



Travel Discovery - Redefining Travel Planning And Exploration with Advanced Technology

24-25J-289



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Agenda

- Project Description
- Research Question
- Main Objectives
- Specific Objectives
- System Overview Diagram
- Technologies
- Individual Components Section
- Requirements
- Gannt Chart
- Commercialisation Aspects
- Budget
- Q & A
- Thank You



Introduction

Our research aims to create a personalized travel planning solution that enhances user experience through comprehensive trip planning, 3D attraction discovery, Travel experience sharing with community suggestion, real-time suggestions, including emergency assistance.

- 1) Comprehensive Personalized Travel Planning**
- 2) Travel Experience Sharing and Social Connectivity**
- 3) 3D Models and Interactive Maps**
- 4) Travel Managing and Emergency Services**



RESEARCH QUESTION

- Travel planning is fragmented and lacks personalization?
- Organizing trips and adapting to changes is difficult for users?
- Discovering local attractions and managing unexpected alterations is challenging?
- Limited opportunities for community interaction and sharing travel experiences?
- Travelers struggle to find immediate assistance in emergency situations?





OBJECTIVES

Main Objective

Provide mobile application based solution for personalized travel planning, 3D attraction discovery, experience sharing, and real-time suggestions. Users earn points, get group and place recommendations, and receive emergency assistance.



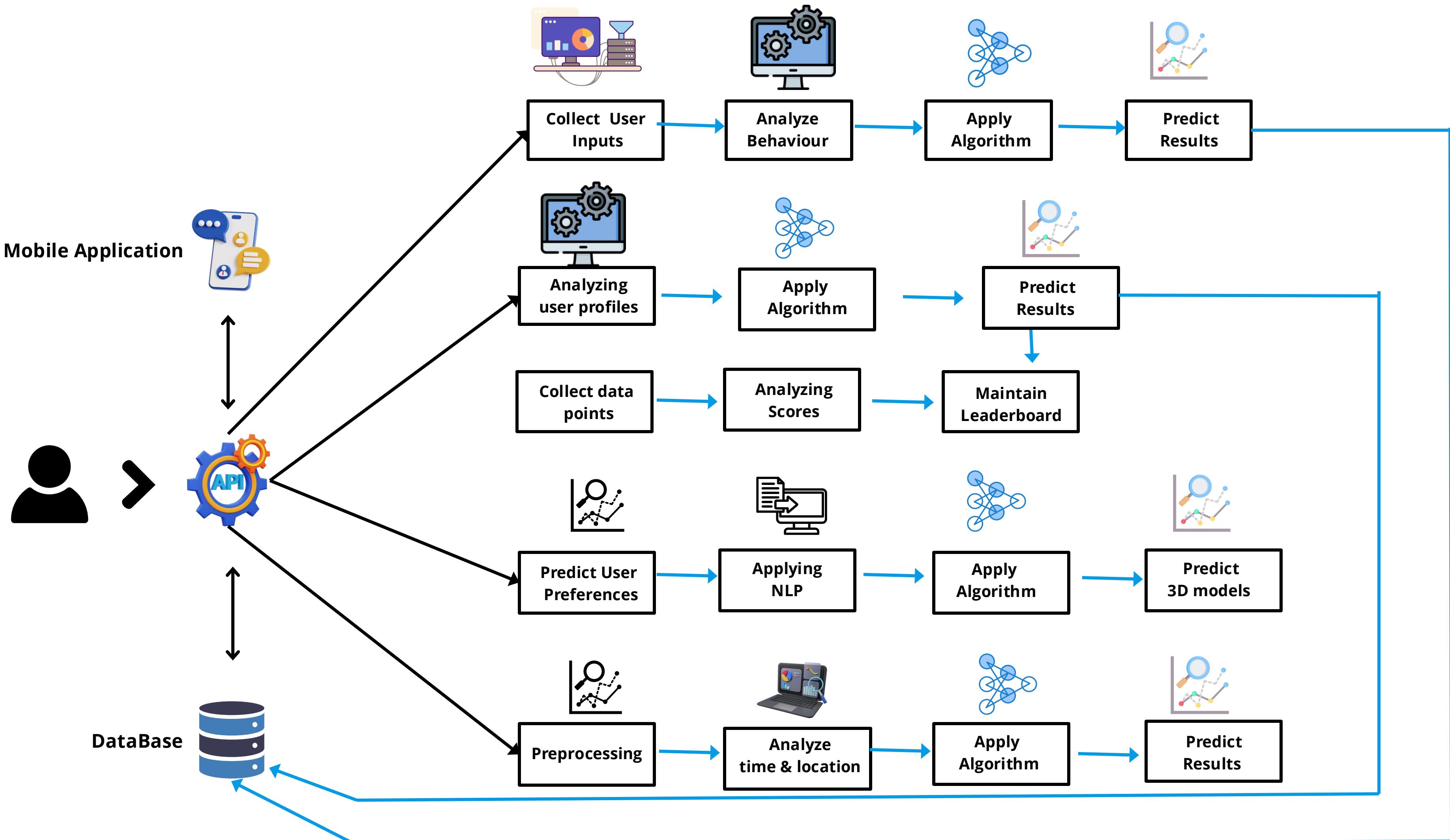
Specific Objectives

- ❖ Plan a tour based on user input and predict tours by analyzing user behavior with suggesting travel destinations

- ❖ Share travel plans and experiences, predict travel groups and plan places by analyzing user profiles and complete challenges to earn points

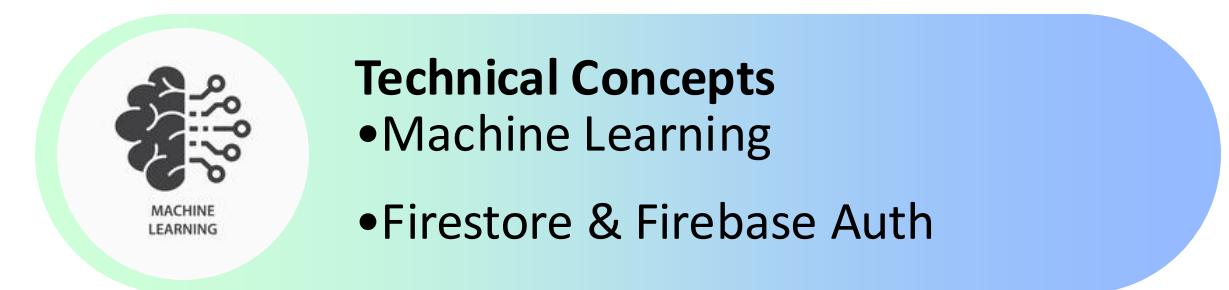
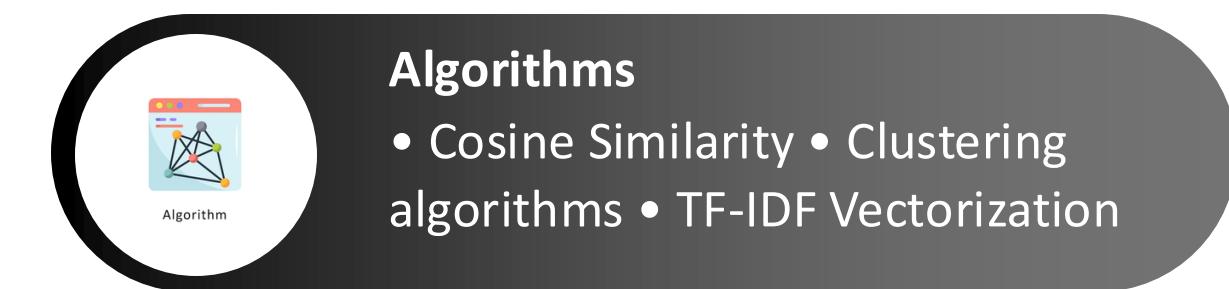
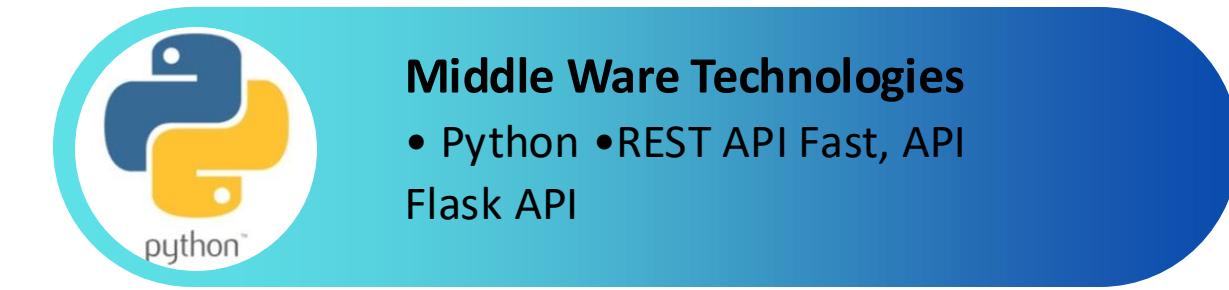
- ❖ View 3D models of attractions directly on the map and get personalized recommendations

- ❖ Provide timely and relevant suggestions for alternative places to visit when their original plans change



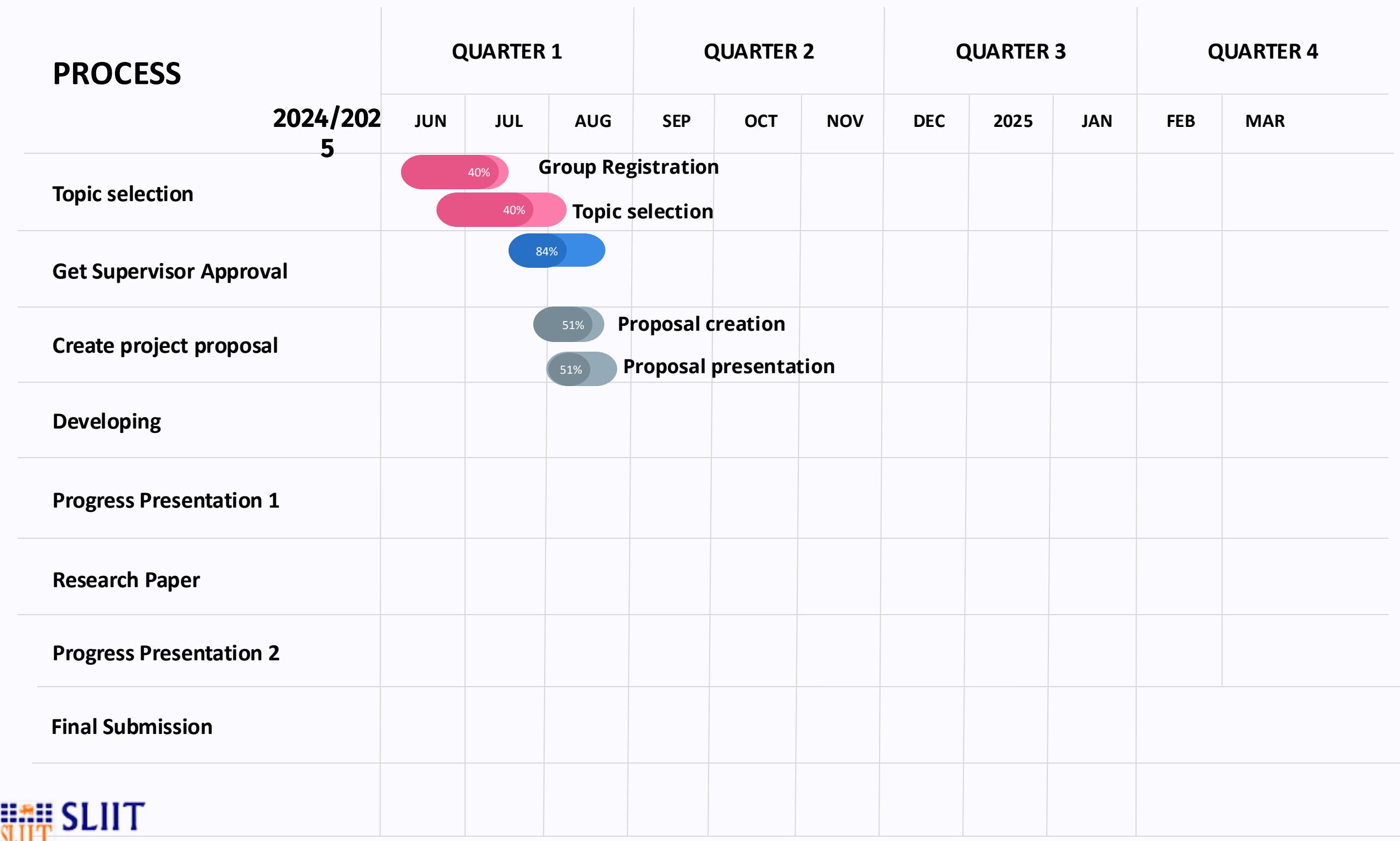


Technologies





Gantt Chart





Commercialisation Aspects

Market Opportunity

- Growing travel app market (\$1.9B by 2026)
- High demand for AI-driven personalized travel experiences
- Targets millennials, solo travelers, corporate users

Revenue Model

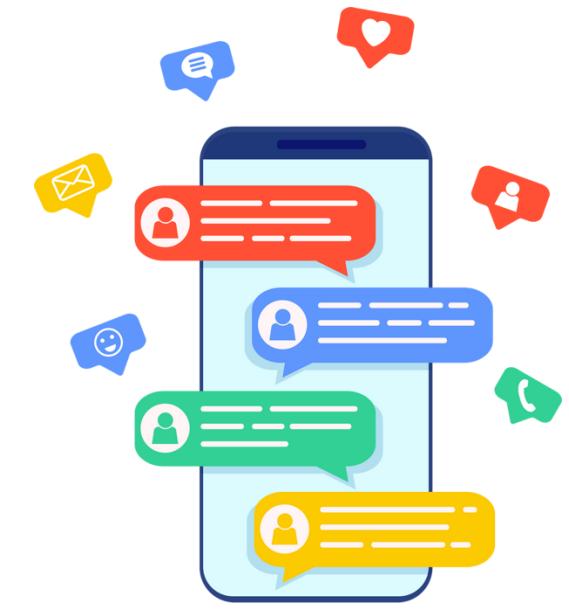
- Freemium Model (Basic free, premium features)
- Affiliate Commissions (Hotels, airlines, tour operators)
- In-App Purchases (Guides, AI features, offline access)
- Advertisements & Partnerships (Travel brands, insurance)
- Data Insights (Anonymous user analytics for businesses)



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Introduction



Identify the user inputs & behavior to plan a tour based on user input and predict tours by analyzing user behavior with suggesting travel destinations with accommodations



Research Problem & Solution



- How can user input be effectively used to plan personalized tours?
- How can user behavior be analyzed to improve tour planning and prediction algorithms?
- Enhance the accuracy of personalized travel planning and predictions?





Research Gap

Limited Personalization

Lack of Predictive
Capabilities

Insufficient User Behavior
Analysis

Fragmented User Experience

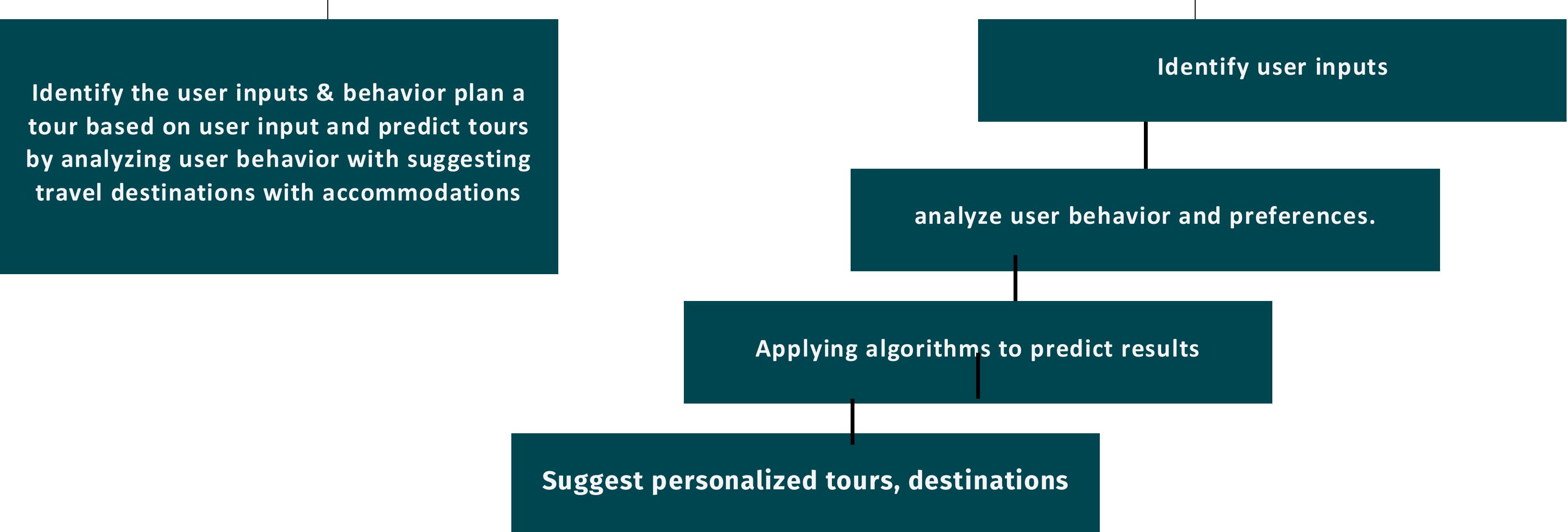




Objectives

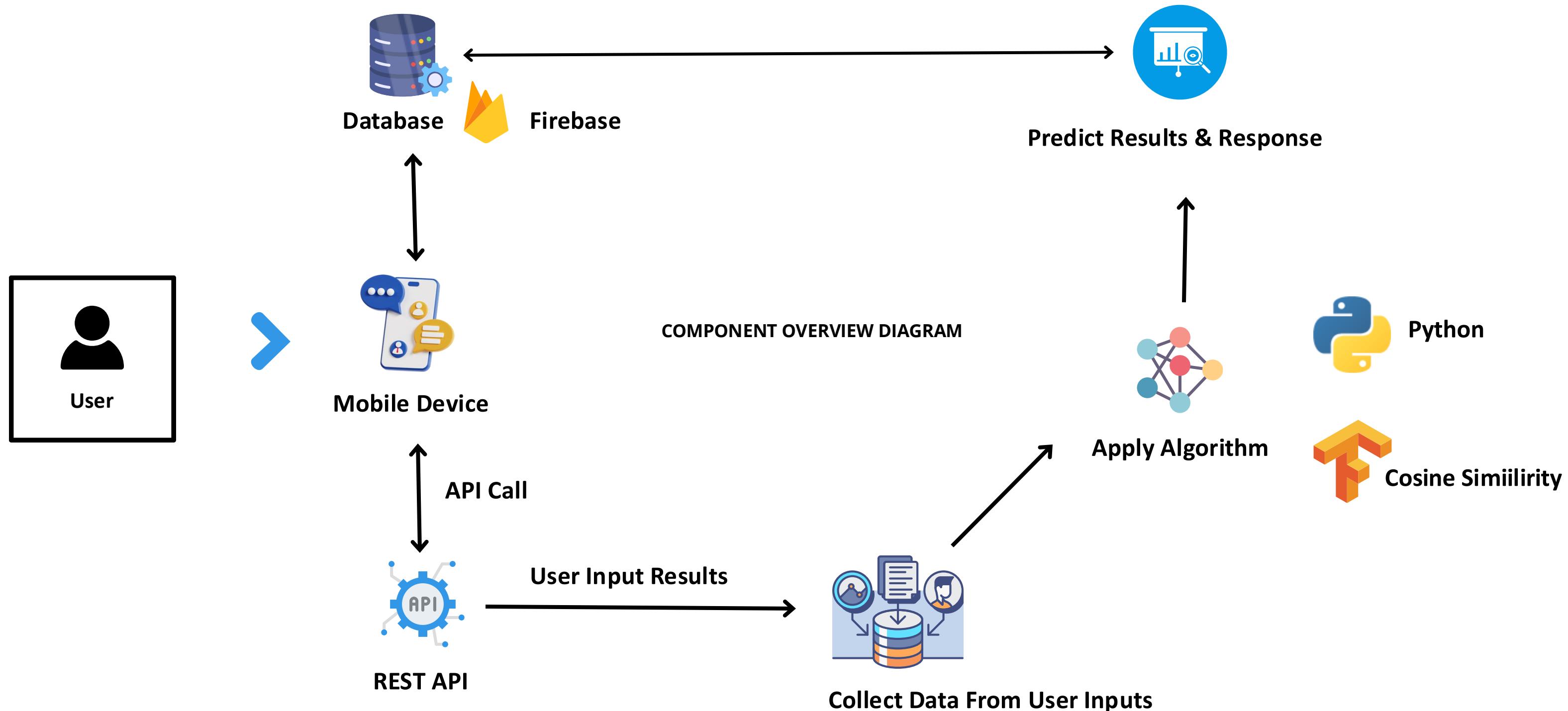
Specific
Objectives

Sub
Objectives





Methodology





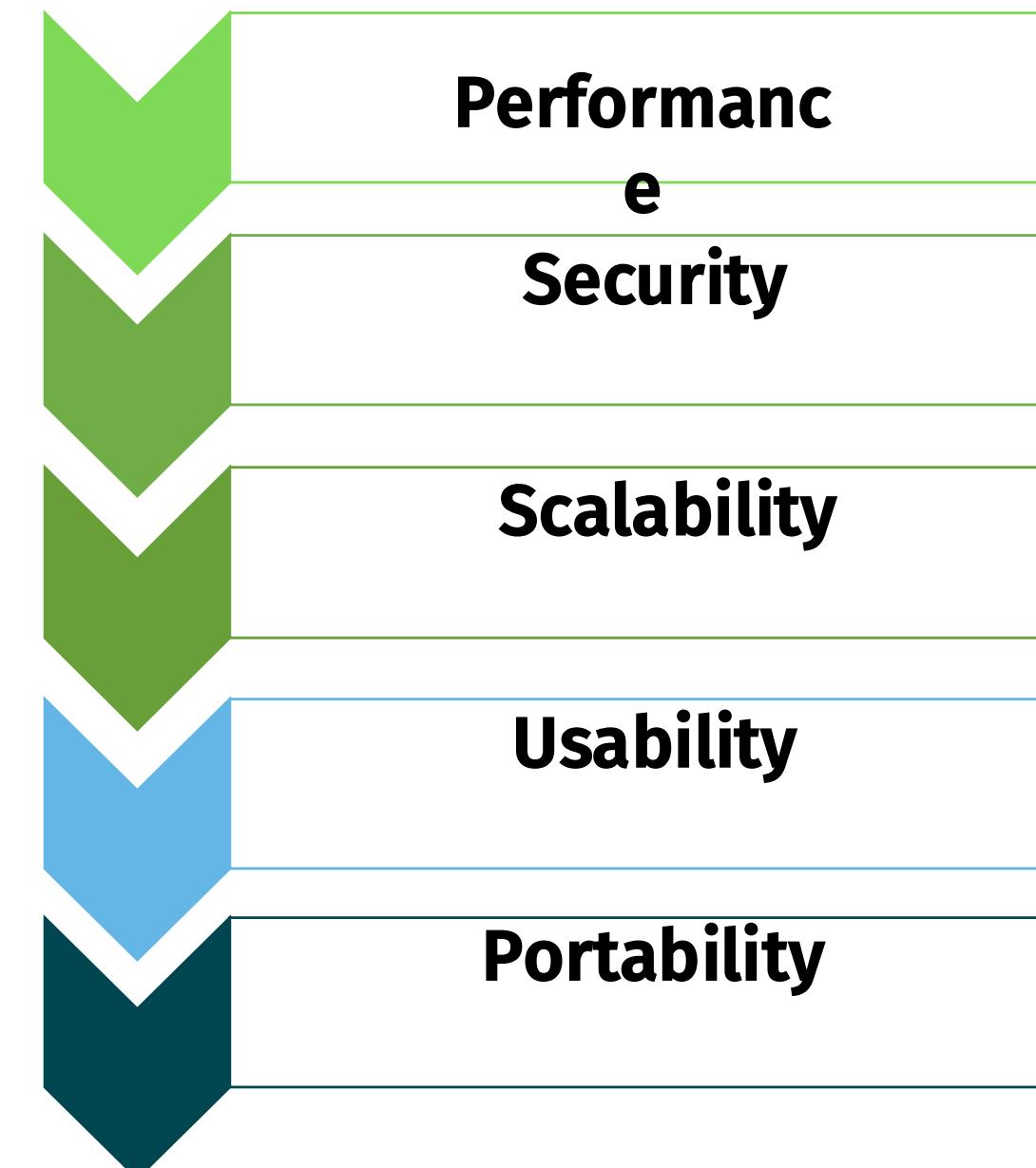
Key Pillars





Componenet Specific Requirements

Non-functional Requirements





Data Set

1. Travel Dataset

- Key Columns:
 - Destination: Name of the travel spot.
 - Category: Type of travel (e.g., adventure, beach).
 - Activities: Available activities (e.g., safari, hiking).
 - Duration: Recommended trip duration.
 - Budget: Travel cost (Normal, Moderate, Expensive).

2. Accommodation Dataset

- Key Columns:
 - Accommodation Name: Name of the place.
 - Place: Destination location.
 - Category: Type of accommodation (hotel, resort).
 - Price: Cost of stay.
 - Rating: Rating out of 5 stars.
 - Distance: Distance from the destination.



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COMPONENT 02

Share travel plans and experiences, predict travel groups and plan places by analyzing user profiles and introduce challenges to earn points



Introduction

- Connect with fellow travelers
- Share travel experiences and itinenaries
- Suggest same interest travel groups with places
- Complete goals and earn rewards



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Research Gap

Limited Integration of Social Connectivity and Travel Planning

Lack of Personalized Travel Recommendations and reviews

Underutilization of Machine Learning for Predicting Travel Groups

Limited use of gamification





Research Problem

- **Gap in Comprehensive Itinerary Sharing**
- **Lack of Predictive Analytics for Personalized Recommendations**
- **Need for Community-Driven Travel Planning**
- **Generalized and Anonymous Reviews**





Objectives

Specific
Objectives

Sub
Objectives

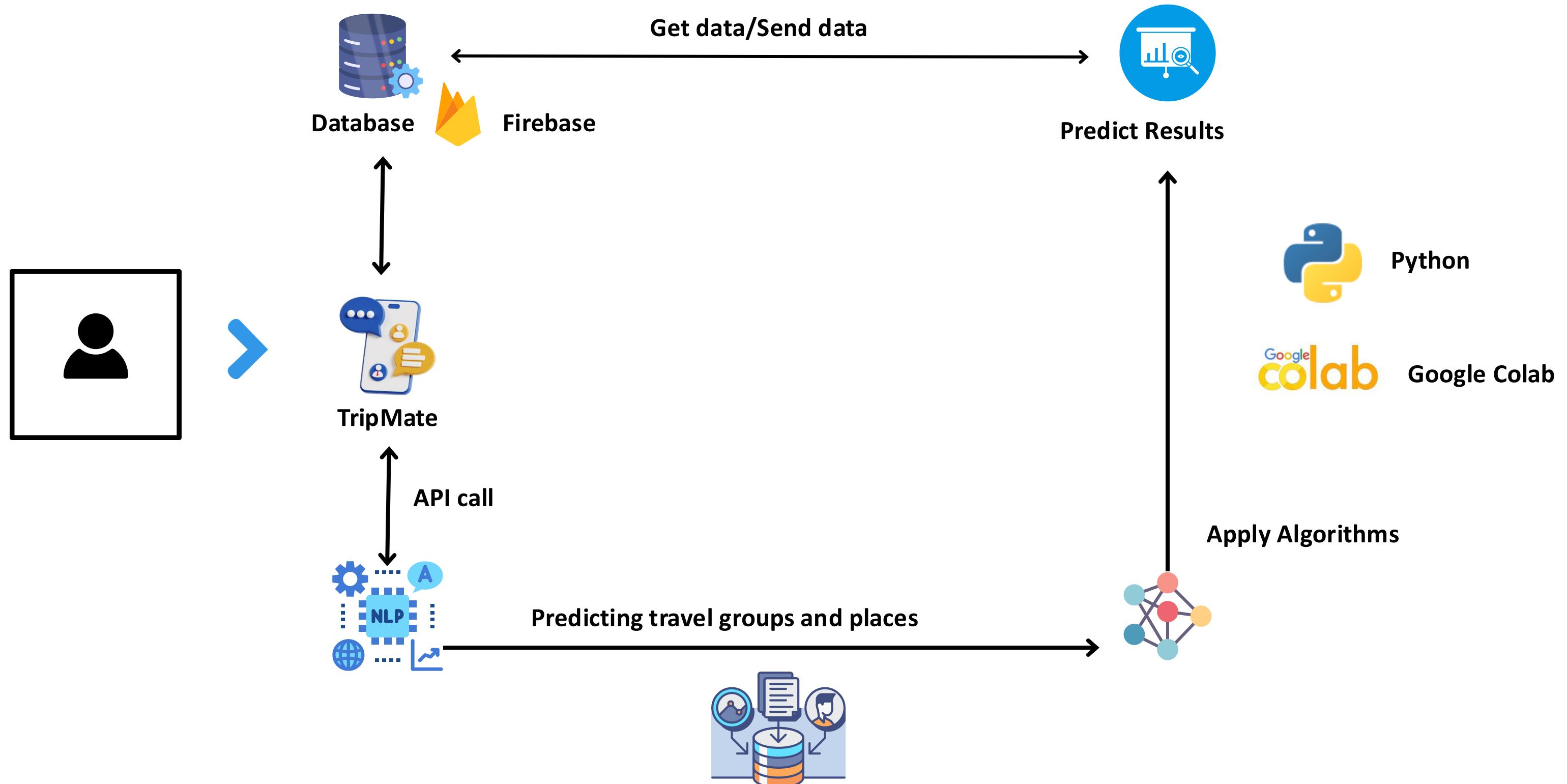
Develop a platform to Connect travellers to share their itineraries and predict travel groups for them

Implement features to filter reviews

Implement travel-related challenges and tasks

Smooth integration with major social media networks

Use machine learning for personalized travel group and destination recommendations.





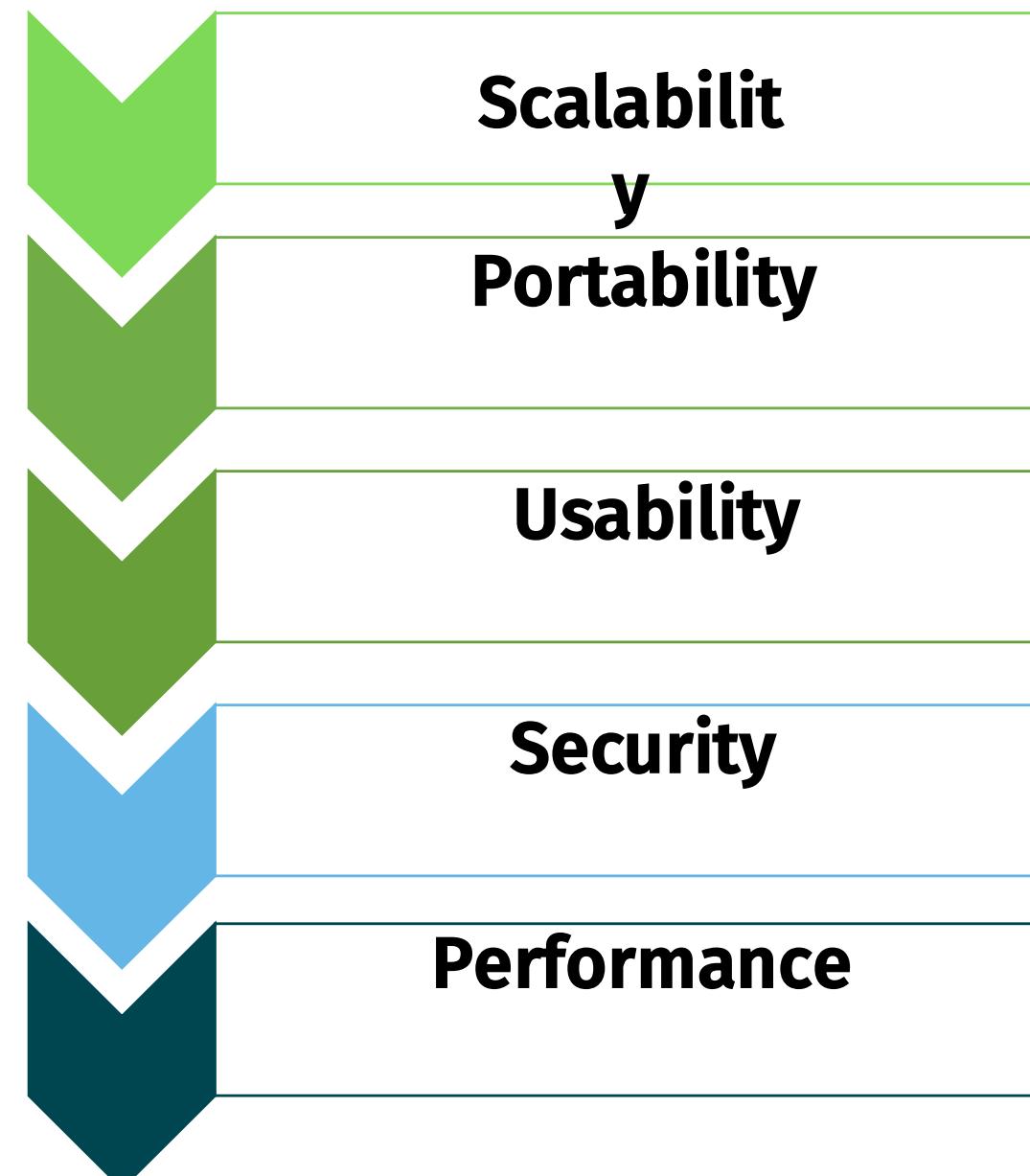
Key Pillars





Componet Specific Requirements

Non-functional Requirements





Data Set

1. Datasets Used:

- User Data: Name, User ID, Interests (e.g., hiking, temples, beaches).
- Place Data: Place Name, Location, Category (e.g., historical, adventure, religious).
 - Sri Lanka Tourism Development Authority
 - Kaggle

1. Purpose:

- Suggest travelers with similar interests to form a travel group.
- Recommend top destinations that align with the traveler's interests

1. Key Outputs:

- Travel Group Recommendations: Travelers with similar interests.
- Matching Destinations: Suggested places to visit based on interests.



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- [1] McKinsey & Company, "How Personalization in Travel Boosts Customer Loyalty," 2018. [Online]. Available: <https://www.mckinsey.com/industries/travel-transport-and-logistics/our-insights/how-personalization-in-travel-boosts-customer-loyalty>. [Accessed: Aug. 6, 2024].
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COMPONENT 03

View 3D models of local attractions directly on the map and get personalized recommendations



Introduction

- **3D models on maps offer a personalised, immersive exploration of local attractions.**
- **Personalised recommendations enhanced by collaborative filtering and sentiment analysis.**



Research Gap

Limited Integration of 3D Models with Interactive Maps

Inadequate Use of Advanced Algorithms for Personalization

Limited Real-time Interaction and Adaptation



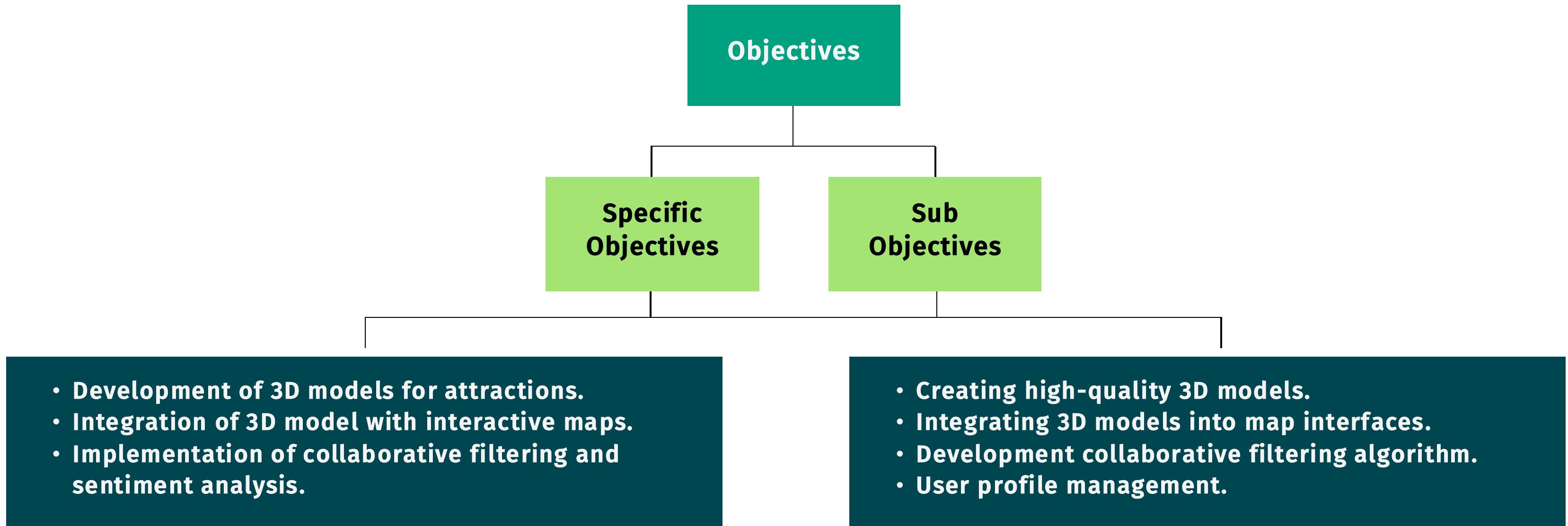


Research Problem

- How can 3D models and personalised recommendation systems be utilized to enhance user engagement, satisfaction, and overall experience in exploring local attractions through interactive maps, taking into account user preferences, behaviors, and feedback?

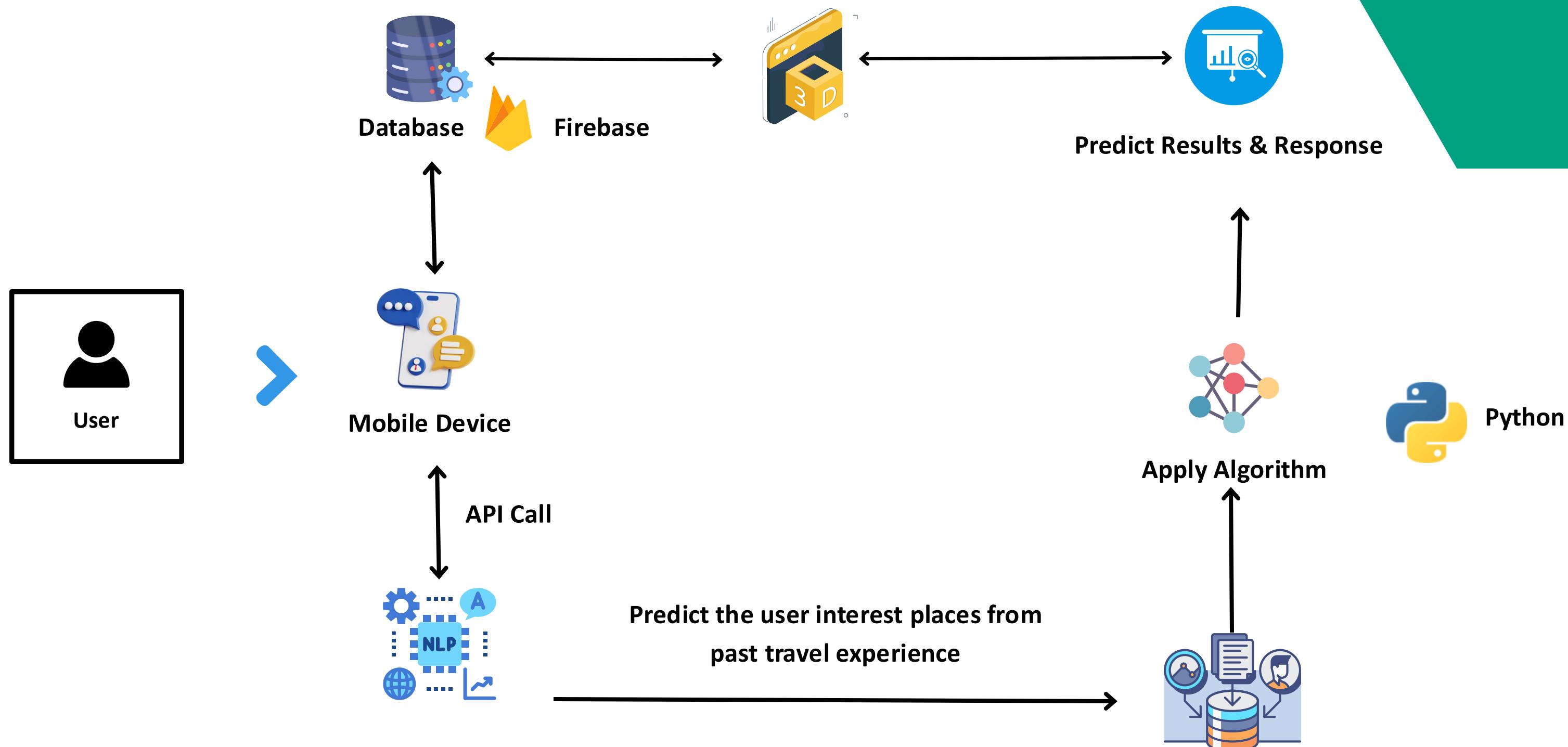


Objectives



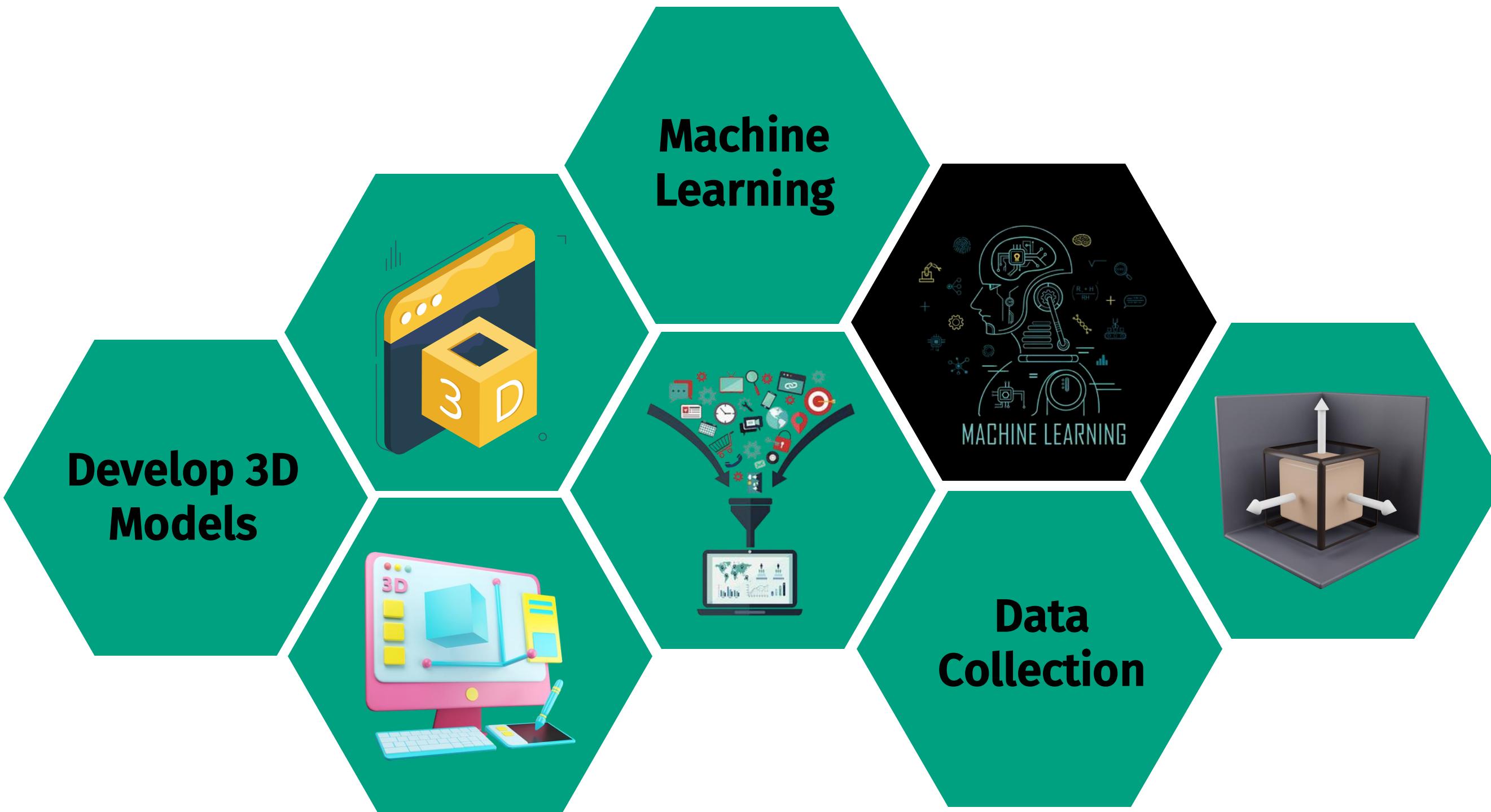


Methodology





Key Pillars





Componenet Specific Requirements

Non - Functional Requirements

- Performance**
- Security**
- Reliability**
- Usability**
- Compliance**





Data Set

| name | location | province | description | category |
|--------------------------|--------------|---------------|---|-------------------------|
| Mirissa Beach | Mirissa | Southern | A stunning crescent-shaped beach known for whale watching and surfing, with golden sand and turquoise waters. | Beaches |
| Unawatuna Beach | Unawatuna | Southern | A popular horseshoe-shaped beach with calm waters ideal for swimming and snorkeling, bordered by coconut palms. | Beaches |
| Bentota Beach | Bentota | Southern | A long stretch of golden sand beach famous for water sports and ayurvedic spa resorts. | Beaches |
| Arugam Bay | Pottuvil | Eastern | One of Asia's best surfing destinations with a laid-back atmosphere and beautiful curved bay. | Beaches |
| Pasikuda Beach | Pasikuda | Eastern | Known for its shallow coastline where visitors can walk far into the ocean, with crystal clear waters. | Beaches |
| Uppuveli Beach | Trincomalee | Eastern | A serene beach with calm waters and golden sand, perfect for swimming and relaxation. | Beaches |
| Nilaveli Beach | Trincomalee | Eastern | A pristine white sand beach with crystal clear waters, gateway to Pigeon Island National Park. | Beaches |
| Kalkudah Beach | Kalkudah | Eastern | A long, wide stretch of pristine beach with shallow waters, ideal for swimming. | Beaches |
| Hikkaduwa Beach | Hikkaduwa | Southern | Famous for coral reefs and marine life, popular for snorkeling and glass-bottom boat tours. | Beaches |
| Tangalle Beach | Tangalle | Southern | Secluded beach with rocky outcrops and peaceful atmosphere, known for sea turtle nesting. | Beaches |
| Weligama Bay | Weligama | Southern | A wide bay known for beginner-friendly surfing and traditional stilt fishermen. | Beaches |
| Koggala Beach | Koggala | Southern | A long stretch of relatively undeveloped beach, known for stilt fishing and sea turtle hatcheries. | Beaches |
| Dickwella Beach | Dickwella | Southern | A sheltered bay with calm waters perfect for swimming and relaxation. | Beaches |
| Polhena Beach | Matara | Southern | A natural swimming pool protected by an offshore reef, ideal for swimming and snorkeling. | Beaches |
| Casuarina Beach | Jaffna | Northern | Named after casuarina trees lining the shore, offering peaceful views and shallow waters. | Beaches |
| Mount Lavinia Beach | Colombo | Western | A popular city beach with golden sands and vibrant nightlife, close to Colombo. | Beaches |
| Negombo Beach | Negombo | Western | A wide sandy beach with a lively atmosphere, close to the international airport. | Beaches |
| Kalpitiya Beach | Kalpitiya | North Western | Known for kitesurfing and dolphin watching, with a rustic, undeveloped feel. | Beaches |
| Beruwala Beach | Beruwala | Western | The first Muslim settlement in Sri Lanka with a golden stretch of sand. | Beaches |
| Induruwa Beach | Induruwa | Western | A quiet beach destination with fewer crowds and a peaceful atmosphere. | Beaches |
| Talalla Beach | Talalla | Southern | A large bay with white sand and turquoise waters, relatively undiscovered. | Beaches |
| Trincomalee Harbor Beach | Trincomalee | Eastern | One of the world's largest natural harbors with scenic views and historical significance. | Beaches |
| Ventura Beach | Colombo | Western | An urban beach park with recreational facilities and ocean views. | Beaches |
| Marble Beach | Trincomalee | Eastern | A small cove with unique marble-like smooth rocks and clear blue waters. | Beaches |
| Wijaya Beach | Dalawella | Southern | A small beach with a natural rock pool and famous rope swing for photos. | Beaches |
| Marakolliya Beach | Tangalle | Southern | An isolated beach stretch with minimal development and good swimming conditions. | Beaches |
| Kahandamoda Beach | Kahandamoda | Southern | A rural beach where the Walawe River meets the ocean, offering unique landscapes. | Beaches |
| Batticaloa Beach | Batticaloa | Eastern | A beach near the famous 'singing fish' lagoon, with cultural significance. | Beaches |
| Pigeon Island Beach | Nilaveli | Eastern | A small beach on a protected marine national park with excellent snorkeling. | Beaches |
| Jungle Beach | Unawatuna | Southern | A secluded beach accessible by a short trek through jungle terrain. | Beaches |
| Sigiriya Rock Fortress | Sigiriya | Central | An ancient rock fortress with frescoes and water gardens, built by King Kashyapa in the 5th century. | Cultural/Heritage Sites |
| Polonnaruwa Ancient City | Polonnaruwa | North Central | Medieval capital with well-preserved stupas, temples, and statues from the 12th century. | Cultural/Heritage Sites |
| Anuradhapura Sacred City | Anuradhapura | North Central | Sri Lanka's first capital with ancient dagobas, temples, and the sacred Sri Maha Bodhi tree. | Cultural/Heritage Sites |
| Galle Fort | Galle | Southern | A UNESCO World Heritage site with Dutch colonial architecture and rampart walls. | Cultural/Heritage Sites |
| Kandy Sacred City | Kandy | Central | The last capital of ancient kings, home to the Temple of the Tooth and Kandy Lake. | Cultural/Heritage Sites |
| Dambulla Cave Temple | Dambulla | Central | A UNESCO site featuring five caves with over 150 Buddha statues and ancient murals. | Cultural/Heritage Sites |



Data Set

| | | | | |
|---|---------------|---------------|---|-------------------------|
| Katuwana Fort | Katuwana | Southern | A Dutch-era inland fort built in the 17th century, the only remaining inland fort. | Cultural/Heritage Sites |
| Magul Maha Viharaya | Lahugala | Eastern | 15th-century temple with elaborate stone carvings celebrating a royal wedding. | Cultural/Heritage Sites |
| Yatala Vehera | Tissamaharama | Southern | Ancient stupa built by King Mahanaga in the 3rd century BCE. | Cultural/Heritage Sites |
| Sri Dalada Maligawa (Temple of the Tooth) | Kandy | Central | Sacred Buddhist temple housing Buddha's tooth relic in a golden casket. | Temples |
| Kelaniya Raja Maha Viharaya | Kelaniya | Western | Ancient temple believed to have been visited by Buddha, with important murals and sculptures. | Temples |
| Gangaramaya Temple | Colombo | Western | Eclectic temple complex with a mix of Sri Lankan, Thai, Indian, and Chinese architecture. | Temples |
| Dambulla Cave Temple | Dambulla | Central | Rock cave complex with 153 Buddha statues, 4 statues of gods and kings, and numerous paintings. | Temples |
| Maha Vishnu Devalaya | Kandy | Central | One of the four guardian deities of Sri Lanka dedicated to god Vishnu. | Temples |
| Kataragama Temple | Kataragama | Uva | Sacred complex visited by Buddhists, Hindus, Muslims, and indigenous Vedda people. | Temples |
| Saman Devalaya | Ratnapura | Sabaragamuwa | Temple dedicated to deity Saman, the guardian of Sri Pada (Adam's Peak). | Temples |
| Natha Devalaya | Kandy | Central | One of the oldest structures in Kandy dedicated to deity Natha. | Temples |
| Gadaladeniya Temple | Kandy | Central | 14th-century temple with South Indian architectural influences built on a rock. | Temples |
| Lankathilaka Temple | Kandy | Central | Impressive temple with white outer walls and intricate interior paintings. | Temples |
| Wewurukannala Viharaya | Dickwella | Southern | Temple known for its 50m-tall seated Buddha statue, one of the tallest in Sri Lanka. | Temples |
| Muthiyangana Raja Maha Viharaya | Badulla | Uva | One of the 16 places believed to have been visited by Buddha in Sri Lanka. | Temples |
| Bellanwila Rajamaha Viharaya | Colombo | Western | Temple known for its sacred Bodhi tree, believed to be from the original Sri Maha Bodhi. | Temples |
| Seruwila Mangala Raja Maha Viharaya | Trincomalee | Eastern | One of the 16 main places of worship (Solosmasthana) in Sri Lanka. | Temples |
| Nagadeepa Purana Viharaya | Jaffna | Northern | Ancient temple on Nainativu Island believed to have been visited by Buddha. | Temples |
| Ruhunu Maha Kataragama Devalaya | Kataragama | Uva | Temple complex dedicated to deity Kataragama, important pilgrimage site. | Temples |
| Munneswaram Temple | Chilaw | North Western | Ancient Hindu temple complex dating back to 1000 CE dedicated to Lord Shiva. | Temples |
| Nallur Kandaswamy Temple | Jaffna | Northern | One of the most important Hindu temples in the country, dedicated to Lord Murugan. | Temples |
| Thirukoneswaram Temple | Trincomalee | Eastern | Ancient Hindu cliff-top temple with panoramic views of the Indian Ocean. | Temples |
| Maha Bodhi Temple | Anuradhapura | North Central | Temple built around the sacred Sri Maha Bodhi tree, oldest historically documented tree. | Temples |
| Situlpawwa Ancient Buddhist Monastery | Yala | Southern | 2nd-century rock temple inside Yala National Park with ancient statues and stupas. | Temples |
| Mirisavatiya Stupa | Anuradhapura | North Central | Stupa built by King Dutugemunu after achieving victory over King Elara. | Temples |
| Sathmalah Prasada | Polonnaruwa | North Central | Unique seven-story pyramid-shaped building with unclear origins and purpose. | Temples |
| Ridee Viharaya | Kurunegala | North Western | Temple known for silver ore found in the area, with ancient paintings and artifacts. | Temples |
| Somawathie Chaitya | Polonnaruwa | North Central | Stupa containing the right tooth relic of the Buddha, located within wildlife sanctuary. | Temples |
| Tissa Maha Viharaya | Kalutara | Western | Ancient temple with a 6-meter reclining Buddha statue and colorful paintings. | Temples |
| Digamadulla Maha Viharaya | Ampara | Eastern | Ancient temple complex with historical significance in the eastern province. | Temples |
| Giriadu Seya | Trincomalee | Eastern | Believed to be the first stupa built in Sri Lanka containing hair relics of Buddha. | Temples |
| Sangamitta Viharaya | Galle | Southern | Temple dedicated to Sangamitta Theri who brought the Bodhi tree sapling to Sri Lanka. | Temples |
| Rambukkana Maligatenna Temple | Rambukkana | Sabaragamuwa | Rock temple with ancient cave paintings and inscriptions. | Temples |
| Yala National Park | Hambantota | Southern | Sri Lanka's most visited park, famous for leopards, elephants, and sloth bears. | Wildlife/National Parks |
| Udawalawe National Park | Udawalawe | Sabaragamuwa | Known for large elephant herds and the Elephant Transit Home for orphaned calves. | Wildlife/National Parks |
| Wilpattu National Park | Puttalam | North Western | The largest national park with natural lakes called 'villus' and diverse wildlife. | Wildlife/National Parks |
| Horton Plains National Park | Nuwara Eliya | Central | Misty highland plateau with unique vegetation, sambar deer, and the famous World's End cliff. | Wildlife/National Parks |



Data Set

| | | | | |
|--|--------------|--------------|---|---------------|
| Madulsima | Madulsima | Uva | Remote tea plantation area with stunning views and minimal tourist development. | Hill Stations |
| Diyatalawa | Diyatalawa | Uva | Military town with a cool climate, popular for training and recreation. | Hill Stations |
| Patana | Haputale | Uva | Small settlement with vast grasslands (patanas) and panoramic mountain views. | Hill Stations |
| Haldummulla | Haldummulla | Uva | Hill country junction town on the old Colombo-Badulla main road with colonial history. | Hill Stations |
| Idalgashinna | Idalgashinna | Uva | Remote mountain pass with the third highest railway station and spectacular views. | Hill Stations |
| Royal Botanical Gardens | Peradeniya | Central | Sri Lanka's largest botanical garden with over 4,000 plant species and giant Java fig avenue. | Gardens |
| Hakgala Botanical Gardens | Nuwara Eliya | Central | Second largest gardens in Sri Lanka with roses, orchids, and fernery at high elevation. | Gardens |
| Henarathgoda Botanical Garden | Gampaha | Western | Historic garden where the first rubber trees in Asia were successfully cultivated. | Gardens |
| Gampaha Botanical Garden | Gampaha | Western | Medicinal plant garden with hundreds of species used in traditional Ayurvedic medicine. | Gardens |
| Dry Zone Botanical Gardens | Hambantota | Southern | Specialized garden showcasing plants adapted to Sri Lanka's dry climate regions. | Gardens |
| Mirijjawila Botanical Garden | Hambantota | Southern | Newest botanical garden focused on dry and arid zone flora with butterfly garden. | Gardens |
| Seethawaka Wet Zone Botanical Garden | Avissawella | Western | Garden preserving threatened plants of Sri Lanka's wet zone rainforests. | Gardens |
| Dambulla Dedicated Economic Centre Garder Dambulla | Dambulla | Central | Commercial plants and vegetable demonstration garden at agricultural trading hub. | Gardens |
| Matale Spice Garden | Matale | Central | Educational garden showcasing cinnamon, cardamom, pepper and other spice plants. | Gardens |
| Euphoria Spice and Herbal Garden | Matale | Central | Traditional spice garden with medicinal plants and processing demonstrations. | Gardens |
| New Colonial Spice Garden | Kandy | Central | Interactive spice garden with culinary demonstrations and traditional medicine displays. | Gardens |
| Lunuganga Estate Gardens | Bentota | Southern | Geoffrey Bawa's personal garden estate with architectural landscaping features. | Gardens |
| Brief Garden | Bentota | Southern | Bevis Bawa's fantastical garden with sculptures, ponds, and artistic landscape design. | Gardens |
| Lady Horton's Walk | Kandy | Central | Historic hillside garden with walking paths and panoramic views of Kandy. | Gardens |
| Victoria Park | Nuwara Eliya | Central | Colonial-era public garden with seasonal flower displays and manicured lawns. | Gardens |
| Viharamahadevi Park | Colombo | Western | Colombo's largest public park with flowering trees, water features, and play areas. | Gardens |
| Japanese Peace Pagoda Garden | Unawatuna | Southern | Zen-influenced garden surrounding the hilltop white pagoda with coastal views. | Gardens |
| Katuwana Herbal Garden | Katuwana | Southern | Educational center for indigenous medicinal plants used in traditional healing. | Gardens |
| Lotus Tower Garden | Colombo | Western | Modern landscaped garden surrounding Sri Lanka's tallest structure. | Gardens |
| Udawatta Kele Sanctuary | Kandy | Central | Historic royal forest garden adjacent to the Temple of the Tooth with walking trails. | Gardens |
| Waters Edge Garden | Colombo | Western | Manicured lakeside gardens with water features, topiary and recreation areas. | Gardens |
| Helga's Folly Garden | Kandy | Central | Eclectic artistic garden with surreal sculptures and tropical plantings. | Gardens |
| Millennium Elephant Foundation Garden | Kegalle | Sabaragamuwa | Botanical collection focusing on elephant-friendly plants and foraging species. | Gardens |
| Dilmah Conservation Heritage Garden | Colombo | Western | Garden showcasing Sri Lanka's agricultural heritage plants and tea varieties. | Gardens |
| Sembuwatta Lake Garden | Elkaduwa | Central | Landscaped garden surrounding a stunning blue lake with viewpoints and facilities. | Gardens |
| Beruwala Ayurveda Garden | Beruwala | Western | Living collection of medicinal herbs used in traditional Sri Lankan medicine. | Gardens |
| Ranawana Arboretum | Kuruwita | Sabaragamuwa | Educational forest garden owned by the Institute of Indigenous Medicine. | Gardens |
| Galle Fort Rampart Garden | Galle | Southern | Colonial garden along the historic fort walls with ocean views and sea breeze. | Gardens |
| Negombo Lagoon Garden | Negombo | Western | Waterfront garden with mangrove species and coastal ecosystem plants. | Gardens |
| Dambana Indigenous Plant Garden | Mahiyangana | Uva | Garden maintained by Vedda indigenous people showcasing traditional plant uses. | Gardens |
| Pidurutalagala Sanctuary Garden | Nuwara Eliya | Central | Mountain garden with rare high-altitude plant species and misty landscapes. | Gardens |
| Colombo Port City Marina Gardens | Colombo | Western | New development of modern landscaped spaces with harbor views and public art. | Gardens |



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BSc (Hons) in Information Technology



COMPONENT 04

Provide timely and relevant suggestions for alternative places to visit when travel users original plans changed



Introduction

- Real-time itinerary adjustments suggest alternative destinations when time constraints arise.
- Instant emergency contact access with location-based precision for swift assistance.
- Personalized travel recommendations using user preferences and machine learning.



Research Gap

Lack of Real-Time Adaptive Itinerary Adjustments

Limited Personalized Recommendations

Insufficient Emergency Support Integration

Inadequate Combination of Features





System Comparison

| Feature | Existing Solutions | Proposed System |
|--|--|---|
| Real-Time Dynamic Travel Recommendations | Most travel apps have fixed itineraries that don't adapt to real-time change | Timely and Relevant Suggestions for Alternative Places: |
| Emergency Service Integration | Emergency services often provide only basic SOS alerts | Easy way to contact local emergency services |
| Proactive Notifications and Alerts | Limited proactive notifications; often requires manual checks | Sends proactive alerts for changes in plans, delays, or potential emergencies, keeping users informed |



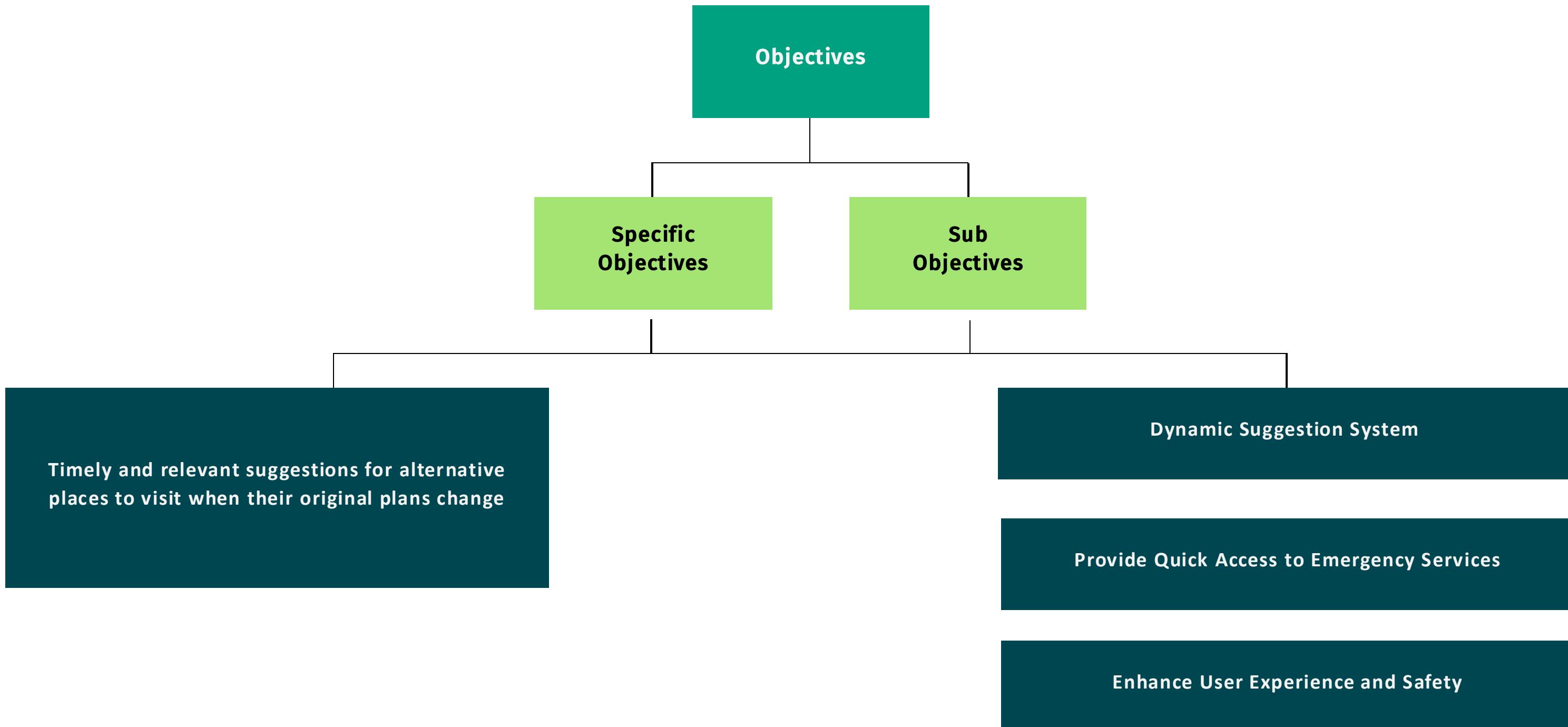
Research Problem

- How can real-time itinerary adjustments and emergency service integrations enhance user experience and safety in a travel management app, by providing personalized travel suggestions and immediate access to local emergency services based on user preferences, behaviors, and real-time data?



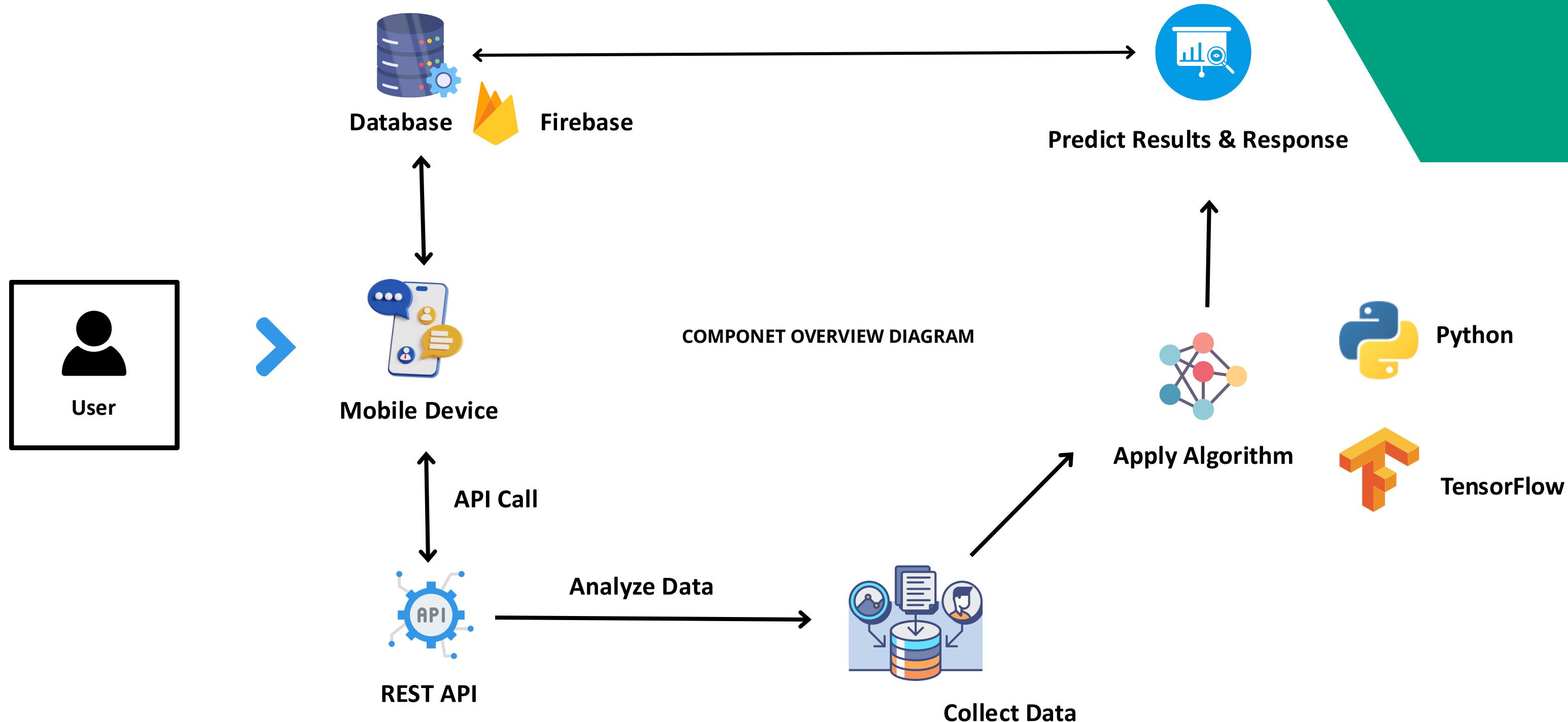


Objectives



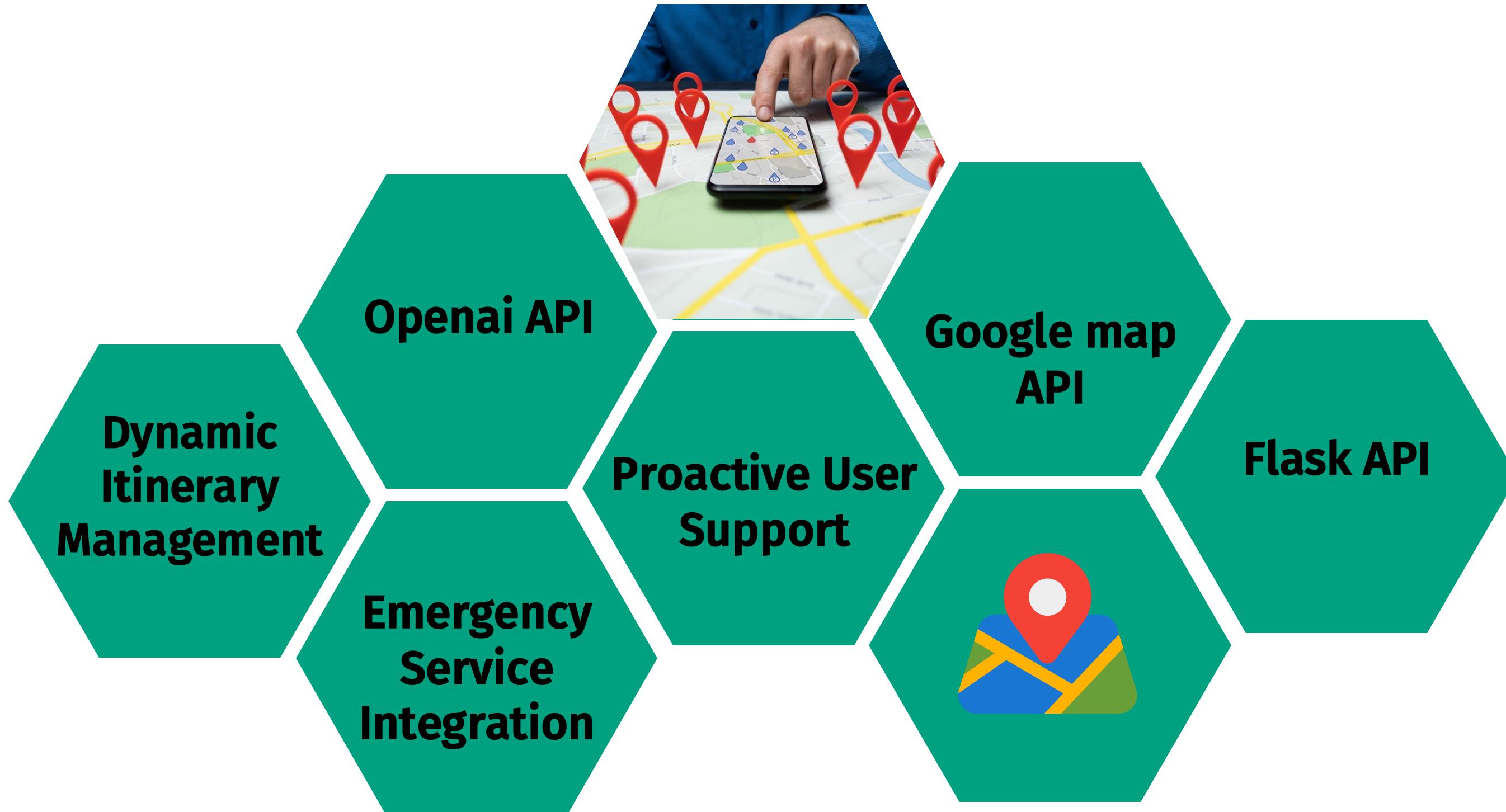


Methodology





Key Pillars





Component Specific Requirements

Functional Requirements

-  **Travel Plan Adjustment**
-  **Context Aware Emergency Services**
-  **Real-Time Data Integration**

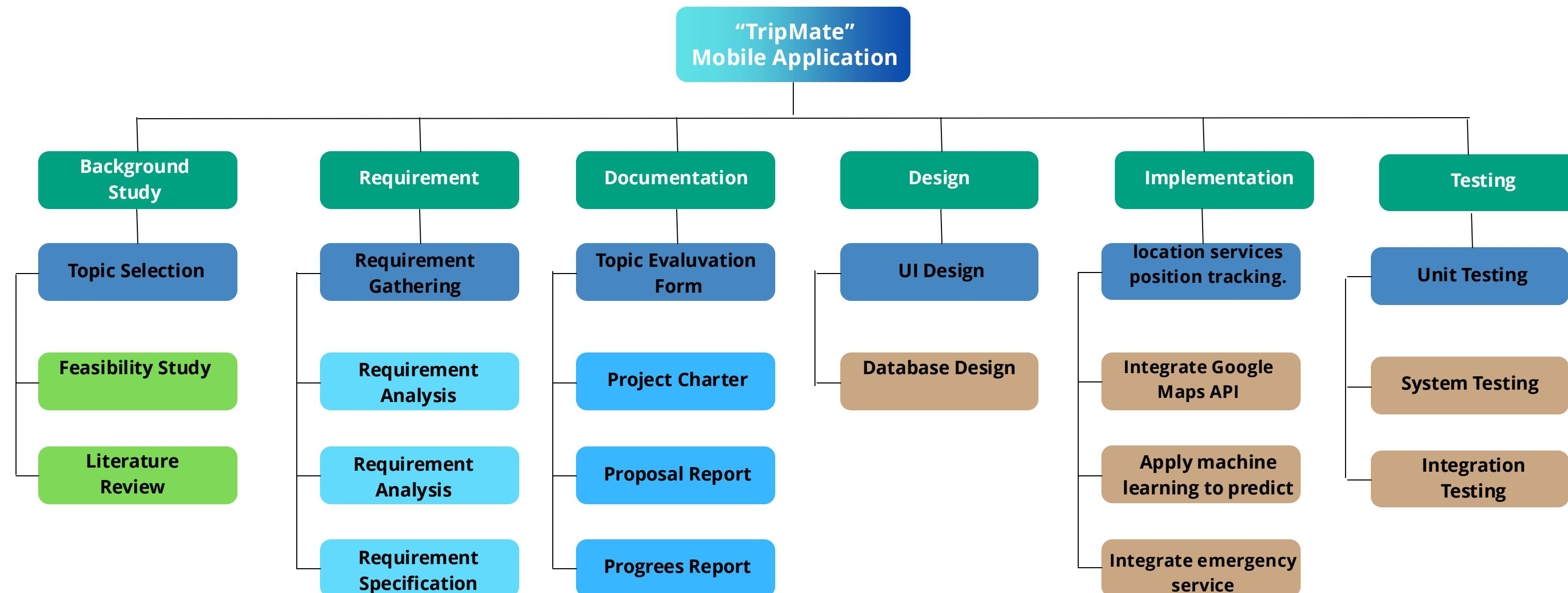


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Work Breakdown Chart





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Requirements

Personal Requirement

- **Travel Users**
- **Developers**

Non-Functional Requirement

- **Reliability**
- **Security**
- **Performance**
- **Usability**
- **Availability**

System Requirement

- **Software**
Visual Studio Code
React Native
Python
Firebase
Blender
- **Hardware**
Mobile Touch Screen





Budget

| Component | Amount (USD) | Amount (LKR) |
|--|--------------|--------------|
| Traveling fee for the possible consultation sessions and data gathering. (Anuradhapura, Polonnaruwa Area) | \$49.98 | 15,000.00 |
| Internet charges for the development and technical information learning. | \$16.66 | 5,000.00 |



Q & A



THANK YOU !