K.R. Mangalam University

Project Report

on

Submitted To:
Ms. MANSI KAJAL

DELHI EXPLORER

Submitted By:

1.NIKHIL SACHDEVA (Roll No.2401730197)
2.HUZAIFA KHAN (Roll No. 2401730200)
3.SIDDHARTH (Roll No. 2401730216)

School of Engineering and Technology

November 27, 2025

Contents

1 Introduction

Delhi Explorer is your ultimate guide to experiencing the heart and soul of India's capital. From iconic street food lanes to hidden cultural gems, our platform helps travellers and locals discover the best that Delhi has to offer. Whether you're craving authentic delicacies, planning to explore historic monuments, or looking for vibrant markets and events, Delhi Explorer brings everything together in one place. Dive into curated recommendations, easy navigation, and insider tips to experience Delhi like never before.

2 Problem Statement

Delhi offers a rich tapestry of history and cuisine, but navigating it presents three core problems for the modern traveler:

1. Inefficient Itineraries: Most tourists fail to account for Delhi's traffic and geography, leading to crisscross travel that wastes hours of the day.
2. The Paradox of Choice (Food): With thousands of eateries, finding the specific best spot for iconic dishes (like Butter Chicken or Chaat) is overwhelming and often leads to mediocre experiences.
3. Lack of Personalization: Existing travel guides offer generic "top 10" lists that do not adapt to a user's specific interest in Faith, History, or Shopping, or their available time duration.

3 Proposed Solution

- Zone-Based Trip Planner: Solves inefficient travel by grouping attractions by Geographical Zone (e.g., Old Delhi, South Heritage) into daily blueprints, drastically reducing time wasted in traffic.
- Smart Food Finder: Eliminates decision fatigue by allowing users to select a specific dish and receiving the Top 3 most authentic, legendary locations to try it.
- Personalized Itineraries: Generates custom travel plans based on user input for Duration (days) and Interests (History, Food, Faith), ensuring the experience aligns perfectly with traveler preferences.

4 Technology Stack

The project is built using a modern, scalable full-stack architecture.

4.1 Frontend

- **Framework:** html

ROLE - presentation and aesthetics , core interactivity , smart user input processing

- **Deployment:** GitHub Pages.

4.2 Backend

- **Framework:** JavaScript

Role: complex Trip Planner algorithms server-side, and provide high-performance, scalable API services

4.3 AIModels

- **Stable Diffusion:** A state-of-the-art text-to-image diffusion model used to generate the artistic base of the image.

• **Collaborative Filtering & Content-Based Recommendation Model**

•**Geospatial Optimization Engine (Custom ML Model)**

5 Methodology

1. Input: The user enters their preferences in the Trip Planner, specifying the Duration (number of days) and their Interests (History, Food, Faith, etc.).

2. **Base Generation**: The system initiates the process by filtering the entire database of 25+ Delhi attractions to create a baseline list containing only places that match the user's selected interests.

3. Conditioning: The Geospatial Optimization Engine then cross-references the filtered list with predefined Geographical Zones (e.g., Old Delhi, Central Delhi). This crucial step "conditions" the data for logistical efficiency.

4. Diffusion Process: The core logic runs, grouping the attractions into daily clusters based on Zone-Based Proximity (minimizing travel time). This process sequentially fills the user's trip duration with the most relevant and geographically efficient clusters.

5. Refinement: The algorithm prioritizes the clusters with the highest concentration of preferred activities, and for Food/Faith stops, it integrates the high-confidence recommendations from the Food Finder data to ensure high-quality suggestions.

6. Output: The website dynamically renders the final personalized, day-by-day itinerary blueprint on the frontend, ready for the user to follow.

7. Conclusion The Delhi Explorer project successfully solved the fragmentation and inefficiency of Delhi tourism.:

1. Time Efficiency: A geographically-optimized route that minimizes transit time.
2. Authenticity: Direct guidance to the best culinary and cultural spots.

The result is a highly scalable, secure, and user-friendly platform that transforms the visitor's experience into a streamlined and enriching journey.

7 Project Links

Source Code Repository: The complete source code and documentation for this project can be accessed at
the following GitHub repository:

https://github.com/nikhi-l2/Delhi-Explorer