

# Event Organization Using GPS Based Location Tracking Including Communication System

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**Abstract-** Location is one of the fundamental properties of object which provides position of the object on planet earth. Global Positioning System (GPS) plays very crucial role in finding position. GPS is one of the technologies which are used in large number of applications today. This system allows us to get information for the purpose of tracking the device. This system gives information of the route followed by this device. The designed system in this paper uses GPS technology to get user's and their friend's location with their devices' permission and plot the position on the map so that multiple user's location can be seen on the map. This system also includes the message transfer service. In this system we can broadcast the location of the user to arrange a quick meeting. This system is designed for the smart phone technology. The main objective behind development of this system is to locate multiple users and ease down location finding problem.

**Keywords :** Global Positioning System (GPS)

## I. INTRODUCTION

With increase in population there is a great challenge for finding people in holy places. In some cases we are not able to easily find the place we want to visit. Also there are some cases where people get lost in crowded places. To resolve all these problems, a system is developed with the use of GPS technology and an application is introduced in this research work.

Various Problems We Usually Face:

1. Finding friend's location to arrange a meeting.
2. Finding location of lost person.
3. Arrange an event and send exact location of event.

All these problems are overcome by this system:

This system implements the Global Positioning System (GPS) to find the location of the user. The co-ordinates of the device are taken from the GPS satellite. These co-ordinates are then shared with the user's device and then plot on the maps so we can easily see the location of person of our choice with their device's permission. This system can be

implemented for event organization using location broadcasting feature, also for monitoring user's location in large industries.

System includes the short message communication feature to send short messages between users. This system is implemented on smart phones and also has future scope to be implemented on tablets and smart watches.

This system is easy to understand and use, also it is easily accessible. In this application we have two main sections, one for the map and other for short message transfer system. The continuously changing location changes the co-ordinates of the user which are stored on database and then transferred to other user's device. Continuously changing location is updated quickly hence the exact location of the user at certain instant is known. The system can be used in any weather conditions and at various places.

## II. LITERATURE SURVEY

Use of GPS in various fields like location tracking of vehicles, traffic monitoring and event organization all these aspects creates interest in research about GPS system. This system is implemented in client identification and performance monitoring.

The paper presented by Asit Kumar Parida describes the attendance management system design with the help of GPS in android mobile devices. He used Google maps for the location plotting. He used the Apache Server with PHP & MySQL support for remote database use. In this locations are extracted from the device with the help of GPS module available. A form of passive GPS is used. The device decides on the best content with the information available from different providers.

In the paper presented by Pankaj Verma and J.S. Bhatia, they describe the GPS-GSM based tracking system with the help of Google maps. In their system they use GPS and GSM technologies, Atmega microcontroller MAX 232, 16x2 LCD and software

part for interfacing all required modules and a web application is also developed at client side.

The paper published by Nolan Greene and Leslie Hand about Location-Based Services to improve the customer experience gives important information about how to use location information of user to provide services reliably. This tells about the importance of location information for providing services in retail sector, hospitality sector. These Location-based Services actually improved the customer experience and causes increase in sells of these goods.

The paper published by Elizabeth Singh and Pranjali Kalita gives important information about the android application developed for instant messaging. They used android platform for the development. For login into system instead of using phone number they used the Gmail ID. They used Google Cloud Server for backend support for this application.

With increasing users of the smart phone, implementation of this system is very easy. Also the GPS service is supported by all the devices hence the devices will be in connection and all will be compatible with each other. Hence implementation will be easy.

### III. TECHNOLOGIES USED

#### 1. Android Studio:

Android Studio is the integrated development environment (IDE) for Android application development. There are different features supported by android studio like Gradle-based build support, Android-specific refactoring, quick fixes and Lint tools to catch performance etc. It provides support for Google Cloud Platform, enabling integration with Google Cloud Messaging and App Engine.

#### 2. Google Maps API:

Google Maps APIs provide application with full access to Google's worldwide database of over 100 million businesses and points of interest with Google Places APIs. It provides driving directions for 199 countries, the Directions API allows developers to help users find their way to destinations.

#### 3. PHP:

PHP is the recursive acronym for *Hypertext Preprocessor*. It is one of the server scripting language and capable of making dynamic and interactive web pages. It is open source general purpose scripting language that is specially suited for web development and can be embedded into HTML.

The PHP is a programming language which allows web developers to create dynamic content which interacts with databases. PHP is basically used for developing web based software applications. PHP can be deployed on most web servers on almost every operating system and platform for free of cost.

#### 4. JSON:

JSON is the acronym for JavaScript Object Notation. It is a light-weight data interchanging format. This is easy for reading and writing. Also it is easy to machines for parsing and generation purpose. JSON is actually the syntax for storing and exchanging data. It is actually a text written with object notation. The text in the JSON format can be easily sent to server and also can be easily received from server. JSON ease down the process of communication between client machine and server.

#### 5. XAMPP:

XAMPP is the open source cross platform web server solution package. It is developed by people from Apache HTTP server, MySQL database and interpreters for scripts written in the PHP and Perl programming languages. XAMPP is acronym of Cross-Platform Apache MariaDB, PHP and Perl. It has made easy for developers to create a local web server for testing and developing purpose. It is cross platform it works on Linux, Windows and Mac.

#### 6. HTML:

HTML is the Hypertext Markup Language. It is used for developing structure for the web pages using markup. HTML tags are the building blocks of HTML. Cascading Style Sheet (CSS) is language which describes the style of the HTML document. CSS describes how HTML elements can be displayed. For the purpose of various functionalities we can include JavaScript in it. The World Wide Web Consortium (W3C) maintains the HTML and the CSS standards.

#### 7. MongoDB:

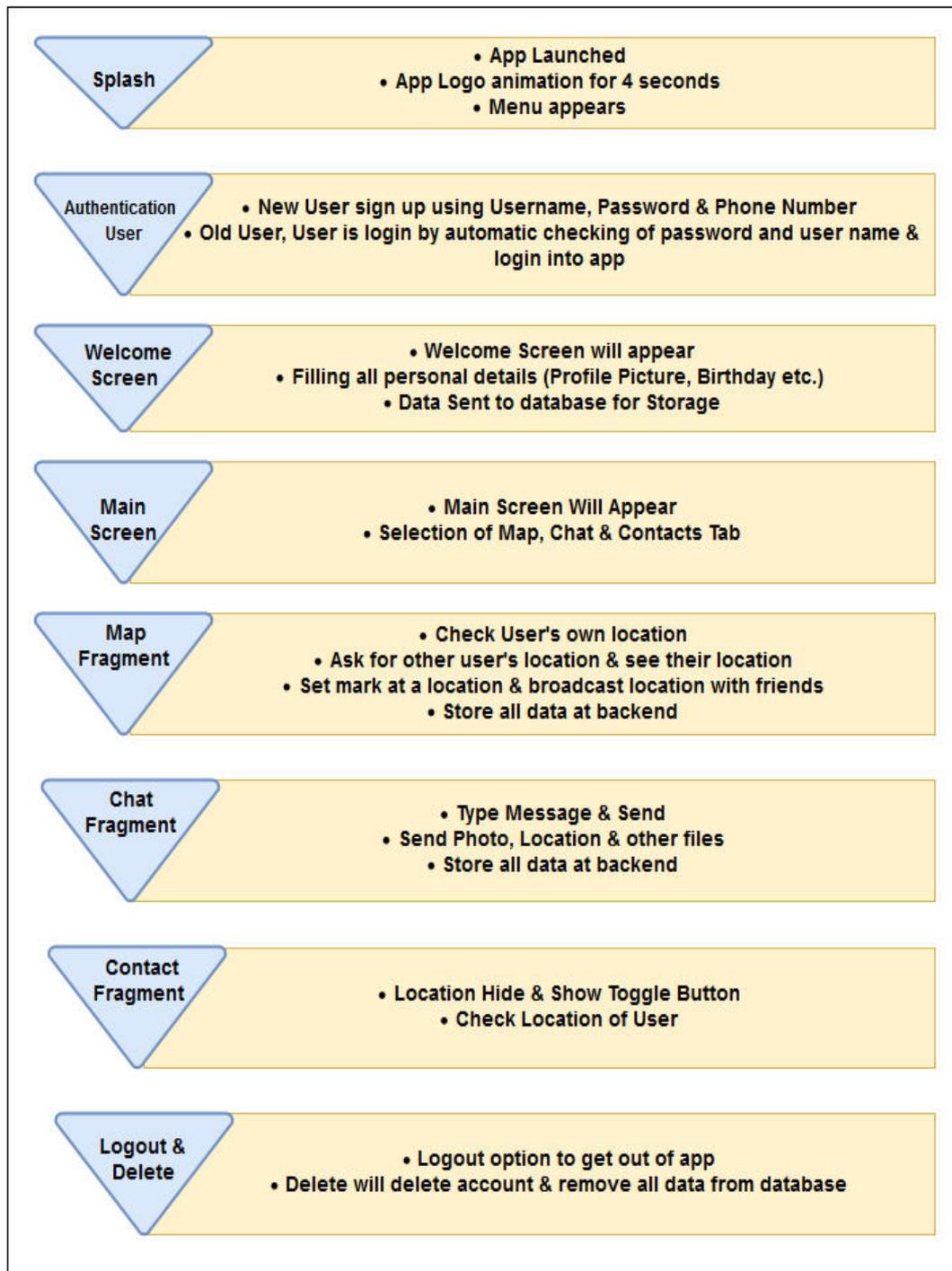
MongoDB is the open source document database. It actually provides high performance, automatic scaling and high availability. A record in MongoDB is a document. Document is a data structure composed of field and value pairs. JSON objects are similar to MongoDB documents. This stores the data record as BSON documents which is the binary representation of JSON document.

#### 8. MySQL:

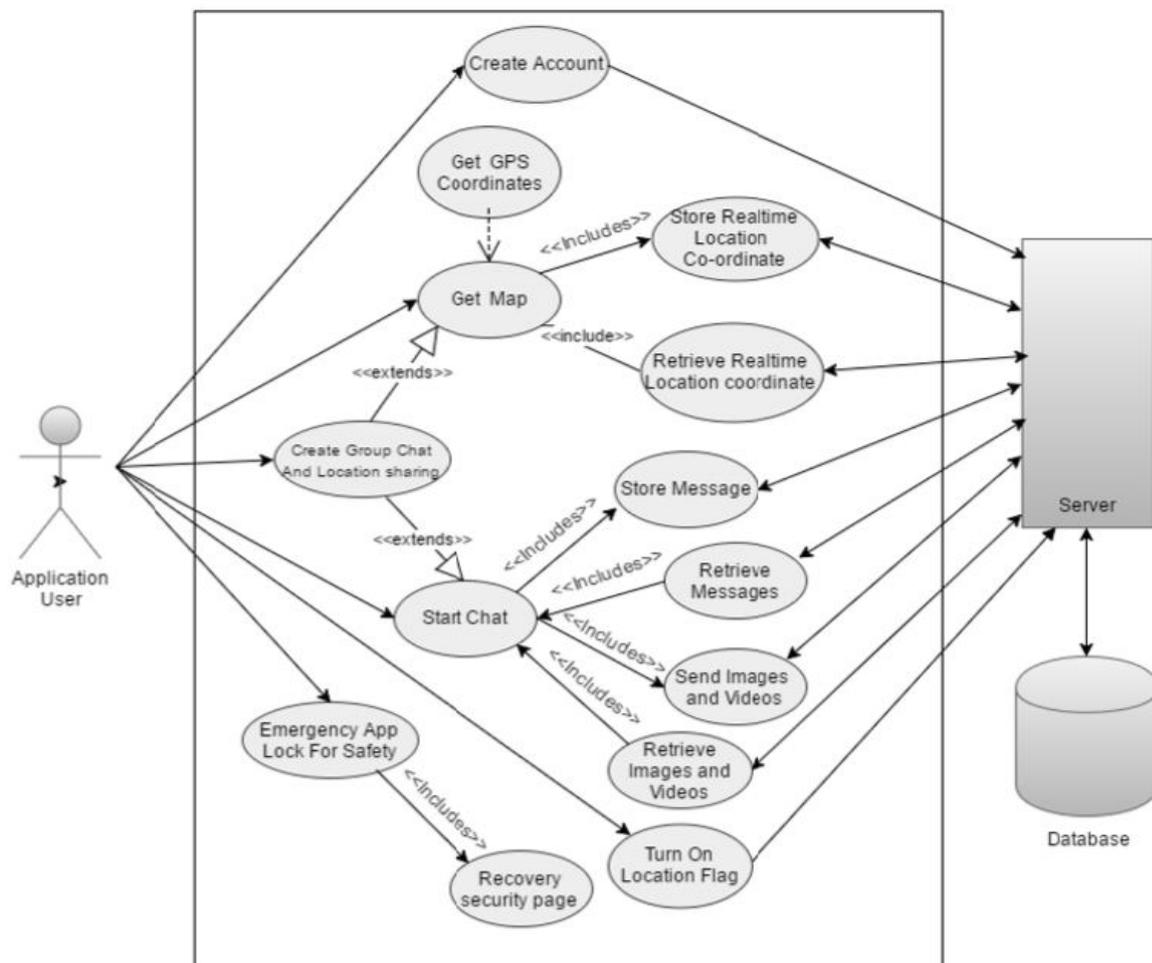
It is the database system used on the web. It actually runs on server. MySQL is a fast easy to use RDBMS used in small and big businesses. MySQL is developed , marketed and supported by MySQL AB. MySQL is a open source language. This can handle large functionality of the databases. It works quickly even with the large dataset. MySQL is used very

fluently with the PHP. This is actually largely used database system which can handle large amount of data set.

#### IV. APPLICATION FLOW



## V. USE CASE DIAGRAM



## VI. FUTURE SCOPE

Since the system includes various features like multiple location tracking, location broadcasting, chatting, event creation. These all services will really beneficial for various sectors like:

1. Home Delivery Services
2. Police Department
3. Parents to look after children
4. Arranging meetings

In future this system can be enhanced by adding real time images of buildings or location to easily find out the exact area with minimum efforts. Also scale of this application can be improved by adding information about all the events happening in locality.

## VII. CONCLUSION

The proposed system is very much beneficial to the location tracking and communication between users.

This paper makes detailed guideline about the location tracking and chat system. This application is going to help to people from various sectors like police department, military department and all other normal users. Since we are using Global Positioning System (GPS) in it we can use this in any kind of environmental situations like heavy rain or snowfall etc. This application is going to help any person on this planet earth who needs help. Parents can get information about their children's location for safety. We can easily arrange a quick meeting or an event without hesitating about location. Basically this application will ease down all the problems related to the location finding and makes easier to roam anywhere without hesitating about location.

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