RESEARCH ARTICLE   OPEN ACCESS

Store Hub an Android App

Assist. Prof. Ansar Ahemad, Shakir Khan, Ajay Machhi, Ajay Baria, Akash Sabat
Department of Information Technology
Theem College of Engineering, Mumbai University
Mumbai-India.

ABSTRACT

We are emphasizing on developing this project to explain the importance of Location Based system which will save our time during various tasks like finding particular address of some shops, Getting and knowing some good offers on the different products. Our project is based on the mobile operating system Android, location-based service (LBS) technology and Java technology. Location based service (LBS) is emerging as a killer application in mobile data services thanks to the increasing development in wireless communication and location positioning technologies. By using this Android application customer will search different Shops, Stores, Groceries, ATM's, and Hospitals etc in his local area up to 5/6 km and then GPS system will work to displaying all the Shops related to their product offers to that particular area with map. Based on the product offer list user can select the Shops using application provided map.

Keyword`s: — GPS, Location based services, Offers, android, latitude, longitude.

I. INTRODUCTION

In today's age technological advancement is taking place very rapidly. One of the example of it is mobile with multitasking. Today mobile is used synonymously with computer. Since the last few year the hardware and software capabilities have been improved drastically. Nowadays, we are relying on our phones not only to keep in touch with friends, family, and co-workers, but also to tell where to go, what to do, and how to do it. Even the most domestic of events seem to revolve around our mobile phones. This indicates today human being using mobile phones for every thing according to their requirement. So keeping this in mind we develop an Location Based Android Application. On-line shopping is mostly preferred by almost all over the world. But previous shopping applications are time consuming. So, to overcome this problem we are developing an Location Based Android Application which is capable of locating shops in a more smarter way than the previous application used for shopping. Using our applications customers can locate the nearby shops in a very less time than the previous application. For this the owner has to register his or her shop for online shopping. After registration owner gets login ID and password. By login into the application he or she can put their product details with their images. He or she can also change, update and modify their product time to time. Also by login in he or she can give his or her offers related to the product.

II. LITERATURE SURVEY

The survey had been carried out to find out best algorithm strategy available .We had referred some research journals, existing systems and analyze the results of same, also take the experts opinion. Literature review is focused on questions of research, trying to identify, appraise, select any synthesize all high quality argument relevant and research evidence to that question. [1]

According to the work of author in Smart Shopping Location Based An Android Application, Lokhande Priyanka V,   Abhale Priyanka M, Kumkar Monali M and Mundhe Sandhya B had given a brief details on Location Based Android Application in which they have described important aspects related to the online shopping.

Ahmad Jaradat, Noor Azian Mohamad, Ahmad Asadullah, Seyed Ebrahim propose Issue in Location based marketing review of Literature Jan 2015 which describe Marketers and customers issues like, Security Personalization and matching Customer acceptances, consumers Preferences of LBM and How marketers make sure that customers sees the AD. [2]

We had studied many other research paper to get knowledge of latest technology and implementation designs that would be helpful for developing our project.

A. Data Models

Our Application Database is designed using SQL Server 2010. Microsoft SQL Server is relational database management system developed by Microsoft. As a database server, it is a software product with the primary function of retrieving and storing data as requested by other software applications which may run across a network either on the same computer or on another computer. Because of above reasons we are using SQL server 2010 for database connectivity.

• *User-Info Table*: The User-Info Table consist   of users data such as User name, Password, User id, User Email id, Phone number, User address, Latitude and Longitude. Where User id, User Email id, should be unique, so that while retrieving data will not so tricky and invalid. In this table User id should not null, it should take same value there.

UserInfo		
Columns	DataTypes	Values
UserId	Int	NOT NULL
Username	Varchar	NULL
Address	Varchar	NULL
PhoneNo	Varchar	NULL
EmailId	Varchar	NULL
Password	Varchar	NULL
Latitude	Varchar	NULL
Longitude	Varchar	NULL

- *Shop Master Table*: The Shop Master Table consists of relevant details of Shop master such as Shop name, Shop id, Shop address, Contact number, Email id, Password, Latitude and Longitude. In this table Shop Id should be unique, so user can retrieve data from proper nearby shop according toShopId.

Shop_Master		
Columns	DataTypes	Values
Shop_Id	Int	NOT NULL
Shop_Name	Varchar	NULL
Address	Varchar	NULL
Contact_No	Varchar	NULL
Email_Id	Varchar	NULL
Password	Varchar	NULL
Latitude	Varchar	NULL
Longitude	Varchar	NULL

- *Offer Master Table*: The Offer Master Table consists of data related to offers such as Offer id, Shop id, Offer name, Description and Image path. It consists of data about offers provided by shopkeeper. Here we have to use Shop Id as foreign key to retrieve data from proper shop's offer. It will just set the offers for that shop.

Offer_Master		
Columns	DataTypes	Values
Offer_Id	Int	NOT NULL
Shop_Id	Varchar	NULL
Offer_Name	Varchar	NULL
Description	Varchar	NULL
Image_Path	Varchar	NULL

- *Friend List Table*: The Friend List Table consists of details such as Friends id, User id and Status. It will take User Id as foreign key for taking data from User-Info Table.

FriendListTable		
Columns	DataTypes	Values
FR_Id	Int	NOT NULL
UserId	Int	NULL
FriendId	Int	NULL
Status	Int	NULL

B. OTHER COMPUTER SOFTWARES

OPERATING SYSTEM:
- Windows XP, 7 & 8.
- Mac OS X Snow Leopard10.6, Mac OS X Lion10.7 or Mac OS X Mountain Lion10.8.
  Linux Ubuntu 12.04.

VIRTUAL ENVIRONMENT:
- VMware Player to run the Android Simulator on Windows
- VMware Fusion to run the Android Simulator on Mac OS

C. MERITS AND DEMERITS

MERITS
Installation
The big advantage of this application is that it would be easy to install.

Runs in the background

Android gives a unique ability for applications to launch itself and then run in the background. This application would be runs in background keeping a watch on SIM change without affecting the devices performance.

The options are virtually limitless

• Product range – When you're selling offline, having a big product range means having a big shop. An online store lets you increasing the lines you sell while economizing on space, warehousing takes less room than an attractive display.

• Location – A store depends on its location unlike selling online website. To bring in customer volume you need to be in a better retail area, where property prices are high. That pushes up your profit margin. An online seller focuses on cheaper premises with good access to connectivity, workforce and shipping.

• Availability –

- With the use of application, customers take advantage of search engines so that they find the products they want in the fastest way possible.
- Nearby Shops can be tracked by using Google Maps API.
- Nearest hospitals or medical centers can be tracked.
- Nearest ATMs or temple can be tracked.

DE-MERITS

Mandatorily requires Internet Connection
Store Hub requires internet connection to perform its main job i.e. to search offers. If there are no internet connection because of network issues or the internet connection is turned off, then we won't be able to search offers.[7]

Mandatorily requires GPS
Store Hub requires GPS to perform its main job i.e. to search offers. If your mobile doesn't have GPS then you won't be able to search offers available for shops.

There's a danger of being scammed
As online shopping becomes commonplace, the number of internet scams is also increasing. This is why a buyer always buys from trusted websites only—trusted websites will take care of frauds in order to maintain their reputations.

D. APPLICATION

- As per the work of Sanjana Mishra, HarshitGarg, Anuja Lad, Prof. Keerti D Kharatmol "Android Application Based on Image Transfer to Track Smartphones (AABITTSp) Ameliorate Mobile Tracker" in International Journal of Advanced Research in Computer Science and Software Engineering.[7]

- This application works in open space areas only when it relies on GPS. The main objective is to track the location according to radius maintained by administrator. The application has been integrated with the GPS network providers and Google maps to obtain the latitude and longitude values.

- After the observation and study of research paper we got the conclusion that our Application has 2 main participant that are owner and user.

Users Participation :

- This application can be used in Business purposes, Commercial purposes to find the nearby shops, ATM etc and for social purposes such as to find the religious places, Hospitals, Railway station.
- To find the nearby places user should used android application and search for the places he wants to find.
- User can also know the offers provided by the shop owner just by clicking get offers.

Owners Participation :

- Using our applications customers can locate the nearby shops in a very less time than the previous application.
- For this the owner has to register his or her shop for online shopping. After registration owner gets login ID and password.
- By login into the application he or she can put their product details with their images.
- He or she can also change, update and modify their product time to time. Also by login in he or she can give his or her offers related to the product.

III.   PROPOSED SYSTEM

When user interact with our system and when they fill their details, our system stores this details in the Database provided in the system. When the customers search for the product all the nearby available offers is visible to that customer. After searching of the product the web service will get called which will create a connection with the database of the shop. Here the web service is a method that form a medium of two electronic devices there they can communicate over the network. As the connection is established, the user is now connected with the database and information related to that product is provided to him. In this whole procedure the overall time of searching of individual items will get saved and thus reducing the time of the shopping.

The basic things required for this application are:

- User has installed the app.
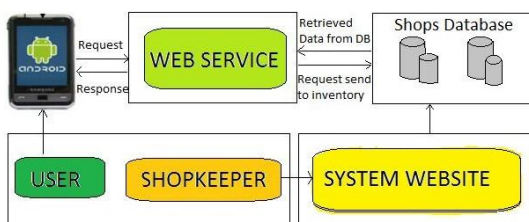- Shop has WiFi facility Internet connection.

Fig 1: System architecture

A. ANDROID SMART PHONE

Android is an open source platform developed by Google. The user uses the android device to find nearby Hospital, ATM, Religious places etc.

B. DATABASE

Our Application Database is designed using SQL Server 2008. It provides interface with any database can be easily designed. The Application Database consists of:

- *User-Info Table*: The User-Info Table consist of users data such as User name, Password, User id, User Email id, Phone number, User address, Latitude and Longitude.

- *Shop Master Table*: The User-Info Table consist of users data such as User name, Password, User id, User Email id, Phone number, User address, Latitude and Longitude.
- *Offer Master Table*: The Offer Master Table consists of data related to offers such as Offer id, Shop id, Offer name, Description and Image path.
- *Friend List Table*: The Friend List Table consists of details such as Friends id, User id and Status. [4]

C. WEB SERVER

A web server is a platform from where one device can connect to another which should be active and communicate properly. Hyper Text Transfer Protocol is protocol that is used by web server for communication. The Server that is used to link Android device and Shops database to exchange information is web server.

The given steps for performing the operation:

- The client register the account and create login id with password.
- Then send request to the web services.
- The web services send this request to store database.
- The shop database search the particular item from table and responds to the web server with available information.
- Next web services packed the item with related offers and send back to client.

D. WEB SERVER SERVICES

A web service is a standard for exchanging information between different types of application irrespective of languages and platforms.
1. GPS
2. Location Tracking
3. Navigation

1. GPS: The Global Positioning System (GPS) is a space based satellite navigation system that gives time and location information anywhere. The result is provided in the form of geographic position within a accurate of 10 to 100 meters.

2. Location Tracking: Location Tracking are used to locate the individual user location. It contain the data that allow users route and it also allow to get the nearer location.
- It keeps records on users current and past location.

- Notify components when specific user has moved.

3. Navigation: Navigation is a process of controlling and monitoring the movements of craft and mobile devices from one place to other. Users are able to use the Google map to get the particular location or trace the route between any two locations.

IV. ALGORITHM IR2 TREE

Current systems searches location on the basis of their geometric location from the viewer location. In this paper we are going to introduce an application which will search the nearest location with the given keyword. This algorithm is efficient to search location with given keyword.[7] [8]

V. CONCLUSION

Initially mobile phones were introduced only for voice communication but now days the scenario has changed, the voice communication has been just one aspect of mobile phone. There are other aspects which are major focus of interest. Two such major factors are GPS services and web browser. Both of these functionalities are already implemented but are only in the hands of manufacturers not in hands of users because of proprietary issues, the system does not allow the user to access the phone hardware directly. But now, after release of android based open source mobile phone a user can access the mobile hardware directly and design customized native applications to intoduce Web and GPS enabled services and can program other hardware components like camera etc.

The Store Hub application can help user to find hospitals, shops, stores, groceries, or any facility of interest indicated by user within certain range, and provides reliability, security, safety, and also customer can actually feel the quality of products. Smart phones, that have become an important part of today life, have reduced all efforts that are required for shopping using online shopping application.

ACKNOWLEGEMENT

REFERENCES

[1] Lokhande Priyanka V, Abhale Priyanka M, Kumkar Monali M, Mundhe Sandhya B "Imperial Journal of Interdisciplinary Research (IJIR)" Vol2, Issue-1, 2016 ISSN, www.onlinejournal.in.

[2] Ahmad Jaradat, Noor Azian Mohamad, Ahmad Asadullah, Seyed Ebrahim "Issues in Location Based Marketing Review of Literature " International Journal of Scientific and Research Publications, Vol 5, Issue 1, January 2015 ISSN 22503153.

[3] Sabyasachi Patri, Karishma Velisetty, Prathamesh Patel "Location Based Tracking" International Journal of Engineering Research and Development,Volume 9,Issue 12 (February 2014),PP. 05-12.

[4] Amit Kushwaha, Vineet Kushwaha "Location Based Services using Android Mobile Operating System" International Journal of Advances in Engineering & Technology, March 2011.

[5] Yufei Tao, Cheng Sheng "Fast Nearest Neighbor Search with Keyword" IEEE TRANSACTIONS ON KNOWLEDGE AND DATA ENGINEERING.

[6] Ian De Felipe,Vagelis Hristidis,Naphtali Rishe "Keywords Search on Spatial Databases" Schools of Computing and Information Sciences Florida International University Miami, FL 33199.

[7] Vidya L. Tikone, Snehal M. Tembare, Manisha L. Narad, Bharat V. Supekar, Nilesh T. Pawar "Quick Retrieval of Nearest Neighbor by using Keyword" A International Journal of Scientific

Research Engineering & Technology (IJSRET), ISSN Volume 4 Issue 4, April 2015.

[8] Sanjana Mishra, Harshit Garg, Anuja Lad, Prof. Keerti D. Kharatmol "Android Application Based on Image Transfer to Track Smartphone" International Journal of Advanced Research in Computer Science and Software Engineering Volume 5, Issue 3, March 2015.