

Nearest Neighbor Public Services Search System for Myanmar Land

Su Nandar Aung



University of Computer Studies Yangon, Myanmar

Myanmar and GIS



- ❖ Many foreigners are interesting in Myanmar.
- ❖ Foreigners cannot know all the places except famous places in Myanmar.
- ❖ They will interest and want to know the address and phone number of public services such as restaurant, hotel, shopping center, bank, etc., within minimum time.
- ❖ That requirements concern with geographic information system (GIS) that contains location-based data, searching user location services, finding nearest public services, etc.,

Our Vision



- ❖ The geographic information system (GIS) is essentially required for developing country Myanmar.
- ❖ We intend to establish the GIS project of Myanmar land and develop the useful applications for foreigners who interest in Myanmar to easy get required information very quickly.

Project Parts



- ❖ **Location-based Services Search System**
- ❖ Shortest Paths Finding System
- ❖ Detecting Urban Area Change
- ❖ Modeling 3D for Urban Area

Creating Database



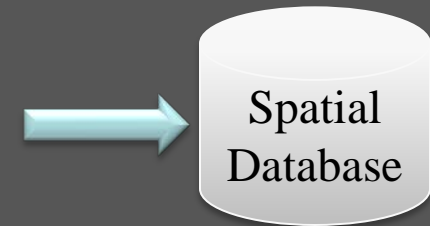
Downtown Area



4x,xxx parts of sub images



0.15 square kilometer



- ❖ Collection Data :
- ❖ latitude, longitude
- ❖ Location of public service(bus, station, Supermarket,....)
- ❖ Famous places and its image.

Location-based Services



- ❖ Location-based services are very useful for users who are strange with new places.
- ❖ Location-based services allow users on the go with access to geographic data from micro-laptops, tablet, PCs, PDA etc.
- ❖ It is a software application for both mobile and web users.
- ❖ User's current location or mobile's GPS location is important in location-based services.

Searching Nearest Public Services



- ❖ This research is the part of ongoing Geographical Information System (GIS) project of University of Computer Studies, Yangon, Myanmar.
- ❖ Now, this system mainly focus on location-based services searching for one or more users' requirements.
- ❖ We create own dataset that contains public services.
- ❖ By using this system, user can find the nearest public services, all nearest places within given range and nearest place between two users for static location.

Objectives

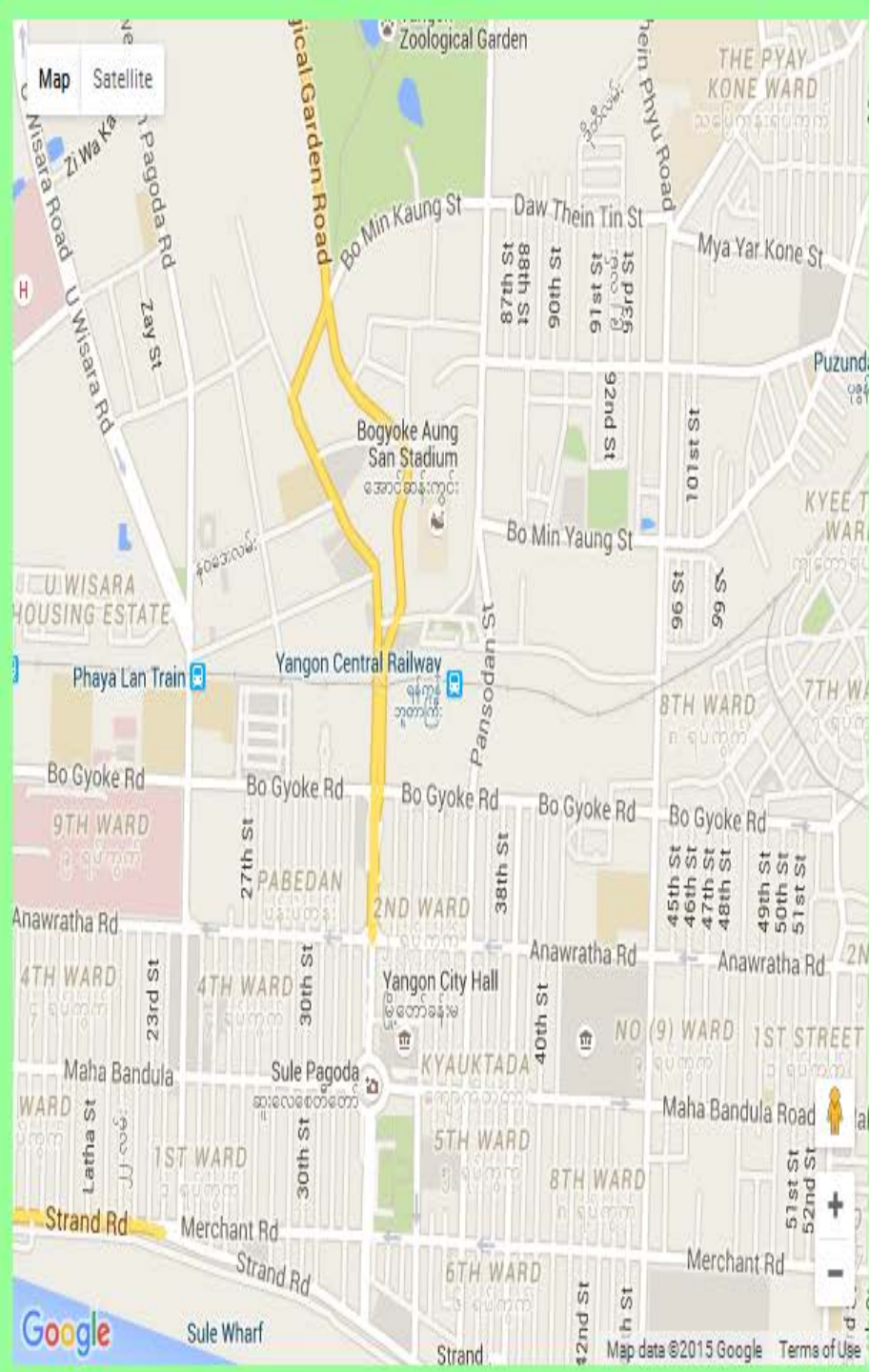


- To find nearest neighbor points of the user's current location (query points) within minimum time (K-NN keyword query).
- To find required object that are most suitable distance for two user within minimum time (ANN keyword query).
- To find all objects within user defined range that contain required keyword (Range keyword query) .
- To correct inconsistencies of user's input keyword.
- To provide exact and useful information for users within a few second.

For Single User



- ❖ For one user service, user need to input their current location, required services name as an input and need to choose services type and ranked type.
- ❖ According to the users' input, this system calculates distance between users' current location and public service and then output the most suitable results.



Introduction

one user

two user

User Current Location

Latitude

Longitude

Address

Keyword:

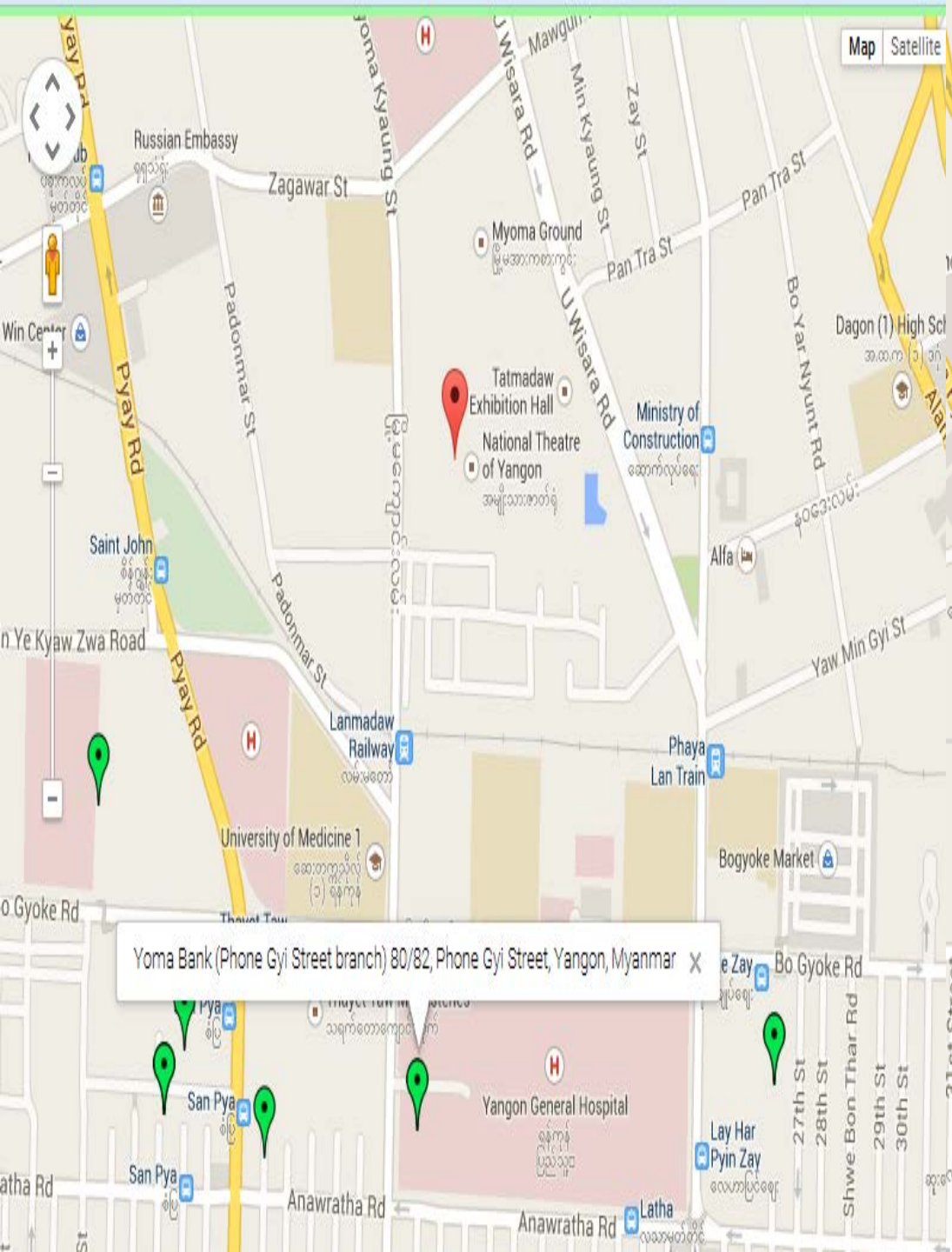
Specified Services

Services Within :

Sort By :

Search

Refresh

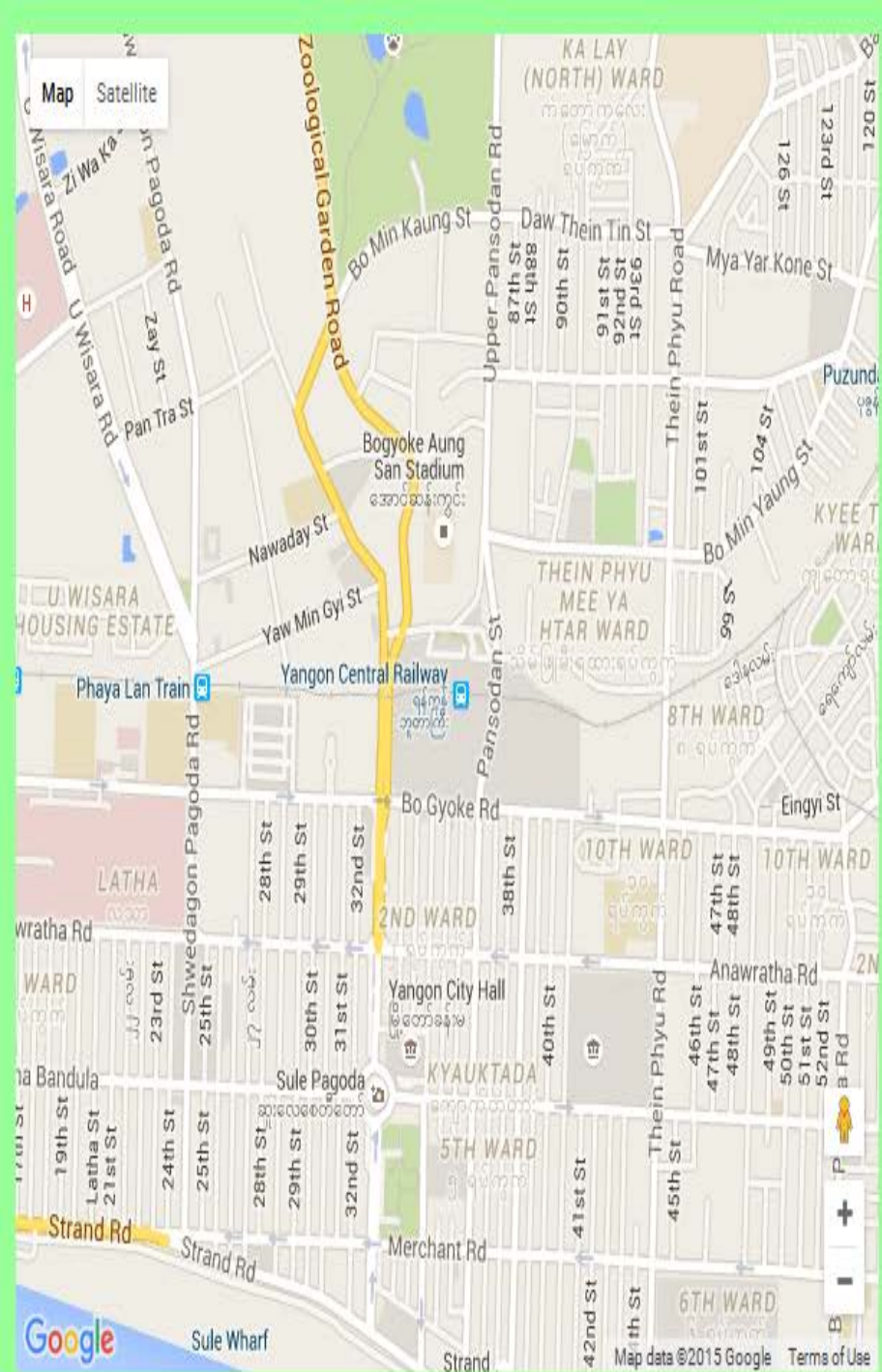


Name	Address	Phone No.	Distance (Km)
Myanmar Oriental Bank (PhoneGyiLan branch)	110, Phone Gyi Lan, Yangon, Myanmar	01-222975	0.67305
Yoma Bank (Phone Gyi Street branch)	80/82, Phone Gyi Street, Yangon, Myanmar	01 211563	0.67305
Myawaddy Bank (LanThit Street branch)	59, Lan Thit Street, Yangon, Myanmar	01-647500	0.76342
Co-Operative Bank (CB Bank) (Lanmadaw branch)	797, Maha Bandoola Road, Yangon, Myanmar	01 212125, 222982-3	0.78371
Yoma Bank (Lan Thit Road branch)	38, Lan Thit Road, Yangon, Myanmar	01 640020	0.78562
Ayeyarwaddy Bank (Lanmataw branch)	778 , Corner of Mahabandoola Street and 14th Street, Yangon, Myanmar	01 218467-471	0.85793

For Two or More Users



- ❖ For two or more users service, users need to input their current location, required services name as an input.
- ❖ According to the users' input, this system calculates distance between users' current location and public service and then output the minimum distance service between two users as a suitable result.



Introduction One User Two Users

Location of First User

Latitude

Longitude

Address

Location of Second User

Latitude :

Longitude :

Address :

Keyword :

Map Satellite

Kandawgyi Lake

Kandawgyi Nature Park

Yangon Zoological Garden

KAN TAW KA LAY (NORTH) WARD

Zoological Garden Road

Bo Min Kaung St

Upper Pansodan Rd

Daw Thein Tin St

Phyu Road

Mya Yar St



123rd St

SUKIYA Japanese Restaurant No.42(B) , Yaw Min Gyi Street , Yangon , Myanmar

Stadium



Nawaday St

Yaw Min Gyi St

Yangon Central Railway

THEIN PHYU MEE YA HTAR WARD

Bo Min Young St

U WISARA HOUSING ESTATE

Phaya Lan Train

Bo Gyoke Rd

99 St

104 St

LATHA



28th St

29th St

32nd St

2ND WARD

38th St

10TH WARD

Eingyi St

Anawratha Rd

23rd St

25th St

28th St

30th St

31st St

Yangon City Hall

40th St

10TH WARD

47th St

48th St

49th St

50th St

51st St

Anawratha Rd

17th St

19th St

Latha St

21st St

24th St

25th St

28th St

29th St

32nd St

KYAUKTADA

5TH WARD

41st St

Thein Phyu Rd

45th St

47th St

48th St

49th St

50th St

51st St

Google

Strand Rd

Merchant Rd

Map data ©2015 Google Terms of Use

Ongoing Works



- ❖ As an ongoing work, we will consider distance of places on real road network when searching nearest services.
- ❖ Moreover, the system will consider for finding nearest services by choosing transportation type in advance such as by bus, by train, by car or on foot, etc., and for continuous moving objects to get best answer while travelling.
- ❖ Also, we will continuous to adapt this system that can search with many language for Asian nations.

Ongoing Works



- ❖ This system can combine with transit route finding system to solve the address finding problem and avoid the closed road for fire emergency situation and to find the shortest route among the locations of fire stations and incident location

Conclusion



- ❖ This system intend to search required services within minimum times.
- ❖ This system also intend for foreigners who want to search services and places depending on their location and requirements and for becoming more and more useful for tourisms services of Myanmar.

Thank You

