

An Android Based Educational System for Ease of Information Flow

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Abstract

Over the past few years, enormous increase of the use of smart phones that are based on android platform is seen. Due to that reason, the mobile application development based on android has boosted the developers' interest. A novel approach of sharing information between students, lecturers and the administration in order to enhance quality of information in college is proposed. A network for distributing information among lecturers and students is described. The concept of developing such a system is to ensure that user can access information at any time, at any locations and ad-hoc basic without any need to go and read notice-board. Information System helps the students and lecturers to find and access information based on ad-hoc basic, which is of interest and relevant to students or lecturers through a smart phone. An Android application is planned in order to provide a collaborative communication system within the college aiding everyone participating in it. This will create a ubiquitous environment throughout the campus making it a very positive and exciting experience for all the participants. Thus implementing the android application which promotes high usage of mobile phones by students into a system through which the students can learn and to present an informative tool which they can use to solve their queries and also receive the latest news running around the college on their mobile phone devices. With maximum people shifting towards smart phones and a boom in the android application market has motivated us to develop an Android application that will prove to be an informative tool for the students.

I. Introduction

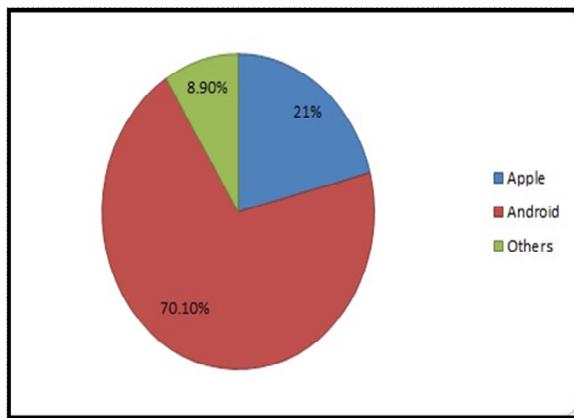


Figure 1

As seen in figure 1 the numbers of android users are comparatively more than other users hence a plan to develop an android application for ease of information flow in the college.

A novel approach to share information via an Android application between students and lecturers in order to enhance quality of information in campus environment via HTTP technology is hence introduced. Having countless android application on the market is not an assurance of having users' satisfaction. Some of them do not reach users' expectations due to lack of research on dealing with android-based application requirements. With the fast growing of smart phones and their applications, the needs for better application to be produced are needed. The plan is to create an ANDROID based application through which one can look for the Time-Table,

Attendance, Exam Updates and Assignment notices just by opening the application. Besides the curriculum it also provides Extra-curriculum information. With maximum people shifting towards smart phones and a boom in the android application market has motivated us to develop an Android application that will prove to be learning as well as an informative tool for the students across the campus. The concept of developing a campus information system seeks to provide a collaborative communication system anytime, anywhere throughout the campus. The objective is to provide a ubiquitous environment across the campus and to enable the user to find and access all information that is of relevance to him. To provide Time-Table, Faculty Details, Attendance, Examination Updates, Assignment Updates, Class-wise wall. To replace the conventional notice board system with a complete new logistic solution is proposed. The major objective is to provide the solution in an environment preferred by all. Since mobile devices have become more and more powerful and distributive, mobile computing has greatly changed the 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 across the world. As of now, for any update provided by the college, one has to refer to the notice board and share the information via call, text or other social networking chat applications where one can get spam/unwanted data.

This application will help parents to keep track on their ward's activity and regularity. The proposed system will save time and resources. Users will get detailed knowledge about things happening inside the college. Users will also have an idea of the places around the campus for recreational activities.

The project will enable the college student to download the study material such as question bank, assignment questions, tutorials etc. The process of e-learning can be incorporated with the project in the future to provide a robust learning system with the system being a communication system or bridging the gap for a better learning experience.

The major project **advantages** are aimed at addressing the major concerns like: Simplicity, Cost effectiveness and Security

- Untutored Access** – Simple and convenient to use: the user interface in VNBS is simple and very user friendly. The user can easily navigate through the application without any hindrance thus providing user satisfaction.

- Handiness** – The user, can access the application anywhere throughout the campus/off-campus thus proving mobility and useful at all times and at all places. In essence, the system brings the information to the users by bringing the user to the information.

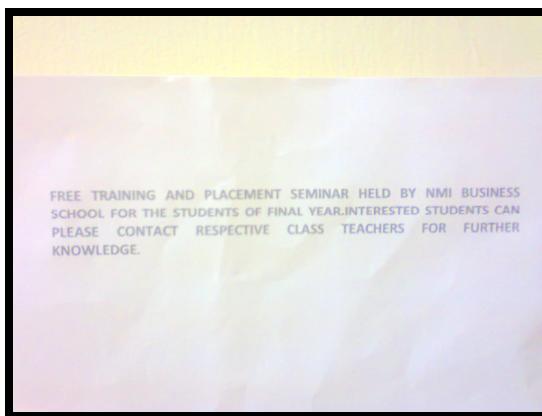
- Freedom of movement** – The VNBS application will be developed for Android based phones and most of the smart phones being Android 2.2 or Android 2.3, all applications work on these

platforms thus providing mobility and compatibility with all Android based smart phones.

4. **Time redemptive** –VNBS application provide ubiquity to the users which saves the precious time for the users and administration and makes the office timings constraints redundant for the students using the application, this is due to the automation of everything and the fact that there is no human intervention.
5. **Minimized Human Intervention** - Automatic processing of user request.

The need for developing the application was felt because the images or any kind of information sent by any messaging application are not clear. Clarity is the problem so to overcome this proposed system is been developed.

Image Shared via other social networking messaging services



On VNBS



II. Related Work

The application is compared to two of the existing systems i.e. Ediffy and Campus news Information system (CNIS). The problem with CNIS is it only provides academics related information and nothing related to co-curriculum whereas the proposed system provides information related to the curriculum as well as co-curriculum as it includes modules

like Wall Of Fame and Places to be which will help the users to know the places in the vicinity of the college like stationary shops, Food hubs, places to hang out with friends .Wall of fame is for the students who have done something that is unusual or out of box. The limitations of the Ediffy System are given in figure 2.

EDIFFY	PROPOSED APP
Desktop based	Mobile+Desktop
Useful for Teachers and Students only	Helps not only Teacher and Students but also parents to keep a tab on their wards.
Needs internet access every time.	Internet access >Not required for all modules (static). >Only required for a few(dynamic) modules.
Updates only about the curriculum	Updates not only about the curriculum but also for co-curriculum.
Log in every time to access.	Download once only.
Broadcasts information regarding institution	Provides information which is required by students on a daily basis.

Figure 2.Comparision between Ediffy and proposed system

III. Proposed System

Ubiquity across an enterprise or campus is a very positive and exciting experience for the students, faculty, staff and visitors to the institution. Having instant access to email, the internet, and other IT services irrespective of location can dramatically change the way your constituents live, work, study, learn, and play. Thus a ubiquitous environment across the campus wherein it will serve as a collaborative communicative system is provided. The concept of developing a campus information system seeks to answer these questions in a personalized way, at any time, at any location. The idea is to enable the user to find and access all information that is of relevance to him. All he needs is a smart phone which enables the execution of an android application. All used techniques are in themselves not new or unique, but the combination of instant messaging. On top of that, the system based on a platform made purely for research is in the stage of evolving into a product and is even now being utilized as a public service on-campus. There is also an approach to use mobile devices for interaction during classroom teaching. Altogether a situation on Campus, where students use their mobile device for learning and interacting is found via the proposed system.

Description of the Project:

The system design mainly focused on following sections

- i. The tool used is: Eclipse IDE
- ii. Technology used: HTTP based
- iii. Programming used: Android Programming

1) ANDROID SDK

The Android SDK is used in the project as it provides the API libraries and developer tools necessary to build, test, and debug the application.

2) PhpMyAdmin

PhpMyAdmin is a free software tool written in PHP, intended to handle the administration of MySQL over the World Wide Web. Has been used in the project for the backend purpose as it has many features.

Steps:

1. It starts with web application. It will have Login form. As mentioned, uploading the notices is strictly done by any 2 members of the department and the main administrator. After login, user will enter notification details and select number of app users. And clicking send, notification will be sent to respective users. Here Parse Push Notifications will be used.
2. This is the application part. In application, after first installation, it will send GCM registration code with username to the web application. So these details will be saved on web service side. One can choose any web technology to build web application. On database side MySQL will be used to save GCM code and Username.

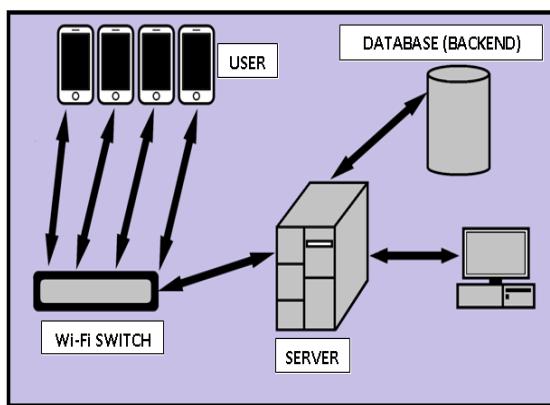


Figure 3.System Architecture

The architecture of the project will consist of three components:

- i. A web application as the user frontend,
- ii. A server application in the middle and
- iii. A freely scalable number of service nodes for delivering the information to the mobile devices

A web application or web app is any software that runs in a web browser. It is created in a browser-supported programming language (such as the combination of JavaScript, HTML and CSS) and relies on a web browser to render the application.

Web applications are popular due to the ubiquity of web browsers, and the convenience of using a web browser as a client, sometimes called a thin client. The ability to update and maintain web applications without distributing and installing software on potentially thousands of client computers is a key reason for their popularity, as is the inherent support for cross-platform compatibility. Common

web applications include webmail, online retail sales, online auctions, wikis and many other functions.

An application server can be either a software framework that provides a generalized approach to creating an application-server implementation, regard to what the application functions are, or the server portion of a specific implementation instance. In either case, the server's function is dedicated to the efficient execution of procedures (programs, routines, scripts) for supporting its applied applications. Most Application Server Frameworks contain a comprehensive service layer model. An application server acts as a set of components accessible to the software developer through an API defined by the platform itself. For Web applications, these components are usually performed in the same running environment as its web server(s), and their main job is to support the construction of dynamic pages. However, many application servers target much more than just Web page generation: they implement services like clustering, fail-over, and load-balancing, so developers can focus on implementing the business logic.

IV. Experimental Design

The Application after implementation will look like this:



V. Conclusion

The conventional notice board system has a lot of flaws and hence a need for alternate solution: mobile application is solicited. This mobile application will be a comprehensive tool that notifies users of all the day-to-day college activities. Using the application, timetables, attendance, exam alerts and assignment notices will be just a tap away. Besides the curriculum, the application also integrates extra-curricular information, making the application a complete logistic solution.

VI. References:

- [1] Wallace Jackson 'Android Apps for Absolute Beginners'
- [2] Roger S. Pressman 'Software Engineering: A Practitioner's Approach Book'.

[3] Jonathan Simon 'Head First Android Development, A Learner's Guide to Creating Applications for Android Devices'

[4] Ed Burnette. 'Hello, Android'

[5] 'Sam's Teach Yourself Android Application Development in 24 Hours '

[6] David McLaughlin, Gary Pollice and David West. 'Head First Object-Oriented Analysis and Design'.

[7] <http://jpinfotech.blogspot.in/p/android-ieee-projects.html>

[8] <https://developer.android.com>