tourists can log in via their Google accounts to access comprehensive details about local attractions, including cultural and natural landmarks, guide contacts, and nearby hotel information. By leveraging modern web development tools like (HTML, CSS, JavaScript, Django, RestAPI, and others) and location-based services, the platform ensures that tourists receive accurate and relevant information, facilitating cost-effective trip planning and informed decision-making. Promoting local businesses and sustainable tourism, the platform will foster community engagement and boost the local economy. Ultimately, this project offers a smarter and more efficient way for tourists to explore Kavrepalanchok especially Dhulikhel, and is expected to play a key role in broader tourism development efforts in the region.

Keywords: *Tourism Platform, Local Guides, Travel Information, Location-Based Services, Web-Based Application, Google Login.*

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List of Abbreviations

API   Application Programming Interface

CSS   Cascading Style Sheets

DBMS   Database Management System

HTML   Hyper Text Markup Language

IDE   Integrated Development Environment

JS   JavaScript

JSON   JavaScript Object Notation

REST   Representational State Transfer

SQL   Structured Query Language

UI   User Interface

UX   User Experience

URL   Uniform Resource Locator

Chapter 1   Introduction

"Kavre Guide" is a web-based platform designed to show Kavre's rich cultural and natural attractions. In its simplest form, the website will guide tourists through elaborate information on local landmarks, places of stay, restaurants, and activities. Through user reviews, ratings, and maps, visitors can quickly find their way and explore the best experiences Kavre especially Dhulikhel offers. It aims to promote local businesses and facilitate smooth trip planning to maximize tourism and boost the local economy.

1.1   Background

In this fast world, tourism has emerged as a strong driver in the local economy, especially if a region has rich cultural heritage, scenic landscapes, and historical significance. Kavre, especially Dhulikhel, is one such region that offers big potential to be a top destination for domestic and international tourists. In all this charisma, however, comes a very major impediment: the unavailability of an accessible, digitized platform which informs about all the local attractions, stays, restaurants, and activities. Its absence leaves the tourists not well-informed to make choices, look for obscurities, or do any trip planning in less time.

Recent innovations in digital platforms for tourism, such as TripAdvisor and Google Maps, have transformed the ways in which people plan for tours. The interactive maps, user reviews, and curated recommendations are now at one's fingertips. However, most of these global platforms lack localized content and little is done to represent places like Kavre. The result is a knowledge gap that leads to a shortage of targeted, detailed information on the specific offerings of that region. Also, most of the travel platforms focus either on popular destinations or areas which already have better cultural prominence, thereby leaving small yet culturally promising areas lagging in that process.

"Kavre Guide" sets out to meet these challenges by providing a dedicated web-based platform for Dhulikhel and its wider environs of Kavre. Seamless integration

of user-generated reviews, rich maps, and interactive multimedia on one platform is going to vastly improve the tourist experience of travel. It will not only facilitate tour planning but also make local businesses more visible. In this way, "Kavre Guide" will enable Kavre to compete and be attractive within the international tourism market, as long as cultural integrity will be protected and sustainable tourism development is enhanced.

1.2   Objectives

The "Kavre Guide" aims to create an efficient platform for tourists and local guides, ensuring a seamless and secure experience. The main objectives of this project are listed below:

1. Develop a user-friendly web application for tourists and guides.
2. Provide a secure platform for users to create accounts and manage bookings.
3. Allow guides to manage their profiles, set availability, and be allocated for tours.
4. Promote local tourist top destination and culture.
5. Facilitate communication between tourists and guides for personalized experiences.

1.3   Motivation and Significance

The motivation to develop a Kavre Guide stems from the challenges faced by tourists in accessing accurate and reliable information about local attractions, guides, and accommodations in Kavrepalanchok. Traditional methods of gathering travel information are often fragmented, requiring extensive research across multiple platforms. This results in inefficiencies for tourists and missed opportunities for local businesses. Our project is inspired by the desire to create a centralized, user-friendly platform that simplifies trip planning, providing tourists with all the necessary details in one place while promoting affordable and personalized travel experiences.

The significance of this project lies in its ability to enhance both the tourist experience and the local economy. By offering a platform that connects tourists

directly with local guides and hotels, we aim to foster sustainable tourism that supports the local community. This system empowers tourists to make informed decisions, reduce travel costs, and enjoy a more immersive cultural experience. Furthermore, the project contributes to the advancement of digital tourism solutions, paving the way for future innovations that can revolutionize how travelers explore and interact with destinations.

1.4   Expected Outcomes

In today's digital age, travelers seek quick, reliable access to information to make informed decisions about their trips. The 'Kavre Guide' addresses this need by providing a centralized hub where tourists can explore attractions, contact local guides, and book accommodations seamlessly. This project aims to streamline the travel planning process, ensuring tourists save time and reduce costs while gaining valuable insights into the Dhulikhel region.

The platform's significance lies in promoting sustainable tourism and supporting the local economy by connecting tourists with local businesses. It empowers users to make informed choices, fostering a more enriching and affordable travel experience. Ultimately, the 'Kavre Guide' will serve as a key digital tool for tourism management, revolutionizing how visitors discover and interact with Dhulikhel, leading to increased tourism engagement and economic growth for the region.

Chapter 2   Related Works

As part of the "Kavre Guide" project, it's important to review similar platforms that offer local tourism information and services. By exploring related projects like TripAdvisor, ToursByLocals, and Private Guide World (PG World), we can identify useful features and gaps, ensuring our platform delivers a more enhanced experience for tourists.

Existing System

Several websites serve as tour guides but are not specific to Kavre. They have hotel booking to tour reservations services but are not specific to Kavre. We aim to promote tourism in Kavre specifically focusing on the promotion of its cultural, religious, and scenic places. Some of the websites that are quite related to our project are discussed below:

2.1   Trip Advisor

Trip Advisor is a comprehensive travel guide platform offering user-generated reviews for hotels, attractions, restaurants, and tours worldwide. It includes features like personalized travel recommendations powered by AI, booking tools for accommodations and experiences, and access to travel communities (*Over a billion reviews & contributions for hotels, attractions, restaurants, and more*).
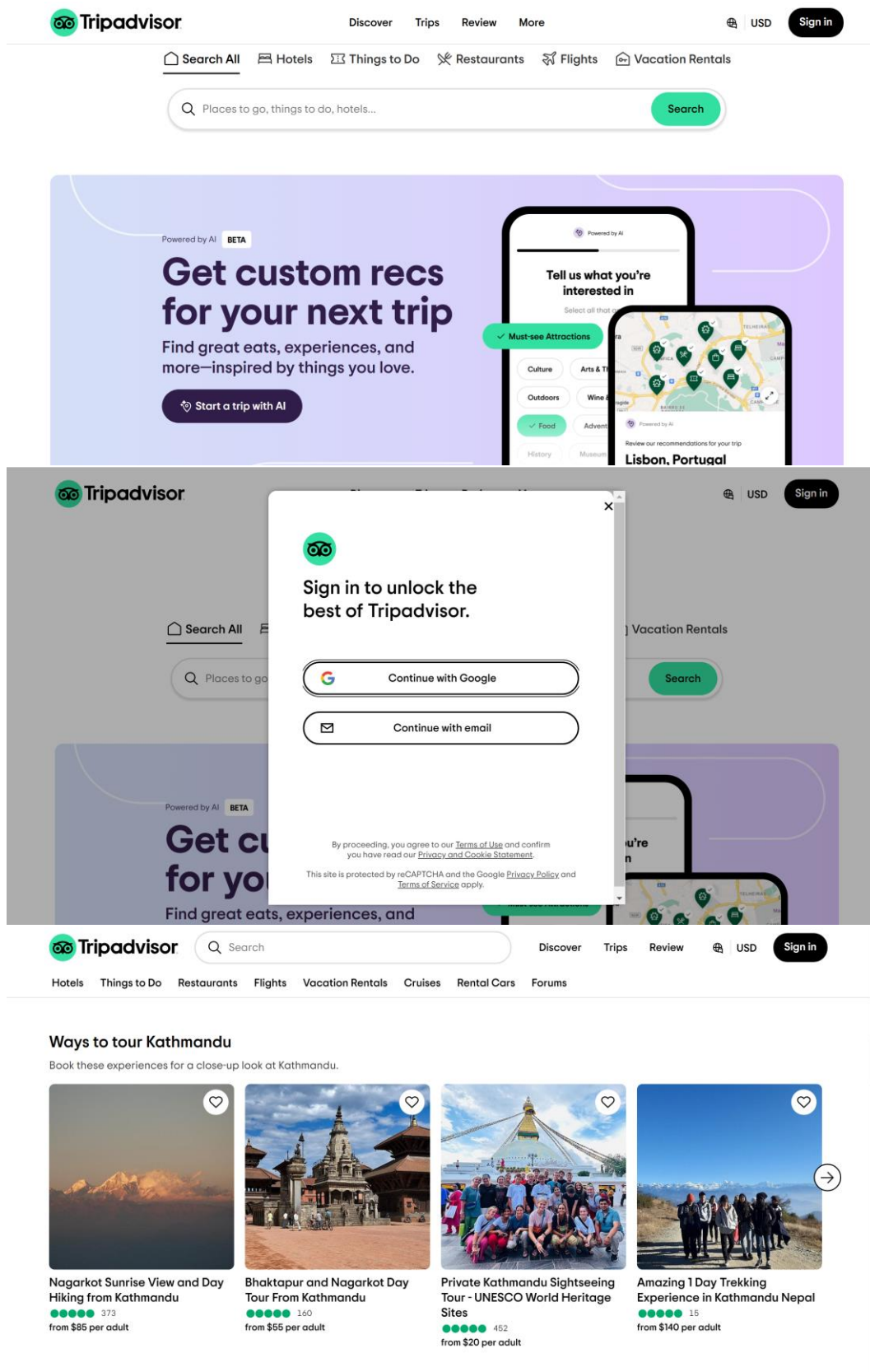
Figure 2.1. 1   Website view of Tripadvisor

Features

1. Extensive user reviews and ratings.
2. Integration with booking services (hotels, tours).
3. AI-powered suggestions for personalized trips.

Limitations

1. Reviews can sometimes be biased or manipulated.
2. Ad-heavy interface.
3. Lack of options to create personalized travel plans.

2.2 ToursByLocals

TourByLocals connects travelers with local guides offering private, customizable tours worldwide. The platform emphasizes personal experiences, allowing users to explore cities, cultural sites, and natural wonders with experts who know the region intimately. Key features include flexible itineraries, personalized service, and a robust support system for travelers (*Book authentic private tours with local tour guides: Guided Tours by toursbylocals*).
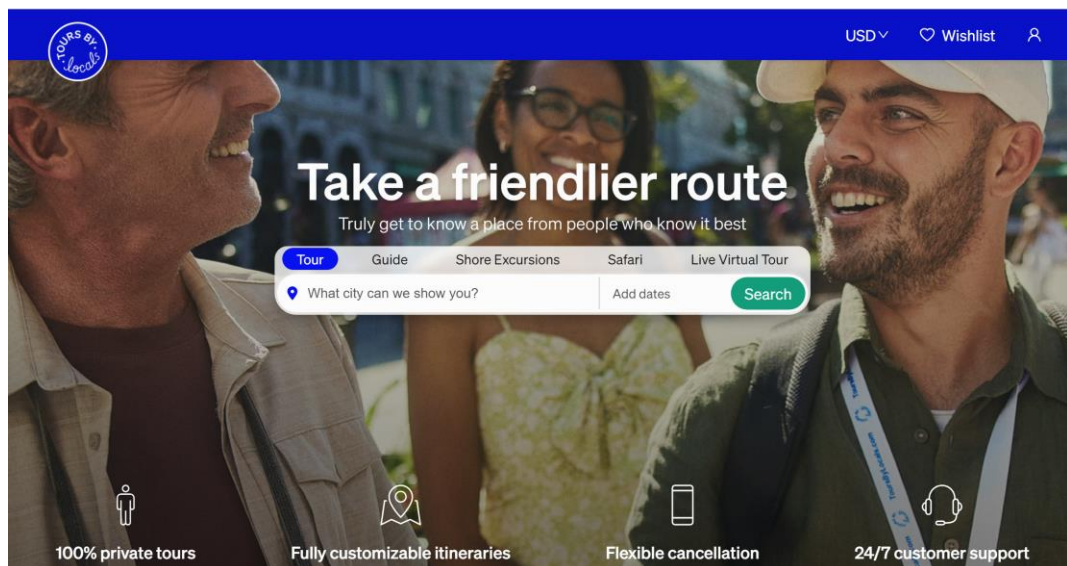
Figure 2.2. 1   Website view of ToursByLocals
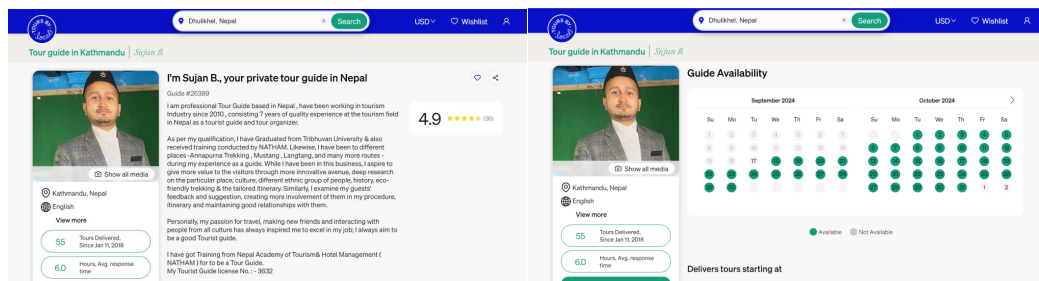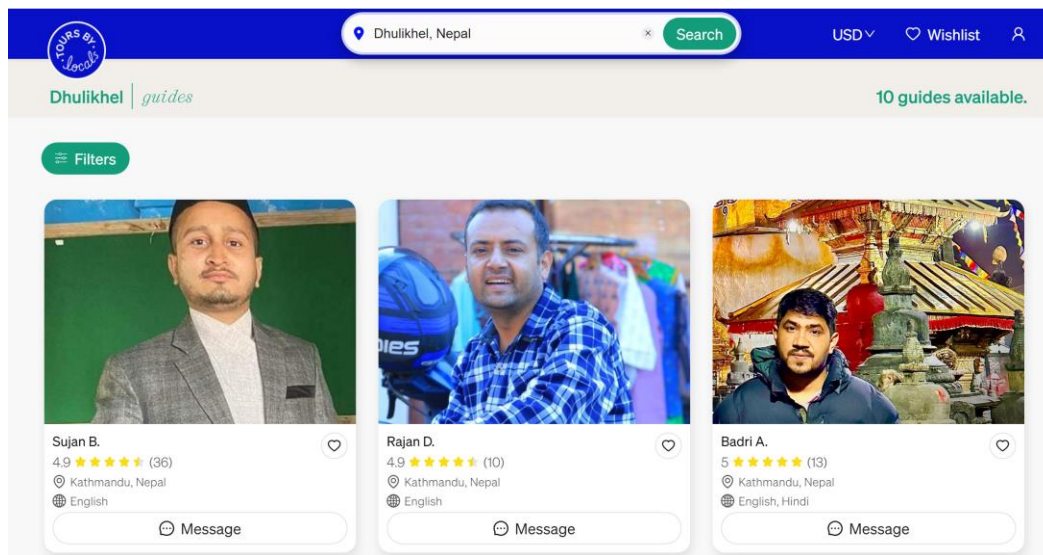
Figure 2.2. 2   Website view of ToursByLocals

Features

1. Private, customizable tours led by locals.
2. Flexible cancellation.

Limitations

1. No standardized pricing; it varies by guide.
2. Limited to tours, without full travel planning tools.

2.3   Private Guide World (PG World)

Private Guide World (PG World) is a platform that connects tourists with local tour guides globally. It offers personalized, commission-free tours in various countries and cities, allowing tourists to explore destinations with local experts. The site features a large database of guides and excursions, searchable by location, and

provides direct communication between travelers and guides through the PG World app (*Find your localprivate tour guide*).
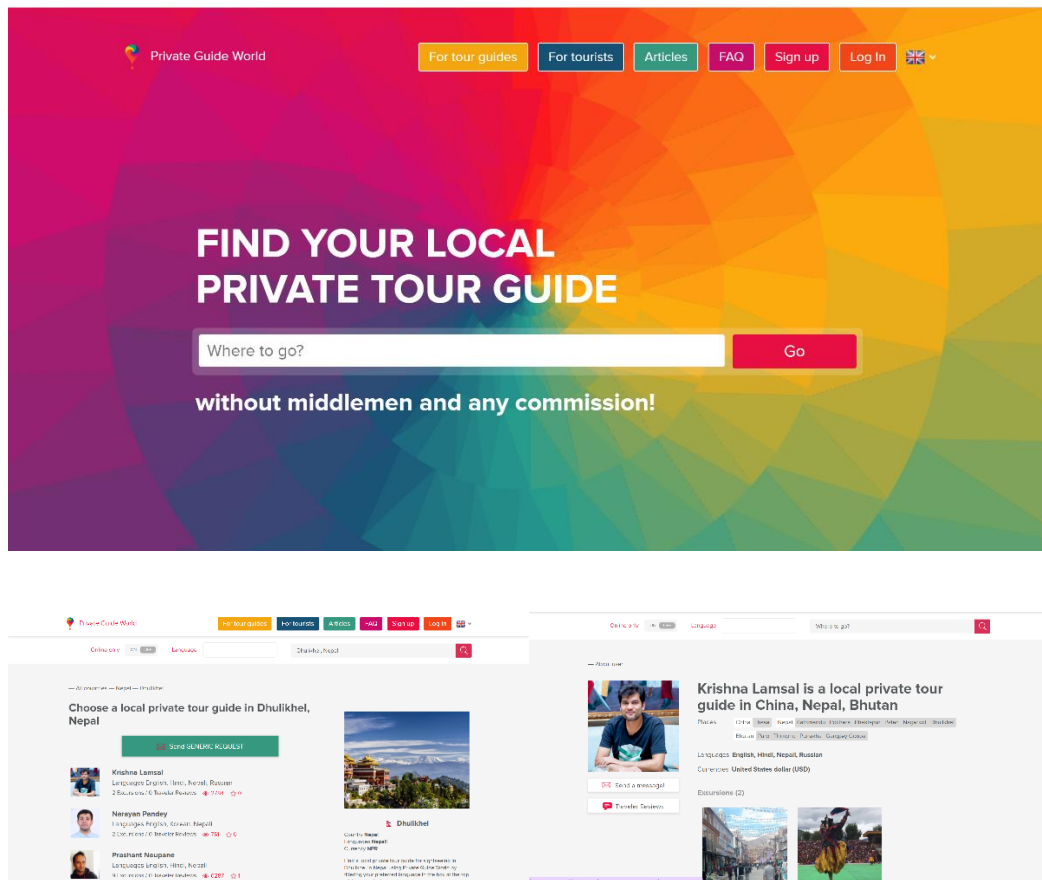
Figure 2.3. 1   Website view of PG World

Features

1. No middleman fees.
2. Customizable, private tours.

Limitations

1. Limited to guiding services, no full travel planning tools.

Proposed System

The proposed system, "Kavre Guide", aims to revolutionize travel in Dhulikhel and many places in Kavre by providing a comprehensive, user-friendly platform for tourists. It employs HTML to structure the web content, CSS for styling and layout,

and JavaScript to create interactive features and dynamic content. Django is used for backend development, handling server-side logic and data management, while Django REST API ensures smooth data exchange between the front end and backend. Google account integration provides personalized user access and secure logins. The platform will offer detailed information on local attractions, including cultural and religious sites as well as scenic natural landmarks, and will feature real-time guide contacts and hotel bookings. By streamlining trip planning and enhancing cultural promotion, "Kavre Guide" addresses the challenge of fragmented travel information, supports sustainable tourism, boosts local businesses, and enriches the visitor experience.

Figure 2.4. 1 Proposed System's View

GUIDE YOUR TRIP 🏠 DESTINATIONS ⌄ BLOG 🇫🇷 **I'M A GUIDE** SEARCH FOR... 🔍

Special promotion:
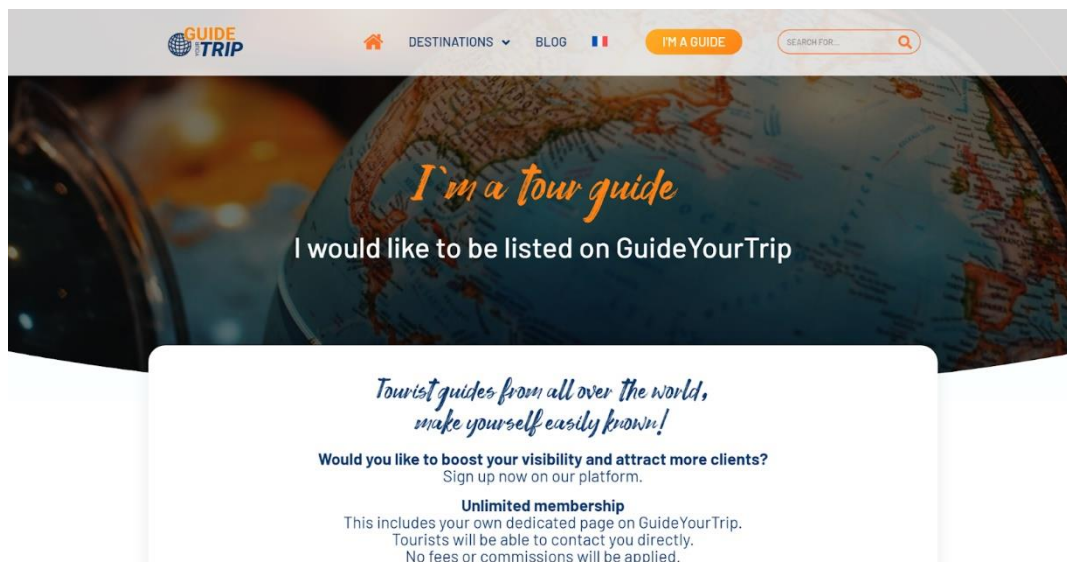**Register for €11 instead of €19 until September 1, 2024!**

Quick and easy process:

1- Fill in the form below.
2- Your page will be published on the website in English and French.
3- Validate your registration and pay €11.

Fields marked with * are mandatory

Civility *
○ Mr

○ Mrs

○ Ms

First Name *

Last Name *

Contact email address for tourists *

Contact phone number
Enter country code

Country in which you are a tour guide *
Please select an option

Region or city where you give guided tours

Mother tongue *

Tour languages #1 *
Please enter at least one language

#2
#3

GUIDE YOUR TRIP 🏠 DESTINATIONS ⌄ BLOG 🇫🇷 **I'M A GUIDE** SEARCH FOR... 🔍

Website
http//

Facebook
http//

Twitter
http//

Instagram
http//

Linkedin
http//

Youtube channel
http//

TikTok
http//

Presentation – 350 characters minimum *
Write a few lines about yourself that will feature on your profile page.

0

Upload the Tour Guide photo *
Choose Files   No file chosen

You can send us up to 3 photos in which the guide is clearly visible.

I am a certified tour guide *
● Yes

GUIDE YOUR TRIP 🏠 DESTINATIONS ⌄ BLOG 🇫🇷 **I'M A GUIDE** SEARCH FOR... 🔍

Write a few lines about yourself that will feature on your profile page.

0

Upload the Tour Guide photo *
Choose Files   No file chosen

You can send us up to 3 photos in which the guide is clearly visible.

I am a certified tour guide *
● Yes

○ No

Send your professional guide card *
Choose Files   No file chosen

You can send us up to 4 documents or photos

You can write a message for us here

☐ Check to accept the website's privacy policy

SEND

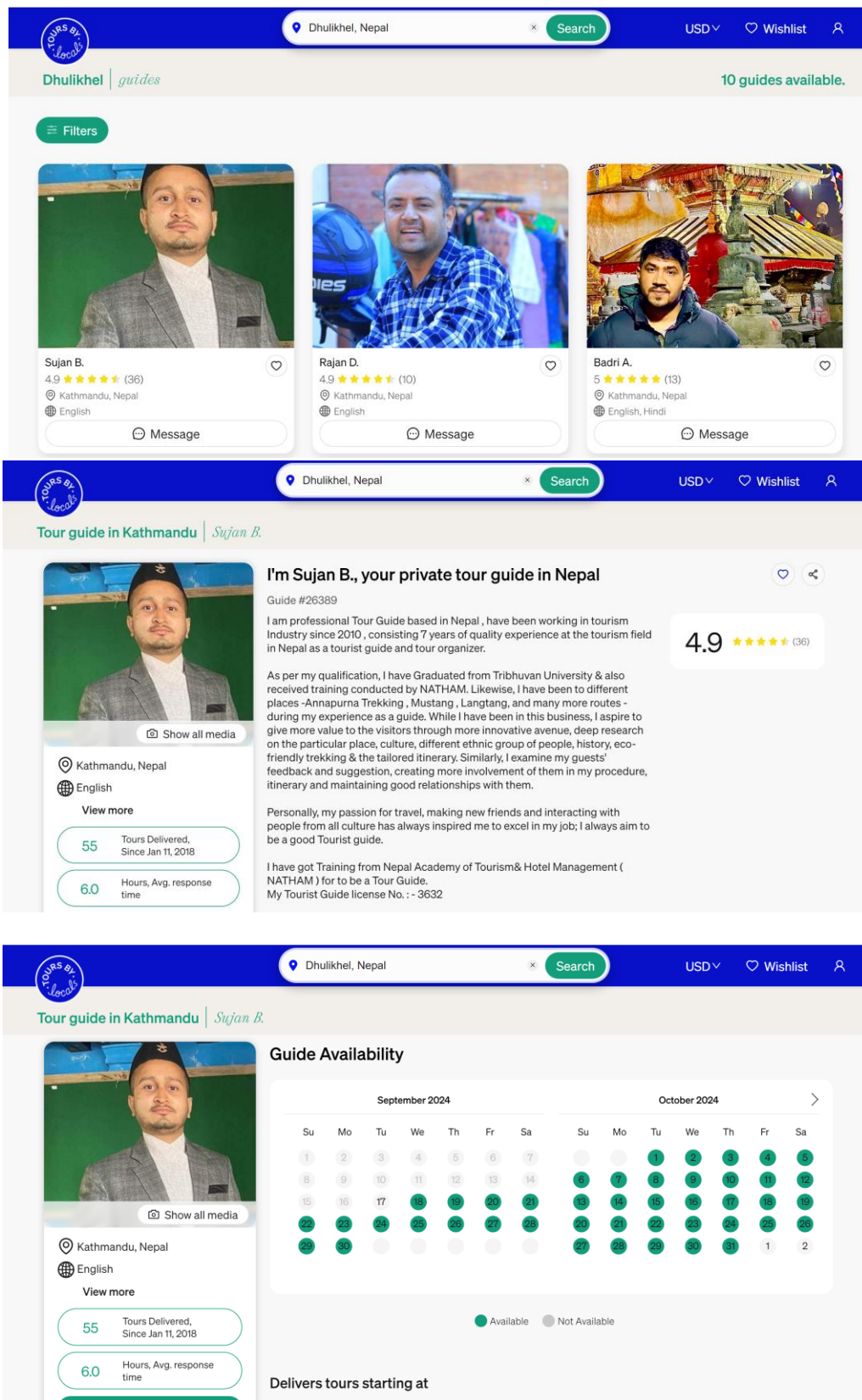**Figure 2.4. 2   Proposed System View**

Figure 2.4. 3 Proposed System View

Chapter 3   Procedure and Methods

Firstly, we searched for the relevant title for our project. Then, we skimmed through the topic to plan for our project work. After group discussion and analysis of different ideas, we concluded selecting the above-discussed project (Kavre Guide) as our semester project. Since it has wide application in the real world, which we realized after going through its pros and cons, it can affect a myriad of people if it turns out to be a success. After finalizing the project, the proposal regarding all the information about the project is prepared. The programming language needed to convert the idea into a working program (in our case, it is Python, and its various libraries and models) with the core concept of web development would be learned and implemented into our project in the upcoming weeks after the proposal submission.

After having made all the arrangements for turning the concept and idea into substantial existence through our intended program, the coding will commence with the principle of 'divide and conquer', which is mandatory in any group work, by an equal division of portions of the program to all the group members. We will develop a program that makes the best use of the concept of website development. After the completion of the program, the program would be tested by assimilating the chunks of code made by all the group members. If the program becomes verbose, it would be made economical and concise. In the unlikely case that the program fails to deliver the required expectations or there is the occurrence of any bugs, the issues will be tackled through group discussion and analysis. After the program becomes bug-free and is made to stand out in its name, the final report involving the analysis of the project, program, references, its output, etc. is made and presented to the evaluators.

The algorithm of the code is as follows:

Phase 1: Backend setup (Django) and database design.

1. Set up the models for users (guides and tourists), bookings, and availability.
2. Integrate the user authentication system.

Phase 2: Frontend development.

1. Implement pages using HTML, CSS for styling, and JavaScript for dynamic behavior.
2. Ensure responsive design.

Phase 3: Functionality integration.

1. Add features like search, filtering, guide profile, and booking system.

Phase 4: Testing and debugging.

1. Test the site for functionality, security, and performance.
2. Perform usability testing to ensure user-friendliness.

Phase 5: Deployment.

1. Host the website on a platform like Render.

Phase 6: Maintenance and Monitoring.

1. Monitor system performance over time, collecting user feedback. Update the model periodically with new data and retrain it to adapt to evolving text patterns and user needs.

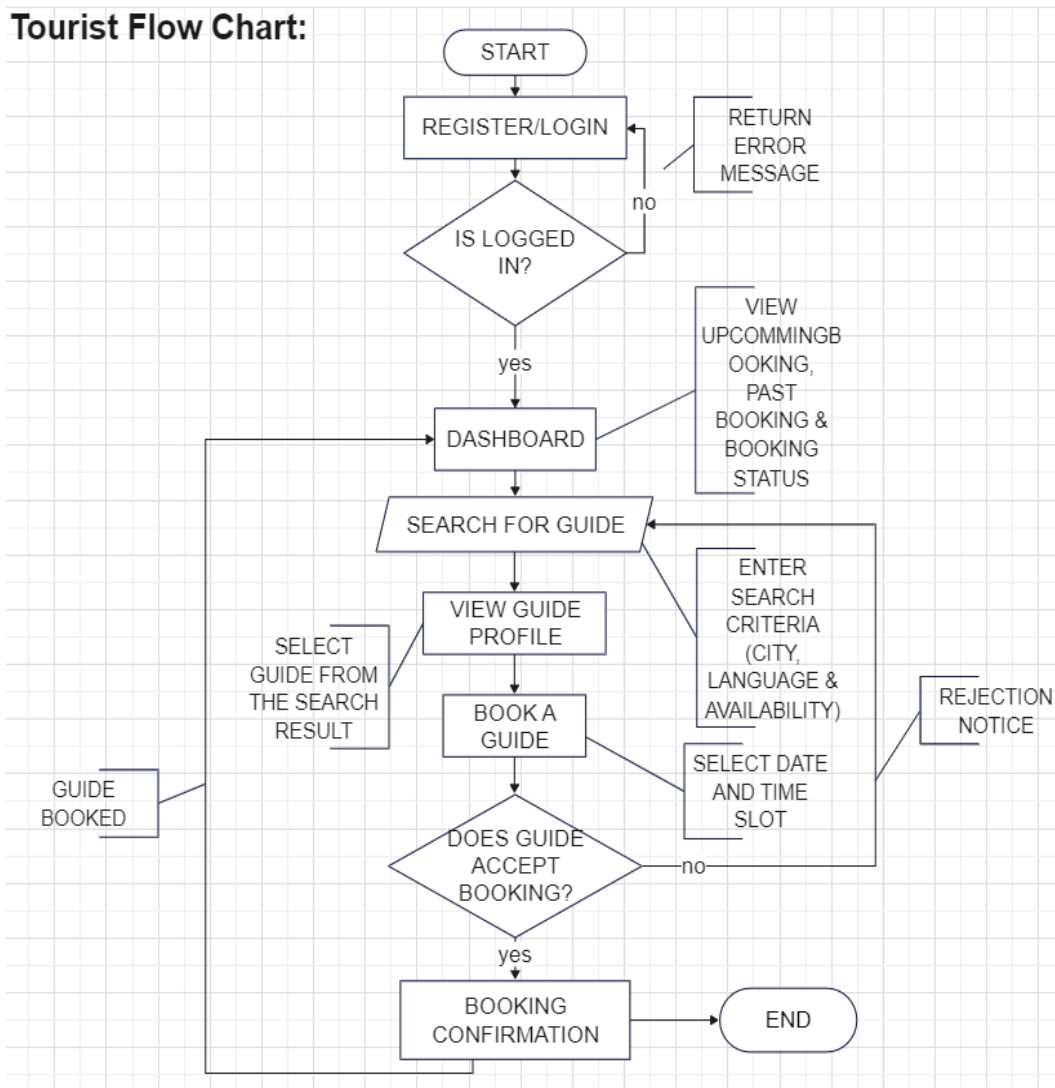The flow of the program can be explained by the flowchart mentioned below:

Figure 3. 1   Flow Diagram of Kavre Guide (Tourist)
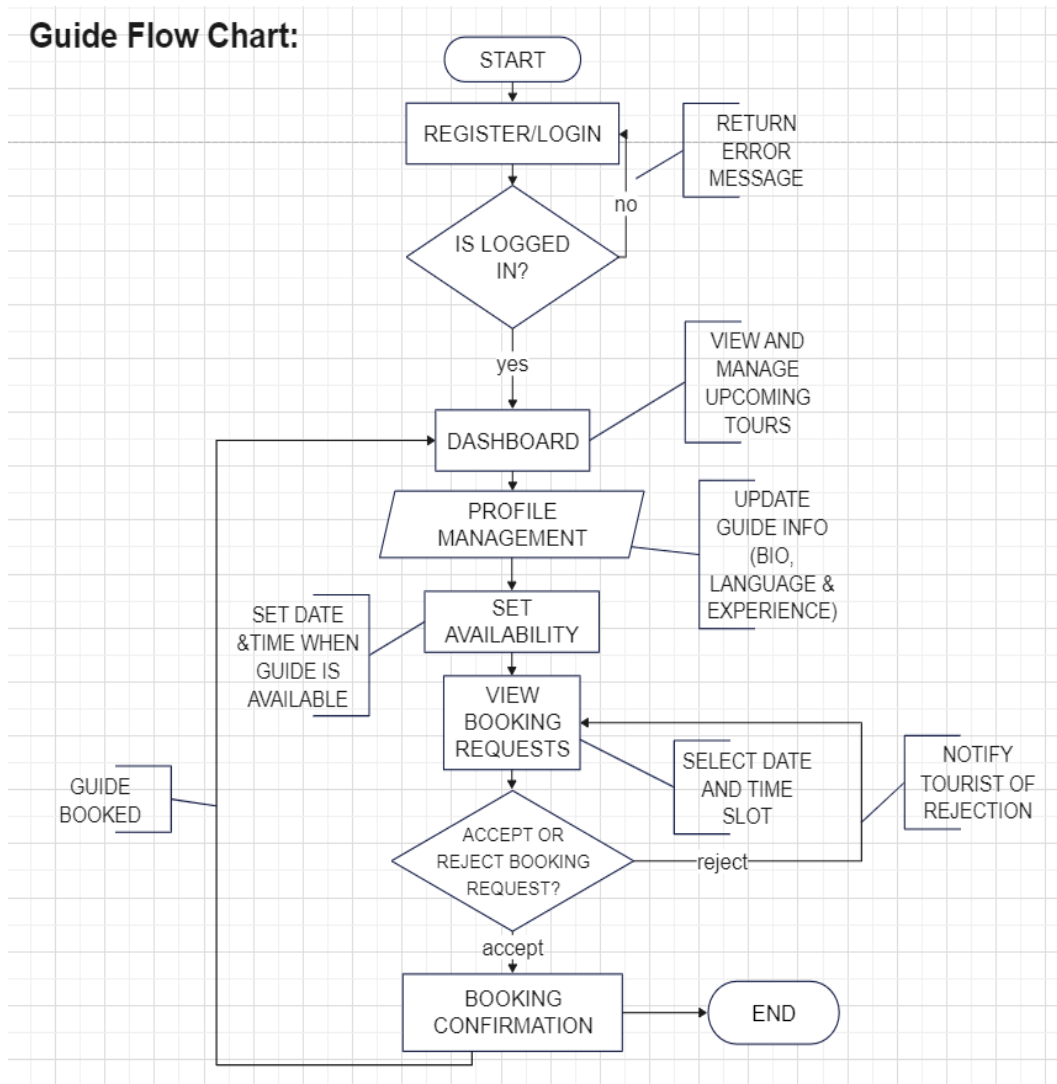
Guide Flow Chart:

Figure 3. 2   Flow Diagram of Kavre Guide (Guide)

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Chapter 4   System Requirement Specifications

Since our program is designed to run on a computer, the computer must have its specifications as per the required hardware and software threshold for the smooth execution of the program.

4.1   Hardware Requirements

As our system is built on a computer having processor Intel core i5 RAM 8 GB so we recommend hardware with these specifications or better than these.

4.2   Software Requirements

This system is designed in a computer system with a 64-bit operating system, and x64-based processor. So, we recommend these specifications or better than our computer system for running this website.

4.2.1   Front End Tools

HTML, CSS, JavaScript

Integrated Development Environment: VS Code

4.2.2   Back End Tools

Python and its web framework i.e. Django, MySQL, RestAPI

Chapter 5   Project Planning and Scheduling

At first, a round table discussion was done to come up with a specific project that encapsulates our knowledge of solving a real-world contemporary problem. After that, an analysis of the program was done along with the project proposal preparation. We have planned and scheduled our project for which the programming part that is needed for transforming the thought into a working program will be learned in about three to four upcoming weeks. After having all the tools and knowledge ready for project preparation, the program development will begin, and "core programming" will commence for about five weeks. A couple of weeks after that will be spent on testing and debugging the program and the following final week will be spent on the preparation of the final proposal and presentations which would conclude the project in a total of twelve weeks. The detailed schedule of our project is presented below:

The Gantt chart in the below table represents the time allocation of the project.

Table 1 Gantt Chart

Task Summary	Weeks												Duration (Weeks)
	1	2	3	4	5	6	7	8	9	10	11	12	
Problem Identification	■												1
Design of program's outline		■	■										2
Learning Necessary Programming			■	■	■	■							4
Core Programming						■	■	■	■	■			5
Testing and Debugging										■	■		2
Documentation	■	■	■	■	■	■	■	■	■	■	■	■	12

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Over a billion reviews & contributions for hotels, attractions, restaurants, and more. Tripadvisor. (n.d.). https://www.tripadvisor.com/

Find your localprivate tour guide. Private Guide World. (n.d.). https://pg.world/