"Academia" - An Android Application

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Abstract:-- An Android is a mobile operating system (OS) based on the Linux kernel. In the current scenario, the students are the larger users of Android Applications. The proposed system is an "Android Application for Engineering Institutions" which allows the students to view and download their Question Banks and get notified about both the technical and non-technical events at the college. The Application is developed using Android Studio with the help of Android SDK tools. The MySQL Server is used for storing the data. It helps the users to know about the most possible questions on each chapter for the Assessments as well as the University Examinations. Key Links are provided, which directs the users to the website where the study materials are available. It also helps in knowing the performance of the students, once the assessment details of each student has been uploaded in the Institution's Academic Portal. This app facilitates the student community to have an easy access to the study materials and it can be extended by various academic institutions in future.

Keywords—Android Application, Android SDK Tools, SQLiteDatabase.

I. INTRODUCTION

Android is an operating system that powers all the android devices. It is the heart of all the android mobile devices. It is an Open source technology based on Linux platform. There are numerous android apps developed. It could be downloaded for free of cost. The proposed work mainly uses the android platform to develop an application compatible with all android devices. This application enables the users of various departments of engineering disciplines to know the unit-wise important questions. This would help them to have a quick glance during their last minute preparation. In addition to this, the users are made aware of the upcoming news and events of the various departments in college. The users can also view the assessment details, once the performance of students in various assessment periods has been uploaded in the Institution's Academic Portal.

The major goal of the proposed system is to develop an android application that would retrieve and display the question banks from the database as per user's request. The question banks for various Departments are made available from which students can select according to their requirements. Students are free to download the question banks for their future use. This is achieved by

(a) Creating a backend application of the system which would be a web application that allows the authorized admin people to upload the necessary data items

(b) Implementing and deploying a database that would host the captured data

(c) Developing a frontend application which would be an Android application that would interact with the database with the web service and displays the data retrieved on the Android device.

II. LITERATURE REVIEW

Google Play store has one million Android Applications published, among which 50 billion applications were downloaded. In the corporate world, managers face a lot of difficulties in managerial decision making. The decisions taken by management are vital as it could make a company either overtake or stay within reach of its competitors. At times managers would tend to have voluminous information which would be tedious for them to extract the summarized corporate data for decision making. Delayed decisions would lead to organizational loss. In order to overcome that, the author developed an android app to facilitate quick managerial decisions

[1].The workers working at offices capture the data and store it in a central database. The managers access the data from the central database using android app. Android based ERP system helps to maintain the data of ERP at centralized location. The author had developed an android app that allows the users to access the data from anywhere in the world.

[2].In this app the access includes both storage and retrieval of data for the authenticated users. In addition to

this the author provides the facility of tracking the office personal (Sales Person) using GPS. The location of the

personal is sent to the server who can be tracked on Google Maps. Manager can easily retrieve data in the form of report which helps them in decision making. It provides live updates to Director and helps them in monitoring the business and undertaking the strategic decision making.

"I am in ASEAN" is a learning media app that enhances the knowledge about the ASEAN community. The author mainly focuses on the children and the youth to get a vast knowledge of the member countries of the ASEAN community.

[3]. The app is an alternative to learn about ASEAN community. It comprises 5 topics – ASEAN Community, their countries, flags, costumes and the way they greet. It attracted the children with the colorful images which urges them feel joyful and sounds interesting for them to repeat with the app. The author had developed an android application.

[4] Which manage student details like Personal, Academic and Placement details and keeps them updated with the latest events in the college. The app focuses on staffs, students and parents. The app automates the procedure of managing and controlling the student details, thereby reducing the overhead of managing paper documents. The users need to register and login with the proper credentials in order to upload their details. The students need to register at the beginning of every semester. There is a discussion forum available where the teachers can upload notes, respond to the queries of the students. The students are also given access to upload the notes. The notices are uploaded and broadcasted to the respective classes alone. Attendance of the students are generated as reports and sent to the students and their parents. To avoid the difficulty of searching for a good college and to clear the entrance examination the author has proposed an android app – "My College Finder"

[5] This app facilitates the search and helps the users to find their appropriate college. It reduces the effort, and saves time and money spent on the search for the appropriate college. The list of colleges are displayed to the user according to the higher secondary cutoff marks. The students have to register and login, after which they are mandated to fill in their entrance examination's score along with their desired engineering stream. With the help of standard SQL Queries the list of colleges are fetched from the SQL DATABASE. On selecting a particular college, its location is provided to the user. "Scribd"

[6] Is an online library app that enables the students to find millions of documents and books relatively important for their studies. It's a reader's paradise. The world wide data

are organized according to their topic. They could find their favorite books in all genre. Millions of books and comics are available for endless reading. Audio books are also available. Data are easily shared by people from all over the world. Monthly membership is provided for the users and it is of automatic renewal unless and until the users cancel the membership. "EasyBib"

[7] Is an app for searching books. The majority of the app users are the college students. In this app, they could get the right citation just by entering the title of the book. The citations are added by logging in with the Easy Bib. com's account from the mobile devices. Those citations are perfect and accurate as it is checked by Librarians and Teachers from various Universities.The "EasyBib" app includes various citations styles of Harvard, ASA, AMA, CSE and ACS "Todoist"

[8] Is a to-do list app that helps the users to stay organized. It features a very simple, day-based interface so it helps to wake up, check details, and see what the users need to do that day. This is great for keeping assignments in order and users can tag tasks. Users can know exactly what it's for. There is also a desktop application so users can sync the tasks between platforms. It's simple, effective, and it works. "Udemy"

[9] Wants to be a university replacement app. And it's a valuable resource for college students. It has classes that can freshen up on topics and also helps to learn new ones. In college, students may need a little extra help in learning some concepts in some areas and "Udemy" is perfect for that sort of learning. The sessions can get a bit expensive but there are plenty of cheaper and free ones to choose from. It's worth a shot if the users need a little supplemental learning."Feed.ly"

[10] Allows the users to be updated with the news and events all around. College students always want to know everything, but it may be quite difficult to do because of constant deadlines, part-time jobs, overdue essays, exams, etc. Feed.ly is here to help the students in dealing with the above problems. This is one of the best RSS aggregators. It lets the users/students to consolidate all news into one feed. Helps to check the news, and get notified every time something interesting appears. On the search for the appropriate college. The list of colleges are displayed to the user according to the higher secondary cutoff marks. The students have to register and login, after which they are mandated to fill in their entrance examination's score along with their desired engineering stream. With the help of standard SQL Queries the list of colleges are fetched

from the SQL DATABASE. On selecting a particular college, its location is provided to the user. "Scribd"

III. PROPOSED SYSTEM

A. System Components

The system architecture of the proposed system is shown in *Fig.1*. It includes the college source for the app, and the server. A web service is used to communicate between the server and the app. A PHP page is created to feed the college data into the database which is present in the server. The page contains registration facility which enables only the authenticated users to login. Only the authorized users have access to the data in the server.
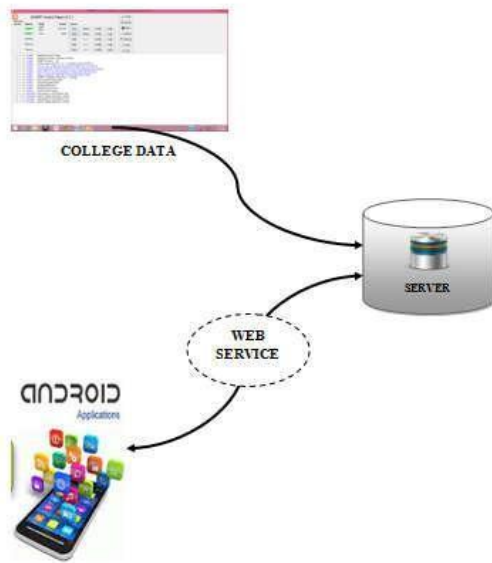

Fig.1. System Architecture

The notification of news and events of the college remain public where as the question banks of various departments allow only the authorized users to have access.

B. Module Description

The modules of the proposed system are represented in *Fig.2*. There are 3 different modules namely - Question Banks, Key Links and Notification. The home page allows the users to select their graduation (U.G / P.G). According to which they will be directed to the question banks page.
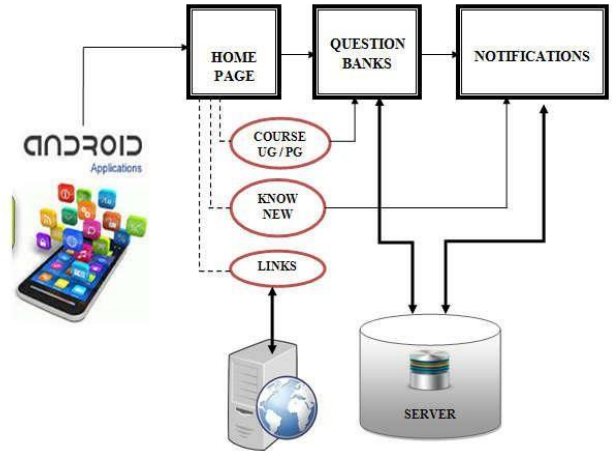

Fig. 2. Modules of Proposed System

In *Fig.3*, the HOME Page of the app is shown. It contains the list of modules as menus. On clicking those menus, the users will be directed to the corresponding module's activity screen.
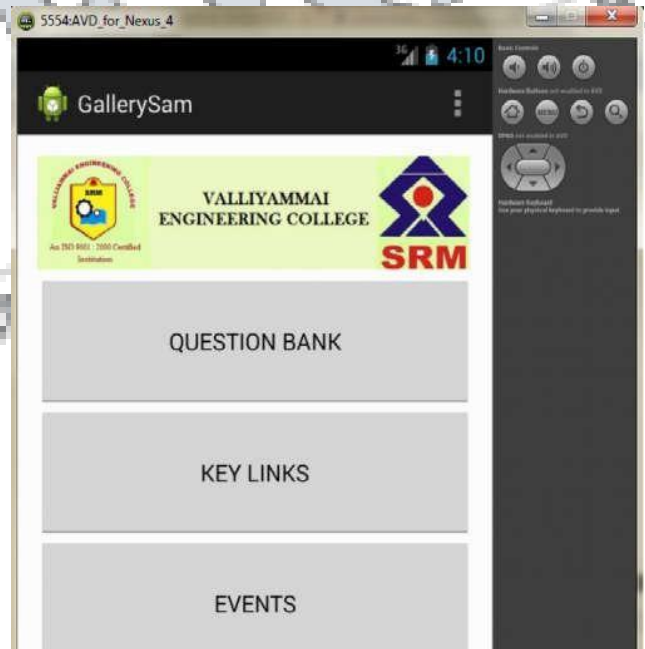

Fig.3. Home Page

The question banks are uploaded by the authorized staff to the database present in the server. To get authenticated, staffs need to register themselves in PHP page at the backend of the system. They are requested for their name, email-id and a password. Once they register, their credentials are saved at the SQLite Database. The staff need to login with the registered credentials, otherwise they would not be given access for uploading

data. It has been considered that the question banks should be of PDF format. The question banks are provided for the regulations R2008 and R2013 as per Anna University syllabus. The view of one of the question banks is shown in *Fig.4*. The concerned college students can download the question banks through proper credentials.
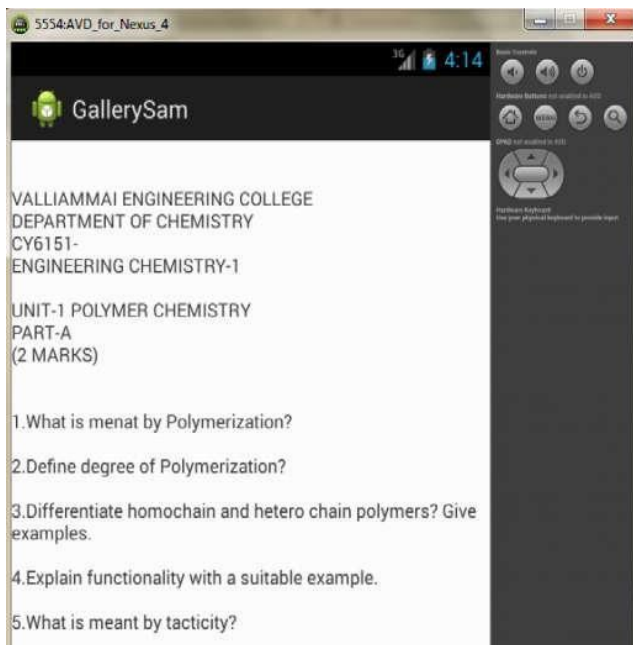

Fig.4. Question Bank

In *Fig.5*, the key links provided leads to the websites having study materials related to the question banks uploaded. There are number of websites to refer with and we have analyzed and chosen the best among them. The key links which are given in the app includes both the study materials and university links. Links of study materials are directly given with which it is the website's responsibility to filter the request and give the required materials. The website includes both the Anna University's official website and their Web Portal. The official website gives the information about the date of examination, date of results, conferences, journals and other important details related to academics. The Web Portal in general has the complete details of the students. Their assessment marks and attendance details. At the time of the University examination the University calculates the internal marks according to the assessment marks and attendance of each individual and uploads in the Web Portal. The students can login with their register number and date of birth and get to know about their internal marks.
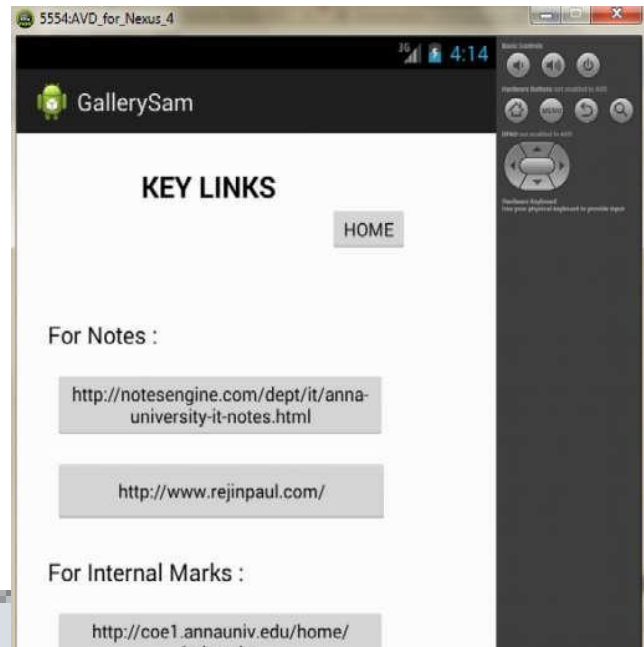

Fig.5. Key Links

Notification module tends to have the latest news and events of the college. It includes both the inter and intra events. Those events may possibly include Symposium, Conferences, Seminars, Webinars, Guest Lectures, Workshops, Value Added Courses, Cultural programs, etc.,

IV.   SYSTEM IMPLEMENTATION

The major goal of the proposed system is to ease the use of college sources like question banks and to provide easy updating of the upcoming news and events. The proposed system facilitates these requirements. The Table I is a brief detail about the implementation specifications.

TABLE I. IMPLEMENTATION DETAILS

Software Used	API Level	Version	Application
Eclipse	17	Jellybean	
Android Studio	23	Lollipop	Native and HTML

The backend is created with the help of PHP so that the college staff can easily update the information to the students. In this page only the authenticated staffs are allowed to update the information. The staffs need to register with proper credentials and use the same to log-in the PHP Page. Once they are properly authenticated, they

can upload the subject materials and notification messages to the database. They also have access to remove the outdated notifications. The frontend is created with the help of android studio in conjunction with java programming language. The frontend communicates with the database using web service. This web service retrieves the data from the database and displays it to the user. The user pertaining to the college that has created the application can alone access the study materials. The notifications remain common to all the users. A part of manifest code is given below,

Manifest File –

```
packagecom.example.jak;
importandroid.os.Bundle;
importandroid.app.Activity;
importandroid.content.Intent;
importandroid.view.Menu;
importandroid.view.View;
importandroid.widget.Button;
public class MainActivity extends Activity
{
Button b,b1,b2,b3;
@Override
protected void onCreate(Bundle
savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
b=(Button)findViewById(R.id.button1);
b1=(Button)findViewById(R.id.button2);
b2=(Button)findViewById(R.id.button3);
b3=(Button)findViewById(R.id.button4);
}
public void qb(View v){ Intent
i=new
Intent(MainActivity.this,One.class);
startActivity(i);
}
public void not(View v) { Intent
i=new
Intent(MainActivity.this,Two.class);
startActivity(i);
}
public void kl(View v) { Intent i=new
Intent(MainActivity.this,Three.class);
startActivity(i);
}
public void gal(View v) { Intent
i=new
Intent(MainActivity.this,Four.class);
startActivity(i);
}
```

```
@Override
publicbooleanonCreateOptionsMenu(Menu menu)
{
// Inflate the menu; this adds items to the action
bar if it is present.
getMenuInflater().inflate(R.menu.main, menu);
return true;
}
}
```

V. CONCLUSION

This app enables the users to could have an easy access to the question banks instead of getting into the college website and searching for the question banks of their desire. It also narrows down the search for the notes and materials required for the subjects. The notifications that are given through the app are very much advantageous. It helps the users to be updated with the college events. The development of this application can be extended with additional features that are more useful for the students.

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[9]https://play.google.com/store/apps/details?id=com .udemy.android&hl=en

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