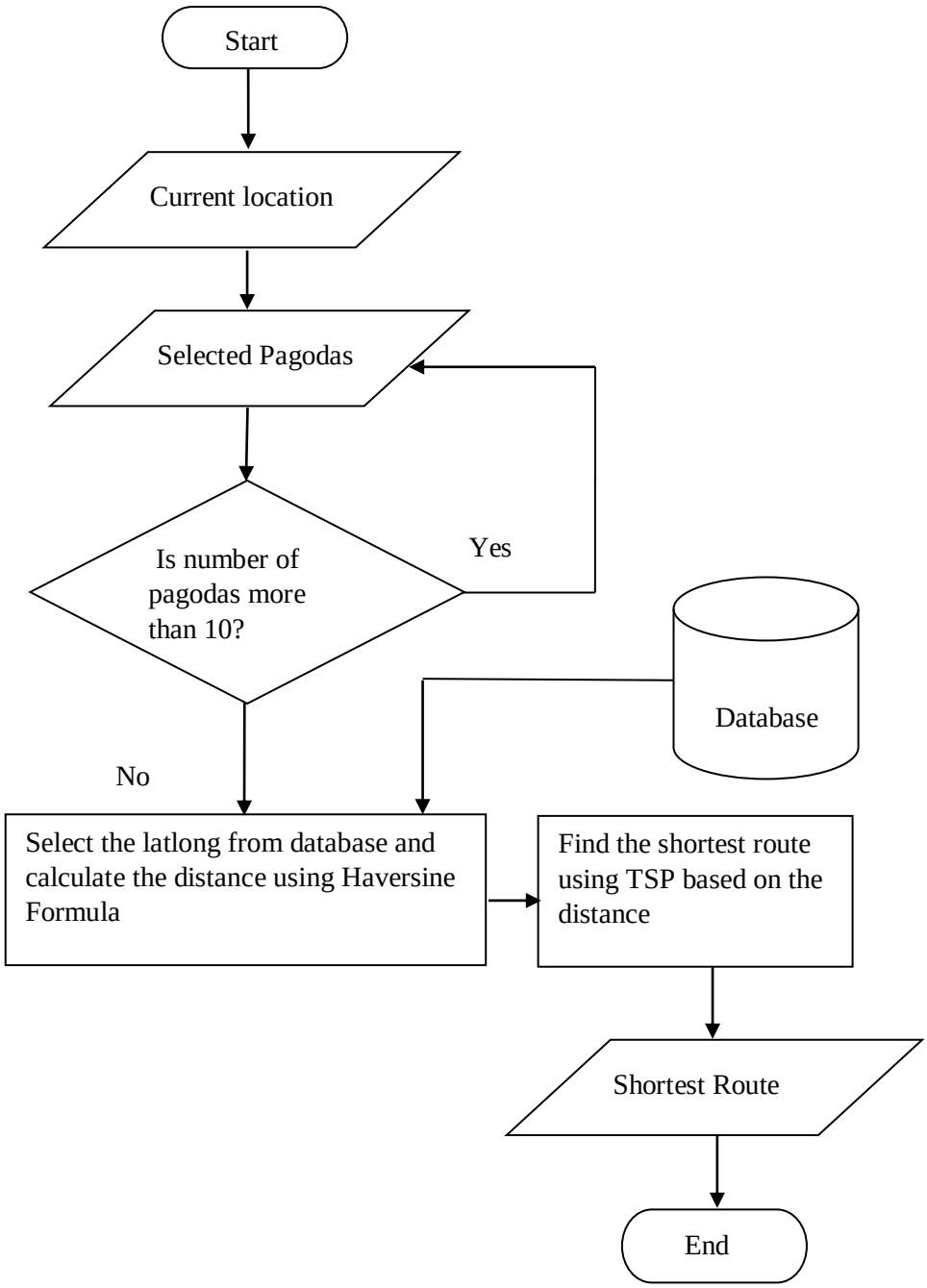


Figure 3.2 System Flow For Finding Shortest Route to Pagodas

This is system design to calculate the shortest route. The user inputs pagodas and then the system receives these latitudes and longitudes from the database. The system starts to calculate distance and finds the shortest path. After calculation of Travelling Salesman Problem, the system will display result of shortest path.

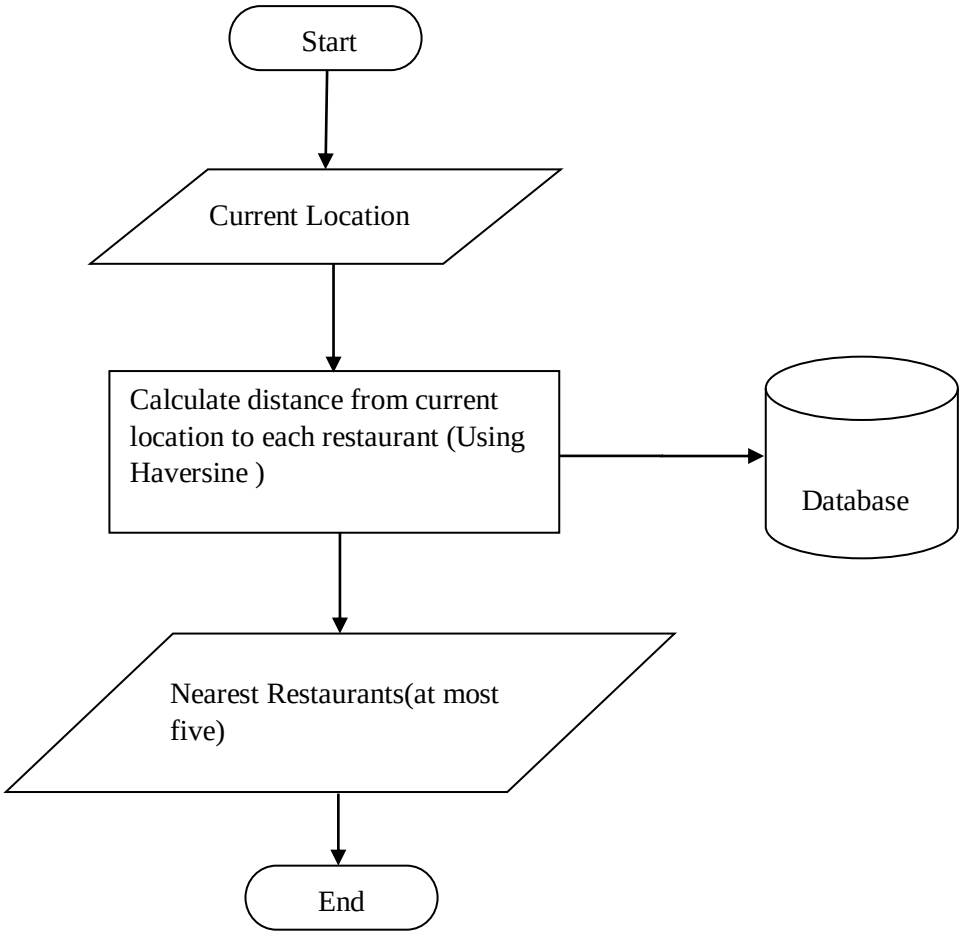


Figure 3.3 System Flow For Finding Nearest Restaurants

This is system design to find the nearest restaurants. The user finds the nearest restaurants and then the system finds the restaurants from the database based on the current location. The system will display at the most five nearest restaurants.

3.2 System Implementation

Figure 3.4 is the main page of the system. The system is Planning Route in Bagan Using Travelling Salesman Problem. The user must open the GPS and Internet to start the system.

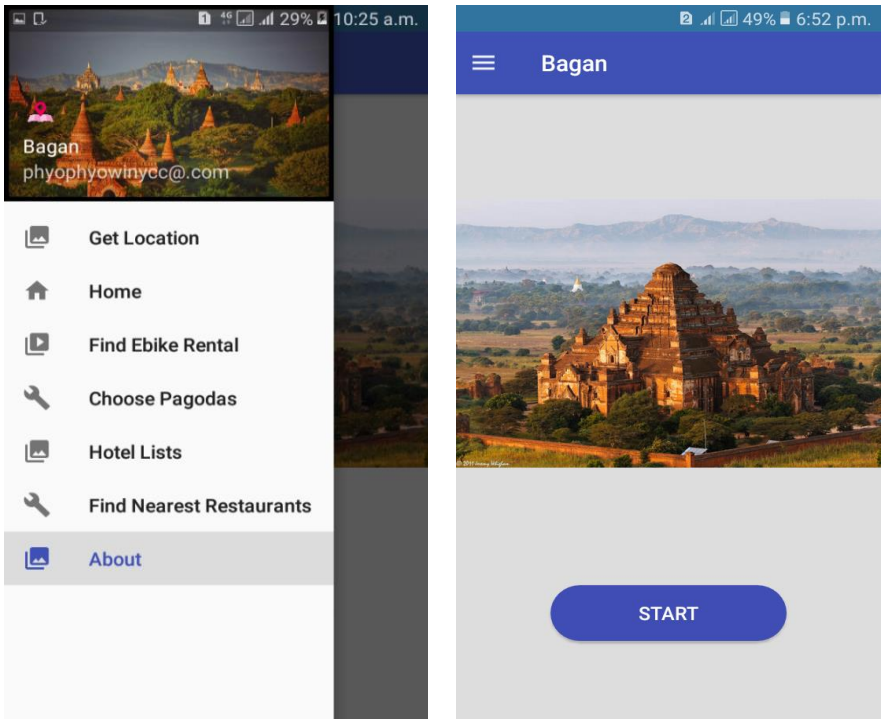


Figure 3.4 Main Page of the System

Figure 3.5 Getting Current Location

Figure 3.5 is getting the current location. If the user does not open the GPS

and Internet, please open the GPS and Internet. The alert message is appeared to open them.

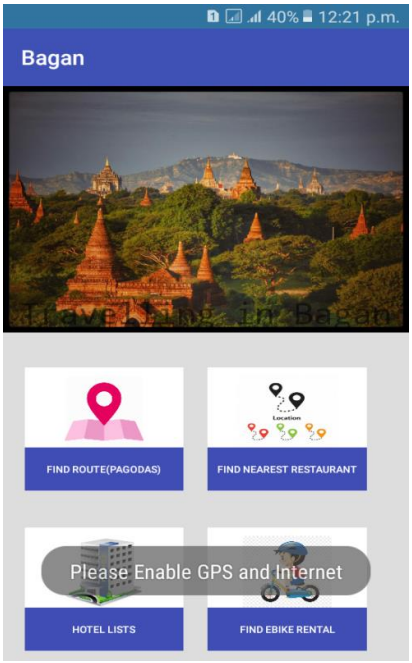


Figure 3.6 Alert to open GPS and Internet

In figure 3.7, alert message is appeared, the user can find the pagodas route or nearest restaurants. Moreover, the user can view the hotel and can find the e-bike lists.

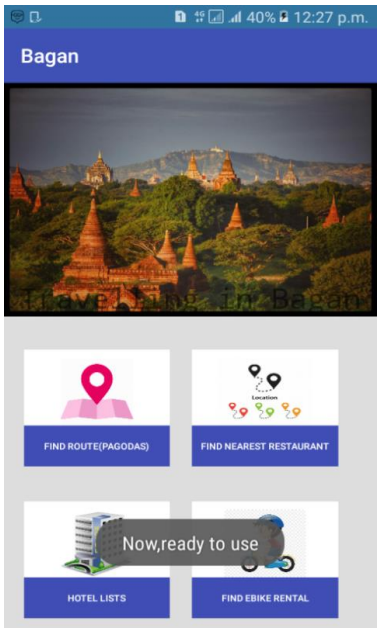


Figure 3.7 Menu of the system

In the Figure 3.8, the user can choose the pagodas by clicking the check boxes and can find the shortest route by clicking the ‘Find Route’ button.

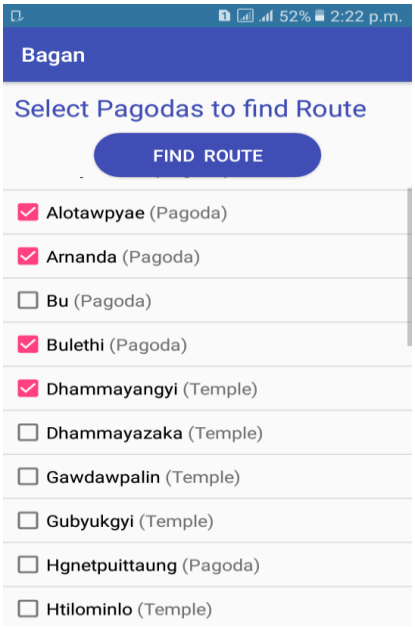


Figure 3.8 Choosing Pagodas of the System

Figure 3.9 is an alert box if the user doesn’t choose pagodas.

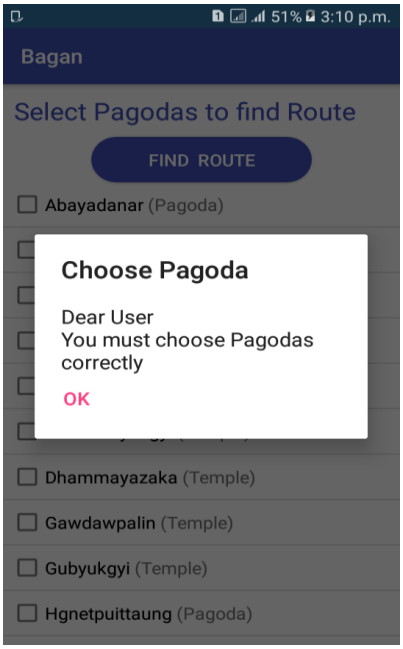


Figure 3.9 Alert to choose at least one pagoda

Figure 3.10 is an alert box if the user chooses the pagodas (more than ten pagodas).So, the user must choose the pagodas (at most ten pagodas)

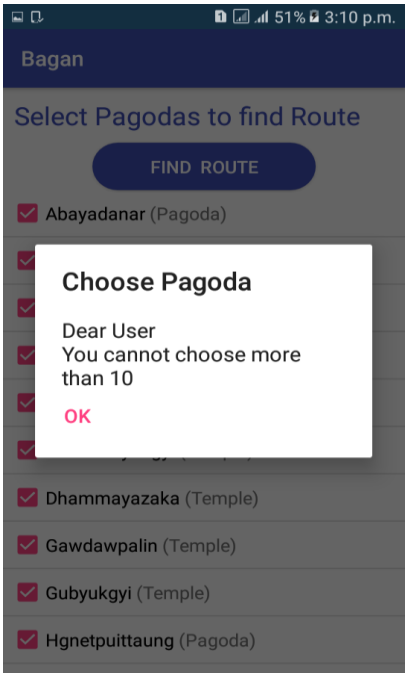


Figure 3.10 Alert to choose no more than 10 pagodas

After clicking the 'Find Route' button, the system displays the route sequentially using the Travelling Salesman Problem.

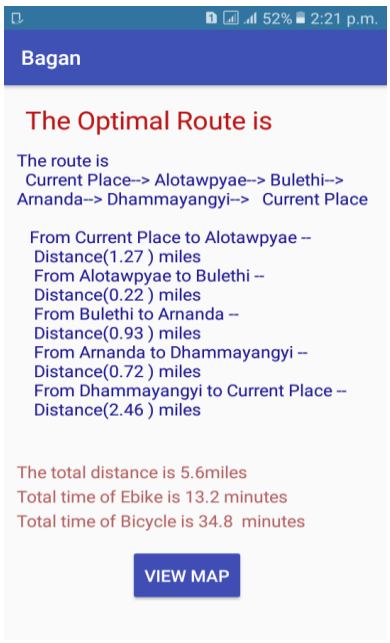


Figure 3.11 Shortest route of the selected pagodas

After viewing the paths and the user clicked the button " VIEW MAP",figure 3.12 is appeared.

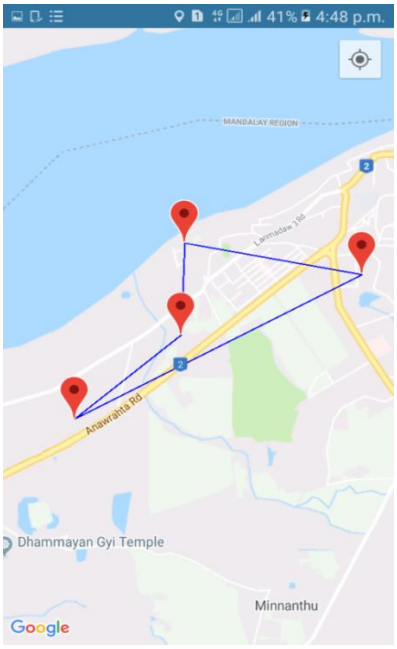
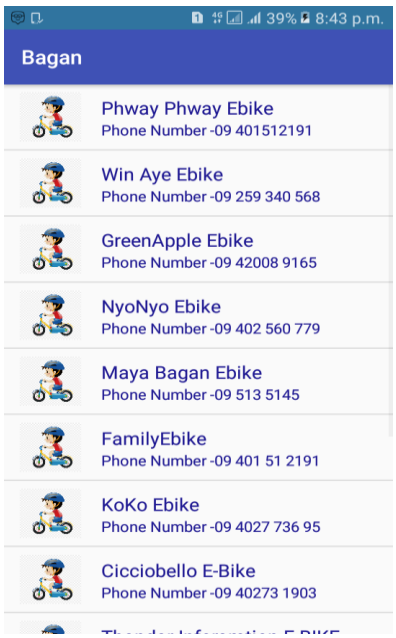


Figure 3.12 Display shortest route on google map

If the user clicks the button "E-bike Rental Lists". Then it will show the rental lists in Bagan.



3.13 E-bike Rental Lists of the System

If the user clicked the button “Hotel Lists”, figure 3.14 will be appear and the user can select the hotel to view on Google Map. After selecting the ‘Hotel Name’, the system displays the selected hotel name on Google Map.

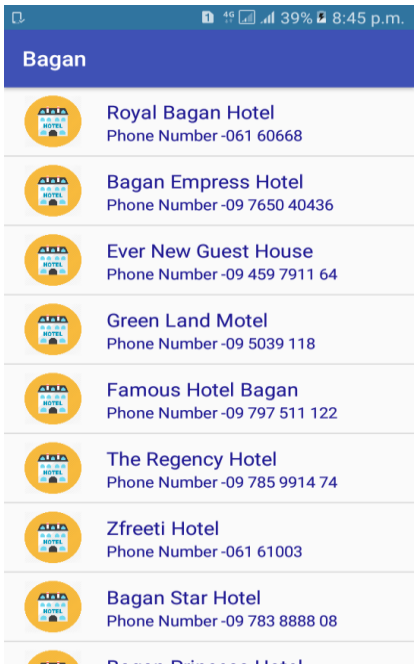


Figure 3.14 Hotel lists of the System

Figure 3.15 Display the selected Hotel on Google Map

After clicking the ‘Find Nearest Restaurant’ button, the system displays the five nearest restaurants.

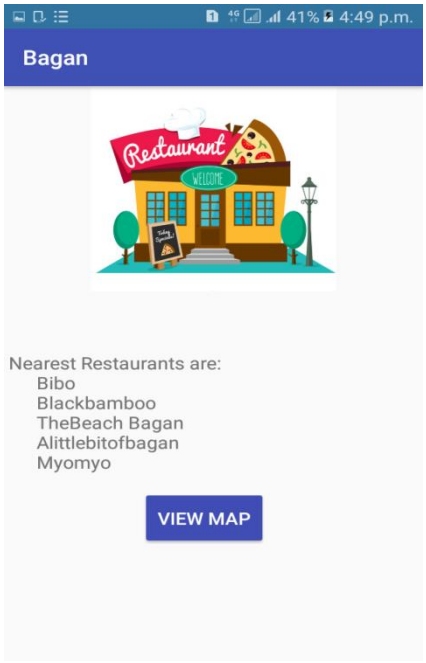


Figure 3.16 Nearest Restaurants of the System

The user can view the nearest restaurants on a Google map by clicking the ‘VIEW MAP’ button.

Figure 3.17 Display nearest restaurants on Google map

Figure 3.18 is guidelines for user who doesn't know how to use the system. This page will explain the user. It is easy to understand how to use the system by reading the instructions.

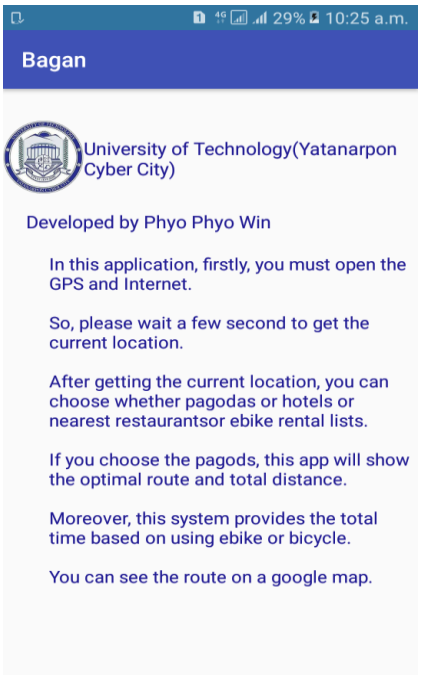


Figure 3.18 Guide of the system

3.3 Database Schema

Table 3.1 'Pagodas' table

id	pagodaName	latitude	longitude	name	selected

The Pagodas table stores latitudes and longitudes of pagodas , names of pagodas in Bagan . The 'selected' attribute is used to decide which pagodas are checked.

Table 3.2 'Restaurants' table

id	restaurantName	Latitude	longitude

The Restaurants table stores restaurants in Bagan and latitudes and longitudes of restaurants.

Table 3.3 'Hotel' table

id	hotelName	phone	latitude	longitude

The Hotel table stores the hotel names that are famous in Bagan. The hotels' phone numbers and latitudes and longitudes are also stored.

Table 3.4 'E-bike' table

id	shopName	Address

The E-bike table stores the e-bike rentals and their addresses in Bagan.