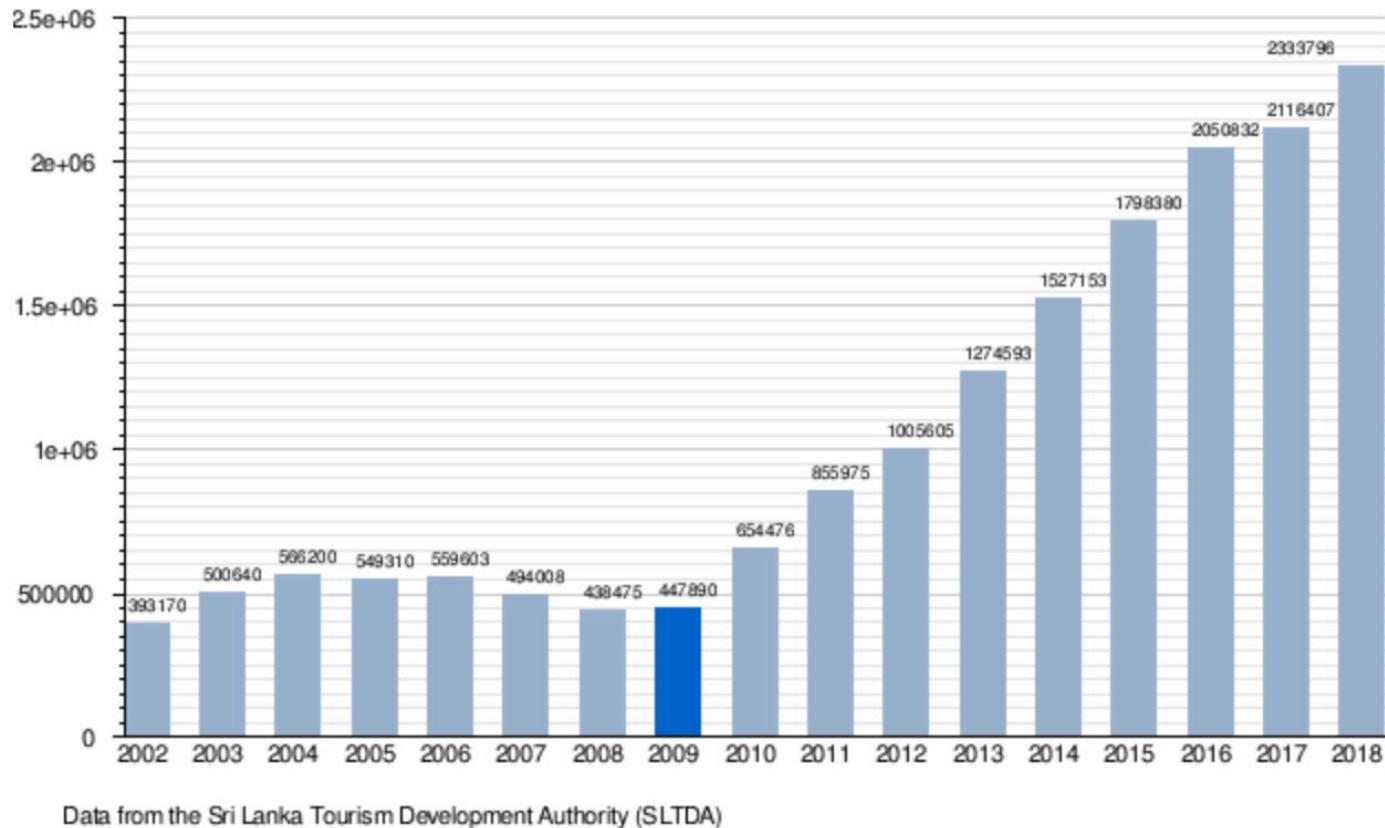


Trip Assistant

What is trip assistant?

Reasons to choose this topic.....



| Rank | Country | 2016 | 2017 | 2018 |
|------|------------------------|-----------|-----------|-----------|
| 1 | India | 356,729 | 384,628 | 424,887 |
| 2 | China ^[10] | 271,577 | 268,952 | 265,965 |
| 3 | United Kingdom | 188,159 | 201,879 | 254,176 |
| 4 | Germany | 133,275 | 130,227 | 156,888 |
| 5 | France | 96,440 | 97,282 | 106,449 |
| 6 | Australia | 74,496 | 81,281 | 110,928 |
| 7 | United States | 54,254 | 57,479 | 75,308 |
| 8 | Maldives | 95,167 | 79,371 | 76,108 |
| 9 | Netherlands | 41,373 | 51,148 | 57,160 |
| 10 | Russia | 58,176 | 59,191 | 65,497 |
| | Total Foreign Arrivals | 2,050,832 | 2,116,407 | 2,333,796 |

Comparison with Tour buddy

- Automated transaction facility is not available in tour buddy.
- Automated image analysis is not available
- Search perdition facility is not available
- Blind assistance is not there
- Image sharing is not available

Comparison with Tour pal

- Tourpal provides only booking and navigation facilities

Comparison with Tripomatic

- Tripomatic provides booking, navigation and budget calculation facilities.

Summary of literature survey

| Functions | Our Application – Trip Assistant | Tour Buddy (SLIIT – Research Application) | TourPal | TripAdvisor | Tripomatic | Minube |
|---|---|--|----------------|--------------------|-------------------|---------------|
| Booking Facilities | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Location & Navigation | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Weather Service | ✓ | ✓ | | | | |
| Automated transaction management | ✓ | | | | | |
| Time management | ✓ | | | | | |
| Calculating Budgets | ✓ | ✓ | | | ✓ | |
| Automated tour plan | ✓ | ✓ | | | | |
| Automated Image Analysis | ✓ | | | | | |
| Demand prediction | ✓ | | | | | |
| Photo capturing and sharing. | ✓ | | | | | |
| Virtual trip assistant | ✓ | | | | | |

Research Gap

Previous researches focused only on the following functions;

- Calculating tour budget
- Planning trips dynamically
- Finding shortest paths



Research Gap – Cont....

Our “Modern Trip Assistance System” mainly focuses on;

- Automated transaction management
- Time management
- Automated image analysis
- Demand prediction
- Photo capturing and sharing
- Virtual guide



Research Problem

Nowadays tourism has become one of the major sources of Sri Lanka.

Current Problems

- Tourist struggles to find the tourist places and tour guides.
- Tourists face difficulty in finding hotels with vacant rooms
- No details available about the tourist nearby places/location.
- No private image sharing facility.
- No virtual guide facility.

Main objectives

Main objectives of the Travel Assistance System is as follows;

- Facilitating with real time processed information.
- Providing an automated tour plan according to the weather condition.
- Booking facility.
- Providing nearest tourist places.
- Displaying the shortest path according to the traffic condition.

Specific objectives

In order to achieve main goals following sub objectives need to be attained;

- Gather the information of real time weather condition.
- Gather the information of the important places.
- Create a database and store the tourist places description.
- Create an algorithm to provide the shortest path.
- Virtual trip guide facility to provide better service in the absence of tour guides.

System overview

- Both web portal and mobile portal.
- tourist and tourist guides can register themselves to our application using the web application.
- tourist can use web portal to
 - ✓ manage their expenses
 - ✓ track travel history
 - ✓ check tourist places etc.
- Tourist can use mobile portal to
 - ✓ Search tourist place.
 - ✓ Find restaurants, hotels, fuel stations.
 - ✓ Find possible shortest path etc...

Functionalities

1. Demand prediction

- This will predict the number of bookings that will be made to the following month.
- We will collect past booking statistics from hotels and using that data we will predict the bookings using machine learning technology.

2. Virtual guide

- User will be able to observe live feeds of important or special places in particular tourist place as he wanders around while having the application set to scan mode.

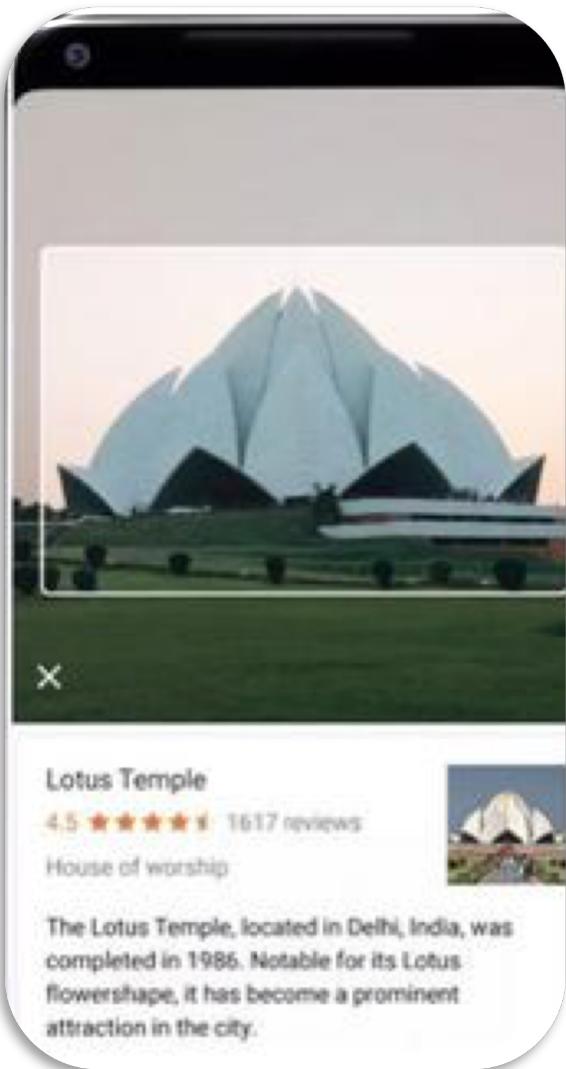
- These feeds will be given as both voice and text descriptions.
- User will be instructed about the maximum spendable time on particular place in order to complete his whole trip within the pre-planned time. Incase the user exceeds the time limit the app will alert and notify the user about it.



3.Image Recognition

- Pictures of monuments, shrines and other historical tourist locations that are taken by the user will be processed and historical details and other special information will be casted to the user both as text and voice outputs.
- Updates of new tourist places on regular time intervals and experiencing an updated environment.





95% 12:11

Attractions

Seattle Space Needle
Travel to the top of the Space Needle's 520 ft. observation deck for unparalleled views of downtown Seattle, Mt. Rainier, and the Puget Sound.
Hours: 10AM - 8PM

Pike Place Market
Pike Place Market is a public market, opened August 17, 1907, and one of the oldest continuously operated public farmers' markets in the United States.
Hours: 9AM - 4PM

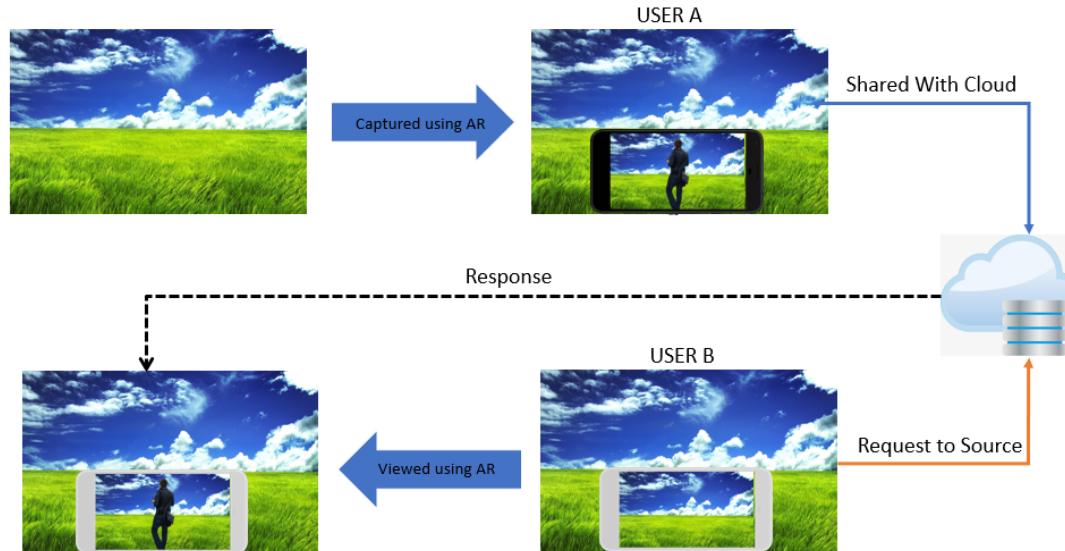
Kerry Park
Kerry Park is a 1.26-acre park on the south slope of Queen Anne Hill in Seattle, Washington, located at the corner of Second Avenue West and West Highland Drive.
Hours: 4AM - 11PM

Mt. Rainier National Park
Mount Rainier is the highest mountain of the Cascade Range of the Pacific Northwest, and the highest mountain in the U.S. state of Washington.
Hours: 10AM - 5PM

The Museum of Flight
The Museum of Flight is a private non-profit air and space museum in the northwest United States. It is located just south of Seattle.

4.Capture and share images

- Users can capture the images and share them using AR technology.
- Images stored according to the coordinates.
- When the user share their images others can view that picture based on their sharing.
- Other user, and that particular user can view the reality of that image..



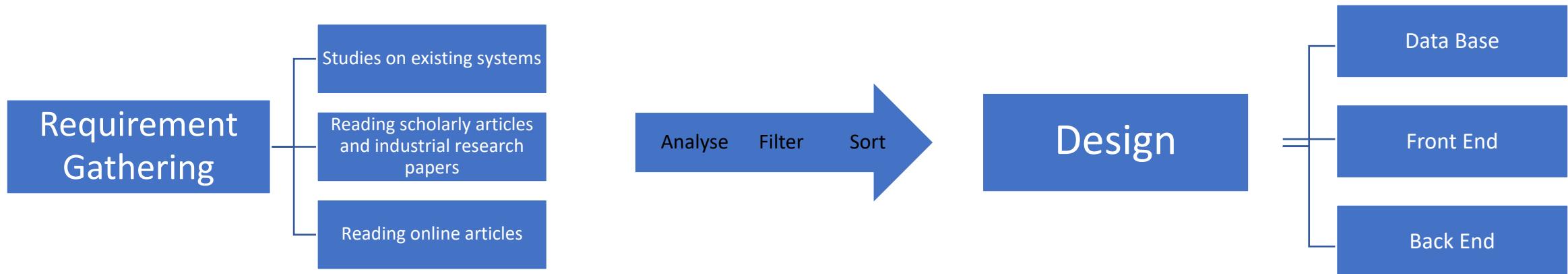
Requirement gathering and Design

Requirement Gathering

- Studying about the research area well before doing any further acts is more important.

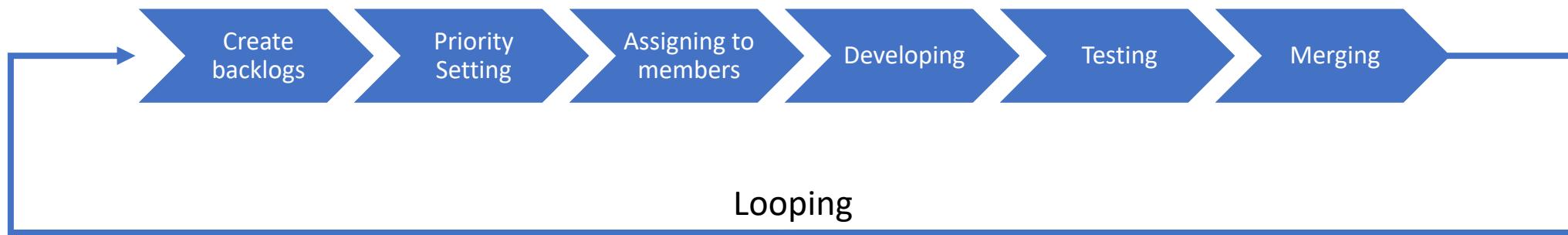
Designing

- By preparing a system design hardware specifications and system requirements can be specified.
- It will also help in defining the overall architecture of the system



Implementation and Testing

- The overall project will be done using the traditional waterfall method.
- the implementation part will be driven as agile project.
- the core framework and that should be developed necessarily in layer by layer way.



Ability of commercialization

- Pre-suggestion of transport methods and accommodation can be given to users when they give their budget allocated to trip.
- Suggest cheapest or luxurious way to enjoy trip when they selected tourist places.
- In the voice activated navigation system for blinds, more safety instruction will be given.
- Improvement of machine learning for identifying historical ruins.
- Public transport features can be added to the application

- System will show the routes to reach the destination by different transport modes.
- The system can be linked to third party taxi booking application.
- The type of trip will be categorized and giving special event that comes under the category.
- Movies and any other special entertainment can be informed to the user, which he can get booking details in the app itself and book and schedule vehicle for those events itself.

Tools and Technologies

Tools

- Android
- Firebase
- Unity
- IDEs(Visual studio code, Android studio)

Technology

- Angular
- NodeJs
- MongoDB
- My SQL
- Java
- Google APIs

Any Questions?