CHAPTER 1

INTRODUCTION

Information Management System (IMS) is a planning philosophy enabled with software that attempts to integrate all the business processes of different departments and functions across an organization into a single system. The use of smart-phones which comes along with the excessive use of mobile applications is becoming more and more common, especially in the university domain. Before IMS implementation, each department has its own computer system optimized for the requirement that a department needs. Each department use to maintain separate databases and design applications according to their functionalities. This lead to an overall poor results across all the departments. Many educational sectors in Asian countries in the past few decades have witnessed massive growth in a number of institutes and students. The information technology tools have offered pretty promising solutions to enable effective management of these functions. Enterprise Resource Planning combines all the important requirements of the organization together into a single, integrated mobile application that runs off a single database.

1.1 OVERVIEW ARCHITECTURE OF IMS APPLICATION

The information of the student is uploaded to the database by the admin. Admin is the sole person who hands over the username and the passwords to the respective students. The profile is later managed an maintained by the respective student. Accessing of the personal profile, attendance record, assessment marks, everyday schedule of the class and the remaining events are eventually managed by

the admin. Hence, it is apparent that the profile can be viewed and accessed only by the student.

```
┌─────────────────────────────┐
│        Login process        │
└─────────────────────────────┘
               │
               ▼
┌─────────────────────────────┐
│      Attendance details     │
│                             │
│      Exam / mark details    │
│                             │
│        Fees details         │
│                             │
│     General information     │
│                             │
│       Library details       │
└─────────────────────────────┘
               │
               ▼
┌─────────────────────────────┐
│    Display Student details  │
└─────────────────────────────┘
```
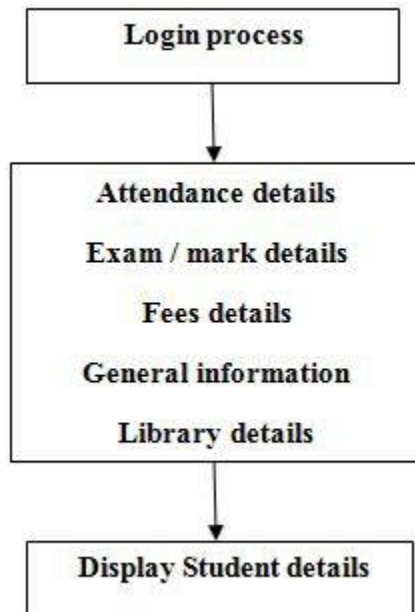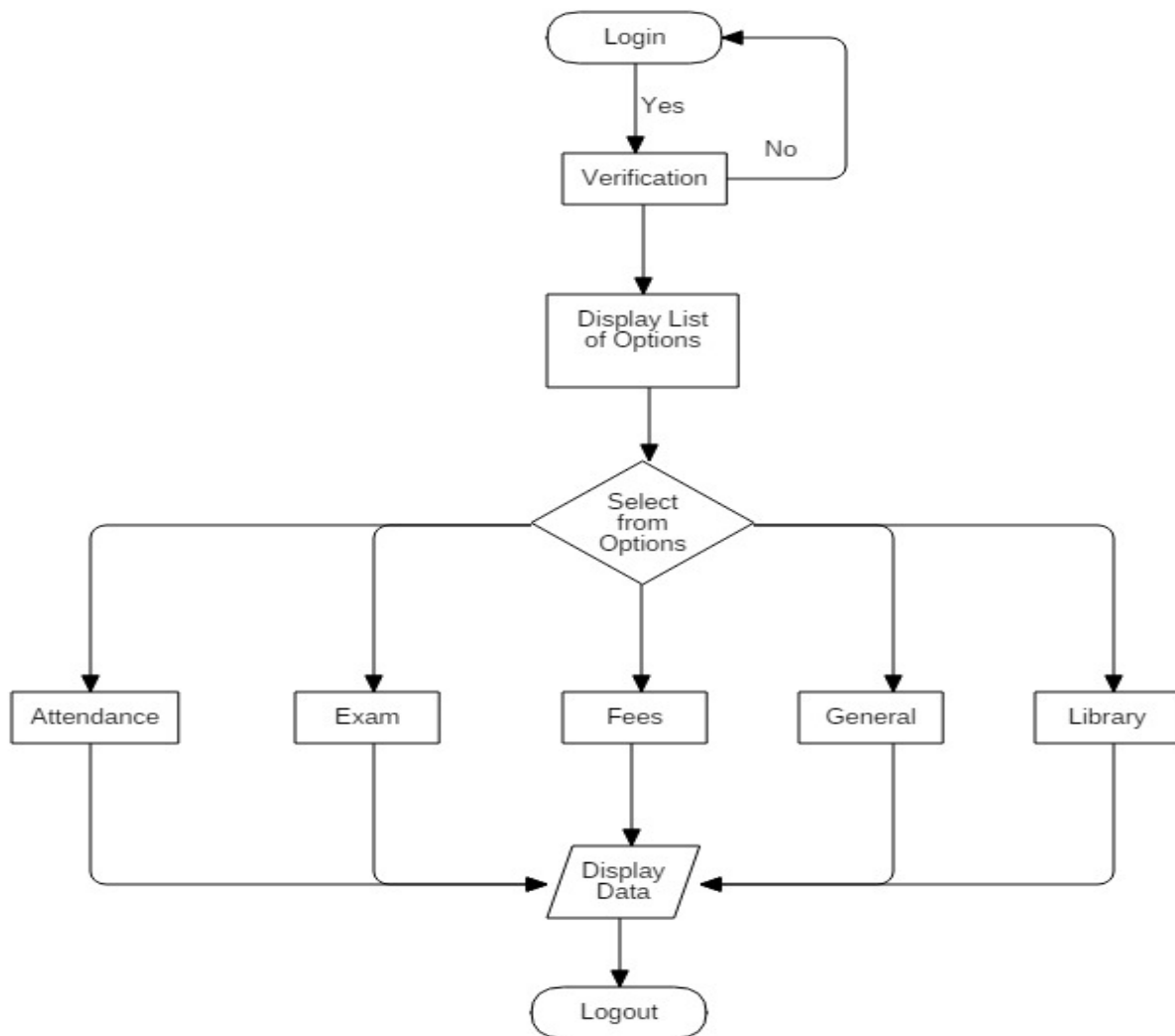
Fig:1.1.1 Overall Architecture of IMS

Fig:1.1.2 Data Flow Diagram

The student should first logins to the application by entering roll number and password. If the given data is true the student can get enter into the application, else it back to login screen. It shows list of options like General, Attendance, Exam, Fees, Library details. The user needs to select from those modules to display the data. Finally, Logout the application. The Fig 1.1.2 Data Flow Diagram describes the flow of the application.

CHAPTER 2

LITERATURE SURVEY

2.1 ANDROID APPLICATION FOR COLLEGE MANAGEMENT SYSTEM (M-INSPRO PLUS)

Mobile phones and android applications [1] play a major role in human lives, from being an ordinary talking device to a human companion. College management system focuses on helping the staff's, lecturers who are working in the institution. The android application is focused to help the staffs for the progression and the academic development of the institution. i.e., by reducing the manual work, checking the performance of the students. It maintains a database of all the information that are recorded and received. It helps the staffs to help students who need individual attention for their academic performance and also in case of any personal grievance. This application proposes of a student – staff interaction, it ends to be a beneficiary application to everyone involved in the institution. i.e., attendance, Schedule changes or alteration, Latest updates, Marks of the students, Photos, information and video's related to the subject's, internal marks of the students, etc. It reduces the paperwork that is involved in carrying out confidential works, and it provides sufficient accessing for the students. It is aimed on reducing the workload given to the staff's. Altogether it is a simple, yet a necessary, efficient tool for the staff's involved in this organization.

2.2 COLLEGE ERP SYSTEM

In a college there are various sections and each section handles all student information and college database [2]. These sections are linked with each other. Current System of college is having problems of interlinking and data repetition.

To overcome these problems, we present College ERP System which is automated and centralized. This system has easy user interface and have powerful data management system which makes this system very useful. The College ERP system now computerized all the details that are maintained manually. Once the details are fed into the system or computer there is no need for various persons to deal with separate sections. Only a person is enough to maintain all the reports and records. ERP provides an integrated view of business processes, often in real-time, using common databases maintained by database management systems. Every college has to maintain a management system for various sections which may include performance analysis, attendance system, test wise result, student information, fee structure, academic information, transport facility.

2.3 ERP SYSTEM FOR COLLEGE AUTOMATION USING RFID TAGS

Enterprise Resource Planning (ERP) is a planning philosophy enabled with software [3] that attempts to integrate all the business processes of different departments and functions across an organization into a single system so that it can serve the particular needs of the different departments. Before ERP implementation, each department has its own computer system optimized for the requirement that a department needs. Each department use to maintain separate databases and design applications according to their functionalities. This lead to an overall poor results across all the departments. Many educational sectors in Asian countries in the past few decades have witnessed massive growth in a number of institutes and students. The associated policies and procedures related to various educational functions like admittance, pedagogy, interaction and examination have grown manifold and been streamlined. Also, it is seen that the information technology tools have offered pretty promising solutions to enable effective management of these functions.

Enterprise Resource Planning combines all the important requirements of the organization together into a single, integrated software program that runs off a single database so various departments can share and communicate information more easily with each other.

2.4 ANDROID BASED ERP SYSTEM

ERP is software used for Business Management [4]. Company uses ERP software to collect, store, manage and interpret data from many business activities, including - Product planning, development and cost. Manufacturing, sales and marketing, inventory management, shipping and payment. Taking into consideration the popularity of Android Application and efficiency of ERP, this project involves the insertion as well as retrieval of data through Android application, which would be beneficial for the employee to insert data and for director to retrieve data at remote location once the application is installed their Android device as-well-as an active internet connection. The scope of this project is for decision making process in the large Organizations. This can be achieved by developing an android application which will insert and retrieve data. There will be a centralized server for storing the data. It will consist of four ERP modules they are Sales, Purchase, Stock, CRM.GPS is used for tracking the sales person. Sales module will allow the preparation of reports to track sales trends over different periods, drill down for the aggregated data, allow for sales estimation and give a bird's eye view of the sales activities of the company. Purchasing management consists a group of application that controls purchasing of raw materials needed to build products and that controls the inventory. It helps creating Purchase orders contracts, supplier tracking, good receipt and payment and reporting. Customer relationship module helps to provide superior customer service and enhanced customer relationship management.

Stock Module is nothing but the inventory management. Efficient inventory management should be able to rapidly respond to customer requirements; at the same time should be flexible enough to undertake any corrections according to requirement, and do this without affecting operational efficiencies. A good sales and marketing ERP module is an essential feature of ERP software. GPS is used for tracking the sales person. GPS is used to determine the exact position or location of a vehicle, person or any other asset.

2.5 ERP SYSTEM FOR COLLEGE

Enterprise Resource Planning (ERP) college web application [5] is the one kind of web application which integrates all the modules and functionalities of college system on a single system that can be handled by the administrative head and access by the students and faculties with valid user id and password. A college consists of different departments, such as course departments, fees management, library, event management etc. Nowadays applications and uses of information technologies is increased as compared to before, each of these individual departments has its own computer system to do their own functionalities. By having one main system they can interact with each other from their respected system by having valid user id and password. The main goal of the entire system is to provide a user friendly interface and powerful data system which make this system more useful. The College ERP system computerized all the details of the college system which are updated by admin only can access by the students and faculties. ERP on college management system reduces the most of the human work that are done earlier to managing the college system. Once the details are entered into the system by the authorized person then there is no need for other users to deal with separate section. Only a person that is having an administrative authorization is enough to

maintain all the reports and records of the system. The security can also be provided as per the requirements.

2.6 E-COLLEGE:AN ERP FOR EDUCATIONAL INSTITUTE

ERP systems way from the manufacturing sector [6] are entering rapidly into universities and colleges. ERP now is experiencing the transformation that will make it highly integrated, more intelligent, collaborative, and web-enabled. Reason for choosing ERP for education are accessing information from paper files is difficult task, lack of means to access old records, wastage of hundreds of hours by staff each month manually entering information or performing task that could be handled automatically like evaluation & generating results. E-college will solve these lacunas and help educational institutes to save their valuable time. This paper provides a limited set of modules and their implementation which are required by educational institutes to function smoothly. This paper deals with the implementation of E-college ERP, the technology used and why every higher educational institute should opt for an ERP. Higher education factors of quality assurance in higher education. ERP provides a unified enterprise view of the business that encompasses all functions and departments as well as an enterprise database where all business transactions are processed, monitored, and reported. But implementing an ERP system requires careful exercise in strategic thinking, precision planning, and negotiations with all stakeholders. Environments are extremely dynamic, where the education system has been fundamentally changed. Higher education institutions and the state should leave behind the question of Information support for business processes and should focus on informatics as one of the key.

2.7 MOBILE WEB BASED ANDROID APPLICATION FOR COLLEGE MANAGEMENT SYSTEM

Android based Mobile Campus application for advancement of institution and educational system [7]. The application will be used by students, teachers and parents. In the previous system, all the information has to view in a hard file, or in website. At the same time while searching any information it is too difficult to access and takes a lot of time to search the particular website. Hence, in order to overcome this problem a smart phone based application using Android can be used to make this process easier, secure and less error prone. More efficient information's will be achieved through this system. When sensitive data is stored on the device, apps can ensure that they are stored securely using encryption. Apps also exchange sensitive information with remote servers. The Android platform provides a number of algorithms for encrypting sensitive information. Some of these algorithms provide stronger cryptographic guarantees in protecting data than others. A way of introducing unpredictability in Android is to use the Secure Random class. The need for encryption is twofold. Firstly, encryption makes it difficult to read and use any sensitive information that an app stores on a device. Secondly, encryption adds an additional layer of security to sensitive information that is exchanged between apps and remote server.

2.8 ANDROID BASED MINI ERP SYSTEM FOR COLLEGE INSTITUTIONS

Mobile technology has introduced a new environment among upcoming generations [8] that can be used to improve the management process. The proposed system will improve interactivity, accessibility, and convenience in the college management process. It is a simple yet powerful integrated platform that connects

the various entities. It is a handy application that can be used by the parents and the administrator to facilitate communication. The application is portable as it is used on a mobile device and improves connectivity between the parents and the institution, thus helping the institution to provide a more transparent system altogether. The application also reduces a substantial amount of paperwork that is otherwise needed for the daily tasks in an institution. Android has a large community of developers writing applications ("apps") that extend the functionality of devices, written primarily in a customized version of the Java programming language. Fastest growing telecom network in the globe is in India, with many users moving towards Smart Phones and greater part by students. Other than India all over the world has roar in mobile with loads of application that are useful in day to day life such as Shopping Apps, video calls, games apps, photograph apps etc. The use of smartphones which comes along with the excessive use of mobile applications is becoming more and more common, especially in the university domain. So we can design the product related to college information system.

2.9 MOBILE APPLICATION FOR STUDENT ATTENDANCE AND MARK MANAGEMENT

Marking attendance in the class meeting session and recording the marks of the students [9] are the prime tasks of the subject handlers, since marking the attendance can regulate the students to attend the classes. Moreover, it verifies number of students present in the conducted classes. The purpose of recording the marks is to analyses the performance of the students in terms of curricular activities. Earlier, the tasks of marking attendance and recording the marks are handled manually by pen and paper method. This method consumes more time and adds more workload to the subject handlers and sometimes the data may prone to error. To avoid these problems, this paper presents a mobile application for student

attendance and mark management system. This application is mainly designed for the faculties and other staff members of the organization who maintain attendance and marks regularly. Using this system, the subject handlers, staffs or the authorities can verify the number of students present or absent in the class meeting sessions. This application allows the users to mark attendance through mobile devices and to keep in touch with students. Furthermore, this application allows the teachers to mark and edit the attendance and also to add the marks in the system database for further retrieval. It gives a prior intimation to students as soon as their attendance goes below the specified percentage through an alert message.

2.10 ANDROID APPLICATION FOR STUDENT INFORMATION SYSTEM

Changes in Information Technology (IT) allow schools to utilize databases and applications such as Student Information System (SIS) [10] thus, making the accessing of records centralized. One of the changes that came about is the online-based applications. These applications are an improvisation to the traditional-transaction processing systems. The proposed system is an Android application to manage student details on mobile and keeping them updated about latest events in college. The application will be used by students, teachers and parents. The utilities provided by the application are-student details maintenance, discussion forum, notice board, attendance and report generation. The main objective of this project is to add mobility and automation to the process of managing student information in an institute. The Student Information System(SIS) would be a new way of record management and transaction processing that would achieve efficiency on processing student information. It would be a great help to the administrative personnel, academic personnel or stakeholders and students in updating, retrieving and generating student data. The developed android application will be used by teachers, students, parents and the administrator who maintains the system.

The students will use the application to enter their personal and academic details, post their queries regarding a particular subject on the respective discussion forum and for viewing notices broadcasted by the teachers/admin. The teachers can verify the details entered by the students and after the placements, the teachers can enter the placement details for each student. They can broadcast the changes in schedules or any new upcoming events to the students. Also, the students as well as their parents will be informed about the attendance percentage periodically through the application. The administrator has the authority of modifying the student details, adding or deleting teachers as and when they get admitted to the college or leave the college. Thus, this application will automate the manual student information maintenance process in colleges. It will also reduce the amount of paperwork done and time invested in manual process by the teachers.

CHAPTER 3

EXISTING SYSTEM

In a real world scenario, such as college campus, the information is in the form of notice and in web sites. Existing system follows manual work for managing student details. Today it is of the essence to not only use the predictable forms of statement, but also use the new forms such as cell phone technology, for faster and easier communication among parents. Every college has to maintain a management system for various sections which may include performance analysis, attendance system, test wise result, student information, fee structure, academic information, transport facility, staff information and many more. Managing all these sections manually on paper becomes very time consuming and complex tasks. In such system there is high possibility of misplacement of collected data and data redundancy in the form of paper records in order to overcome these drawbacks there is a need to design and implement College ERP system for mobile where a college staff can track a student profile in all aspects of academic course. Current mode of working is based on manual system in which the all the data is first received from respective personnel and then entered in the registers or files. It is very complex job and time consuming also. The existing system is also dependent on students, if the students are absent. Then performance of student will be affected. Due to huge volume of data, a lot of problems are involved in maintaining, updating and retrieving selected information.

3.1 DRAWBACKS OF EXISTING SYSTEM

- Redundancy of data.

- Difficulty in updating the data.

- Non-centralized data.

- Delay in retrieving information.

- Problem for keeping the data.

- Not proper retrieval of information.

CHAPTER 4

PROPOSED SYSTEM

The Student's Information Management system which contains up to date or accurate information of the student on mobile based approach. This should improve efficiency and flexibility of student management system and to provide a simple platform for everyone like staff, students, admin to access the student's information. Students can login to the system by entering roll number as username and then password and it can be validated by matching through database. It consists of attendance details, general details, library details, fees detail, exam results and grade details. It is often a strenuous task for students while seeking help from their staff members, especially when they need their support in their academics. Sometimes when a latest change happens in the present schedule, the circular regarding the schedule change is intimated by the non-teaching staffs in the respective classes of the college. Not everyone might be present in the classroom, it limits the student's knowledge regarding the schedule change. Not all the students really remember their internal marks in the present semester. Students may have certain difficulties, either in their academics or other personal related ones which are often difficult to be expressed, this app shall help them overcome these types of obstacles.

4.1 CLIENT- SERVER COMMUNICATION
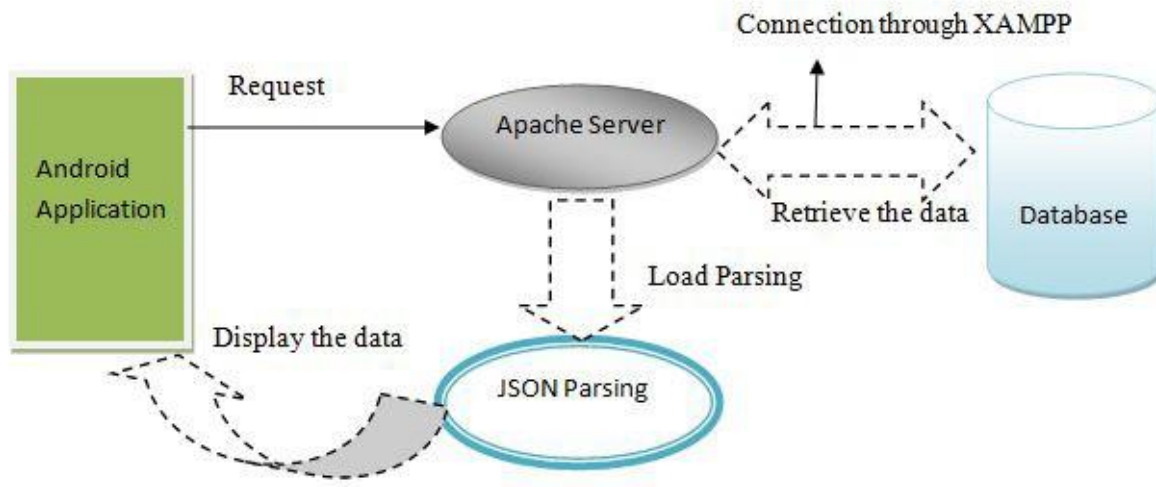
Fig: 4.1.1 Client-Server Communication

The Fig 4.1.1 Client Server Communication shows that Student can install the mobile IMS application at very first. When any data is requested to the apache server, the server fetches the data from MySQL database and the retrieved data is parsed by using JSON and the data is displayed in android application.

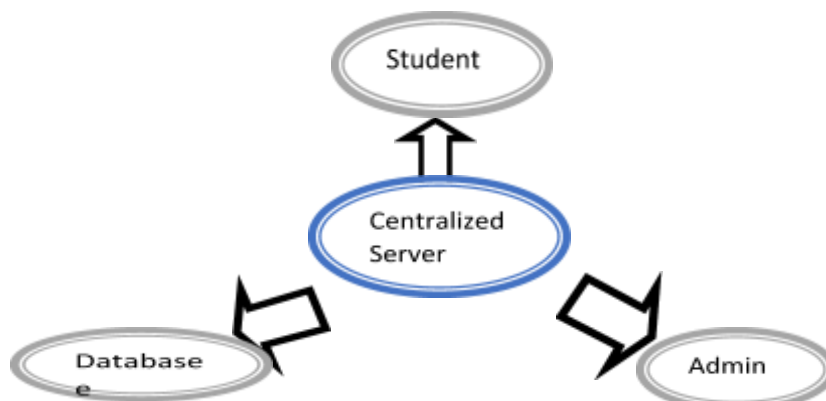## 4.2 COMMUNICATORS OF APPLICATION

Fig:4.2.1 Communication Architecture

4.2.1.1 Student

The information of the student is uploaded to the database by the admin. Admin is the sole person who hands over the username and the passwords to the respective students. The profile is later managed and maintained by the respective student. Accessing of the personal profile, attendance record, assessment marks, everyday schedule of the class and the remaining events are eventually managed by the admin. Hence, it is apparent that the profile can be viewed and accessed only by the student. The Fig 4.2.1 Communication Architecture displays about the student process.

4.2.1.2 Administrator

Administrator is the super user of the database and is highly privileged to work and view the database. Every one of the data that is subjected to modification can be done only by the admin. Administrator can likewise do the transferring of the data from database. Administrator can view the developed records and give the approval.

4.2.1.3 Database

A database-management system (DBMS) is a computer-software application, it interacts with end-users, other applications, and the database itself to capture and analyze data. A general-purpose DBMS allows the definition, creation, querying, update, and administration of databases. The data would be hosted in Microsoft SQL database and accessed by the android application. In Android Application this would be an application that would insert the data in a database. Also can access the database over the internet, retrieve and display a summarized version of the data captured in the database. A database is used to store the students details to retrieve it for future use.

4.3 MODULES OF IMS

1. Login module of student
2. Attendance details
3. Exam details
4. Fees details
5. General details
6. Library details

4.3.1 LOGIN

In the Login Portal Fig 4.3.1.1 Login Process in IMS, the student have to enter the roll number as username and password to enter into the login system. The username and password will be authenticated through database.
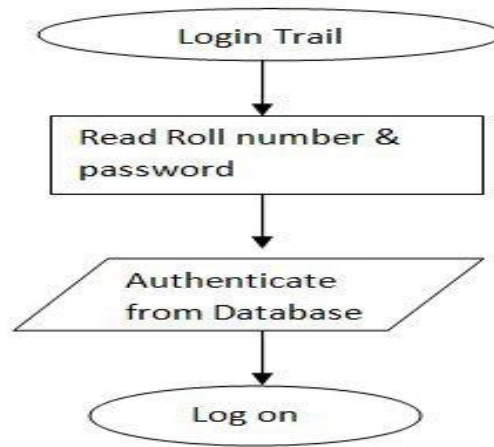

Fig: 4.3.1.1 Login process in IMS

4.3.2 ATTENDANCE DETAILS OF IMS

Marking attendance Fig 4.3.2.1 Attendance Details of IMS has been one of the most important to record and track the presence of students in schools, colleges. Attendance marking in different forms has been in use in various organization to record the presence of their human resource. This help the organization in generating

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their student attendance status. Such systems may be manual or automated.
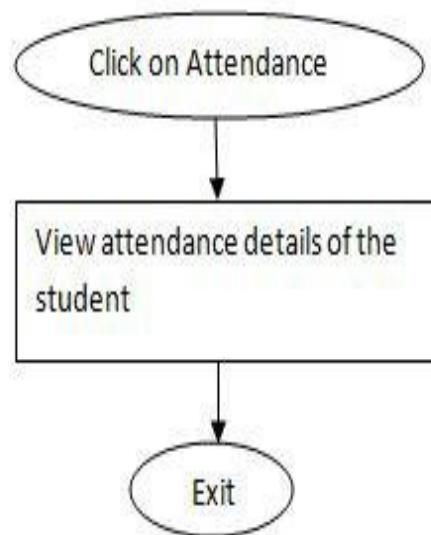
Fig:4.3.2.1 Attendance details of IMS

4.3.3 EXAM DETAILS OF IMS

In present day scenario, the marks of the students are entered in a paper and displayed on the notice board of the classroom. They staff are asked to maintain records of the test marks which is difficult. Not all the student members remember their internal marks at all time. Sometimes when it is left unnoticed by the student, it becomes a hazard for them especially when they score average grades. This may lead to failure in a particular subject. This limitation is overcome by this application. Since it holds the previous marks in a separate database, which allows easy access and retrieval of information and the students can see them grades at any guaranteed time and location. The Fig 4.3.3.1 Exam/Mark Details of IMS shows the flow of the process.
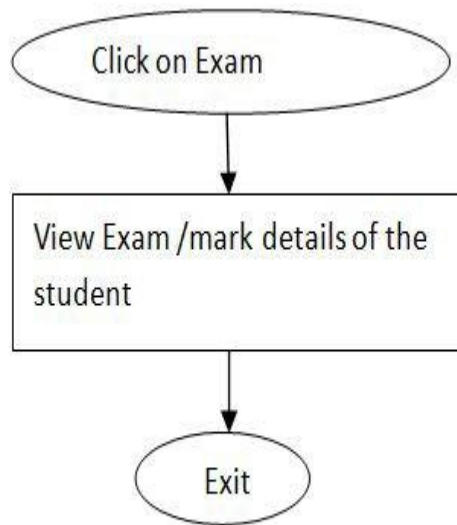
Fig: 4.3.3.1 Exam/Mark Details of IMS

4.3.4 FEES DETAILS OF IMS

Students can view the fees details by simply clicking into the fees module. It also provides course fees details, student payment, mode of payment and balanced information. This gives clear picture on the college payment process. The Fig 4.3.4.1 Fees Details of IMS shows the flow of the process.
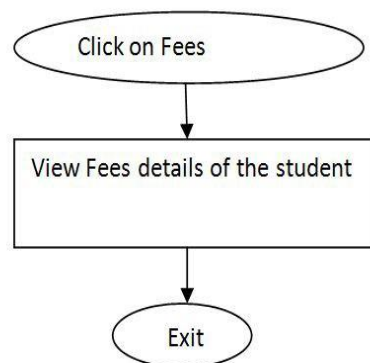

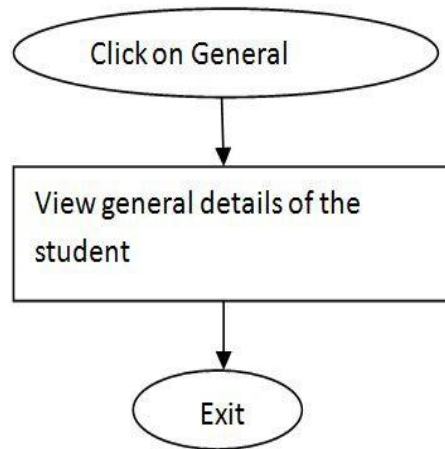Fig: 4.3.4.1 Fees details of IMS

4.3.5 GENERAL DETAILS OF IMS

Fig: 4.3.5.1 General Details of IMS

The general module contains the personal details of each student. The student can view this information just by clicking the general tab on the home screen. The Fig 4.3.5.1 General Details of IMS shows the flow of the process
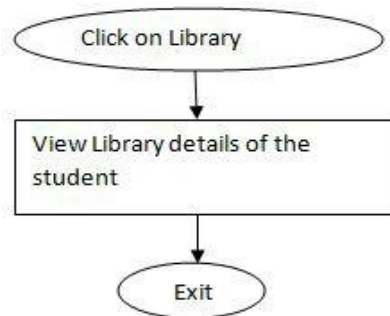
4.3.6 LIBRARY DETAILS OF IMS

Fig: 4.3.6.1 Library details of IMS

In a library there are some books which are not returned after being borrowed. This is an inconvenient task for the students as well as the librarian. Once the book isn't returned or stolen, other students are left to do nothing rather than

forget the book's existence. Even though the borrowing and returning of the book is being recorded and maintained properly, sometimes it is still lost. Hence, in this app the database of the books borrowed or given is pre – recorded and it aims to reduce this task of complication which is done to all.

4.4 ADVANTAGES

- Shorten throughput times
- Easy access
- Non-dependent
- Access at anytime and anywhere
- More comfort

CHAPTER 5

IMPLEMENTATION AND RESULTS

5.1 SOFTWARE ENVIRONMENT

5.1.1 ANDROID STUDIO V-3.1

Android Studio is the official integrated development environment(IDE) for Google's Android operating system, built on JetBrains' IntelliJ IDEA software and designed specifically for Android development. There are multiple ways to approach Android Development but by far the most official and powerful is to use Android Studio. This is the official IDE (Integrated Development Environment) for the Android platform, developed by Google and used to make the majority of the apps that you probably use on a daily basis. Android development was handled predominantly through Eclipse IDE, which is a more generic Java IDE that also supports numerous other programming languages. Android Studio makes life significantly easier compared with non-specialist software, but is still has a little way to go before it can claim to be a completely intuitive and smooth experience.

5.1.2 XAMPP

XAMPP is a free and open source cross-platform web server. XAMPP stands for Cross-Platform (X), Apache (A), MariaDB (M), PHP (P) and Perl (P). It is a simple, lightweight Apache distribution that makes it extremely easy for developers to create a local web server for testing and deployment purposes. Everything needed to set up a web server – server application (Apache), database (MariaDB), and scripting language (PHP) – is included in an extractable file. XAMPP is also cross-platform, which means it works equally well on Linux, Mac and Windows. Since most actual web server deployments use the same components as XAMPP,

it makes transitioning from a local test server to a live server extremely easy as well.

Fig: 5.1.1.1 Starting up XAMPP Server

5.1.2.1 APACHE SERVER

Apache is a remarkable piece of application software. Apache is the most widely used Web Server application in Unix-like operating systems but can be used on almost all platforms such as Windows, OS X, OS/2, etc. Apache is the most widely used Web Server application in Unix-like operating systems but can be used on almost all platforms such as Windows, OS X, OS/2, etc.

5.1.3 MY-SQL DATABASE

My-SQL is a simple, yet powerful Open Source Software relational database management system that uses SQL. My-SQL is a true multi-user, multithreaded SQL database server. My-SQL is fast and flexible enough to allow you to store logs and pictures in it. Its main goals are speed, robustness, and ease of use.

My-SQL and PHP have become the "bread and butter" of web application builders. It is the combination you are most likely to encounter today and probably for the years to come

5.1.4 JSON PARSING

JSON (JavaScript Object Notation) is a lightweight data-interchange format. It is easy for humans to read and write. It is easy for machines to parse and generate. It is based on a subset of the JavaScript Programming Language. A common use of JSON is to exchange data to/from a web server. When receiving data from a web server, the data is always a string. Parse the data with JSON.parse(), and the data becomes a JavaScript object.

Imagine we received this text from a web server:
'{ "name":"John", "age":30, "city":"New York"}'
Use the JavaScript function JSON.parse() to convert text into a JavaScript object:
var obj = JSON.parse('{ "name":"John", "age":30, "city":"New York"}');

{"Students":[{"Id":"1 ","Name":"ARMAAN","Age":"20","City":"CBE"},{"Id":"2 ","Name":"SAM","Age":"21","City":"CBE"},{"Id":"3 ","Name":"RAJ","Age":"25","City":"CBE"},{"Id":"4 ","Name":"KARAN","Age":"18","City":"CBE"},{"Id":"5 ","Name":"RAM","Age":"20","City":"CBE"}]}

Fig: 5.1.4.1 Data parsed from database using JSON

5.2 OUTPUT SCREENSHOT

Fig 5.2.1 Login Page

Fig 5.2.2 Home Page

The Fig 5.2.1. Shows the login page where the user enters the roll number and password can login into his account if any incorrect details are entered the student cannot login to his account and a toast notification is displayed.
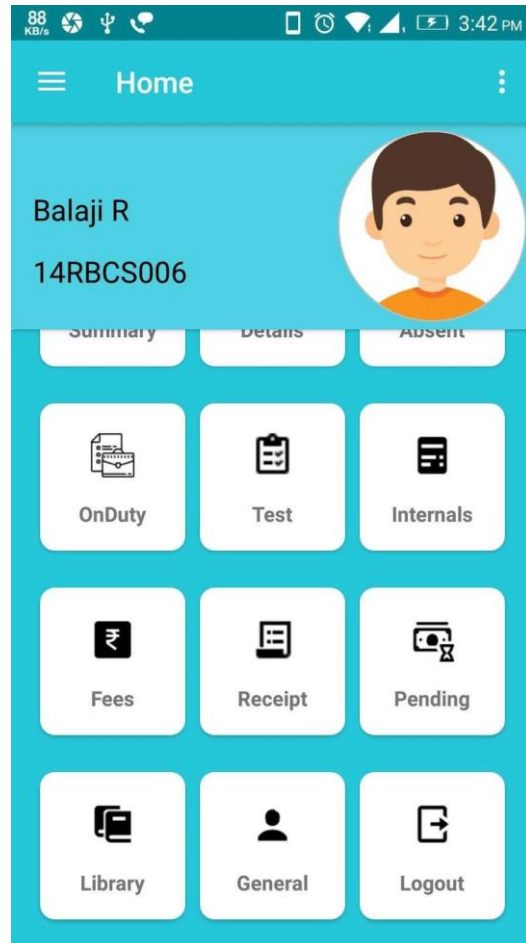
The Fig 5.2.3. Shows the Home page, After logging on successfully the student moves to the home page of the application. The following module of the application displaying Attendance Summary, Details, Absent, Test, Internal, Library and General.

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Fig 5.2.3 Navigation Bar

Fig 5.2.4 Attendance Summary
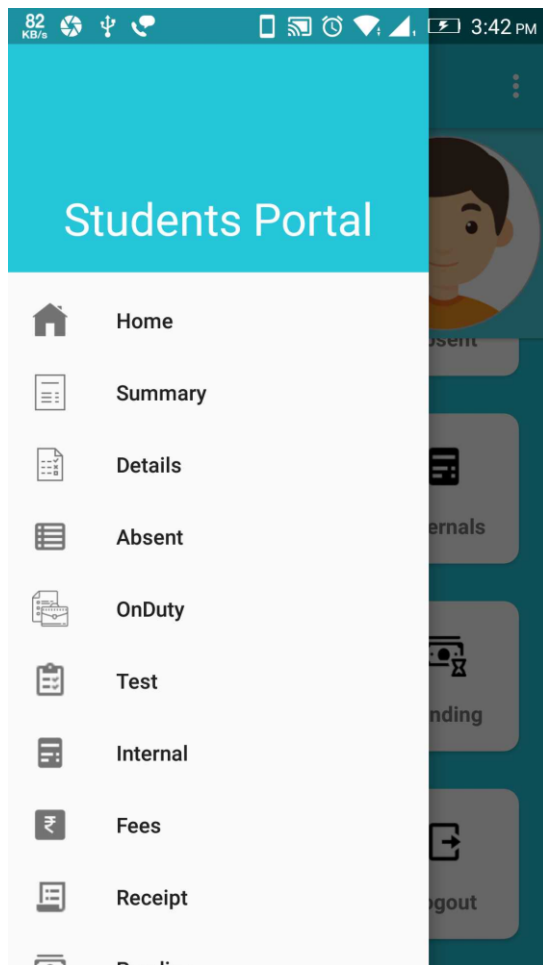
The Fig 5.2.3 Navigation Bar with the list of options. Which include Summary, Details, Absent, Test Internal, Fees , Receipt. Any Option is clicked it moves to the corresponding page.

The Fig 5.2.4 Attendance Summary of the student is displayed. Every month details are shown. The total and Present shows the overall attendance performance.

Fig 5.2.5 Test

Fig 5.2.6 Fees

The Fig 5.2.5 Test Details of the student is displayed. Where it shows the student test details with marks and status of the result in their respective subject.

The Fig 5.2.6 Fees Details of the student is displayed. Where Different fees details are displayed including Tuition, Transport, and Other

Fig 5.2.7 Library

The Fig 5.2.7 Library Details of the student is displayed. Where the Book Title, Account number, Issue, Due, Return date are shown.

Fig 5.2.8 General

The Fig 5.2.8 General Details of the student is displayed. Where personal details like Name Age gender Height Weight etc., are shown.

5.3 SOFTWARE AND HARDWARE REQUIREMENTS

- **Software**

  ✓ Android Studio V:3.0.1

  ✓ XAMPP-Apache server

  ✓ Database: MySQL

  ✓ Mobile Emulator

- **Front End**

  ✓ Java

  ✓ Xml

- **Back End**

  ✓ MySQL

  ✓ Php

- **Hardware'**

  ✓ Pc Memory :4Gb Ram

  ✓ Android Device

CHAPTER 6

CONCLUSION AND FUTURE WORK

Android Based Information Management System (IMS) for College Institution a Mobile-application based approach which is developed for viewing the student's details. The college IMS provides appropriate information to users based on their profiles. It is very useful to student for easy access of finding their details. No modification can be done by students of their own . This application is helpful to students who can view their details without any staff co-ordination. This application provides appropriate information to users according to the chosen options. By this system the user can view the details anywhere, anytime as per their own convenience. The students can enter to their profile by simply logging on, by entering roll number and password which will be validated. This project is successfully implemented with all the features and modules of the college management system as per requirements

In future systems admin side can be implemented in mobile application to update the students details anywhere and it can also implement a employer-staff-students payroll to make the transaction more easier and comfortable.

APPENDIX

CODING

Login Module

login.java

```
package com.example.abishek.single_user;

import android.content.Intent;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle; import android.view.View; import android.widget.Button;
import android.widget.EditText; import android.widget.Toast;
import com.android.volley.AuthFailureError;
import com.android.volley.Request; import com.android.volley.RequestQueue;
import com.android.volley.Response; import com.android.volley.VolleyError;
import com.android.volley.toolbox.StringRequest;
import com.android.volley.toolbox.Volley;
import org.json.JSONException;
import org.json.JSONObject;
import java.util.HashMap;
import java.util.Map;
public class Login extends AppCompatActivity { EditText roll_n, pass;
private Button login;
private RequestQueue requestQueue;
private static final String URL =
"http://192.168.225.45/project/single_user_mysql/user_control.php"; private
```

```java
StringRequest request;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState); setContentView(R.layout.login_activity);


roll_n = findViewById(R.id.et_roll); pass = findViewById(R.id.et_password);
login = findViewById(R.id.bt_login);


requestQueue = Volley.newRequestQueue(this);


login.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
request = new StringRequest(Request.Method.POST, URL, new
Response.Listener<String>() {
@Override
public void onResponse(String response) {
try {

JSONObject jsonObject = new JSONObject(response);
if (jsonObject.names().get(0).equals("success")) {
Toast.makeText(getApplicationContext(), " " + jsonObject.getString("success"),
Toast.LENGTH_LONG).show();
startActivity(new Intent(getApplicationContext(), Home.class));
} else {
Toast.makeText(getApplicationContext(), " " + jsonObject.getString("error"),
Toast.LENGTH_LONG).show();
```

```java
        }

        } catch (JSONException e) { e.printStackTrace();

        }

        }

    }, new Response.ErrorListener() {

    @Override

    public void onErrorResponse(VolleyError error) {

    }

    }) {

    @Override

    protected Map<String, String> getParams() throws AuthFailureError {

    HashMap<String, String> hashMap = new HashMap<String, String>();

    hashMap.put("roll_no", roll_n.getText().toString()); hashMap.put("password",

    pass.getText().toString());

    return hashMap;

    }

    };


    requestQueue.add(request);

    }

    });

    }

    }
```

Attendance Module

absent.java

```java
package com.example.abishek.single_user;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;
import com.android.volley.Request; import com.android.volley.RequestQueue;
import com.android.volley.Response; import com.android.volley.VolleyError;
import com.android.volley.toolbox.JsonObjectRequest;
import com.android.volley.toolbox.Volley;
import org.json.JSONArray;
import org.json.JSONException;
import org.json.JSONObject;
public class attend_absent extends AppCompatActivity { RequestQueue
requestQueue;
TextView Tsemester_head, Tleave_dt,Tleave_too,Treasons;

final String url = "http://192.168.225.45/project/single_user_mysql/absent.php";

@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.attend_absent_activity);
setTitle("Absent Details");
```

```java
if (getSupportActionBar()!=null){

getSupportActionBar().setDisplayHomeAsUpEnabled(true);

getSupportActionBar().setDisplayShowHomeEnabled(true);

}

requestQueue = Volley.newRequestQueue(this);

Tsemester_head = findViewById(R.id.semester_head);

Treasons = findViewById(R.id.reasons);


absent();

}

private void absent() {

JsonObjectRequest request = new JsonObjectRequest(Request.Method.GET, url,

null, new

Response.Listener<JSONObject>() {

@Override

public void onResponse(JSONObject response) {

try {

for (int i = 0; i < jsonArray.length(); i++) { JSONObject general =

String abs_title = general.getString("absent_title_1");

String leave_frm = general.getString("leave_from"); String leave_t =

general.getString("leave_to"); String reson = general.getString("reason");

Tsemester_head.setText(abs_title); Tleave_dt.setText(leave_frm);

Tleave_too.setText(String.valueOf(leave_t)); Treasons.setText(reson);


}

} catch (JSONException e) { e.printStackTrace();

}
```

Test Module

test.java

package com.example.abishek.single_user;

import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.widget.TextView;

import com.android.volley.Request;

import com.android.volley.RequestQueue;

import com.android.volley.Response;

import com.android.volley.VolleyError;

import com.android.volley.toolbox.JsonObjectRequest;

import com.android.volley.toolbox.Volley;

import org.json.JSONArray;

import org.json.JSONException;

import org.json.JSONObject;

public class Fee_fees extends AppCompatActivity {

    RequestQueue requestQueue;

    final String url = "http://192.168.225.45/project/single_user_mysql/fees.php";

    TextView Tfees_title_1, Tyear_1, Tsemester, Tdue_date_1, Tfees_amount_1, Tconcession_amount_1, Tnet_amount_1,

```java
        Tfees_title_2, Tyear_2, Tsemester_2, Tdue_date_2, Tfees_amount_2,
Tconcession_amount_2, Tnet_amount_2,
        Tfees_title_3, Tyear_3, Tsemester_3, Tdue_date_3, Tfees_amount_3,
Tconcession_amount_3, Tnet_amount_3, Ttotal;


    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.fee_fees_activity);

        setTitle("Fees");
        if (getSupportActionBar()!=null){
            getSupportActionBar().setDisplayHomeAsUpEnabled(true);
            getSupportActionBar().setDisplayShowHomeEnabled(true);
        }
        requestQueue = Volley.newRequestQueue(this);
        Tfees_title_1= findViewById(R.id.head_1);
        Tyear_1= findViewById(R.id.fv_recp_no);
        Tsemester= findViewById(R.id.fv_date);
        Tfees_amount_1= findViewById(R.id.fv_feesamount);
        Tconcession_amount_1= findViewById(R.id.fv_cons_amount);
        Tnet_amount_1= findViewById(R.id.fv_pending_amount);

        Tfees_title_2= findViewById(R.id.head_2);
        Tyear_2= findViewById(R.id.fv_yea);
        Tsemester_2= findViewById(R.id.fv_semeste);
        Tdue_date_2= findViewById(R.id.fv_dueDat);
```

```
Tconcession_amount_2= findViewById(R.id.fv_cons_amoun);

Tnet_amount_2= findViewById(R.id.fv_net_amoun);

Tfees_title_3= findViewById(R.id.head_3);

Tyear_3= findViewById(R.id.ov_yea);

Tsemester_3= findViewById(R.id.ov_semeste);

Tdue_date_3= findViewById(R.id.ov_dueDat);

Tfees_amount_3= findViewById(R.id.ov_feesamoun);

Tconcession_amount_3= findViewById(R.id.ov_cons_amoun);

Tnet_amount_3= findViewById(R.id.ov_pending_amoun);

Ttotal= findViewById(R.id.tv_year);

fees();


}
private void fees() {

        @Override

    public void onResponse(JSONObject response) {

        try {

          JSONArray jsonArray = response.getJSONArray("fees");


              JSONObject summary = jsonArray.getJSONObject(i);



              String f_title_1 = summary.getString("fees_title_1");



              String f_year_1 = summary.getString("year_1");

              String f_semester_1 = summary.getString("semester");

              String f_dueDate_1 = summary.getString("due_date_1");
```

```java
            int f_concession_amount_1 =
summary.getInt("concession_amount_1");
            int f_net_amount_1 = summary.getInt("net_amount_1");
            String f_title_2 = summary.getString("fees_title_2");
            String f_year_2 = summary.getString("year_2");
            String f_semester_2 = summary.getString("semester_2");
            String f_dueDate_2 = summary.getString("due_date_2");
            int f_fees_amount_2 = summary.getInt("fees_amount_2");
            int f_concession_amount_2 =
summary.getInt("concession_amount_2");
            int f_net_amount_2 = summary.getInt("net_amount_2");
            String f_title_3 = summary.getString("fees_title_3");
            String f_year_3 = summary.getString("year_3");
            String f_dueDate_3 = summary.getString("due_date_3");
            int f_fees_amount_3 = summary.getInt("fees_amount_3");
            int f_concession_amount_3 =
summary.getInt("concession_amount_3");
            int f_net_amount_3 = summary.getInt("net_amount_3");

            int f_total_amount_3 = summary.getInt("total");
            Tfees_title_1.setText(f_title_1);
            Tyear_1.setText(String.valueOf(f_year_1));
            Tsemester.setText(String.valueOf(f_semester_1));
            Tdue_date_1.setText(String.valueOf(f_dueDate_1));
            Tfees_amount_1.setText(String.valueOf(f_fees_amount_1));

Tconcession_amount_1.setText(String.valueOf(f_concession_amount_1));
```

```java
                    Tnet_amount_1.setText(String.valueOf(f_net_amount_1));

                    Tfees_title_2.setText(f_title_2);

                    Tyear_2.setText(String.valueOf(f_year_2));

                    Tsemester.setText(String.valueOf(f_semester_2));

                    Tdue_date_2.setText(String.valueOf(f_dueDate_2));

                    Tfees_amount_2.setText(String.valueOf(f_fees_amount_2));


Tconcession_amount_2.setText(String.valueOf(f_concession_amount_2));

                    Tnet_amount_2.setText(String.valueOf(f_net_amount_2));

                    Tfees_title_3.setText(f_title_3);

                    Tyear_3.setText(String.valueOf(f_year_3));

                    Tsemester.setText(String.valueOf(f_semester_3));

                    Tdue_date_3.setText(String.valueOf(f_dueDate_3));

                    Tfees_amount_3.setText(String.valueOf(f_fees_amount_3));


Tconcession_amount_3.setText(String.valueOf(f_concession_amount_3));

                    Tnet_amount_3.setText(String.valueOf(f_net_amount_3));


                    Ttotal.setText(String.valueOf(f_total_amount_3));
                }
            } catch (JSONException e) {
                e.printStackTrace();
            }
        }

    }, new Response.ErrorListener() {
        @Override
```

```java
        public void onErrorResponse(VolleyError error) {


        }
    });
    requestQueue.add(request);
  }
}
```

Library Module

library.java

```java
package com.example.abishek.single_user;


import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.support.v7.widget.LinearLayoutManager;
import android.support.v7.widget.RecyclerView;


import com.android.volley.Request;
import com.android.volley.Response;
import com.android.volley.VolleyError;
import com.android.volley.toolbox.JsonObjectRequest;
import com.android.volley.toolbox.Volley;
import org.json.JSONArray;
import org.json.JSONObject;
import java.util.ArrayList;
```

```java
public class Library_main extends AppCompatActivity {

    private RecyclerView RecyclerView;
    private Library_Adapter LibraryAdapter;
    private ArrayList<Library_Item> libraryList;
    private com.android.volley.RequestQueue RequestQueue;

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.library_main_activity);

    setTitle("Library");

    if (getSupportActionBar()!=null){
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);

        getSupportActionBar().setDisplayShowHomeEnabled(true);
    }
    RecyclerView = findViewById(R.id.recyclerView);
    RecyclerView.setHasFixedSize(true);
    RecyclerView.setLayoutManager(new LinearLayoutManager(this));
    libraryList = new ArrayList<>();
    RequestQueue = Volley.newRequestQueue(this);
    parseJSON();
}
    private void parseJSON() {
```

```java
JsonObjectRequest request = new JsonObjectRequest(Request.Method.GET,
url, null,
        new Response.Listener<JSONObject>() {
            @Override
            public void onResponse(JSONObject response) {
                try {
                        JSONObject library = jsonArray.getJSONObject(i);
                        String book_title = library.getString("book_title");
                        int book_ac_no = library.getInt("book_ac_no");
                        String book_resource_type =
library.getString("book_resource_type");
                        String book_issue_date =
library.getString("book_issue_date");
                        String book_due_date = library.getString("book_due_date");
                        String book_return_date =
library.getString("book_return_date");
                        String book_status = library.getString("book_status");
                        libraryList.add(new Library_Item( book_title,
                            book_ac_no,
                            book_resource_type,
                            book_issue_date,
                            book_due_date,
                            book_return_date,
                            book_status));
                    }
                            RecyclerView.setAdapter(LibraryAdapter);
                } catch (JSONException e) {
```

```java
                e.printStackTrace();
            }
        }
    }, new Response.ErrorListener() {
        @Override
        public void onErrorResponse(VolleyError error) {
            error.printStackTrace();
        }
    });
    RequestQueue.add(request);
    }
}
```

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