



**UNIVERSITY OF
PLYMOUTH**

**Travel SL'
Project Proposal
Computing Group Project
PUSL2021
Group A - 50**

Table of Contents

Project Description	2
Project Objectives.....	3
Project Scope.....	6
Target users	9
Application Description and Features	11
Timesheet and Gant Chart	14
User requirements	16
Table of Contributions	19

Project Description

Introducing Travel SL', the ultimate travel companion for the modern explorer. Whether you are planning a weekend for traveling to Sri Lanka, Travel SL' is your intelligent, one-stop solution for all your travel needs. This innovative AI travel app based in Sri Lanka, it harnesses the power of artificial intelligence to make your journeys smoother, more enjoyable, and truly unforgettable. This AI-Based Travel Companion desktop and mobile applications is cutting-edge. We have completed this AI based travel companion in both mobile and desktop applications.

This app uses artificial intelligence and machine learning to provide real-time information, seamless travel planning, facilities, maps, weather information, tourist destination, push notification alerts, emergency assistance, voice and text-based language translation, expense tracking, booking transport from the airport, hotels, food and beverages, shopping, groceries, hospitals and clinics, gas stations, ATMs, Pharmacies, bars and pubs, sporting goods, events, currency converting places, travel guides, management capabilities, and much more for travelers. The AI-based travel companion mobile app and desktop application will help users make the most of their trips smoother and memorable, whether they are traveling to unfamiliar or new locations in Sri Lanka. We have included all the foreign and local tourist attractions in Sri Lanka into this application, so tourists can visit without any hassle. from the point of their arrival in Sri Lanka, from transport booking, hotels booking, restaurants, guidance and everything, to the flight back to their country, all the facilities have been provided to them through this application.

Every traveller needs Travel SL' because it combines cutting-edge AI technology with the excitement of discovery. This application is more than just a travel tool. Let AI improve your travel experience by supplying accurate data, improving transportation, and providing guidance when you need it. Make every travel your most memorable one yet, on your next adventure with Travel SL'. The entire Sri Lanka is at your fingertips with Travel SL'.

Travel smarter, Collect unforgettable memories with Travel SL'

SRI LANKA!! The wonder of Asia. come and visit this beautiful island.

Download the app today to start confidently exploring the SRI LANKA!

Project Objectives

The main goal and objective of our project will be, to guide tourists who coming to Sri Lanka for vacation under that we clearly state the specific goals and objectives.

- Enhance Travelling

First, we are giving choices to the customer to select a suitable traveling method after he/she lands in our country to until for their return trip and planning the entire travelling vehicle cost for the entire trip.

- Navigation Map

We are providing a real-time navigation map to guide the tourists when they input their travel destination through that map the guide will instruct you to attractive tourist destinations in the selected destination and the destination through their entire route.

- Tourist Destination Locator

Our app will filter all the tourists' most visited locations and tourists' attractive locations and it will show in the navigation map for the users' comfort.

- Voice-Text-based language translation.

There is speech recognition technology to convert spoken words into text It also includes NLP (Natural Language Processing) which analyses the translated text to understand the grammar of the spoken words The system uses machine translation algorithms to translate the text from one language to another and text can be converted back into spoken words by using text-to-speech technology so with that users can hear translated words and it will make easier to communicate in real-time.

- Language and Cultural Guidance

When tourists come around all over the world, they will have trouble with communication. So, we are adding all the active languages used in the current world and English will be the global language for our app. So, through this, we can solve language communication problems too.

- Real-Time Events/Festivals update

Through this app, tourists can get to know the events and festivals that will be held in each province in our country. So, events will be updated week-by-week then tourists can plan their travelling destinations.

- Weather update

This app also provides weather conditions for the destinations you are planning to travel to. So, you can get to know whether the weather condition is good or bad before traveling to the destination through this option tourists can save time by traveling to bad weather areas.

- Multi-Modal Travel Planning

In our app, there are various types of transportation options such as flights, trains, buses, etc. and it will depend on the selecting optimal routes also we are considering factors such as travel time, cost, and environmental impact when you are selecting transportation routes.

- Smart Calendar

In this app, there is a calendar we are providing to you to be updated about the events that will be held in your specific location.

- Booking accommodation

We will show all the available hotels and lodges in selecting a specific location and we will always recommend the above two-star hotels for the tourists.

- Push notification Alert

This will notify users of real-time important updates such as hotel vacating time, flight delays, traffic conditions, changes in events, and any other time-sensitive important travel plans for their trip.

- Emergency Assistance and Guidance

In this app we are providing emergency assistance such as a police emergency hotline, Ambulance and fire-rescue, and General hospital hotline near your location also we provide pharmacy locations near your locations.

- Currency converter

In our app, we are providing a currency converter, and it will show up-to-date date-exchange rates when you select your currency type, and those data will be sourced from the central bank.

- Expense Tracking

Our app will automatically capture users' expenses and analyse their transactions from linked bank accounts or credit/debit cards.

- Other Services

In addition, we are providing other important locations such as Gas stations, Groceries, ATMs, Bars and Pubs, Sporting goods, Clubs, shopping malls and restaurants. We are providing these important locations for tourists because when they are traveling, they will face their basic needs and through these facilities, they can fulfil their basic needs too.

Project Scope

Collecting data and Research.

- Conduct information about the country's culture, local events and most importantly about tourist attraction places.
- Gather information about costs, restaurants, hotels, and other travel options.
- Look into AI and machine learning methods that are used to propose trips to individual users.

AI Development:

- Build an AI-powered recommendation engine that can provide customized trip guidance.
- To facilitate user-friendly communication, apply natural language processing.
- Include streams of real-time weather, events, and traffic data.

User Interface (UI) and User Experience (UX) Design

- Develop a user interface for the AI trip guide that is simple to use and attractive to the eye.
- Ensure that mobile and online applications provide a seamless user experience.
- Include tools that allow for user input and modification.

Content Creation:

- Create interesting and educational content, including text, photographs, and videos.
- Produce multimedia content for tourist attractions, lodging, dining establishments, and cultural events.
- Implement language support for various international audiences.

Integration and Testing:

- Consolidate all the AI trip guide's components into a single, functional system.
- Run thorough tests to make sure the product is functional, accurate, and user-friendly.
- Test recommendations and features in the real world with pilot users.

Data Security and Privacy:

- Implement privacy and data encryption safeguards.
- Ensure user permission for data usage and adherence to data protection laws.

Maintenance and Updates:

- To keep the AI trip, guide up to date, create a schedule for routine maintenance and updates.
- Keep an eye on user comments and incorporate improvements.

Deliverables:

- Platform for mobile and web-based AI-powered travel guides.
- A selection of current and well-curated articles on Sri Lanka's tourist attractions.
- Engine for instantaneous recommendations.
- Customization possibilities for the user interface.
- security and privacy safeguards.

Timeline:

- Phase 1: research and data gathering.
Phase 2: Creation and evaluation of AI
Phase 3: UI/UX Design and Content Creation
Phase 4: User testing, integration, and feedback
Phase 5: Implementation, compliance, and data security

Budget:

- Detailed project specs and resource needs will be used to establish the budget.

Stakeholders:

Stakeholders:

- Support, QA, Content, UI/UX, and Development.
- Local tourism bureaus.
- Vacationers and travelers.

Risks:

- Privacy and data security issues.
- ensuring the precision and applicability of suggestions.
- Adoption by users and marketing.

Conclusion

- The AI-based travel guide for Sri Lanka seeks to give tourists a cutting-edge and tailored travel experience. The country's economy will benefit, and travelers' experiences will be improved. It will aid in promoting tourism in Sri Lanka.

Target users

In our application, we are mainly targeting tourists who are coming from all around the world also we are focusing on local travellers too. We are focusing on various factors for example needs, preferences, and demographics of the users. So, here are some target users we are focusing on.

- Frequent Travelers

These travellers frequently visit our country on business and leisure trips also people who are visiting to see their families and grandparents.

- Business Travellers

Those travellers often visit for business deals and meetings, and they are looking for features such as expense tracking to make their business travel easier.

- Leisure Travellers

Families, couples, and solo travellers are included in this group, and they are interested in tourist destination locator, weather updates, booking accommodation, and other services.

- Adventure Seekers

Those travellers are visiting here to experience outdoor activities, and adventurous experiences such as hiking trails, adventure sports, water rafting, etc also those visitors are focusing on Emergency Assistance and guidance, navigation maps, etc.

- Budget Travellers

Those visitors are tight on their budget, and they were mainly focusing on cost-effective features such as booking accommodation, push notification alerts, etc.

- Luxury Travellers

These travellers are mainly focusing on luxury accommodations, fine dining, and restaurants.

- Eco-conscious Travellers

Those travellers are searching for eco-friendly options, and we are providing restaurant/hotel recommendations they are interested in real-time events-festivals updates.

- Cultural and Heritage Explorers

Those tourists are interested in history, culture, and heritage sites. So, they are interested in navigation maps and tourist destination locators because our country has a legendary history and ancient ruins sacred places. Through these features, they can reach those places easily.

- Senior Travellers

Older individuals are mainly targeting this group, and they were mainly focusing on senior-friendly travel options through which they can access comfortable accommodations and activities suitable for their age group.

- Medical Tourists

Travelers who are seeking medical treatments are mainly focused on this group. Our country is good at Sinhala ancient medical treatments, and it is famous all around the world also they are interested in information on medical facilities.

Application Description and Features

Description: Welcome to Travel SL', the ideal place for a mesmerizing travel experience. You can explore all the fascinating wonders in our beautiful country with just a click. Using our High-end AI technology, we have developed this app to make your travel life more fun and enjoyable.

Default page description:

Key Features:

01) Latest events in Sri Lanka:

- As Soon as you open the app, you are greeted with the latest happening events in Sri Lanka such as festivals, upcoming Events, and eye-catching places in Sri Lanka. Get updated about the latest news of the country.

02) Navigation bar:

- Events: From cultural events live music concerts all around the country, discover all the fascinating events of Sri Lanka.
- Map: Use interactive, offline road maps to effortlessly travel through magnificent sites in Sri Lanka.
- Language Translator: Easily translates any language to the country's mother tongue.
- Guide Registration: Contact our local guides for a unique and personalized experience.
- Emergency Services: In case of an emergency, have quick access to emergency contact information and health care facilities to ensure your well-being.

Maps

This page has a user-friendly finding site for application users to look for safe, protective, and helpful regions that are required. For example, if a user has to look for a hotel, he or she can tap the search button and type “Hotels”, and the program will provide a list of hotels with their rankings.

This function allows users to locate not only numerous areas, but also its specialties. With detailed offline maps for cities, towns, and landmarks, you can unlock a wide range of comforts. With real-time GPS assistance, you're able to confidently navigate the island's beauty.

This function allows users to locate multiple features including hotel, food & beverages, shopping, groceries, hospitals, gas, ATMs, pharmacy, bar & pubs, sporting goods, clubs, etc..

Language Translator

The language barrier is a significant issue that both tourists and locals must deal with. Even though English is the most widely spoken language, many locals have trouble understanding it because of poverty and lack of education. This issue has been resolved with Travel SL' Mobile application. This mobile application consists of an AI based language translator to facilitate communication between locals and tourists. This feature functions as a dual communication medium. When a user communicates via text or speech, the translator translates it into Sinhala, the mother tongue of Sri Lanka. The same applies in reverse; when a local communicates through text or speech, the translator converts it into the user's preferred language. It is hoped that Python IDLE will be used to create the AI-based language.

Guide Registration

Travel SL' Mobile application assist users to have a guide in helping them with their journey around the country. For this feature to be more accurate the developers have allowed external guides to register into the system through a form page in the mobile application. This allows to increase the comfort and accuracy of both the user and the guide.

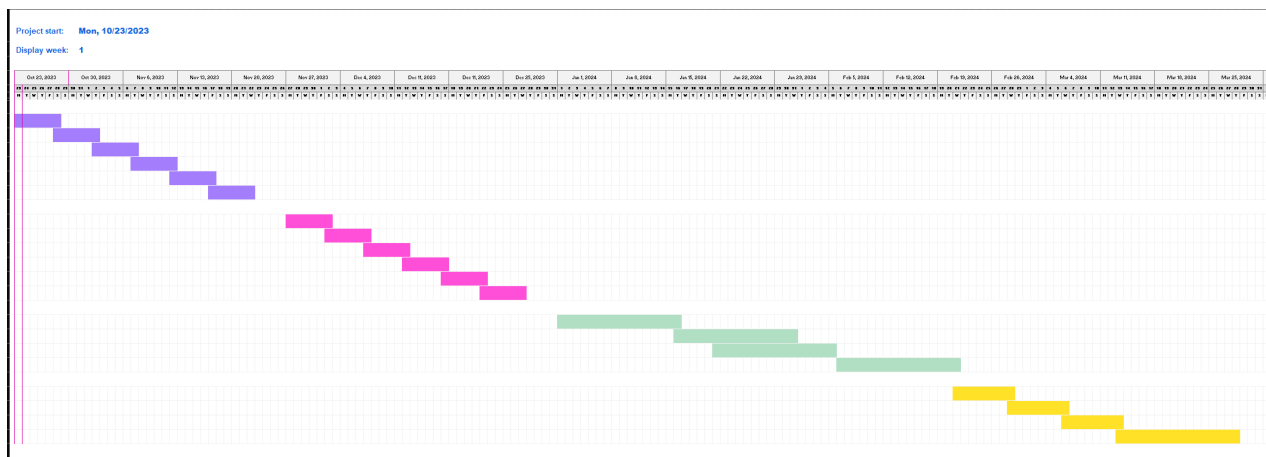
Emergency contacts

In this final page, you will find all the contact information you need in case of an emergency. We have several buttons for different purposes. In the Health Care Emergency button, you will come across all the necessary information about hospitals and ambulance services. And in case of a road trip accident, we have included a road trip assistance button for you to access nearby police stations and expressway road assistance contact, etc... We will also include another button for fire

emergencies in case of a fire. This will include the fire department's contact info so that necessary actions can be taken.

Timesheet and Gant Chart

TASK	ASSIGNED TO	START	END
Planning and design			
Define project scope	Selith Nethmin	10/23/23	10/28/23
Define objectives	Chalitha Pillapitiya	10/28/23	11/2/23
User requirements	Sanudi Yapa	11/2/23	11/7/23
Develop budget	Chalitha Pillapitiya	11/7/23	11/12/23
Creating Timesheet	Sandali Bhagya	11/12/23	11/17/23
Create a project plan	Dewmal Vinjitha	11/17/23	11/22/23
System designing			
ER Designing	Dewmal Vinjitha	11/27/23	12/2/23
DFD designing	Sanudi Yapa	12/2/23	12/7/23
UML Designing	Sandali Bhagya	12/7/23	12/12/23
Flow charting	Nadheem Hassim	12/12/23	12/17/23
UI designing	Selith Nethmin	12/17/23	12/22/23
Database Schema	Chalitha Pillapitiya	12/22/23	12/27/23
Development			
Front-end Development	Nadheem Hassim	1/1/24	1/16/24
Back-end Development	Selith Nethmin	1/16/24	1/31/24
Database development	Sandali Bhagya	1/21/24	2/5/24
Collection of all system	Dewmal Vinjitha	2/6/24	2/21/24
Testing			
Unit testing	Nadheem Hassim	2/21/24	2/28/24
Integration Testing	Selith Nethmin	2/28/24	3/6/24
System Testing	Sandali Bhagya	3/6/24	3/13/24
User acceptance Testin	Dewmal Vinjitha	3/13/24	3/28/24



Basic Board

Board

Table

Dashboard

Timeline

Map

Filters

NH

Share

Project Planning

DEFINE PROJECT SCOPE

Oct 16 - Oct 23

DEFINE OBJECTIVES

Oct 17 - Oct 18

USER REQUIREMENTS

Oct 18 - Oct 19

CREATING BUDGET

Oct 19 - Oct 20

CREATE TIMESHEET

Oct 20 - Oct 20

CREATE PROJECT PROPOSAL

Oct 20 - Oct 20

+ Add a card

Project Designing

ER DESIGNING

Oct 30 - Nov 3

DFD DESIGNING

Nov 3 - Nov 7

UML DESIGNING

Nov 7 - Nov 11

FLOW CHARTING

Nov 11 - Nov 15

UI DESIGNING

Nov 15 - Nov 19

DATABASE SCHEMA

Nov 19 - Nov 23

+ Add a card

Project Development

FRONT-END DEVELOPMENT

Nov 28 - Dec 8

BACK-END DEVELOPMENT

Dec 8 - Dec 18

DATABASE DEVELOPMENT

Dec 13 - Dec 23

COLLECTION OF ALL SYSTEM COMPONENTS

Dec 24 - Jan 3, 2024

+ Add a card

Testing & Debugging

UNIT TESTING

Jan 3, 2024 - Jan 10, 2024

INTEGRATION TESTING

Jan 10, 2024 - Jan 17, 2024

SYSTEM TESTING

Jan 17, 2024 - Jan 24, 2024

USER ACCEPTANCE TESTING

Jan 24, 2024 - Feb 8, 2024

+ Add a card

User requirements

- Customized travel plan: User should be able to enter dates, their budget, and specific areas they plan to travel to and get a personalized travel plan including food and accommodation suited to their budget. And this plan could be edited during the trip.
- Traveling method selection: Users should be able to choose their chosen form of transportation from the airport to their destination (such as a taxi, bus, train, or rental car). Also, should be able to explore modes of transportation, considering factors such as cost and time.
- Navigation and direction: Users ought to be able to enter their destination and receive real-time navigational assistance, with points of interest highlighted along the route.
- Events and festival information: Users should have easy access to the most recent details on regional celebrations and events so they can plan their schedules accordingly. And should be updated during the trip.
- Weather recommendation: The app ought to offer weather forecasts for selected locations, assisting travelers in making wise travel-related decisions.
- Real-time updates: Real-time updates on travel-related information, such as airline delays, traffic conditions, weather conditions and event modifications, should be provided to users.
- Emergency support: Emergency contact information, such as phone numbers for the police, ambulance, fire department, and neighboring pharmacies and hospitals, should be easily accessible to users.
- Other different services: The app should list nearby information on important services including petrol stations, grocery stores, ATMs, clubs, bars, pubs, sporting goods stores, and restaurants.
- Reaction Mechanism: Create a feedback system so that users may rate the program, report problems, and offer suggestions, and users should be able to read other users' reviews as well.
- Accessibility: Make the application user-friendly for those with disabilities, incorporating voice controls and screen reader assistance.
- Privacy- Users expect their data and information to be secured.

Non-Functional requirements

- Offline capability: The app should be able to provide basic functionalities even when consumers are offline or in places with poor access.
- User-friendly interface: To make interaction easy for users AI companion should have an intuitive interface.
- Personalization: AI should be able to adapt to users' habits, and preferences such as the medical conditions of each user and their financial state.
- Language support: To make communication easier for travelers from all over the world, the app should support different languages, including English.
- Integrated calendar: To highlight forthcoming events and allow users to schedule trips around them, the app should interact with their calendar.
- Privacy and security: Users' data and information should be secured to ensure privacy and agree with data protection regulations.

Functional requirements

- Customized travel plan
- Traveling method selection
- Navigation and direction
- Events and festival information
- Real-time updates
- Other different services
- Accessibility

Business requirements

- Market research and analysis: Research to analyze target customers and their travelling needs.
- Revenue generation plan: Create a plan that includes things such as subscription fees, hotel and transportation service commissions, and in-app advertising.
- Data Collaborations: To gain access to real-time data, establish data agreements with nearby companies like hotels, transportation services, and event planners.
- Language and cultural support
- Weather recommendations
- Events and festival information
- Real time updates
- Emergency assistance
- Marketing and promotion: Create a marketing strategy to promote the system.
- Privacy and data security

- User feedback and improvement: Implementing a system to users report issues and suggest improvements.

Table of Contributions

Student Name	Plymouth ID	Contribution
DN HASSIM	10898477	Timesheet & Gant Chart, Application Description and Features
GS BHAGYA	10898430	Timesheet & Gant Chart, Application Description and Features
SN WIMALASURIYA	10898712	Project Scope
SP YAPA	10898716	User Requirements
HDV SURaweera	10898670	Project Description, Target Users
CR PILAPITIYA	10898612	Project Objectives, Target Users