

Android Based Smart College Guide Application

V. J. Parkhe¹, P. V. Pagar², P. D. Jejurkar³, A. P. Kukkar⁴

^{1,2,3,4} Department of Computer Engineering, SND College of Engineering & RC Yeola, India

Abstract: - In an era of technology & to cope with the same, a handheld device plays an important role; therefore developing applications for this domain can be the best option.

In this proposed system our attempt is to develop Smart College Guide Application Based on Android platform, as 'n' no. of users are using Android enabled devices. The design of the system is in such way that system will provide college/institute information to the user for admission also helps in selecting an appropriate good college / institute. It is also useful for students and institutes w.r.t recent notifications or alerts regarding seminars, workshops, guest lecture and Training & Placement to be held in their or in another colleges / institutes by using GCM (i.e. Google Cloud Messaging). Google Cloud Messaging (GCM) which is a free service which enables developers to send messages between servers and client apps. This includes downstream messages from servers to client apps, and upstream messages from client apps to servers. A GCM implementation includes a Google connection server, an app server in your environment that interacts with the connection server via HTTP or XMPP protocol, and a client app.

Keywords:- Android, Google Cloud Messaging, College Guide, Smart College System;

I. INTRODUCTION

The mobile phones are massively find their applications in day to day life of human beings. Smart phones are becoming increasingly popular due to its wide applications in the field of computer science. Developers are finding solution to their problem through the mobile applications. As the Android smart phone introduces in the market, they find more popularity of smart phones. Android apps is easier way to interact with the end-user. The users also can easily interact with the app. Android apps are available at Google Play Store, for both free and premium download bases. One can develop the app through SDK (Software Development Kit) or Android studio provided by android.

Now-a-days student facing problem while appearing for graduation in case of selecting college for admission & also student are unaware about the events, workshops, Training & Placement & Guest lecture so they fail to grab those opportunities. So to solve these problems an android application can be a best solution which will help the students to get college information & be aware about various events to be held their or other colleges.

For developing an android application Android Studio is used which is built in coordination with Android platform & supports all of the latest & greatest APIs. Android studio has built-in support for Google Cloud platform enabling integration with App Engines & Google Cloud Messaging (GCM) for providing notification service.

Google introduced GCM (Google Cloud Messaging) in 2013, it is a free of charge service that enables application developer to send notification data between servers and client apps. GCM Connection Servers accept downstream messages coming from app server and send them to a client app. The XMPP connection server also useful for accept messages sent upstream from the client app and forward them to app server. On App Server, there is implementation of the HTTP and/or XMPP protocol to communicate with the GCM connection server.

App server sends downstream messages to a GCM connection server, the connection server queues and stores the message, and then sends it to the client app. If XMPP is implemented at app server then it can receive messages sent from the client app. The Client App is a GCM-enabled client app. To receive and send GCM messages, this app must register with GCM and get a unique identifier called a registration token.

II. LITERATURE SURVEY

In [1], the college app is built to inform the students about the latest programs in their college. This is particularly limited for the single college. As there is huge competition between colleges to attract the students, they are advertising themselves in which they are not showing the real fact of that college. With this kind of fake appearance, students get fooled from the colleges. Hence, to make effective communication between college & students the android based application was build.

In [2], architecture design is proposed for tourist guide system based on android platform for smart phones. It is able for query processing information regarding hotels, restaurants, museums and other tourist attraction places in city at one instant. The application is easy, quicker, flexible & sufficient for fulfilling the tourist requirements.

In [4], the architecture is proposed to implement the smart city digital services. For the study it is focused on Guadalajara smart city as urban renewal model.

Cloud computing is preferable way to be implemented for smart cities due to its massive features. Companies are finding most of their application for both software as well as hardware on demand using cloud computing. Therefore, the collaborative work between different cities to establish some metrics & standard for interchange of data would encourage them.

In [7], it describes the technology of GCM (Google Cloud Message) as it is used for instant messaging & it uses client-server architecture. It uses Mysql database to store the user information. For using this service user has to be registered. Database & web server can be resides on same or different machines. Flow of communication starts from android device and send it to GCM application server. It is found that delivery of messages is uncertain, it does not meet assurity about send messages.

In [10], for security of cloud computing a semi anonymous privilege control scheme is proposed namely Anony Control & Anony Control-F. Anony Control is responsible for to privilege all operations on cloud data in well manner. Anony Control-F it provides right to central authority to limit the identity leakage & thus achieves semi anonymity.

The architecture diagram is mainly consist of three modules

- A. Client
- B. Server
- C. College admin

A] Client:- First of all, client needs to be registered him with server, if he is already registered then he has to login. He will get authenticated after successfully login, now he can search for his query.

Step 1:- User has to enter the college name if he wanted to find for particular college, otherwise all information about current activities will be displayed in front of him (like events, seminars, workshops, etc). In this way filtering can be done.

Step 2:- User has to enter the services for which he needs to get the notification. After selecting the services, he will get the notification whenever there is event or same at particular college.

This all will be considered as query and given to the server for further processing.

B] Server:- Server is totally responsible for fetching queries from both end-user as well as college admin & also registered them. After fetching query from end user server will redirect it to the database for retrieval of data.

Server has right to edit the data entered by college admin on cloud.

C] College admin:- It's role is to get registered on a server & update both the curricular as well as co-curricular activities. He is also responsible for updating college information such as changes in staff in college

III. PROPOSED SYSTEM

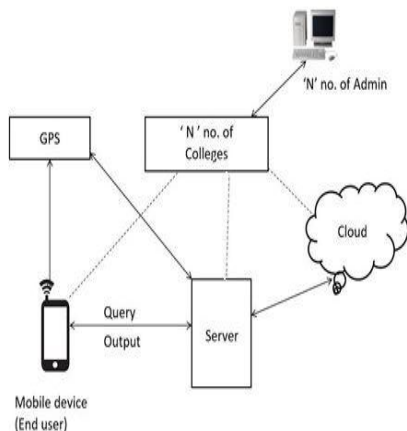


Fig.3.1 Block Diagram of ASCGA

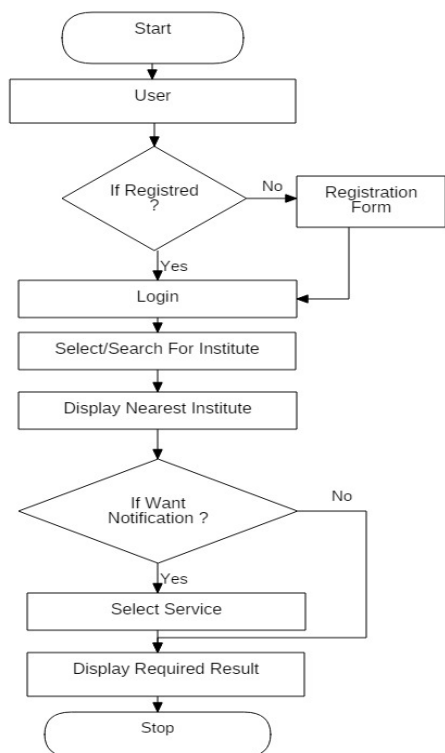


Fig.3.2 Flowchart for Client

The architecture includes two databases one at server side and another at user side. Server side uses MySQL database for retrieval of data from cloud. MySQL is open source RDBMS, with cross-platform and Unicode support. At user side SQLite database is used which is self-contained, server less, zero configuration, transactional SQL database engine.

IV. ALGORITHMIC STRATEGY

K-means algorithm :- This algorithm is used to make the classify n number of observations into k number of clusters. Hence each observation is belonging to the cluster with nearest mean & serve as cluster prototype. But there are some disadvantages can be listed,

- 1] It is difficult to predict value of k.
- 2] It didn't work well with global cluster.

K-nearest neighbor:- To overcome the drawbacks of k-mean algorithm KNN algorithm is proposed. In this algorithm one should give the number of elements in the cluster & then find the distance between the user required info and items in the cluster.

KNN is robust to noisy training data & it is much more effective if training data is larger. By considering these features, we use KNN algorithm in proposed system. Hence Any user wants to find the nearest college can be easily get served.

Method:-

Collaborative Filtering:- To display the result for user query we use set of synonyms in collaborative filtering. It's working includes, reading user query and match it with available synonyms & display result for same.

V. CONCLUSION

We present the design of android based college guide Application. The Application provides the information such as Events, Workshop, Seminars, and Training & Placement and so on. The Application is a combination of Smartphone and Internet to facilitate the student. We will make student aware about Events, T&P, Workshops held in their & also another colleges/institute.

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