

## Android App With Integration Of Quickblox XAMPP Chatting, Google GCM And Client-Server Architecture

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**Abstract:-** Since mobile devices have become more and more powerful and distributive, mobile computing has greatly changed our daily life. As one of the most popular mobile operating systems, Android provides the tools and API for Android developer to develop Android applications. The Android application development college challenge is a influential Android developer contest for college students in India.. It encourages college students to design and implement their applications on the Android platform. In this way, it gives the students an opportunity to show their creativity and learn about the development of Android applications. This paper introduces a real-time interactive application development model on the Android platform. This model uses persistent socket connection mechanism to establish the connection of clients and servers and uses Protocol Buffers as the transmission medium. In order to maintain the smooth connection with the server in the communication process, clients send keep alive packages to servers at regular time. In addition, this model adds retransmission mechanism and reconnection mechanism to ensure the correctness of the packages and the robustness of the system. This module has a good performance in network data consumption, power saving and the correctness of the packages etc.

**Keywords :-** Android application design , Android application development, college challenge, mobile computing, mobile devices, mobile operating systems

### I. INTRODUCTION

This report will concern the development of an App, a mobile platform designed for students and professors of an institute. The client software based on Android, an platform. The idea for the application originated from the need of college students and professors, which aims to support communication and interaction between students to students and students to professors with enhanced information. The system involves a client-server architecture, and one way data over HTTP. The information sharing is done with events schedule, gallery, news, chatting between one to one user as well as one to many user. The admin can insert information through a web application into server database. Information like news, events, recruitment, download content as well as images of specific event, can also create album on server. The client application is designed with a android SDK for android user in mind, and perform bulk of actives on android device through http communication using JSON information. It has been identified from the software will be in usable state and can be tested on a physical android device.

## **II. OVERVIEW OF ANDROID SECURITY**

Introduction to the Android Operating System and Android Security Features (including Android Application Security. Android is a Linux kernel mobile platform. Android runs on a wide range of devices, from mobile smartphones and tablets, to set-top-boxes. The Android mobile operating system is dependent upon the mobile device's processor capabilities for its performance.

Security is a major part of any Android device. Android was created with openness in mind, and is conducive to the use of third party applications and cloud-based services. Android seeks to be a secure and usable operating system for mobile platforms.<sup>2]</sup> Android Security: Geared Towards User-Friendly Security All of Android's more technical security features are designed to be simply presented to the user, meaning that they can be easily controlled through the interface. Straightforward methods of improving your Android device's security can include: using a password or pin, setting your phone to lock after a period of inactivity, only enabling wireless connections that you use, and only installing Android apps you trust and have personally vetted.

Google also only allows tested and proven secure Android applications into its marketplace, meaning that the user has less of a chance of installing a malicious app. Furthermore, the Android security system prompts the user to allow the installation of an application, meaning that it is impossible to remotely install and run an application. Users can further ensure that their Android device is secure by regularly installing system updates.

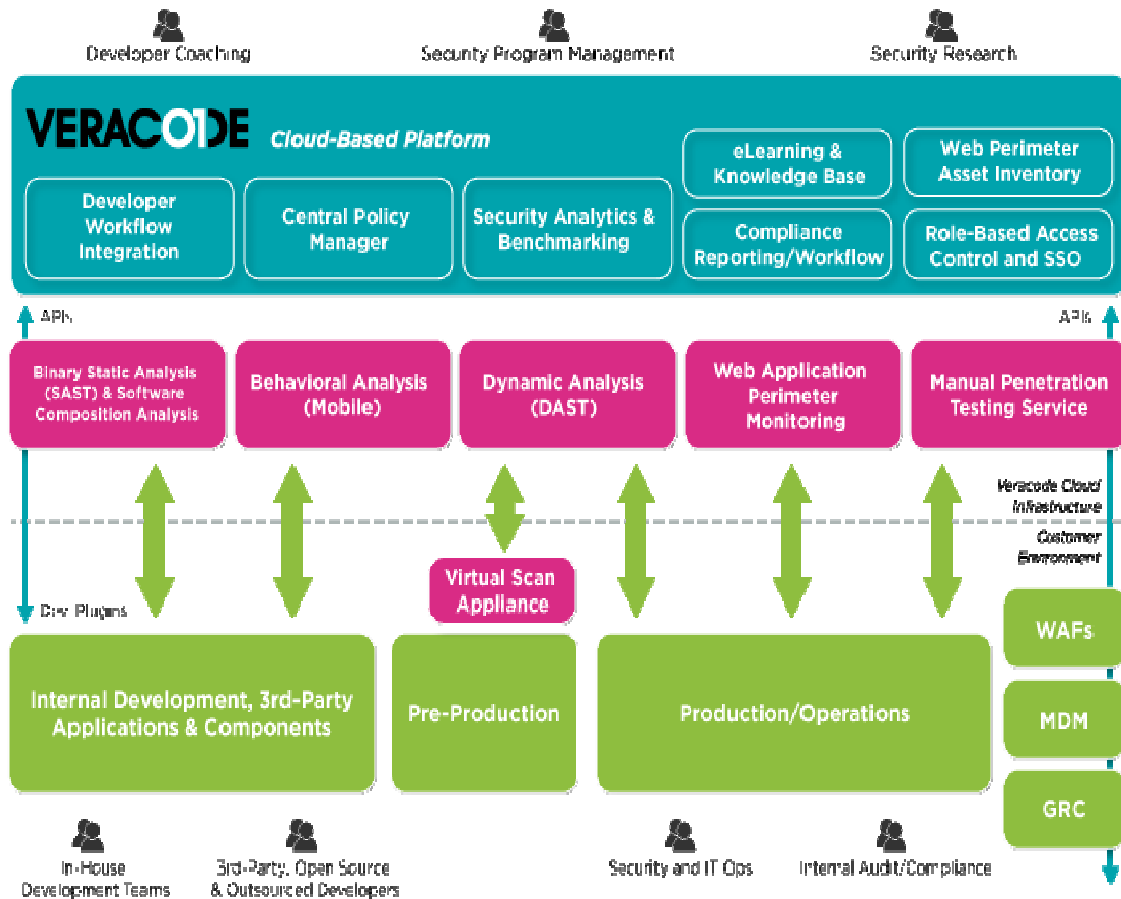
### *A. Introduction:*

Android is basically an operating system for smartphones. But we find now integrated into PDAs, touch pads or televisions, even cars (trip computer) or netbooks. The OS was created by the start-up of the same name, which is owned by Google since 2005 .

### *B. Specifications :*

This operating system is based on version 2.6 of Linux, so it has a monolithic system kernel, what means that all system functions and drivers are grouped into one block of code.

### *C. Architecture :*



**Fig 1 :Application-Security-Architecture**

Android consists of five layers:

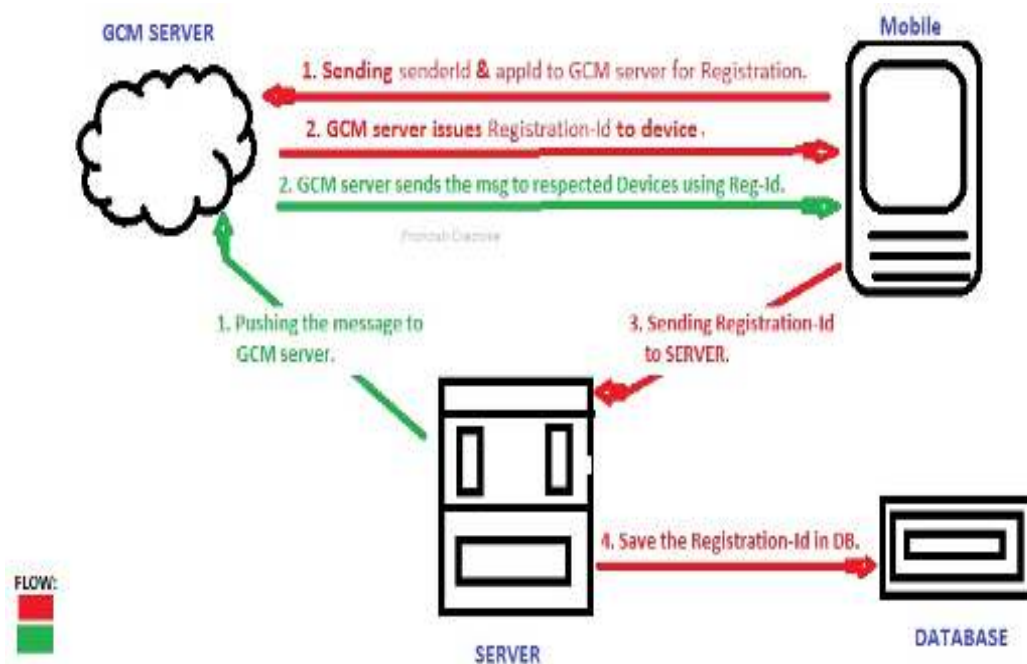
1. The Linux kernel 2.6-which includes useful drivers that allow for example Wi-Fi.
2. The library written in C and C++ that provide higher level functionality such as an HTML engine, or a database (SQLite).
3. A runtime environment for applications based on a virtual machine, made for inefficient machines such as telephones. The aim is to translate JAVA in machinelanguage understood by Android.
4. A JAVA framework that allows applications running on the virtual machine to organize and cooperate.
5. The user applications written in Java (Web browser, contact manager etc. ...)

### III. IMPLEMENTATION PLANNING

The idea for the application originated from the need of college students and professors, which aims to support communication and interaction between students to students and students to professors with enhanced information. The system involves a client-server architecture, and one way data over HTTP. The information sharing is done with events shedule, gallery, news, chatting between one to one user as well as one to many user.

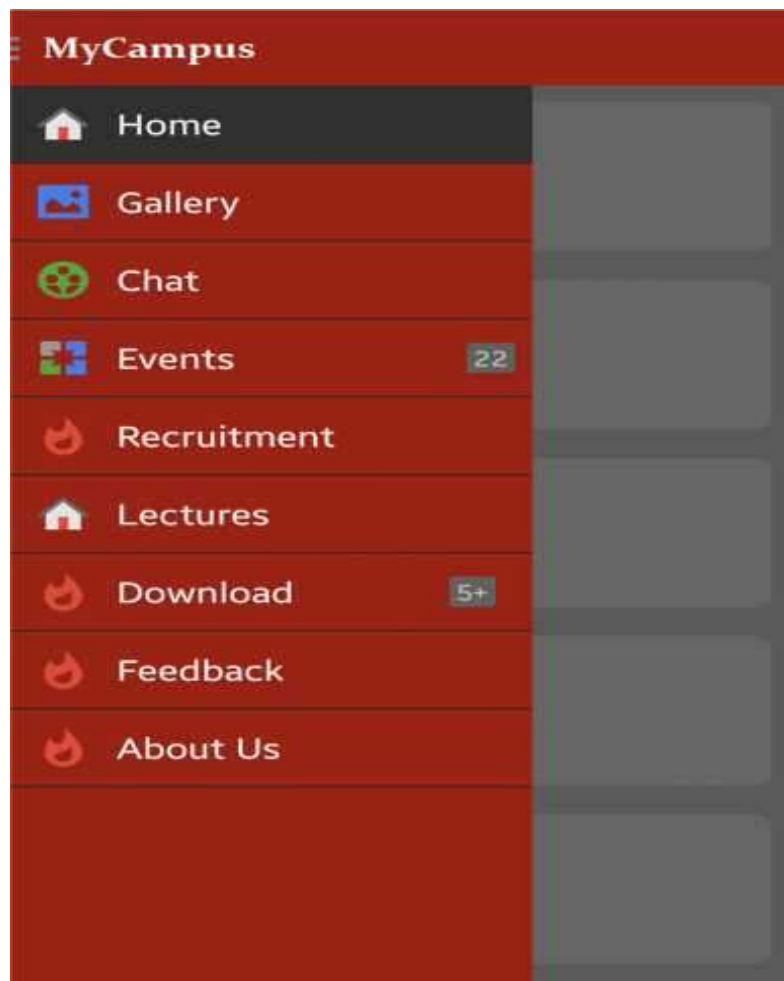
**This application has three parts.**

1. Android application: Use by the end users i.e. students, professors, admin
2. Web application: Use by admin to enter data dynamically which can be access by android application
3. Web-Server: Responsible for handling all the request of android as well as web application, process it and response.



**Fig 2 : System Architecture**

The admin can insert information through a web application into server database. Information like news, events, recruitment, download content as well as images of specific event, can also create album on server. The client application is designed with a android SDK for android user in mind, and perform bulk of activities on android device through http communication using JSON information.



**Fig 3.**

**Android App Features:**

**Home**

This screen shows latest events, recruitment and news and alert.

- **Profile**

This screen shows user information and allow to change user profile picture

- **Gallery**

This screen shows image gallery of any event. Image should be uploaded on server to view in gallery.

- **Chat**

This screen allows users to chat one on one or have group chat with allowed user.

- **Events**

This screen shows upcoming event details with its schedule.

- **Recruitment**

This screen shows recruitment details like date, venue, time, selected, students and results.

- **Lectures Schedule**

This screen shows lecture and practice time table for a week

- **Download**

This screen allows users to download pdf uploaded by admin.

- **Feedback**

This screen allows user to submit feedback which can be assessed by admin to enhance existing application.

- **About Us**

This screen shows information of current application.

#### **IV. CONCLUSION**

This report will concern the development of an App, a mobile platform designed for students and professors of an institute. The client software based on Android, an open-source mobile platform. The idea for the application originated from the need of college students and professors, which aims to support communication and interaction between students to students and students to professors with enhanced information. The system involves a client-server architecture, and one way data over HTTP. The information sharing is done with events schedule, gallery, news, chatting between one to one user as well as one to many user. The client application is designed with an Android SDK for Android user in mind, and perform bulk of activities on Android device through http communication using JSON information.

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