

# GPS ENABLED EXTRAMURAL CLASSES

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**Abstract**— GPS Enabled Extramural Classes is mainly helpful for common people in the society. This application helps the user in identifying the nearest location of co-curricular classes using GPS. Application displays the following activities including Sporting, Cultural and Other activities that increase the opportunities for the people. The app is used to raise curricular performance. It is user friendly to find the curricular classes in our area. Admin update and maintain the database which helps the user in identifying curricular activity places.

## **1. INTRODUCTION**

The GPS, elaborated as Global Positioning System, is a satellite based navigation system made up of a network of 24 satellites placed into orbit by the U.S. Department of Defense in 1973. GPS was originally intended for military applications, but in the 1980s, the government made the system available for civilians. GPS works in any weather conditions, anywhere in the world, 24 hours a day. There are no subscription fees or setup charges to use GPS . GPS was invented by the U.S. Department of Defense (D.O.D) and Ivan Getting, at the cost of twelve billion taxpayer dollars. The Global Positioning Sys-tem is a satellite navigational system, predominantly designed for navigation. This application helps the user in identifying the nearest location of co-curricular classes using GPS.Since it is connected with GPS, it reduces the manual effort in searching the places.It is user friendly to find the curricular classes in our area.Less amount of time involved in locating the area.Admin update and maintain the database which helps the user in identifying curricular activity places.

### **1.1. DOMAIN INTRODUCTION**

Android is a Linux-based operating system for mobile devices such as smart phones and tablet computerAndroid has a large community of developers writing applications. Application that extend the functionality of the devices. Developers write primarily in a customized version of Java. Application can be downloaded from third-party sites or through online stores such as Google Play formerly Android Market, the app store run by Google. The Global Positioning Sys-tem is a satellite navigational system, predominantly designed for navigation.

## **2. SIGNIFICANCE OF THE STUDY**

### **2.1. Socio-economic Significance**

In this study, the system will inspire the students to join in various extramural classes in a more effective and efficient GPS-based location tracking system via Android device.

### **2.2. Technological Significance**

In real life, we want the people to make more use of this application. Now-a-days most of the people use android phone, so all can use this application.

### **2.3. Safety Features**

This application avoids the need to collect the details from the strangers.

## **3. OBJECTIVE OF THE STUDY**

The key objective of our project is to locate the extramural classes by enabling GPS which eliminates the user in searching the places manually which is now present in the existing system.

## **4. EXISTING DRAWBACKS**

Central Participant Databases . Participant details may be loaded from a central repository. An automated warning system is not available. To learn more about how the Extracurricular Programs Solution can work for you. There is no such application available in play store.

## **5. PROPOSED SYSTEM**

Global updation of data is done in our application to avoid difficulties in manual search. Database tables are normalized and maintained by administrator and database collected by the administrator are secured. This system is secure. In our proposed system time consumption is low. Here the user need not search for a location and the required data will be displayed automatically when it is connected with GPS.

## 6. ARCHITECTURE DIAGRAM

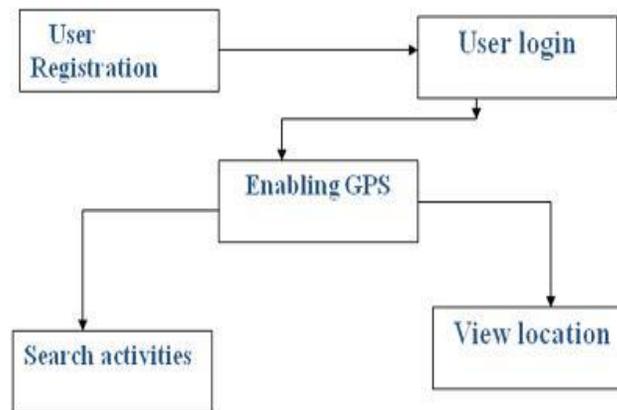


Figure 6.1 GPS Enabled classes tracking

In Fig 6.1 User should register his profile details. After the registration user should login with the appropriate user name and password. As we login into the module a notification pop up whether to enable GPS or not. If we enable it goes to the next module otherwise it goes back to login page. After enabling the GPS, we can search our required extramural activities and we can view the location of a required extramural classes.

## 7. MODULES OF THE SYSTEM

### 7.1. Registration

Here the user can register his profile details. The profile details such as first name, last name, DOB, age, email id, password.

### 7.2. Login

Each user has an individual login details to enter into the application. User enter into the application by using the email id and password which has been registered in registration module.

### 7.3. GPS Enables

This module allows the user in enabling the gps automatically.

### 7.4. Searching

Helps the user in finding the extramural classes nearby his location.

## 7.5. Viewing

This helps the user in viewing the location of the specified class. This details can be viewed if only we registered in this application.

## 8. GOALS OF THE SYSTEM

### 8.1. Individual Task Management

Gps enabled extramural classes helps the user in tracking the nearest extra curricular classes which are available in the users location.this avoids the user in searching of places in that locality,and avoids the difficulty in speaking to a stranger in need of data.and all the data is collected and stored in a database and retrieved whenever requiredTthis also avoid in knowing of all the places.

### 8.2. Safety Tool

The application is very useful when you are out of state ie,during a transfer from one state to another when there is a difficulty in language. This allows the user to enable the GPS whenever required by providing a notification of the user.

### 8.3. Reliability

The application is based on GPS location provider embedded on your Android Smartphone. GPS is a technology that is available 24/7. So you can rely on this application.

### 8.4. Ease of Access

The application was developed to serve mass population. That is why the user interface of the application is kept simple.

## 9. FEASIBILITY CONSIDERATION

Depending on the results of the initial investigation the survey is now expanded to a more detailed feasibility study for “GPS-Enabled extramural classes via Android device.”

### 9.1. Technical Feasibility

To develop this application, a high speed internet connection, a database server, a web server and software are required. The current project is technically feasible as the application was successfully deployed on Android Emulator

## 9.2. Economical Feasibility

The project is economically feasible as it only requires a mobile phone with Android operating system. The application is free to download once released into Android market. The users should be able to connect to internet through mobile phone and this would be the only cost incurred on the project.

## 9.3. Operational Feasibility

It will need an internet connection to send the information to server. GPS is free. We need the server maintenance cost. This is the basic operational cost which tends to very low.

## 10. TOOLS AND TECHNOLOGY

### 10.1. Android Applications

Android applications are usually developed in the Java language using the Android Software Development Kit. Once developed, Android applications can be packaged easily and sold out either through a store such as Google Play or the Amazon Application store. Android powers hundreds of millions of mobile devices in more than 190 countries around the world. It's the largest installed base of any mobile platform and growing fast. Every day more than 1 million new Android devices are activated worldwide. Android applications are usually developed in the Java language using the Android Software Development Kit.

#### 10.1.1. User Interface

Android's user interface is based on direct manipulation, using touch inputs that loosely correspond to real-world actions, like swiping, tapping, pinching and reverse pinching to manipulate on-screen objects. The response to user input is designed to be immediate and provides a fluid touch interface, often using the vibration capabilities of the device to provide haptic feedback to the user. Internal as accelerometers, gyroscopes and proximity of sensors are used by some applications to respond to additional user actions, for example adjusting the screen from portrait to landscape depending on how the device is oriented, or allowing the user to steer a vehicle in a racing game by rotating the device, simulating control of a steering wheel. Android devices boot to the home screen, the primary navigation and information point on the device, which is similar to the desktop found on PCs. Android home screens are typically made up of app icons and widgets; app icons launch the associated app, whereas widgets display live, auto-updating content such as the weather forecast, the user's email inbox, or a news ticker directly on the home screen. A home screen may be made up of several pages that the user can swipe back and forth between, though Android's home screen interface is heavily customizable, allowing

the user to adjust the look and feel of the device to their tastes. Third party application available on Google Play and other app stores can extensively re-theme the home screen, and even mimic the look of other operating systems, such as Windows Phone. Most manufacturers, and some wireless carriers, customize the look and feel of their Android devices to differentiate themselves from the competition. Present along the top of the screen is a status bar, showing information about the device and its connectivity. The status bar can be pulled down to reveal a notification screen where application display important information or updates, such as a newly received email or SMS text, in a way that does not immediately interrupt or inconvenience the user. In early versions of Android these notifications could be tapped to open the relevant app, but recent updates have provided enhanced functionality, such as the ability to call a number back directly from the missed call notification without having to open the dialer app first. Notifications are persistent until read or dismissed by the user. The android application gives the easy user interface. So it is user friendly to find the location of co curricular classes in our locality.

### **10.1.2. Memory Management**

Since Android devices are usually battery-powered, Android is designed to manage memory RAM to keep power consumption at a minimum, in contrast to desktop operating systems which generally assume they are connected to unlimited mains electricity. When an Android app is no longer in use, the system will automatically suspend it in memory - while the app is still technically open suspended application consume no resources e.g. battery power or processing power and sit idly in the background until needed again. It has the dual benefit of increasing the general responsiveness of Android devices, since application don't need to be closed and reopened from scratch each time, but also ensuring background application don't waste power needlessly. Android manages the application stored in memory automatically when memory is low, the system will begin killing application and processes that have been inactive for a while, in reverse order since they were last used oldest first. The process is designed to be invisible to the user, such that users do not need to manage memory or the killing of application themselves. However, confusion over Android memory management has resulted in third-party task killers becoming popular on the Google Play store; these third-party task killers are generally regarded as doing more harm than good.

### **10.1.3. Open Source Community**

Android has an active community of developers and enthusiasts who use the Android source code to develop and distribute their own modified versions of the operating system. These community-developed releases often bring new features and updates to devices faster than through the official manufacturer/carrier channels, albeit without as extensive testing or quality assurance provide continued

support for older devices that no longer receive official updates; or bring Android to devices that were officially released running other operating systems, such as the HP Touchpad. Community releases often come pre-rooted and contain modifications unsuitable for non-technical users, such as the ability to overclock or over undersold the device's processor. Cyanogen Mod is the most widely used community firmware, and acts as a foundation for numerous others. Historically, device manufacturers and mobile carriers have typically been unsupportive. Manufacturers express concern about improper functioning of devices running unofficial software and the support costs resulting. The process is designed to be invisible to the user, such that users do not need to manage memory or the killing of application themselves. However, confusion over Android memory management has resulted in third-party task killers becoming popular on the Google Play store.

#### **10.1.4. Licensing**

The source code for Android is available under free and open source software licenses. Google publishes most of the code including network and telephony stacks under the License version 2.0, and the rest, Linux kernel changes, under the GNU General Public License version 2. The Open Handset Alliance develops the changes to the Linux kernel, in public, with source code publicly available at all times. The rest of Android is developed in private by Google, with source code released publicly when a new version is released. Typically Google collaborates with a hardware manufacturer to produce a flagship device part of the Google Nexus series featuring the new version of Android, then makes the source code available after that device has been released.

#### **10.2. Java**

The Java programming language is a high-level language that can be characterized by all of the following buzzwords,

- Simple
- Architecture neutral
- Object oriented
- Portable
- Distributed
- High performance
- Interpreted
- Multithreaded



Robust



Dynamic

The most programming languages, they either compile or interpret a program so that they can run it on their computer. The Java programming language is unusual in that a program is both compiled and interpreted. The interpreter parses and runs each Java byte code instruction on the computer. Compilation happens just once interpretation occurs each time the program is executed. The following figure illustrates how this works. . That means that as long as a computer has a Java VM, the same program written in the Java programming language can run on Windows 2000, a Solaris workstation, or on an iMac. The interpreter parses and runs each Java byte code instruction on the computer.

### 10.2.1. The Java Platform

A platform the hardware or software environment in which a program runs. I have already mentioned some of the most popular platforms like Windows 2000, Linux, Solaris, and MacOS. Most platforms can be described as a combination of the operating system and hardware. The Java platform differs from most other platforms in that it's a software-only platform that runs on top of other hardware-based platforms. The Java platform has two component. The Java API is a large collection of ready-made software components that provide many useful capabilities, such as graphical user interface GUI widgets. The Java API is grouped into libraries of related classes and interfaces; these libraries are known as packages. The next section, What Can Java Technology do Highlights what functionality some of the packages in the Java API provide. Native code is code that after they compile it, the compiled code runs on a specific hardware platform. As a platform-independent environment, the Java platform can be a bit slower than native code. However, smart compilers, well-tuned interpreters, and just-in-time byte code compilers can bring performance close to that of native code without threatening portability. The Java programming language is unusual in that a program is both compiled and interpreted. The interpreter parses and runs each Java byte code instruction on the computer.

## 10.3. SQLITE

### 10.3.1 SQLite3

SQLite3 is version 3 of SQLite's SQL-based relational database management system, chosen by Apple, Google and RIM to provide local data storage on their mobile devices. In mobile application, using a simple database backend such as SQLite can be useful in a variety of use cases. In this article they will take a look at Android SQLite API and helper classes for database creation and maintenance. SQLite is

currently the world's most widely-used database. It owes its popularity to its open source code, low resource footprint and, as it does not rely on any installed services unlike almost all other DBMSs, its simplicity of setup and maintenance.

### **10.3.2 Server Less**

Most SQL database engines are implemented as a separate server process. Programs that want to access the database communicate with the server using some kind of intercrosses communication typically TCP/IP to send requests to the server and to receive back results. SQLite does not work this way. With SQLite, the process that wants to access the database reads and writes directly from the database files on disk. There is no intermediary server process .There are advantages and disadvantages to being server less. The main advantage is that there is no separate server process to install, setup, configure, initialize, manage, and troubleshoot. This is one reason why SQLite is a zero-configuration database engine. Programs that use SQLite require no administrative support for setting up the database engine before they are run. Any program that is able to access the disk is able to use a SQLite database. Android SQLite API and helper classes for database creation and maintenance.

### **CONCLUSION**

As the dedicated GPS devices are costly we have chosen android mobile phone as GPS device. Because all the android mobile phones have this built-in feature. GPS device will find out the current location from satellite. Depending on certain condition we will find the location again. Might after certain distance of location change we will count the location again. We will plot this location to map. At the same time we will connect with an external web server to send this information there. The web server will store the visiting path as a summation of some co-coordinating points. Actually, the web server is a restricted area where only the admin alone able to main the data and the user is not able to access the data this is done in order to maintain the data in a safety manner . So we will have to use username and password to login that area. We can see the visiting path from the desktop or any other portable device.Like other systems it is also not free from drawbacks. It will need the GPS service on from the time we want to track. It will mostly use database collected from the server For this reason our mobile phone can be automatically switched off for lack of power.

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**LIST OF FIGURES:**

**Figure 6.1** GPS Enabled classes tracking.