

# "Lecture Feedback Polling Using Android Devices"

Project Report

Submitted in partial fulfillment of the requirements for the degree of

**Bachelor of Engineering**

by

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**Academic Year : 2015-2016**

# CERTIFICATE



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This is to certify that the project entitled *Lecture Feedback Polling Using Android Devices* is a bonafide work of **Ansari Moina M.D Akhtar Amina(12CO01), Shaikh Aqsa Arif Mumtaz(11CO09), Shaikh Israr Shaukat Ali Hajra(11CO41), Shaikh Yashab Mohammed Yakub Shamim(13CO73)** submitted to the University of Mumbai in partial fulfillment of the requirement for the award of the degree of **Bachelor of Engineering in Department of Computer Engineering.**

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## Project Approval for Bachelor of Engineering

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## **Declaration**

We declare that this written submission represents our ideas in our own words and where others ideas or words have been included, We have adequately cited and referenced the original sources. We also declare that we have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in our submission. We understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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# **Abstract**

## **Title: Lecture Feedback Polling Using Android Devices**

The feedback activity provides topics to stimulate conversation in the class and provides the lecturer with immediate feedback about student views and understanding that can help direct in-class learning to address gaps in knowledge and understanding. Using computers and other electronic devices in education is not a new concept, involving mobile devices into an every-day classroom setting is something relatively innovative. This idea is strongly supporting new and emerging mobile learning paradigms. The feedback using mobile devices is quiet a new forms of opportunity and educational dynamics for collaborative interaction and feedback from students remain to be utilised and explored.

The interactivity and enhancing the teaching â€ learning methodology is an important aspect of our system. Our system is an android application as well as web-based application. This system is based on polling (voting). Feedback polling is done by the students using their android mobile devices. This needs wireless connection(data connection or Wi-Fi). The system is mainly designed for better interaction between students and teachers. The polling is done by studentâ™s for the particular lectures. This system can lead in enhance progress of students learning experiences and teachers improved way of delivering their subject knowledge.

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# Keywords And Glossary

## Keywords :

Polling System, Mac Address, Android Mobile Device, Web Based System.

## Glossary :

### A

**Android** is a mobile operating system developed by Google. It is used by several smartphones, such as the Motorola Droid, the Samsung Galaxy, and Google's own Nexus One.

### C

**Clicker Devices** is the hand-held remote control that students use to convey their responses to questions is often called a clicker devices. **D**

**Database** is a collection of information that is organized so that it can easily be accessed, managed, and updated.

### F

**Feedback** is a process in which the effect or output of an action is 'returned' (fed-back) to modify the next action.

### L

**Login** is act of logging in to a computer, database, or system. A password or code used when logging in.

### P

**Polling** is Record the opinion or vote of Check the status of (a device), especially as part of a repeated cycle.

### R

**Registration** is action or process of registering or of being registered.

### W

**Web application** is the web based system.

**Web service** is the middleware of the system.

# Chapter 1

## Project Overview

### 1.1 Introduction

Usually, for almost all the student, it is difficult to ask question in the lecture. It means which topic student understood or not. Normally, feedback is conducted on the monthly basis which is regarding the Teachers teaching aspects. Thus we have designed our system, which has two Applications are as follows:

1) Android Application 2) Web Based Application

#### 1) Android Application:

In Android Application, there are two Android Application are as follows:

i) Teacher Android Application ii) Student Android Application

#### i) Teacher Android Application:

In Faculty Application, First need to registration through web based system which is control by HOD(Head Of Department). Second login into teacher application. Then add the topic which is to be covered in the lecture and start the session. Third stopped the session and see the vote. That votes in terms on rating. If no. of students are more than 70% which is not understand the lecture then repeat the lecture. else lecture will be successfull.

#### ii) Student Android Application:

In Student Application, First need to registration on Student Android Application. Second

login on that application. Student view the topic which is covered on that lecture. then vote for that lecture.

## **2) Web Based Application:**

In Web Based Application, only privilege to HOD(Head Of Department). HOD access web based application through login ID and Password. HOD add the faculty detail and see the student detail and also view report of faculty feedback.

The student and teacher need to register with their academic details. Student registration is done on android application and teachers registration from the web-based application. After registration they both can access their own android application with their login details - username and password. The system requires the wireless connectivity. It is based on the polling (voting). It is done by each students about every lecture held in the class.

In this polling feedback system, whatever the topic conducted in class, students need to give their lecture feedback using android application - whether they have understood the particular topic held in the class, or not. The feedback from students is carried out by the teacher's android application. All the feedback are sorted in the form of yes and no votes, which is displayed on teachers android application and he/she can analysis the voting result that how many students understood the lecture. If more number of student vote for, does not understand the lecture (i.e. more no. of votes with - Dislike), then according to the analysis report, teacher will repeat the lecture for that particular topic.

### **1.1.1 Motivation**

In this project we are describing the polling system for student feedback. For this project we have referred and done the analysis part of other student feedback system. Each and every system has their own methodology of student's feedback.

If kept one's eye on practical aspects about the current feedback methods in colleges, the feedback is mostly gain in every monthly period. This process of feedback is done on online feedback form. This feedback is expected from student. The feedback is given about the teaching methods, efforts of teaching, teaching techniques like class test, assessment etc. by the teacher. The overall monthly feedback of all teachers from students is considered, from each particular department. Here what happens is, if some students would not understood any part of lectures topic or have some grasping problem then, the teacher would not come to know properly about where the improvement in teaching should progress.

So we are trying to concerned a step ahead in this online feedback strategies. To overcome these issues, we would initiate our polling system. This system is design so that we can improve the inculcation and interpretation factors of teaching staff. It would increase the learning as well as developing capabilities and abilities of students. Also it would be increasing better interaction between the teachers and students. It would enhance and increment the interaction between the teachers and students.

## 1.1.2 Advantages Over Current System

- All the student's polling has its own android mobile.
- Student and teachers no need of extra polling device and all the student's and teachers aware of using android phone so they are easily operate and poll.
- No need of extra devices because its very costly for colleges. Its difficult to provide devices to all student's and teachers.
- Less chances of feedback from students not attended the lecture. Because we are using rating system and any student which is not attende the lecture they can easily find out.
- Feedback activity is improves better interaction between teacher and student.
- Enhancement of knowledge gain.

## 1.2 Proposed System Architecture

Lecture feedback polling system is an android applicaton and is also a web-based application. It has a many modules according to the flow of the feedback process. There are two main users -Student and Faculty. Student give their lecture feedback through polling. Faculty receives the feedback in the form rating. Faculty gets feedback through polling that how many students understood and not understood the lecture. The same rating of feedback is generated on web-based application in the form of graph.

The explanation of the above architecture is as follows:

### **Central System:**

In central system, we store the information about student's registration details, login details, voting details, teacher's registration and login details. At first, system give access to student and teacher by registering their details. After this, system collect's votes from students and all the votes are forwarded to the vote sorter. Vote sorter sort all the votes and generate the rating and graph on the basis of votes then, all the vote information store in the database.

### **Audit System:**

Audit system retrieve the information of sorted vote from database. On the basis of graph audit system decide to whether the lecture successful or not. If lecture is unsuccessful then audit system forward to the task manager.

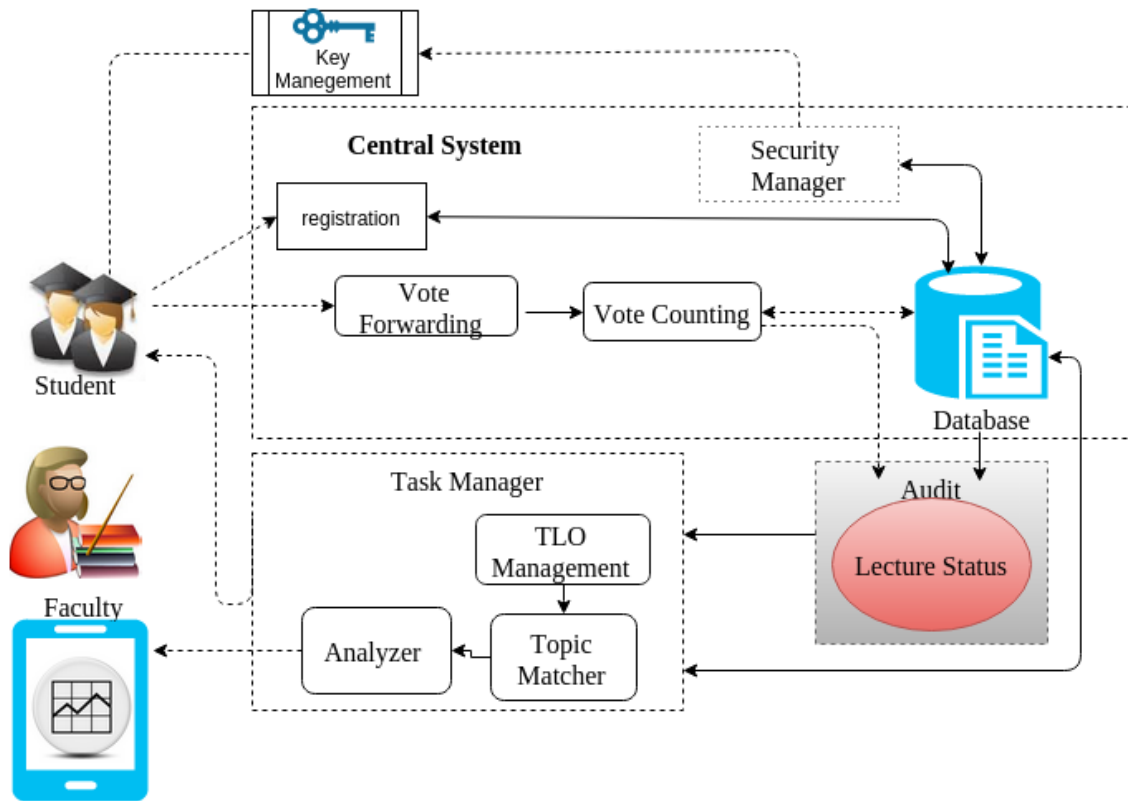


Figure 1.1: System Architecture

**Task Manager:**

Task manager retrieve the TLO from database and match with the topic covered in lecture. Then students select options which topic they are not understand. again the vote are collected on the basis of student not understand for particular topic. then teacher see the graph how many student not understand for which topic. then teacher decide the lecture repeat or not

## 1.3 Organization of the Project

The remaining part of the project is organized as follows.

**Chapter 2** presents a review of related work.

**Chapter 3** introduces the Software and Hardware Requirement of the project.

**Chapter 4** proposes the Project Design of the Project . It represent the architectural design, front end design and database design of the project.

**Chapter 5** introduces the system model and some basic assumptions and Dependencies of our work.

Chapter 1. Project Overview

**Chapter 6** presents the Results and Test cases related work.

**Chapter 7** Described the time management and time utilization during the Project implementation.

**Chapter 8** Described the Workload distribution.

**Chapter 9** provides some concluding remarks and directions of our future work.



# Chapter 2

## Review Of Literature

### 2.1 Use of a Classroom Response System to Enhance

This paper give us the overall information of use of classroom response system. It states that this response system was mainly planned and design for interactive classroom activity. And also to enhance teaching as well as learning trends. This type of classroom response system was evolved to overcome common teaching-learning methods because there are some issues with common classroom activities such as oral questioning, limited timing of lectures, conservative manner seating arrangement, and most common, some students shy behavior to speak out in class.

In this paper it is mentioned that they have made use of wireless handheld transmitters (clickers). It collects all the votes from the students and displays the overall voting results in the classroom itself. They have adopted a Hyper-Interactive Teaching Technology (H-ITT), a software which allows instructors to include multiple-choice questions or true/false questions in Power-Point slides and students need to answer the questions through clicker devices by pressing the respective voting buttons. Each students response are captured, analyzed, and displayed in the class. And hence, students also gets an immediate feedback on their learning performance.

#### 2.1.1 Pros

- Class room response system improves interaction between students and teachers.
- Make use of Clicker devices for voting feedback.

#### 2.1.2 Cons

- Using the clicker devices it is very costly.

- Classroom response system(the clickers) is a new technology its take time to understand clicker devices.
- Often clickers are distracting during class
- Sometime devices do not work accurately.

### 2.1.3 How we overcome Those problem in Project

- Our system is also based on voting(polling) mechanism. We have analysed in the above referred paper that their vision was also for improvement and enhancement in classroom learning and teaching techniques. They have cited the usage of student response device referred as clickers and with some limitations. Not all the disadvantages and limitations can be overcome, but in our system we are progressing to lower the existing limitations with respect to qualitative and quantitative aspects.

## 2.2 Socrative Application

### 2.2.1 Description

In this paper there are two main apps, student socrative app and teacher socrative app. Socrative is a smart student response system that empowers teachers by engaging their classrooms with a series of educational exercises, games, and assessments.

Socrative runs on any platform: smartphone, tablet, internet, etc. free to the teacher and student. Teacher register on teacher socrative app and automatically generate random number. After this student login on student socrative app and using teacher random number they will give feedback.



Figure 2.1: Socrative Student App And Socrative Teacher App

### 2.2.2 Pros

- Using the socrative application is less costly than clicker devices.
- Feedback is based on MCQs, true or false, etc.

### 2.2.3 Cons

- Questionnaire is mainly focused on multiple choices and true/false
- Some students are less serious with respect to voting mechanism
- Voting activity takes on class time which can lead to less time for learning

### 2.2.4 How we overcome Those problem in Project

- We are providing the efficient and easy polling feedback mechanism. It is just based on the lecture feedback where student should poll either like or dislike for particular topic. It will be considered after the lecture. hence, our system less time consuming and effective.

## 2.3 DEVELOPING A SMS - BASED CLASSROOM INTER-ACTION SYSTEM

### 2.3.1 Description

It allows students to send questions or comments to the instructor's laptop via SMS without interrupting the class. The instructor is able to read the messages on the laptop screen and decide whether and when to comment on the message received. Replies to questions that were not addressed during class could then be supplied by the instructor afterwards via SMS or a traditional discussion forum.

During the class, the instructor presents a slide containing a question related to the topic, with four possible responses (A, B, C, D). Students discuss the question and then use their mobile phones to select an answer. A real-time graphic display showing the aggregated results can be displayed on the main screen. This feature is used mainly for concept tests or to trigger class discussions.

In the beginning of each lecture a slide was presented reminding students that if they have a question or comment they may raise their hand or send an SMS. The instructor's mobile phone number also appeared in a corner of all remaining presentation slides. The interactive

quiz happened only once per lecture and students were invited to discuss their answers with the people next to them before casting their votes. In addition, students were informed that by sending a message their mobile phone number would be disclosed, however their identity would remain anonymous.

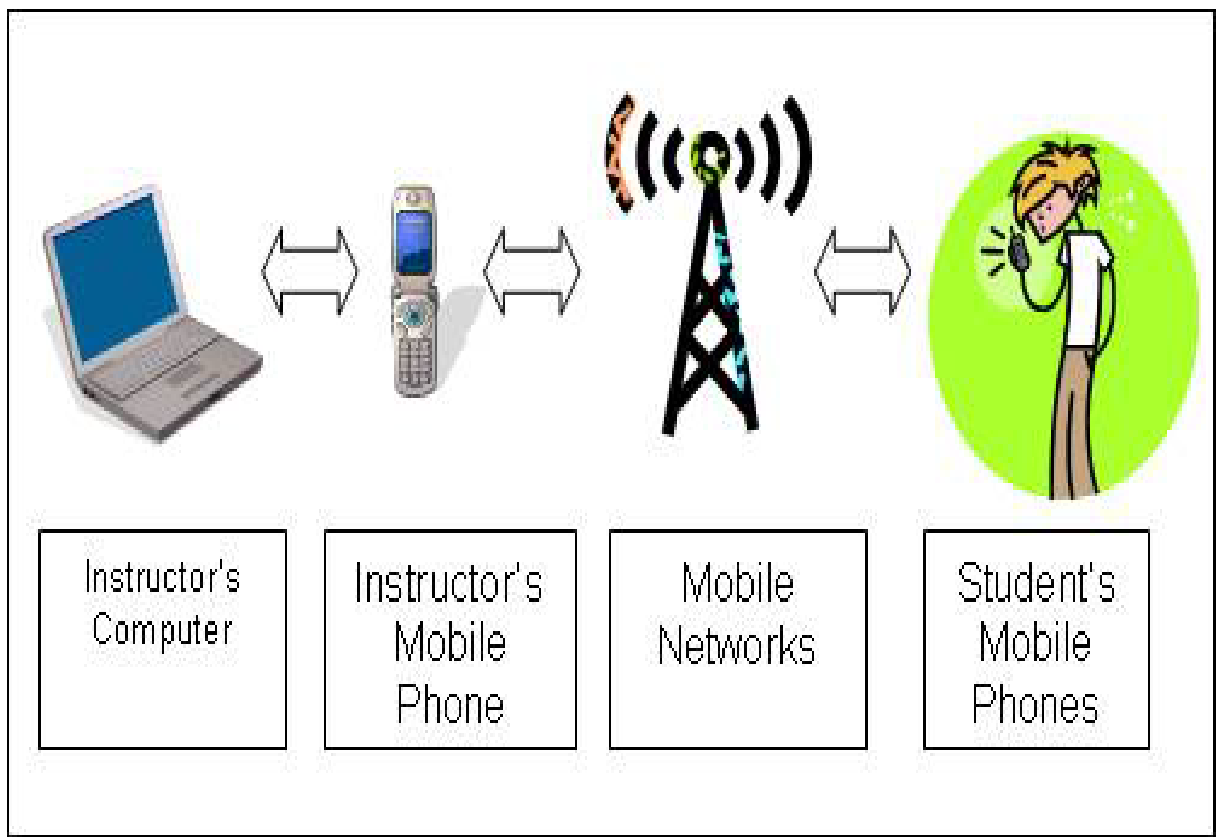


Figure 2.2: Classroom Interaction System

### 2.3.2 Pros

- Each student give the feedback or comment related to questions and quiz being dispalyed on the main screen
- lecturer perceived a gain of quality and quantity of feedback from the students - making classes more interesting and interactive.
- Students were informed that by sending a message their mobile phone number would be disclosed so that, each students feedback is stored and related response report or graph is generated accordingly

### 2.3.3 Cons

- Student can give response during lecture which is quiet distracting and time consuming. Student can even use their mobile device for their personal purpose during the class.

- They have made use normal sms - based response. Not an advance software or applications.

### **2.3.4 How we overcome Those problem in Project**

- The response process can be taken after the lecture to keep less distraction. There can be more interactive methods so that there can be an improvement in the students knowledge based on their academics. Instead of using sms based response, many other advanced software applications can be used. This can also increment the students knowledge with day-to-day updation of the technology related to the hardware and software applications.

## **2.4 Technological Review**

### **2.4.1 Eclipse-ADT**

Eclipse is an open-source platform of extensible software development application frameworks, tools and run times that was initially created as a Java-based integrated development environment (IDE). Android development tool (ADT) is a plugin for the eclipse IDE that is design to give integrated environment to build android application.

### **2.4.2 .NET**

The .NET framework is a software development framework from Microsoft. It provides a controlled programming environment where software can be developed, installed and executed on Windows-based operating systems. .NET is central to Microsoft's over-arching development strategy and is the organization's competition to Java. It is so central to development on Windows platforms, the term's usage depends on context.

### **2.4.3 SQL**

Structured Query Language (SQL) is a standard computer language for relational database management and data manipulation. SQL is used to query, insert, update and modify data. Most relational databases support SQL, which is an added benefit for database administrators (DBAs), as they are often required to support databases across several different platforms.

# Chapter 3

## Requirement Analysis

### 3.1 Software Requirement :

The Software Requirements in this project include:

#### 3.1.0.1 Web Application

- IDE : MS Visual Studio 2010 Ultimate
- Framework : .NET v4.0
- Front End : ASP.NET
- Back End : VB.NET

#### 3.1.0.2 Web Service

- IDE : MS Visual Studio 2010 Ultimate
- Framework : .NET v4.0
- Platform : WCF (Windows Communication Foundation)

### **3.1.0.3 Android Application**

- IDE : MS Visual Studio 2010 Ultimate
- Framework : .NET v4.0
- Platform : WCF (Windows Communication Foundation)

### **3.1.0.4 Database**

- IDE : MS SQL Server 2008 R2
- Framework : .NET v4.0

### **3.1.0.5 Browser**

- Internet Explorer, Mozilla Firefox, Google Chrome etc

## **3.2 Hardware Requirement :**

### **3.2.1 Hardware Required For Project Development:**

- Dual Core 2.4 GHz processors or higher with 2 GB RAM Minimum Or Intel I3 processor or equivalent CPU with 4 GB
- RAM Recommended: Intel I5 processor or equivalent CPU with 4GB+ RAM
- 50+ gigabytes hard drive space, SATA 7.2k RPM, 32MB cache
- LAN 100Mbps hardware connectivity
- Better display resolution

# Chapter 4

## Project Design

### 4.1 Design Approach

Design is the first step in the development phase for any techniques and principles for the purpose of defining a device, a process or system in sufficient detail to permit its physical realization. Once the software requirements have been analyzed and specified the software design involves three technical activities design, coding, implementation and testing that are required to build and verify the software. The design activities are of main importance in this phase, because in this activity, decisions ultimately affecting the success of the software implementation and its ease of maintenance are made. These decisions have the final bearing upon reliability and maintainability of the system. Design is the only way to accurately translate the customer requirements into finished software or a system. Design is the place where quality is fostered in development. Software design is a process through which requirements are translated into a representation of software. Software design is conducted in two steps. Preliminary design is concerned with the transformation of requirements into data.

### 4.2 Software Architectural Designs

Our system follows the three tier architecture. First tier consist of GUI, second tier is Web Service and third tier is the Database.

- 1. GUI :** The GUI(Graphical User Interface) of android application and the web application in our project deals with the interface for the user(Student and Faculty) The teacher login with their login details and accordingly enter the topic name and description to receive the feedback. Student also login with their login details and votes for the same particular topic. The GUI provides a platform for the to communicate with the database.



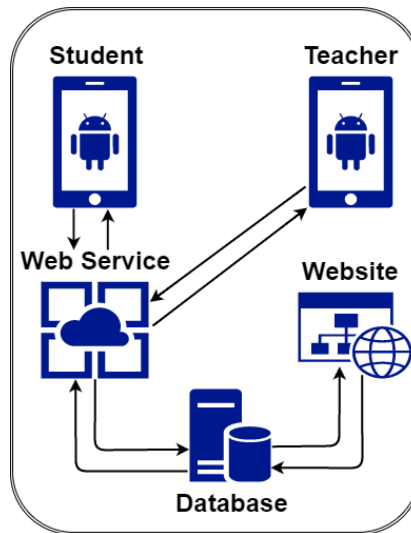


Figure 4.1: Software Design Architecture

**2. Web Service:** Web Service acts as the middleware of our system. This connects the GUI to the database i.e. It acts as a connector which connects the database and helps in transfer of data between the GUI and the database. Its main function is to collect all the votes, compare the votes, registration details, login details and store it into the database.

**3. Database:** Database tier is the tier used for the storage of data. This tier contains all the data that is need for the processing of the whole project. The data in the database is related to the student registration and login details, teachers registration and login details, votes collected and vote sorted.

#### 4.2.1 Front End Designs

The screenshot shows the front end design for 'Admin Login'. The title bar reads 'Android Based Polling Ensuring Evaluation of Lectures'. Below the title bar, there is a section titled 'Admin Login'. Underneath, there is a sub-section titled 'Login Only Head of Department'. The login form includes a 'Username' field with the value 'hod', a 'Password' field with three asterisks, and a 'Login' button.

Figure 4.2: Front End Design

### 4.2.2 Deployment Diagram

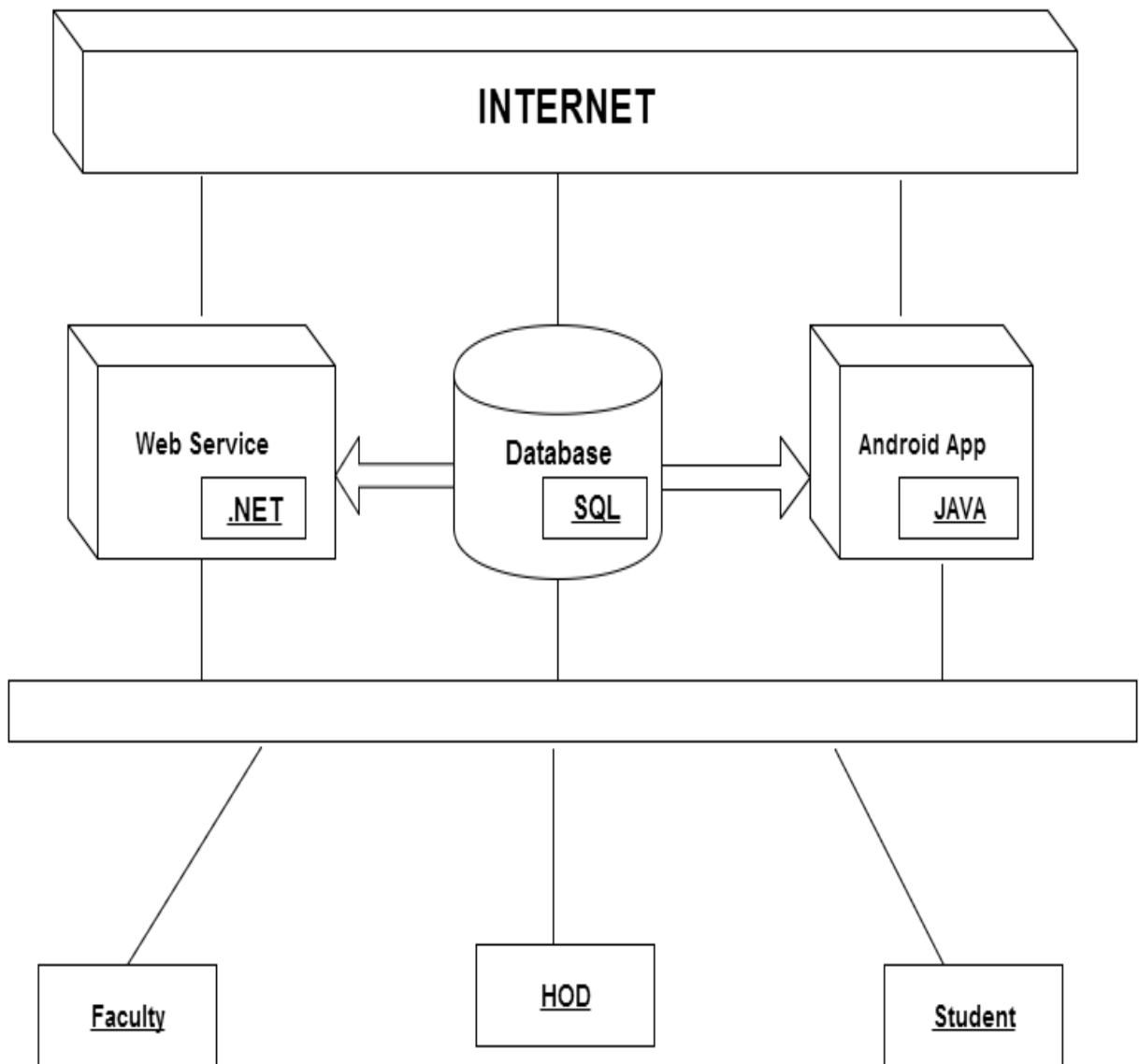


Figure 4.3: Deployment Diagram of Lecture Feedback Polling System

## 4.3 Database Design

### 4.3.1 E-R Diagram

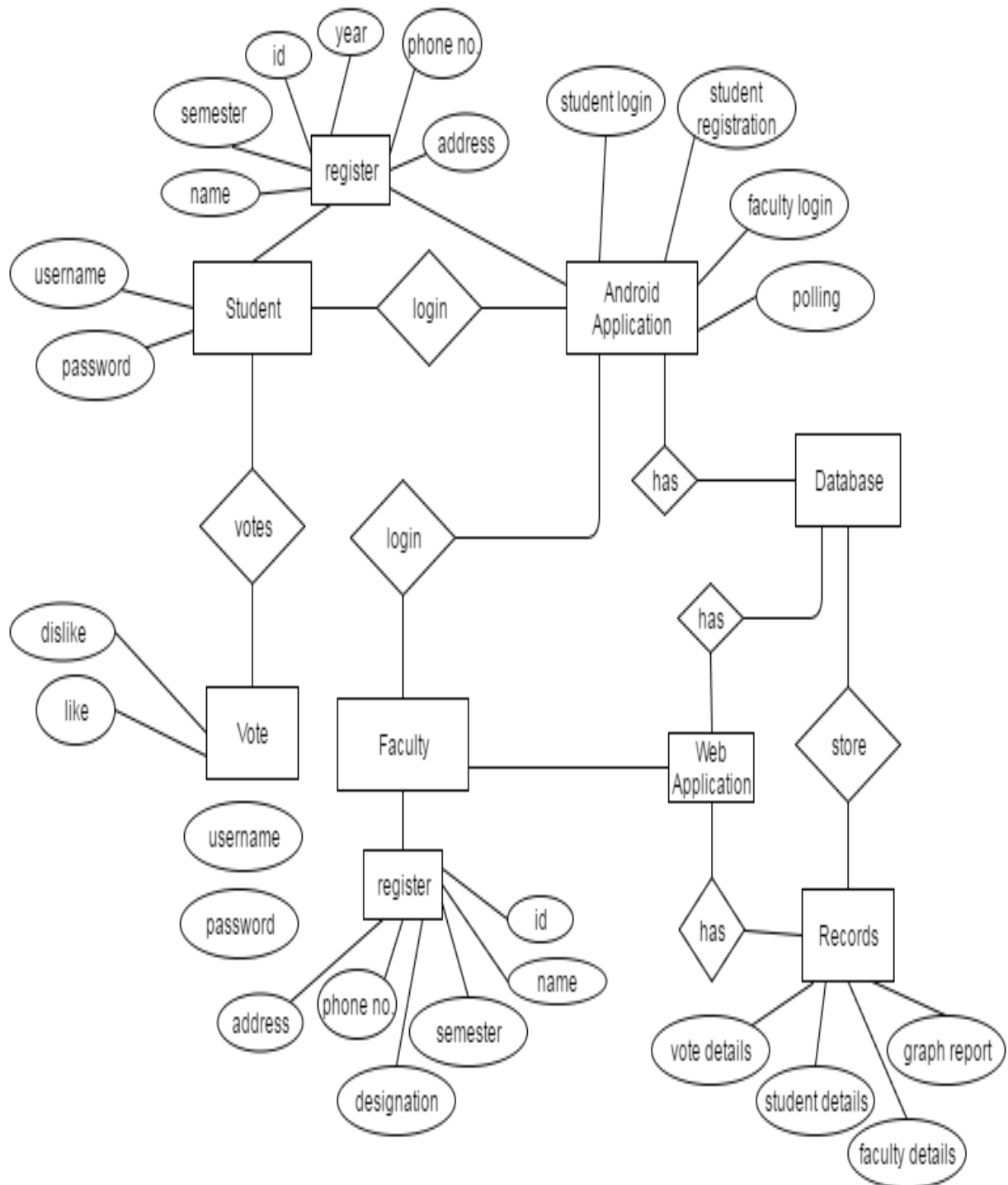


Figure 4.4: E-R Diagram of Lecture Feedback Polling System

## 4.4 Work-flow Design

### 4.4.1 Flow Diagram

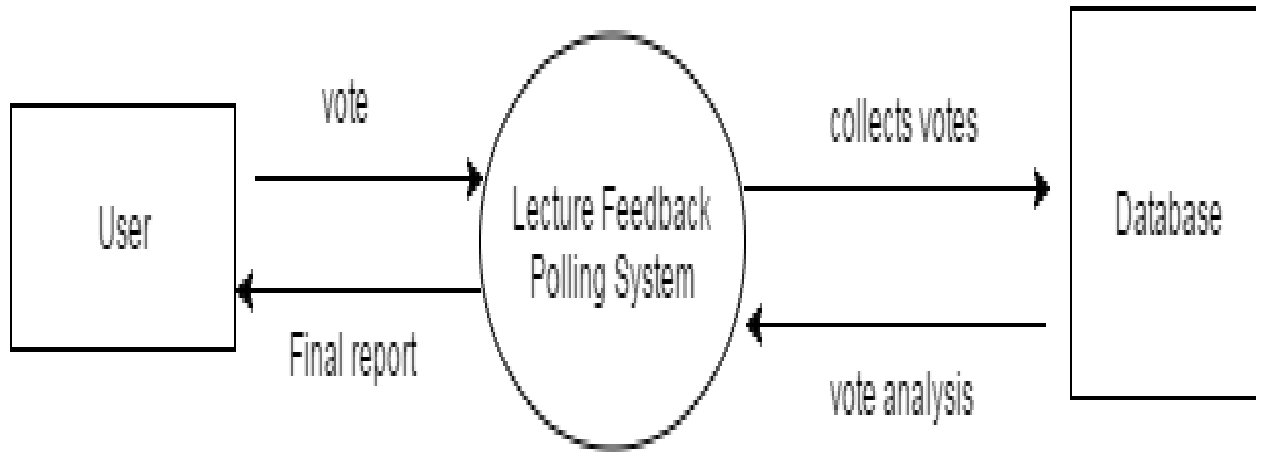


Figure 4.5: Level 0 DFD of Lecture Feedback Polling System

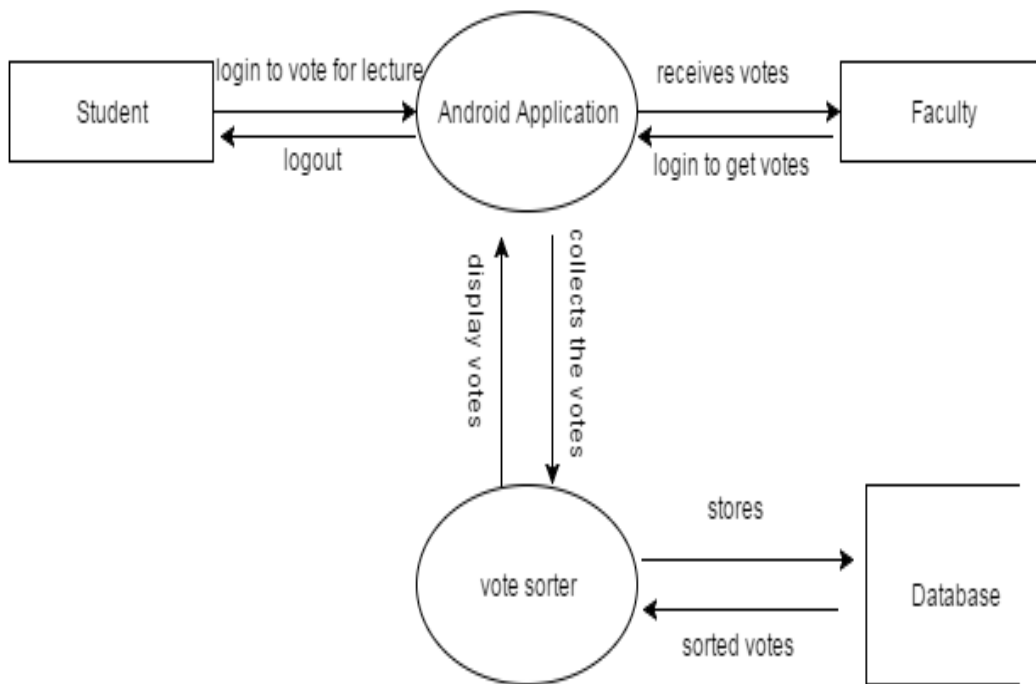


Figure 4.6: Level 1 DFD of Lecture Feedback Polling System

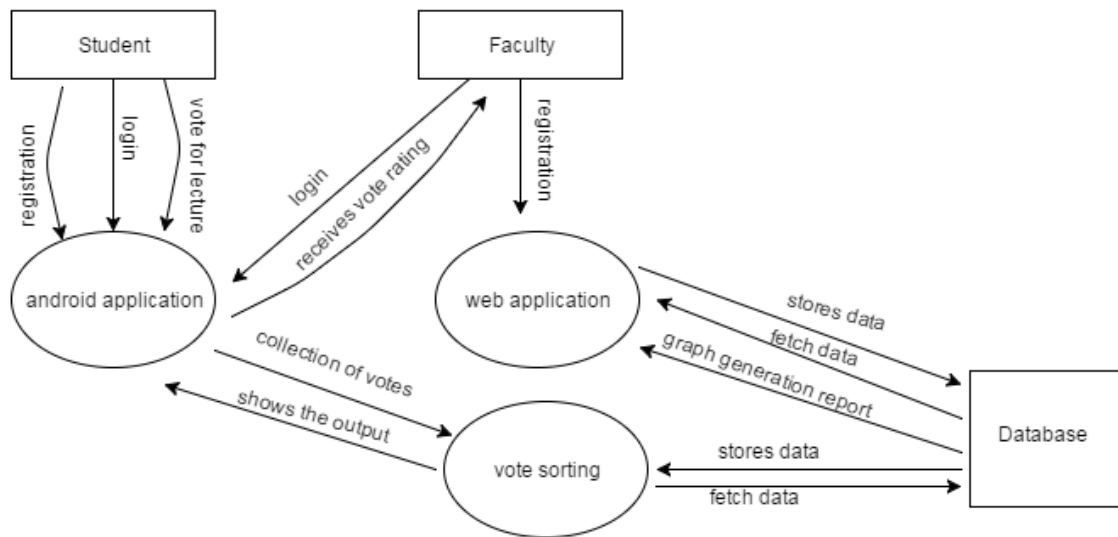


Figure 4.7: Level 2 DFD of Lecture Feedback Polling System

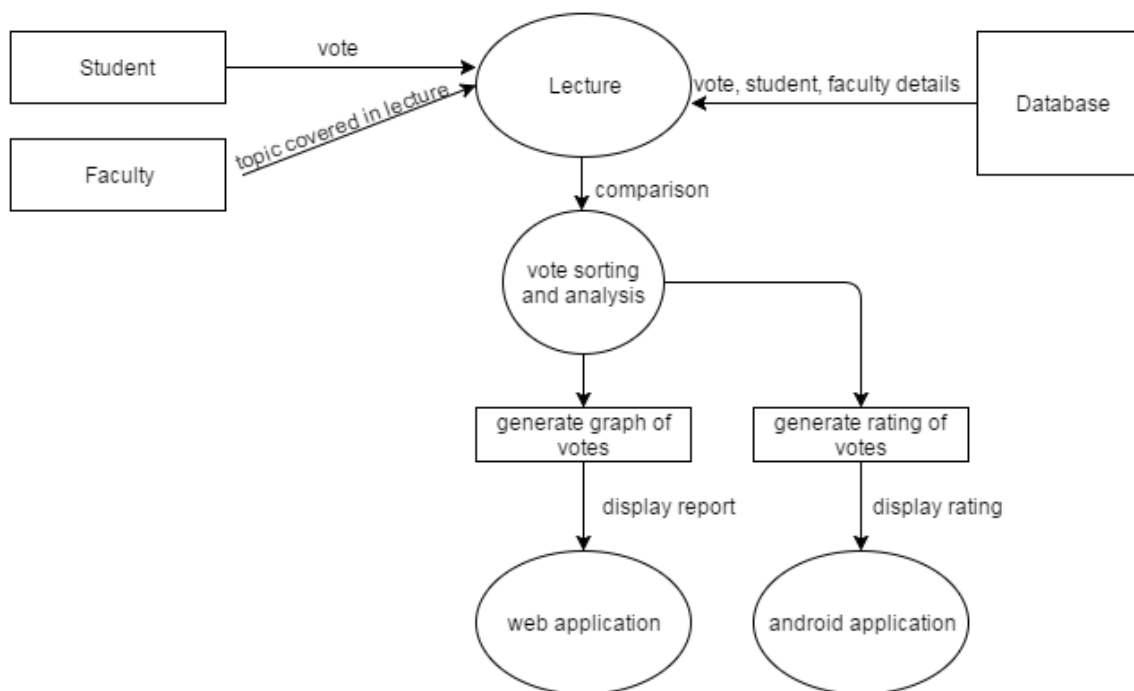


Figure 4.8: Level 3 DFD of Lecture Feedback Polling System

# Chapter 5

## Implementation Details

### 5.1 Assumptions And Dependencies

#### 5.1.1 Assumptions

The following Assumption was taken into consideration:

- The system's applications are used for voting purpose. Students give their lecture feedback in the form of votes. Teacher receives the feedback of votes from all the students in the form of rating. All the information of students and teachers registration details, voting details are stored into the database. Collection and sorting of votes and storing them into the database accordingly is carried out by the web service. Therefore, we assume that the web service which is the middle ware of our system has to be very efficient and fast in fetch the details from applications and database.
- The polling process for the lecture should be very effective. As soon as the session is started from the android application to receive the votes, the students should vote. As soon as the session stops, all the received votes should be displayed accurately. The user interface is assumed to be clear enough for students either what they are voting for, and also the votes are for the same particular topic. All these working is assumed to be very efficient and clear in comparative resulting of votes.

### 5.1.2 Dependencies

The dependencies are as follows:

- For backend process, MS sql server and sql language is being used. The backbone structure of the system is developed by using .net framework for web based application, android sdk and jdk for android application.
- (Hosted servername) is used to host the web application. For, giving the votes and receiving the votes in response, is done by the middleware tier. Json scripting is used for storing and exchanging the data.

## 5.2 Implementation Methodologies

Android feedback polling system has several modules according to the flow of the feedback process - Registration module, login module, Android application, web - based application, web service and database module. There are two main users, student and faculty. Student can give their lecture feedback through polling (voting). The polling feedback can be seen in two forms. One, faculty receives the feedback in the form rating that how many students understood (Like) and understood the lecture (Dislike). And secondly, the same feedback rating for the same particular topic, is seen to the Head of the Department (HOD) in the form of bar graph, on the web-based application. Also, through this voting feedback it can be analyzing the whether lecture is need to be repeated or not.

### 5.2.1 Modular Description of Project

## 5.3 Detailed Analysis and Description of Project

**Registration System Module:** Registration module is the initial method of the feedback process. Every student have to register with their academic data like name, username, class, semester, year, email id and password. The registration is done from the Student's android application. When the registration of the students is completed, every student will get their login details i.e. username and password. With this login details, they can poll for the feedback. Students details and their vote details are store in the database system.

Faculty/Teacher's registration is done on the Web-based application. The HOD has the authority to access the Web based application. The HOD does the registration of the faculties. When the faculty's registration is completed the random password is generated by the system and it is forwarded to the faculty's email account, accordingly. Through this password each faculty can login to their android application by username and password.

**Login System Module:** To give the polling feedback student need to login with their login details. Student login with their email id and password on their android application. Teacher login with their login details on their android application. Firstly, when the teacher logs into the application, the subject name is displayed, and topic name and its description is need to be added by the teacher. After this teacher starts the polling session by selecting the START option.

Unless and until the teacher start the session the student cannot be able to access through the login details. When session is started by the teacher then only the student can be able to login through the application. When students login successfully, they can see the particular subject teacher name, topic and description and accordingly they can vote as Like or Dislike.

All the login details and vote details are store into the database. These details are process are carried out by a middle ware of our system called web service.

**Android Application:** Our system has two android application .One for teacher and another one for student. We have designed this application using eclipse and android development tool (ADT). Both android applications are connect with web service of our system. To access the these android application, we will need a wireless connection. Either data connection or Wi-Fi.

**Web based application:** Web - based application is another important application of our system. This application is designed using visual studio and .Net. It is a hosted web application. It is access by only the Head Of Department (HOD). All the registration of faculties, their up-dation of academics details are done by HOD. The generation of bar graph for the particular subject and topic is shown on web-based application itself.

**Web service:** Web service acts as a middleware our system. Its a middleware between the android applications and database, web - based application and database. It access all the registration details of students as well as faculties, and stores into the databases. It also does an important work i.e. it makes compatible flow of all the working of queries processed and access between the applications and database.

**Database Module:** It stores all the registration and login details of the student and teacher. It also stores the voting details done by the students. Accordingly, it gives the sorted vote details on teacher's android application in the form of rating, and in the form of bar graph on web-based application. This process is between database module and applications are handled by the web service.



## 5.4 Class Diagram

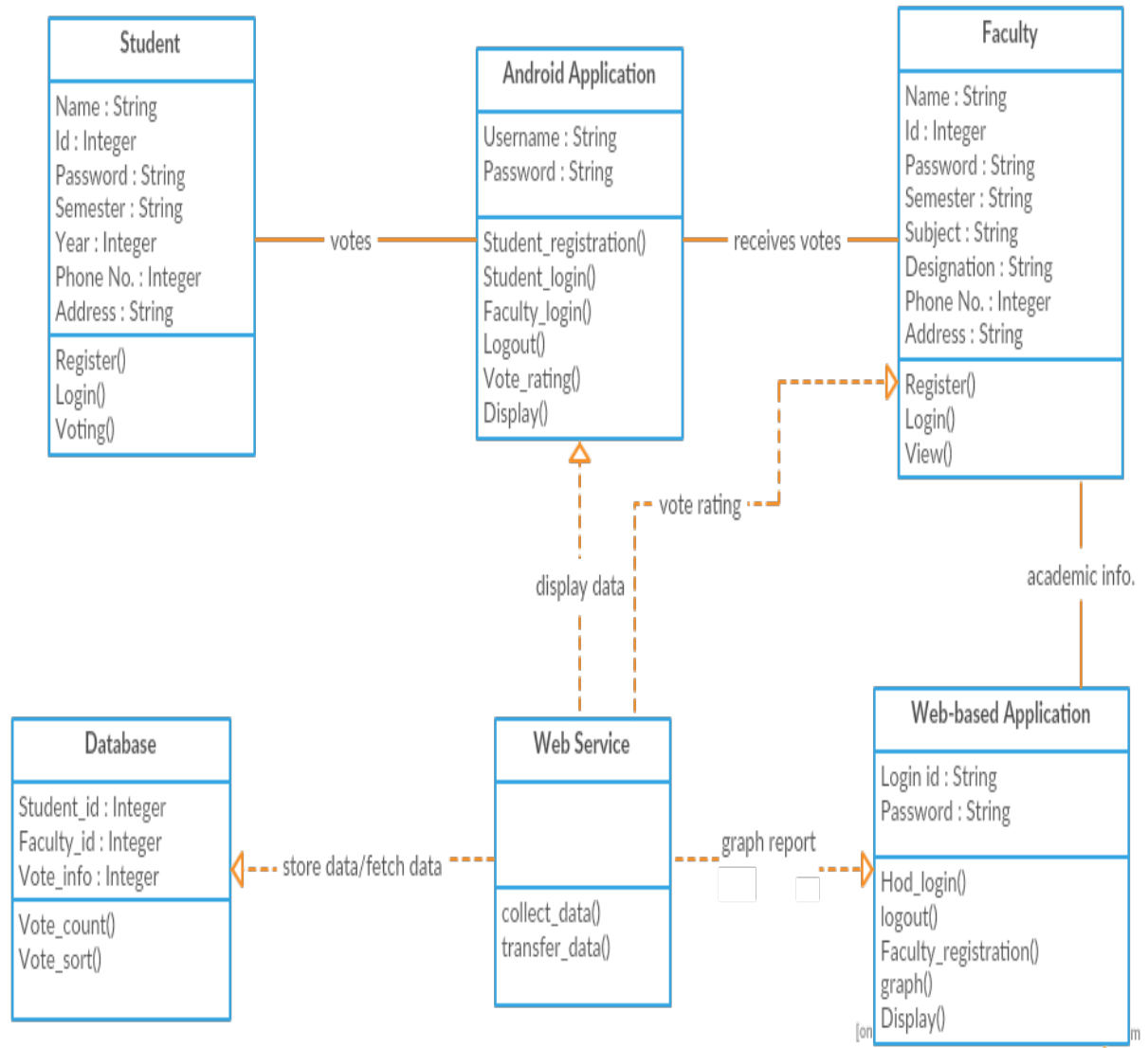


Figure 5.1: Class Diagram

### 5.4.1 Class Diagram Report

Title:	Lecture Feedback Polling Using Android Devices
Description:	Lecture Feedback Polling Using Android Devices provide the way to student that allows the student's to poll for the particular lecture from student android application and teacher android application see the votes which is given by student for particular lecture
Primary Actor:	Student and Teacher
Preconditions:	Student visit the android application and Teacher visit the android application as well as website
Post conditions:	Student poll for particular lecture
HOD Panel Website :	<ol style="list-style-type: none"> <li>1. HOD see the teacher's and student's details</li> <li>2. HOD register for teacher's</li> <li>3. HOD see the graph of the particular topic</li> </ol>
Database:	Database is used for storing the student's and teacher's details fetched from the student android application, teacher android application and website.

Table 5.1: Class Diagram Report

# Chapter 6

## Results and Discussion

### 6.1 Test cases and Result

We have tested our android application and web application by considering following test cases:

#### 6.1.1 Unit Testing

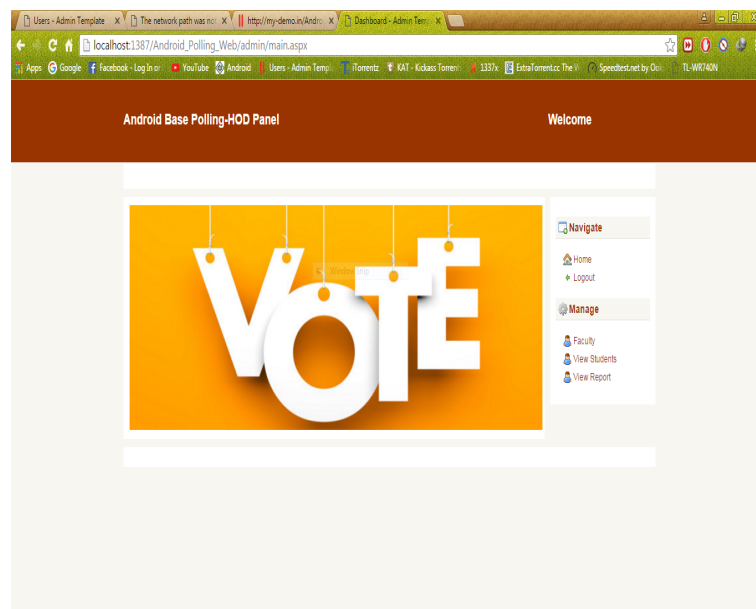


Figure 6.1: Home Page

This is the main page of web application. The privilege to access web application is only given to H.O.D and faculty details are displayed from faculty option.

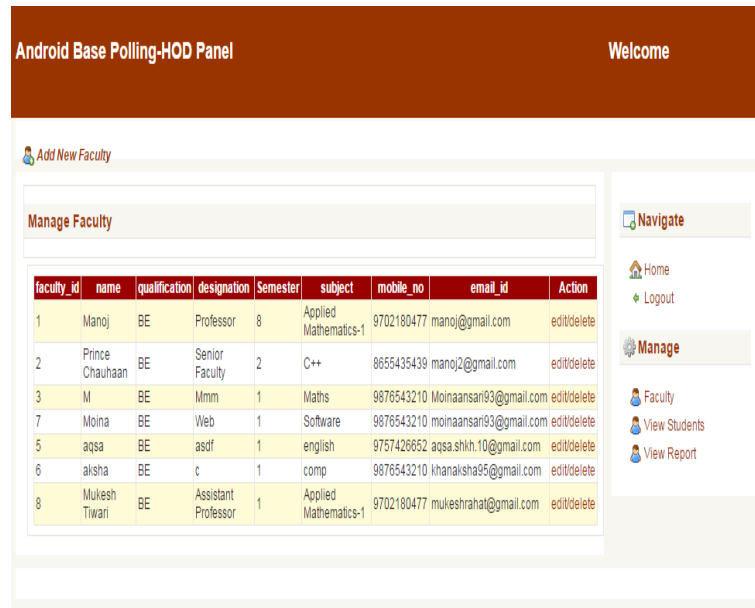


Figure 6.2: Faculty Details

In this page it display and store the faculty details. Insertion and updation of faculty records is done on this page.

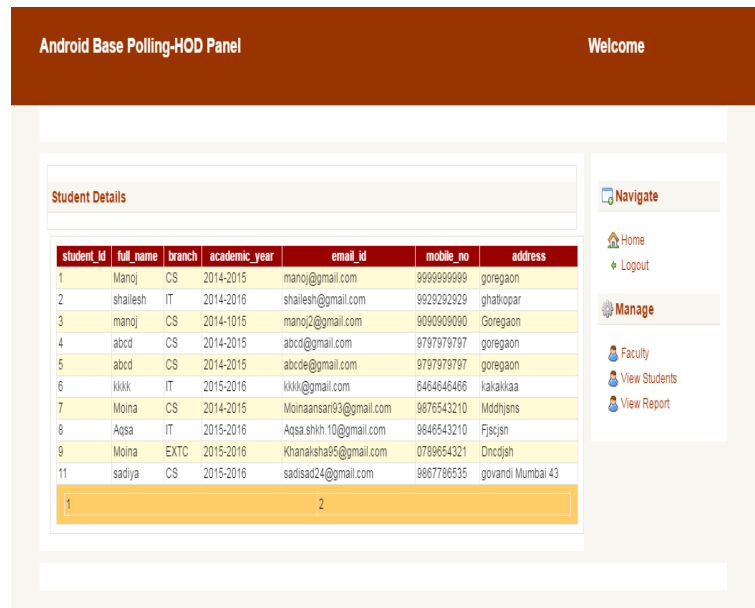


Figure 6.3: Student Details

In this page it display the student details. Student details is directly fetched from the database.

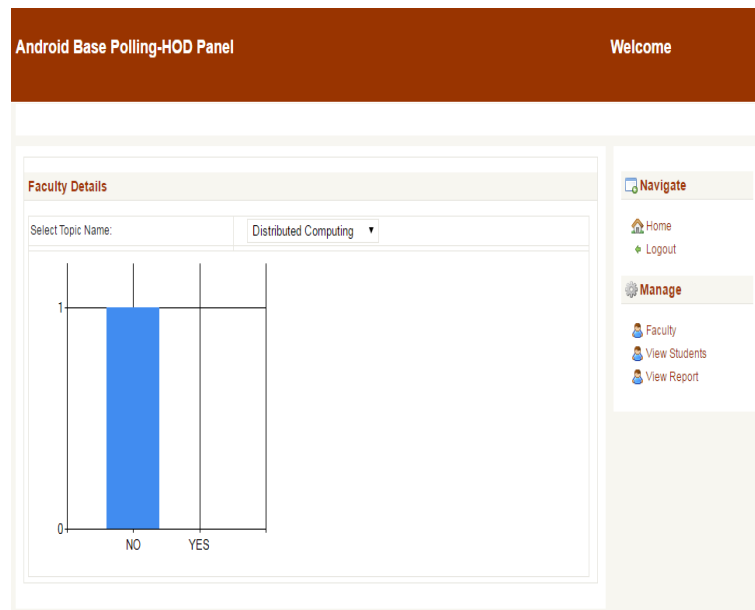


Figure 6.4: Graph

In this page it shows the graph generation. Graph is generated according to the votes like and dislike. Every topic has its own graph generation.

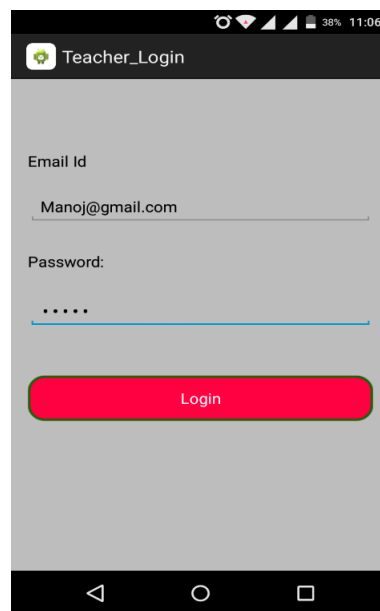


Figure 6.5: Teacher Login

This is the android application for teacher. In this page it shows the teacher login and it comes from the website where data is stored.

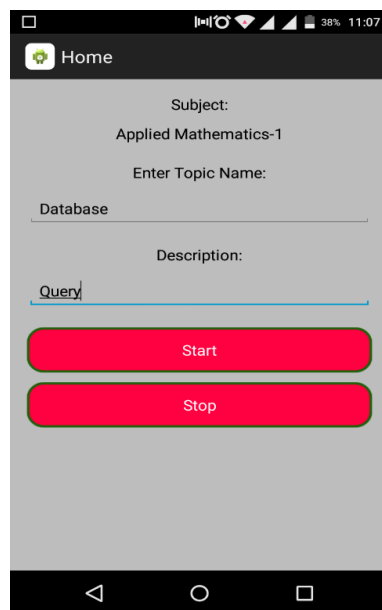


Figure 6.6: Topic And Description

After teacher login this page is displayed. In this page teacher give the topic and its description for polling process.

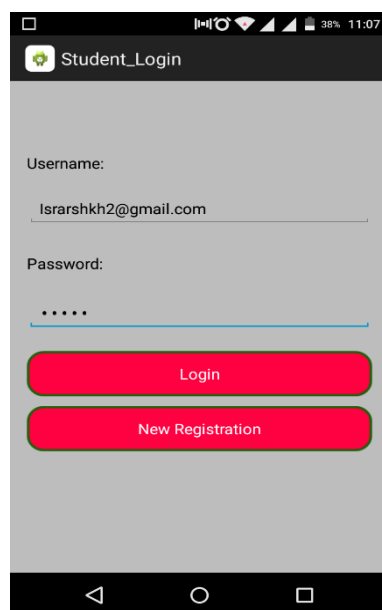


Figure 6.7: Student Login

It is an android application for student login. In this page it shows the student login.

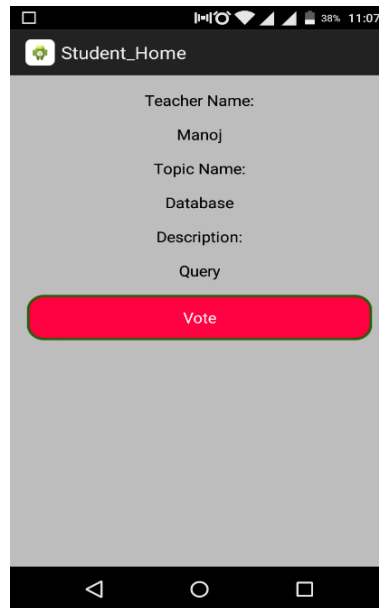


Figure 6.8: Student Vote

This is a student android application voting page. In this page, students vote for a particular topic. If the total number of "yes" vote count is greater than 70 percent, then faculty does not need to repeat the lecture, and if the vote count is less than 70 percent, then faculty need to repeat the lecture on a particular topic.

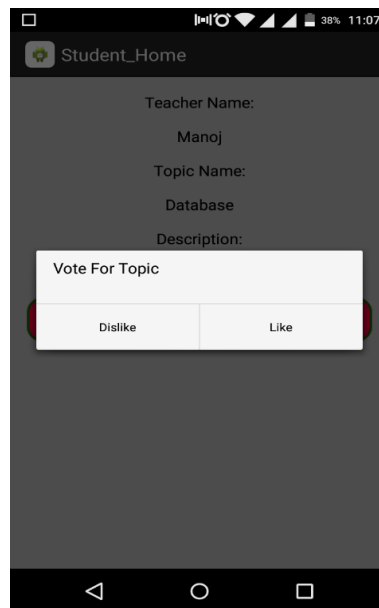


Figure 6.9: Feedback

In this page, it shows the student giving feedback.

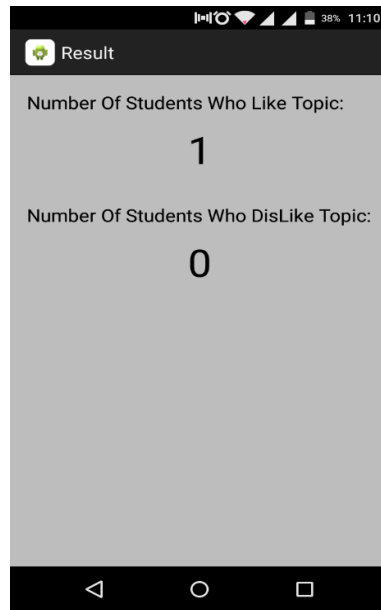


Figure 6.10: Display Votes

In this page it displays the vote in the form of rating like or dislike.



# Chapter 7

## Project Time Line

### 7.1 Project Time Line Matrix













		Name	Duration	Start	Finish	Predecessors	Resource Names
1		Requirement Gather...	7 days	14/12/15 8:00 AM	22/12/15 5:00 PM		
2		Confirm Requiremnt	7 days	23/12/15 8:00 PM	1/1/16 5:00 PM		
3		Front-end user inter...	10 days	2/1/16 8:00 AM	15/1/16 5:00 PM		
4		Back-end database ...	10 days	15/1/16 8:00 AM	28/1/16 5:00 PM		
5		Front End Coding	10 days	28/1/16 8:00 AM	10/2/16 5:00 PM		
6		Database creation	10 days	10/2/16 8:00 AM	23/2/16 5:00 PM		
7		Coding for Screens,t...	9 days	24/2/16 8:00 AM	7/3/16 5:00 PM		
8		Creation of test cases	9 days	8/3/16 8:00 AM	18/3/16 5:00 PM		
9		Unit testing	6 days	19/3/16 8:00 AM	28/3/16 5:00 PM		
10		System testing	7 days	29/3/16 8:00 AM	6/4/16 5:00 PM		
11		Alpha and Beta testi...	6 days	6/4/16 8:00 AM	13/4/16 5:00 PM		
12		Deployment	2 days	14/4/16 8:00 AM	15/4/16 5:00 PM		

Figure 7.1: Time Line Matrix

## 7.2 Project Time Line Chart

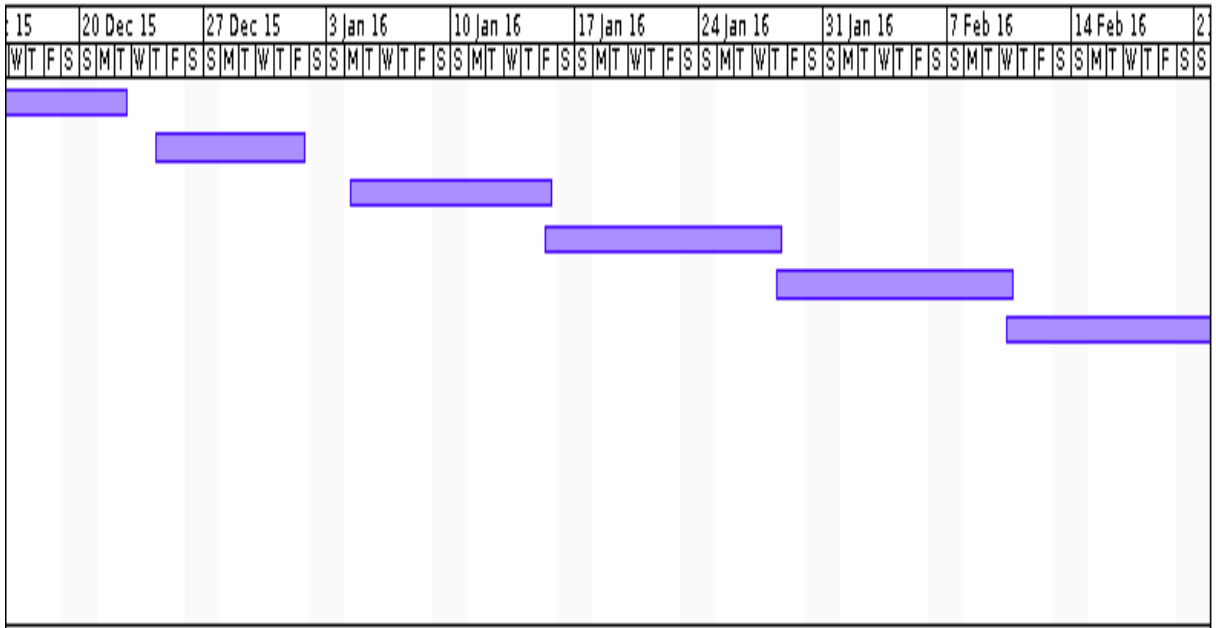


Figure 7.2: Time Line Chart

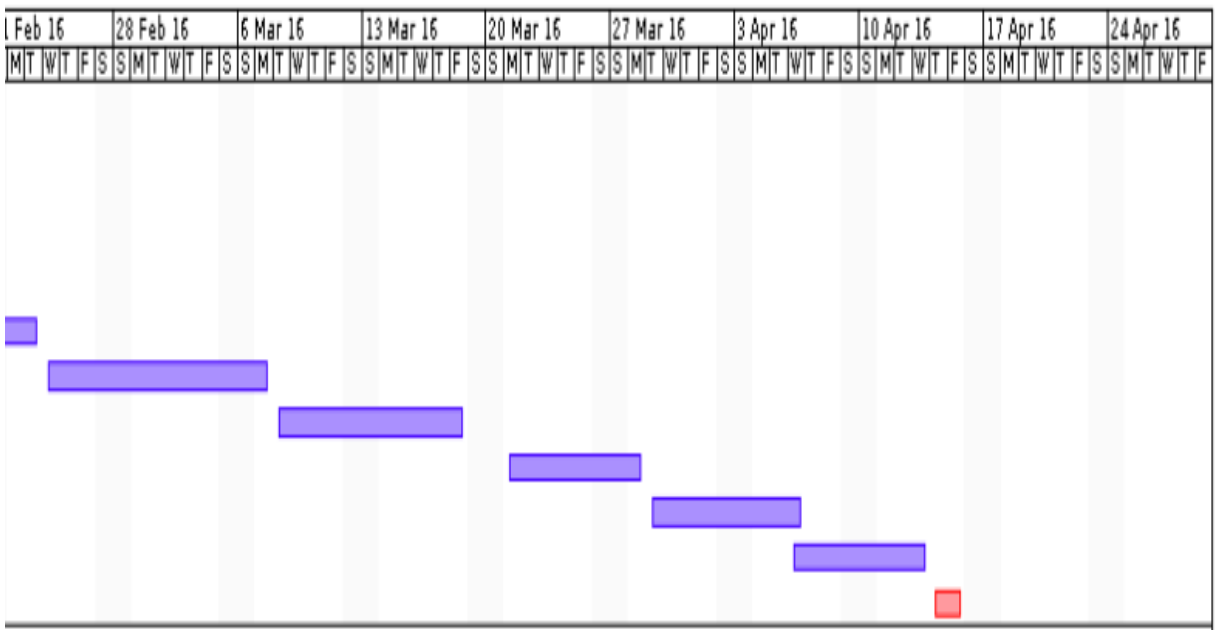


Figure 7.3: Time Line Chart

# Chapter 8

## Task Distribution

### 8.1 Distribution of Workload

#### 8.1.1 Scheduled Working Activities

Activity	Time Period	Comment
Requirement Gathering	07 Days	Requirement gathering has taken place through searching on internet and taking the ideas, sharing the views among group members.
Planning	04 Days	Planning has been done by reviewing literature of IEEE papers and by taking the walkthrough.
Design	04 Days	Designing has been done by creating UML diagram, By creating Charts,
Implementation	72 Days	Implementation has been done First creating the backend and then front end module by module.
Testing	05 Days	Testing has been done by performing unit testing, alpha & Beta Testing, integrated testing and system testing.
Deployment	01 Days	Deployment has been done by installing project on the server.

Table 8.1: Scheduled Working Activities

### 8.1.2 Members activities or task

Member	Activity	Time Period	Start Date	End Date	Comment
M1, M2, M3, M4	Requirement Gathering	03 Days	14/12/15	16/12/15	M1 and M2 has performed the searching for project requirement on the internet by reviewing the related literature and by analysing the related project which is already available in the market. Regularly inform to the other member of team.
M1, M2, M3, M4	Analysing of the requirement	3 Days	18/12/15	20/12/15	M1, M2, M3, M4 done the requirement analysing of project by sharing the ideas, and by discussing on related information which is gather by the M1, And M2. M3 and M4 has created the list of requirement after every meeting
M1, M2, M3, M4	Finalysing the requirement	1 Day	21/12/15	22/12/15	Complete team finalize the requirement. M1 and M4 has created a list of finalise requirement.
M1, M2, M3, M4	Planning	4 Days	23/12/15	26/12/15	Planning has done by walkthrough and by analysing the available product. M2 and M3 creates a list of funtion which will be implement in the project. Each and every module were discuss in every group meeting and M1 and M2 creates a blue print for project .

M1, M2	Front End design	4 Days	27/12/15	30/12/15	M1 and M2 creates the UML diagram for front end of the system and data flow diagrams and informed to the whole team regularly.
M3, M4	Back End design	4 Days	31/12/15	03/12/15	M3 and M4 creates the UML diagram for back end of the system and data flow diagrams and informed to the whole team regularly.
M3, M4	Installation of tools and technology for front end	4 Days	04/01/16	05/01/16	M3 and M4 installed the all the require tools which is use for front end design.
M1, M2	Installation of tools and technology for back end	03 Days	06/01/16	09/01/16	M3 and M4 installed all the require tools which is use for back end design.
M3, M4	Implementation of GUI	05 Days	10/01/16	15/01/16	M3 and M4 creates the GUI of the project and informed to other member.
M1	Implementation of Website	20 Days	16/01/16	04/02/16	M1 implemented the website and discuss on it with other team member
M2	Implementation of Scraper	12 Days	05/02/16	23/02/16	M2 implemented the scraper and discuss on it with other team member
M1,M2	connectivity with GUI	10 Days	24/02/16	04/03/16	M1 M2 connects the android application with web service.

M3, M4	connectivity with GUI	10 Days	05/03/16	14/03/16	
M1, M2	Database connectivity	05 Days	15/03/16	19/03/16	M1 and M2 created the database connectivity .
M3, M4	GUI Connectivity	4 Days	20/03/16	23/03/16	M3 and M4 created the connectivity GUI with database
M1, M2	Implementation of Comparison algorithm	05 Days	24/03/16	28/03/16	
M3, M4	Data gathering into database	2 Days	28/03/16	30/03/16	M3 and M4 gather the data.
M1, M2	Connectivity of different modules	04 Days	31/03/16	03/04/16	M1 and M2 created the connectivity between different modules.
M3	Form implementation	1 Day	04/04/16	04/04/16	M3 implements registration forms.

M4	Connectivity with database	1 Day	05/04/16	05/04/16	M4 makes the program connectivity with database.And informed to the other member of team.
M3,M4	Implementation of polling part	1 Day	06/04/16	06/04/16	M3 and M4 implemented polling module
M1,M2	Modules connectivity	1 Day	07/04/16	07/04/16	
M1, M2, M3, M4	Integration of all modules	01 Day	08/04/16	08/04/16	M1, M2,M3 and M4 integrated all the module. Implemented whole system properly.
M1,M2	Unit testing	2 Days	09/04/16	10/04/16	M1 and M2 performed the unit testing and noted down results and discuss with other member of team.
M3, M4	Functional testing	5 Days	11/04/16	14/04/16	M3 and M4 performed the functional testing and noted down results and discuss the result of testing with other member.
M1, M2, M3, M4	Deployment	â	14/04/2016	â	â

Table 8.2: Member Activities and Task

# Chapter 9

## Conclusion and Future Scope

### 9.1 Conclusion

With all the efforts invested in lecture feedback polling system for interaction between the teacher and student, we believe that at the end of the project we finds itself a much better place and moves a bit closer to the real world. We hvae summarized the progress and main objectives of the project, namely, capability, convenience and accessibility. Polling through android application will help all the college students overcome the communication barrier that is present currently among them. It helps for student and teacher both improve knowledge so if any student doubt in the lecture they can freely ask about that particular topic, then it is easy to give their feedback and also help for teacher how to improve teaching. This application aims at bringing together all the college students so that they can help and be helped. It will be beneficial for all the students.

### 9.2 Future Scope

For future work, we can have the implementation concept of fetching the mac address of the every student's mobile devices during login session, so that their can be less chance of fake votes by the student those who all are absent for the particular lecture. Also, additional concepts like quiz, mcq etc. can be a part of feedback.

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## Own Publication

- [8] Ansari Moina, Shaikh Aqsa, Shaikh Israr, Shaikh Yashab, Prof Kalpana Bodke, Prof Apeksha Gopale, *Polling In Wi-Fi Using Android*, International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)2015



# International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Vol. 3, Issue 11, November 2015

## Polling In Wi-Fi Using Android

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**ABSTRACT:** Strengthening the interactivity and enhancing the teaching – learning methodology is an important aspect of our system. Our system is an android application as well as client and server based system. This system is based on polling (voting), done by both students, about the lectures. The system is mainly designed for better interaction between students and teachers. The polling is done by student's android mobile. This system can lead in enhance progress of students learning experiences and teachers improved way of delivering their subject knowledge.

**KEYWORDS:** Polling System; Mac Address; Clicker Device; Android Mobile Device

### I. INTRODUCTION

Usually, for almost all the student. It is difficult to ask question in the lecture. Means which topic student understand or not. And usually normal polling is conducted on the month that is only based on the feedback about teachers not for the lectures. That is problem, student does not understand the lectures. So that our system is a polling android application and web-based system. It is about the polling which is done by students regarding the every lectures held in the class. In this system the students have to give their feedback using android app and the system is about the lectures being conducted or the topics being covered in the class, whether they have understood the particular topic or not.

Here, student can give their feedback about particular lecture and teachers can see the result how many students understood the lecture. If more number of student does not understand the lecture for particular topic then teacher will repeat the lecture for that particular topic.

### II. RELATED WORK

In authors used concept of polling system. The process is performed by student about understanding the lecture and generate a graph according to the polls. The students as well as teachers can access this application using any internet enabled device. The student will be logged in with their own registered login id and password.

On successful login he/she can perform following tasks:

a) Student will registered in App using he/she own mobile.

b) It will create an account of all the students by keeping note of their academic details and allow

students to access their accounts by providing with their login details. Student can perform the following function.

Once the students get their login id and password from the academic detail, they will be logging into the system and generate a password.



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On successful login they can perform the following operations:

- c) Students select one options. Understand and Not Understand.
- d) Not understand student see the topic which is covered in the lecture.
- e) Select those topic which is not understood.

Teacher can perform the following function. Once the students get their login details from the academicdetail, they will be logged in into the system with respect to their login id and generated password.

On successful login they can perform the following operations:

- f) Teachers will login in App.
- g) Upload the Topic Learning Outcome (TLO)
- h) See the poll, how many student understand and how many student not understand.
- i) On the basis of graph, teacher decide the which topic will be repeated.

### III.PSEUDO CODE

Step 1: Fetch mac address from the student mobile.

Step 2: Select the options.

Step 3: Generate poll graph.

Step 4: Calculate understand students (U) or not understand students (NU).

If (NU>70%)

Repeat the lecture

Else

Not repeat the lecture.

Step 5: Student select the option which is not understand

Step 6: Again generate the poll graph

Step 7: If student not understand go to step 4.

Step 8: End

### IV.SIMULATION RESULTS

Student feedback polling system is an android app and is also a web-based system. It has a many modules according to the flow of the feedback process. There are two main users – Student and Faculty. Student give their lecture feedback through polling. Faculty receives the feedback in the form graph. Faculty gets two form

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feedback, one is through polling that how many students understood and understood the lecture. And secondly, through analyzing the condition after the poll rating whether lecture is need to be repeated or not.

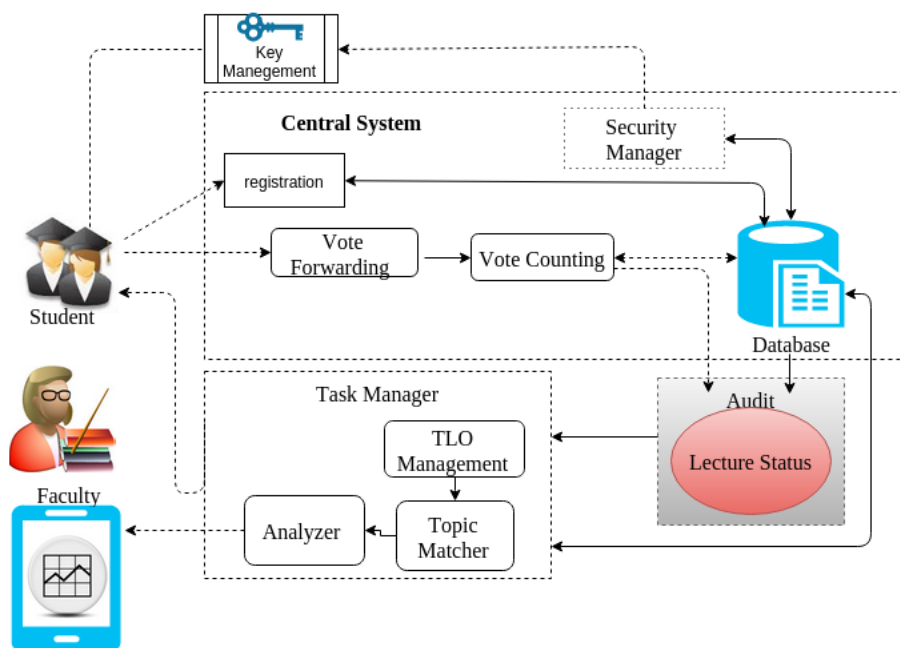


Fig .1 Proposed System Architecture

The central system is the most efficient and importance aspect in the methodology and through architecture point of view. It is linked with all the other modules of process flow. Central system has sub modules – Database module, Security Manager Module, Key Management module, Vote sorter and Vote forwarder.

### Database module -

Database module in central system stores all the records of data. It may also be called as central database of whole system. It stores student’s information, student’s login id, data of lectures, etc. It has sub database sections. Namely, Students attendance database, student’s registration database, lecture database, login database, history database.

### Security Manager Module -

As the name suggest, this module deals with the security measures. If any student who did not attendant the lecture, then he/she won’t be allowed to give the feedback.

### Key management module -

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In this module, it manages the student login aspects. During login process, it will check and do the comparison between the mac address and students details from the database, and then with help of login id it will allow to login for the feedback purpose.

### Voter Sorter and Vote Forwarder -

When students poll for feedback, it goes into the vote forwarder. The vote forwarder, forwards the votes to the vote sorter. The vote sorter then sort the votes according to the polls, understood and not understood. Following with the mac address other information of the student, it is stored into the database.

### Registration System –

Registration module is the initial method of the feedback process. As shown in fig.2 every student have to register with their academic data like, name roll number, class, year, and the most important their phones mac address. The mac address would be the unique key of login for each student. This registration is only for the first time to keep the record of students. When enrolling of the students is done, every student will get its login id. With this login id they can poll for the feedback. Student's is store data in the registration database of the central system.

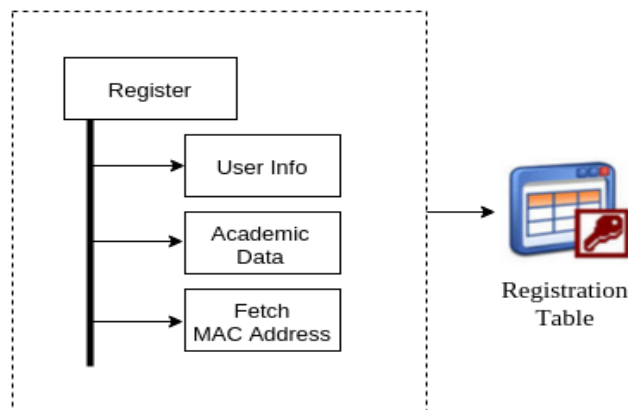


Fig .2. Registration System

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## Login System –

The feedback is to be given in every week regarding lectures. The feedback is needed by polling procedure. In fig.3 first the student have to poll with their login id with respect to the lectures- understood or understood. The feedback is done using wi-fi network. It can be possible that the student who have not attended the lectures would also try to give their feedback. To avoid these kind of false responses the login system would check and compare with the daily attendance details from the student information database as well as daily attendance database. If the student would have not attended then, that student's mobile mac address would be rejected and won't be able to give the feedback for the respective lectures. There is one more concept of session start. When the student is allowed to give the feedback, he/she will log in, but after entering into the login scenario, the time limit session will start. That means he/she must consign their poll within that allotted session of time.

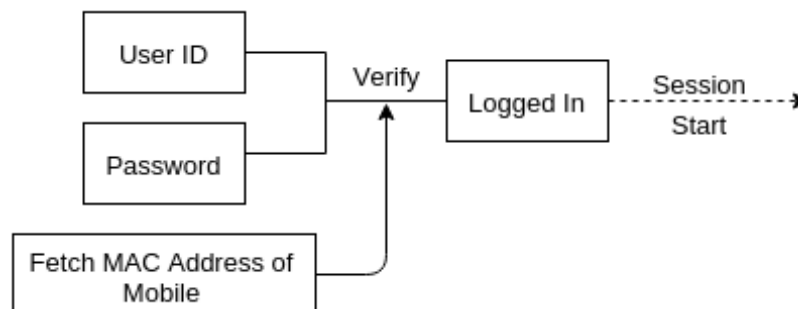


Fig. 3. Login System

## Audit system –

Audit system give the report about the lecture or we can say the status of the lectures. It all depends upon the votes or polls given by the student. When vote sorter sorts the votes, the graph is generated and it is checked by the audit module. The audit system concludes two parts- successful lectures and unsuccessful lectures. If the understood polling is more according to the Polling Requirements Graph, the lecture is successful and repetition of lectures is not needed. But, if the graph shows that polling with not understood is more than there is a need of repetition of lecture. Audit system will fetch the TLO from the Task manager of task management system. It will match the topics covered in class and enlist those topics on the student's screen which they did not understand. These whole data would be forwarded to the central system. This will be kept in the form of history and thus would help teachers and student both in the future.

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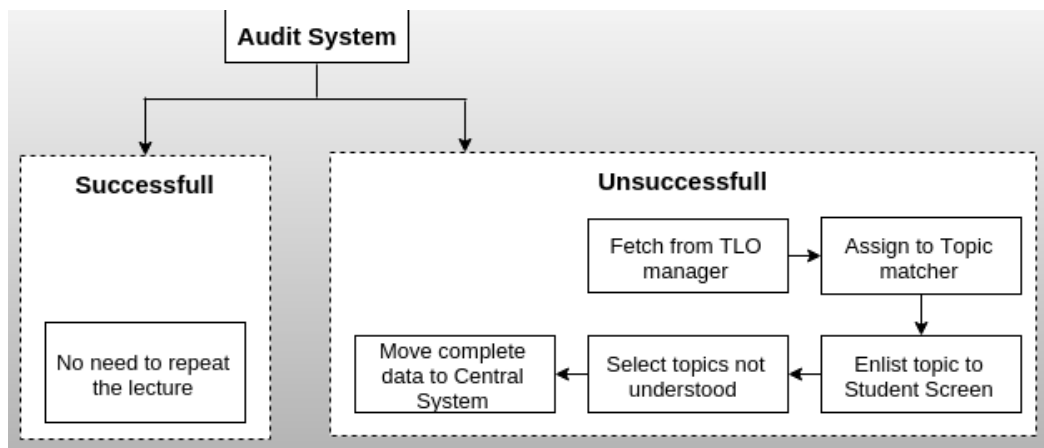


Fig. 4 Audit System

## Task manager system –

The TLOs of each subjects will be stored and analyzed by the task manager system. When audit system reports that the lecture is unsuccessful, the TLOs from the TLO management is match with the actual topics covered in class. Is this done by the topic matcher. Thereafter, it is analyzed by the analyzer that the lecture is need to be repeated.

## V. CONCLUSION AND FUTURE WORK

With all the efforts invested in polling android application for interaction between the teacher and student, we believe that at the end of the project finds itself a much better place and moves a bit closer to the real world. We summarize the progress with respect to the main objectives of the project, namely, capability, convenience and accessibility. Polling in wi-fi android application will help all the college students overcome the communication barrier that is present currently among them. It helps for student and teacher both improve knowledge so if any student doubt in the lecture they can free ask about that particular topic, then it is easy to give their feedback and also help for teacher how to improve teaching. This application aims at bringing together all the college students so that they can help and be helped. It will be beneficial for all the students Thus, the proposed of fetch the mac address from student mobile because no one student can fake feedback about the lecture.

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# Chapter 10

## Appendix I

### 10.1 What is Polling?

Polling is a method for a group such as a meeting or an electorate to make a decision or express an opinion—often following discussions, debates, or election campaigns. Democracies elect holders of high office by voting.

Different polling systems use different types of votes. A "Plurality voting system" does not require the winner to achieve a vote majority, or more than fifty percent of the total votes cast. In a voting system that uses a single vote per race, when more than two candidates run, the winner may commonly have less than fifty percent of the vote.

A side effect of a single vote per race is vote splitting, which tends to elect candidates that do not support centrism, and tends to produce a two-party system. An alternative to a single-vote system is approval voting.

#### 10.1.1 What is clicker devices?

Audience response is a type of interaction associated with the use of audience response systems, to create interactivity between a presenter and his/her audience. Systems for co-located audiences combine wireless hardware with presentation software, and systems for remote audiences may use telephones or web polls for audiences watching through television or the Internet.

Various names are used for this technology, including real time response the worm, dial testing, and audience response meters. In educational settings, such systems are often called "student response systems" or "personal response systems." The hand-held remote control that students use to convey their responses to questions is often called a "clicker."

More recent entrants into the market do not require specialized hardware, however. There are

commercial and open-source, cloud-based tools that allow responses from the audience using a range of personal computing devices such as cell phones, smartphones, and laptops. These types of systems have added new types of functionality as well, such as free text responses that are aggregated into sortable word clouds, such as Answer Garden, as well as the more traditional true/false and multiple choice style questions.

## **10.2 Different polling applications:**

### **10.2.1 Plicker**

Plickers is a great option if you don't have a classroom full of devices. Nik Chatzopoulos gives a great description of how Plickers can work in a one iPad classroom in one of his previous posts along with a video tutorial here. Plickers uses cards with QR codes (which can be used for multiple classes, as long as they're not happening at the same time) instead of individual devices.

### **10.2.2 Polldaddy**

Polldaddy is a pretty robust web-based polling tool that gives you a lot of options for customization. The free option does limit how many folks you can send the polls to via email per month (1,000), includes polldaddy branding, and doesn't offer you the custom URL for your polls that the paid options of note, that email limit is just that " for email. If you give your students a direct link to the poll, you can poll as many times and as many students as you like. Given that, the free option should work just fine for most teachers and classrooms.

### **10.2.3 Kahoot**

Kahoot is a web tool that delivers online quizzes and surveys to your students. Teachers can use a simple drag and drop method to create quizzes/polls/surveys, and push them out to student devices (alternatively, the teacher can ask the questions verbally or show them on the board and students can still respond using the platform). In this platform, teachers can encourage students to ask their own questions and have other students answer as well, making it one of the more interactive options listed here (many are just teacher-student). Kahoot is free, and works on any connected device.

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