Abstract— The Navel Security based approach of integrating group communication and navigation in android gadgets provides effective group communication and navigation. The system intends to achieve two major functions. First function is the effective group communication which provides all registered users to create friend groups, implement real-time communication. Second function is navigation which provides Map service and navigation function on the mobile client for users. It can support the surrounding query, location, path planning etc. Mean while, the two parts of the system can be integrated to locate the friend’s position and implant path planning between friends. Security is the major concern for such group communication, in my proposed approach an encryption scheme is implemented to ensure secure communication. When a new user comes for registration, a set of images will be provided to him for selection. The user has to enter his username and an image is also required to select. When the user selects the image that will be compared with the one that he is already selected. If the current image and the selected one match then he would be allowed to enter the password. Hence the proper security for the system can be ensured.

Keywords—Location Sharing, Message Sharing, Android, PHP, MySQL, Webserver

I. INTRODUCTION

Today’s age is the world of technologies, where lots of inventions and discoveries have made everyone to rely on the use of latest technology. Knowing or unknowingly we are taking the benefit of the technology. Today one can share information with others using the communication technology. One can know what is happening in different parts of the world within a click. It is possible due to the development in the internet services through which one can share the information with the rest of the world.

In recent years, more and more people start using the smart phone, laptop, PDA and other mobile devices [1] it is estimated that by 2015, the number of smart phone users is expected to reach about 500 million. With the continuous growth of mobile users, wireless data access is also growing. In 2006, wireless data access volume is 2.66 million, 2015 is expected to grow to 12.011 million.

Mobile devices are undoubtedly the most convenient and efficient tools for people to obtain data, and smart phones will be one of the main forces of the tools in the future. Software applications based on smart phone can give people more convenient and efficient way of life, so the software design is becoming a hot spot.

Android is a new open source operating system with all sdk, API and platform source is available. Also in android no app review or licensing is needed. Any user can replace the existing system with one of our own. The main objective of this system is to provide, in real-time, useful navigation information that enables a user to make appropriate and timely decisions on which route to follow. In order to provide such information, the system must take into account path planning. Two main aspects should be addressed by this system to provide navigation support:

1. Detection of the position and movement intentions of a user, and
2. Finding the shortest distance.

II. BACKGROUND

A. GPS Technology

The Global Positioning System (GPS) [2] is a global navigation satellite system deployed by the US Department of Defense and maintained by the US Air Force. GPS is a space based radio navigation system that provides accurate location and timing services to anyone with a GPS receiver.

B. Google Android

The Android Platform is a software stack [3] for mobile devices including an operating system, middleware and key applications. Developers can create applications for the platform using the Android SDK. Applications are written using the Java programming language and run on Dalvik, a custom virtual machine designed for embedded use, which runs on top of a Linux kernel. (Google, 2008) [4].

C. PHP and MySQL

PHP [5] (recursive acronym for PHP: Hypertext Preprocessor) is a widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into HTML. Instead of lots of commands to output HTML (as seen in C or Perl), PHP pages contain HTML with embedded code that does "something". The PHP code is enclosed in special start and end processing instructions <?php and ?> that allow you to jump into and out of "PHP mode." MySQL [6] is a relational database management system that runs as a server providing multi-user access to a number of databases.

D. JSON

JSON (JavaScript Object Notation) [7] is a lightweight data-interchange format. It is easy for humans to read and write. It is easy for machines to parse and generate. It is based on a subset of the JavaScript Programming Language, Standard ECMA-262 3rd Edition - December 1999.

JSON is a text format that is completely language independent but uses conventions that are familiar to programmers of the C family of languages, including C, C++, C#, Java, JavaScript, Perl, Python, and many others.

III. RELATED WORKS

Some of the most popular group communication apps are following
1) **WhatsApp**

WhatsApp is a mobile text messaging app designed to let cell phone users send text messages without having to pay SMS fees to their carriers. The messages are sent via the Internet and there for require the user to have a data plan on their phone, which is typical of these messaging apps. Messages can include video, audio and photos, not just text. WhatsApp is a cross-platform app, meaning it's available for a variety of mobile operating systems and allows messaging across them all-- including the iPhone, Android, Nokia, Windows Phone and Blackberry. The app launched in 2009 and has proven popular. Unlike a lot of mobile messaging apps, WhatsApp doesn't offer voice calling, at least not yet. And it's not 100 percent free, either. WhatsApp has been costing 99 cents to download, but then is free to use.

2) **Viber**

Viber is a popular free mobile messaging app that piggybacks on WiFi or the popular data plan a cell phone user has to make voice phone calls and send SMS messages that are not counted as part of their carrier's paid calling plan or text messaging plan. The company's tag line is "Connect. Freely." So its main appeal is the ability to use WiFi or a paid mobile data plan on a smartphone to circumvent the limits of a paid voice-calling plan and/or paid SMS text messaging plan. The voice calls use VOIP, or voice over the Internet. The Viber app is known for its ease of use, since it reads your phone's settings and contacts and immediately enables the app. There's no need for a password or special set-up process, which most apps require. Messages can include photos as well as text, and the voice calls can move off of the carrier's 3G or 4G data network and onto a wifi network when one is available. Group messaging also is available for up to 15 friends, allowing for more private conversations than, say, on Twitter.

3) **Group Connect**

Group Connect is a comprehensive group communication application for Android devices. Its features include text-to-speech capabilities, customized group creation, group editing, hands-free support and the ability to make phone calls from within the app. The application also comes equipped with a logging tool that can track your group messaging history for later use. Group Connect is 1.2MB in size. It’s free to download and requires Android 1.5 or later.

IV. PROPOSED METHOD

The Navel Security based approach of integrating group communication and navigation in android gadgets provides effective group communication and navigation. The system intends to achieve two major functions. First function is the effective group communication which provides all registered users to create friend groups, implement real-time communication. Second function is navigation which provides Map service and navigation function on the mobile client for users. It can support the surrounding query, location, path planning etc. Meanwhile, the two parts of the system can be integrated to locate the friend’s position and implant path planning between friends. Security is the major concern for such group communication, in my proposed approach an encryption scheme is implemented to ensure secure communication. When a new user comes for registration, a set of images will be provided to him for selection. The user has to enter his username and an image is also required to select. When the user selects the image that will be compared with the one that he is already selected. If the current image and the selected one matches then he would be allowed to enter the password. Hence the proper security for the system can be ensured.

The scheme adopted by the system is client/server. It is an android based communication and group communication system and navigation system with auxiliary functions of mass sms, automatic facebook uploader, traffic, dynamic gallery and advanced search. Smartphone acts as the client which supports android operating system while the server is implemented on Wampserver. System design being simple minimizes the server load. The storage and management of registered user information is handled by the server. System interface and application and access to Google map is handled by client. Smart phone user login to the phone client, connect to the server in internet by the use of 3g mobile communications technology. System server applies and uses Google map API to call real-time electronic map, which support zoom, search, location, route planning and other operations.

The system scheme is as shown in figure

![Fig 1](image.png)

V. SYSTEM SCHEME

The system provides Android phone based group communication and navigation systems. System is mainly to achieve two major functions. First function is group communication which provides registered users create friend groups, implement real-time communication etc. Second function is navigation which provides Map service and navigation function on the mobile client for users. It can support the surrounding query, location, path planning etc. Meanwhile, the two parts of the system can be integrated to locate the friend’s position and implant path planning between friends. The main problem facing to integrate these two functions is the security. My proposed approach an encryption scheme is implemented to ensure secure communication. When a new user comes for registration, a set of images will be provided to him for selection. The user has to enter his username and an image is also required to select. When the user selects the image that will be compared with the one that he is already selected. If the current image and the selected one matches then he would be allowed to enter the password. Hence the proper security for
the system can be ensured.

VI. SYSTEM ARCHITECTURE AND MODULES

System is mainly composed of five modules, namely the Register Login module, GPS navigation module, group communication module, auxiliary management module and the exit module. The function module of system is shown in Figure.

GPS can locate position for user or friend and mark the location on the electronic map. Location query can query information according to user’s input, and display the query result which is generated with the center of user’s input location in the electronic map.

VI. SYSTEM ARCHITECTURE AND MODULES

System is mainly composed of five modules, namely the Register Login module, GPS navigation module, group communication module, auxiliary management module and the exit module. The function module of system is shown in Figure.

GPS can locate position for user or friend and mark the location on the electronic map. Location query can query information according to user’s input, and display the query result which is generated with the center of user’s input location in the electronic map.

VI. SYSTEM ARCHITECTURE AND MODULES

System is mainly composed of five modules, namely the Register Login module, GPS navigation module, group communication module, auxiliary management module and the exit module. The function module of system is shown in Figure.

GPS can locate position for user or friend and mark the location on the electronic map. Location query can query information according to user’s input, and display the query result which is generated with the center of user’s input location in the electronic map.

VI. SYSTEM ARCHITECTURE AND MODULES

System is mainly composed of five modules, namely the Register Login module, GPS navigation module, group communication module, auxiliary management module and the exit module. The function module of system is shown in Figure.

GPS can locate position for user or friend and mark the location on the electronic map. Location query can query information according to user’s input, and display the query result which is generated with the center of user’s input location in the electronic map.

VI. SYSTEM ARCHITECTURE AND MODULES

System is mainly composed of five modules, namely the Register Login module, GPS navigation module, group communication module, auxiliary management module and the exit module. The function module of system is shown in Figure.

GPS can locate position for user or friend and mark the location on the electronic map. Location query can query information according to user’s input, and display the query result which is generated with the center of user’s input location in the electronic map.
This can be used as real world application gadgets for locating the areas which had undergone any accidents or events. In the proposed android based application with GPS feature the location details and relevant message system also attached. Another add-on feature with android operating system is this operating system will help to provide more services in the proposed real world issues. The security assurance can also be achieved or enhanced with proper encryption mechanism. Based on the architecture, the android based city tour guide system can be developing. The android based city guide system can realize to query information for hotel, scenery, restaurant, traffic and so on. The android based city guide system has more practical significance. The system can be tested with some simulator and can be applied with real time systems also.

Our System is still in the development stage. Some enhanced functions are still needed to be added continuously. In future work in this area, it plans to explore the following extensions.

1) Improvement in user interfaces in android device as well as in web server.
2) Accuracy of information can be improved by using several algorithms.
3) Improving the security of data by using other different cryptography method.
4) Maintaining different group of users to share information within groups only.

REFERENCES


All rights reserved by www.ijsrd.com 2879