A

Project Report

On

GPA OFFICIAL APP

Submitted in partial fulfillment of the requirements for the award of the course of Diploma of Engineering

In

COMPUTER ENGINEERING

By

Meghraj Vikram Londhe Disha Atul Lahoti Asha Babaji Mandale Chandrakala Ganesh Dahake Exam Seat No. 241729

Exam Seat No. 241724

Exam Seat No. 241714

Exam Seat No. 241733

Under Guidance of

Mrs. Sant S.S.



Department of Computer Engineering Government Polytechnic, Awasari (Kh) Tal-Ambegoan Dist-Pune 412405

DEPARTMENT OF COMPUTER ENGINEERING GOVERNMENT POLYTECHNIC, AWASARI(KH) SEMESTER VI [2019-2020]



CERTIFICATE

This is to certify that project work entitled

"GPA Official App"

Submitted by:

- 1. Meghraj Vikram Londhe
- 2. Disha Atul Lahoti
- 3. Asha Babaji Mandale
- 4. Chandrakala Ganesh Dahake

Is a bonafide work carried out under the supervision of Mrs. Sant S.S. and it is submitted towards the partial fulfillment of the requirement of MSBTE, for the award of the Diploma in Computer Engineering.

(Mrs. Sant S.S.) (Smt. Hange J.R.)
(Internal Guide) HOD(Computer)

Dr. Nandanwar D.R. (**Principal**)

Place: Awasari (Kh), Pune Date:

DEPARTMENT OF COMPUTER ENGINEERING GOVERNMENT POLYTECHNIC, AWASARI(KH) SEMESTER VI [2018-2019]



CERTIFICATE

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"GPA Official App"

Submitted by:

Meghraj Vikram Londhe	(1710510093)
Disha Atul Lahoti	(1710510086)
Asha Babaji Mandale	(1710510076)
Chandrakala Ganesh Dahake	(1710510097)

Has completed the project successfully for the academic year 2018-19

Internal Examiner External Examiner

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Meghraj Vikram Londhe

Disha Atul Lahoti

Asha Babaji Mandale

Chandrakala Ganesh Dahake

CONTENTS

Chapter	Name of topic	Page No	
I.	List of Figures	3	
II.	List of Tables	4	
III.	Synopsis	5	
1.	Introduction	6-8	
	1.1 Study of Existing System		
	1.2 Motivation		
	1.3 Drawbacks		
2.	Problem Definition and Scope of Work	9-10	
3.	Project Plan	11-12	
4.	Feasibility Study	13-15	
	4.1 Technical Specification		
5.	Software Requirement Specification	16-20	
	5.1 Software requirement		
	5.2 Hardware Requirement		
	5.3 Technology Details		
6.	System Design	21-26	
	6.1 Proposed System		
	6.2 General Block Diagram		
	6.3 System Design Diagram		
7.	Result Analysis	27-34	
	7.1 Test Specification		
	7.2 Test Cases		
	7.3 Snapshots		
8.	Advantages and Disadvantages	35-36	
9.	Future Work	37-38	
10.	Conclusion	39-40	
11.	References	41-42	
12.	Appendix	43-44	

ABSTRACT

Project Name: -GPA Official App

Technical Keyword: - Android, Map, SQLite, PHP, HTML, CSS, Bootstrap, CMS.

1. GOAL & OBJECTIVES

1.1 GOAL:

- •This project supports the android as well as computer platform.
- •To know about college and to aware the college students with different documents.
- •This application contains the modules like User and Admin GPA Official App

1.2 OBJECTIVES:

- 1. The objective of this project is to provide important information and data to the students from one platform.
- 2. This application have the data about the students syllabus and the documents of notices.

3. Need for the System:

The application "GPA Official App" solves all these problems. It offers below services

- 1. Student Login is also provided for them.
- 2. Allow user to read the data and download it.
- 3. User also can see the information of other departments.
- 4. User will be able to see the results, syllabus, Gallery, Principal Desk.
- 5. Admin can do changes into data.
- 6. User can see the locations on Map to find out how far he is from the expected location.

Chapter 1 1. Introduction

1.1 Study of Existing System

1. Android:

Android is a mobile operating system based on Linux. Android is primarily used for smartphones, tablet computers, watches, smart glasses, home appliances, cars, cameras, game consoles and mirrors. Android is available in 46 languages and powers millions of mobile devices in more than 190 countries around the world. Android provides a world class platform for developing apps and games for Android users everywhere, as well as an open market place for distributing them instantly. The vast majority of Android applications are created in java, which is a standout amongst the most generally used programming languages around the world. Locale-Reminder is compatible on different versions of Android, as starting from the minimum SDK version of Android 4.0 (Ice Cream Sandwich) to recent update Android 5.0 (Lollipop). The development environment used for Locale-Reminder is Android Studio IDE.

2. Android Studio:

Android Studio is an IDE for developing on the Android platform. It is free and open source software. The Intelligent code editor in the Android Studio helps the user to 3 be more productive while developing apps. Android Studio makes it easy to develop apps for any Android device. Android Studio's new view and module support makes it easier to manage app projects and resources.

1.2 Motivation:

In early days student don't have the platform on which they can get thing they want about study material. So they will have this platform where they will find the material about their current subjects and all. Some time students don't get the right news or notice about college event and other activities so here they can get this information also. If any new student want to take admission in college then we are providing the information about the college and we are providing the information of the in which curricular activities our college have achieved the medals.

1.3 Drawbacks of Existing System

There are a lot of limitations for the existing systems:

1. Need to find the documents needed for students on another website.

3.3.1.1 DFD's and flow graph

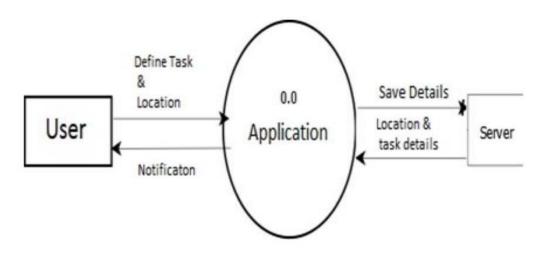


Fig 3.1: Level 0 DFD's of Location-Based Task Reminder Application

13

- 2. No any model question papers provided.
- 3. It wasn't that much user friendly.
- 4. Complicated to find the study material.
- 5. Some time may having problem with the application.
- 6. Minimum number of question papers.

1.4 Problem Statement:

Now if students want to know any notices which are shown to the notice board of college so they have to come to college and see the notices but they can see the notices on application which are pinned on notice board of college. If students want to take the reference of the model question papers so they will search on google for this so finding the model question papers on google it is time consuming so they can get model question papers on applications easily.

1.5 Hardware Specification:

1. Processor - QUAD CORE

2. Speed - 3.2 GHz

3. RAM - 4 GB (min)

4. Hard Disk - 100 GB

5. Key Board - Standard Windows Keyboard

6. Mouse - Two or Three Button Mouse

7. Monitor - SVGA

1.6 Software Specification:

1. Coding Language - Android.

2. Data Base - SQLite Browser

3. Tool - Android Studio

4. CMS - Word Press

Chapter 2 2.Problem Definition and Scope of Work

This app will provide the study material or the information of the departments and other activities. We are providing this because before this there were no any application like this which will provide the study material and information to the students. This will have the model question papers, results of UT and Final Exam, curriculum, notices of the college etc.

Now if students want to know any notices which are shown to the notice board of college so they have to come to college and see the notices but they can see the notices on application which are pinned on notice board of college. If students want to take the reference of the model question papers so they will search on goggle for this so finding the model question papers on google it is time consuming so they can get model question papers on applications easily.

We have developed the software which facilitates following services:

1. User Friendly UI:

Here the UI of the application will be user friendly. User will not find the complications in the application. Everything is arranged well.

2. Easy To Access Study Material:

This is the key for the user where they should be satisfied with the accessibility of the content that we are providing. They should get the content without complications. We have added the modules such way that user will easily access them. We have stated the information of every departments separately and the activities which are common for all departments are shown on the primary menu.

3. Separate Module for Students :

Some time some application don't have the different module for the user, here we are providing the separate module for the students which are going to use it. This way they can make their own account and can access the data by their choice.

Chapter 3 3.Project Plan

PLAN OF DISSERTATION EXECUTION:

Work Task	Description	Duration
Small Literature Research	Related work done for oblique decision trees	01-10-2019 to 10-11-2019
System Analysis	Time Estimation Correction, Comparison of technologies, Results achieved in research	18-11-2020 to 06-12-2019
Design & Planning	Modelling, design and creation	10-12-2019 to 02-1-2020
Implementation	Divided into phases. Creation of final Designs with UI. Designing of Frames in SDK. Coding of Application Similarity measure.	02-01-2020 to 25-01-2020 26-01-2020 to 06-02-2020 07-02-2020 to 20-02-2020 20-02-2020 to 13-03-2020
System Testing	Test the created Application for specific region	15-03-2020 to 18-03-2020
Initial Report	Prepare and upload Initial Report	20-03-2020 to 25-03-2020
Final Report	Prepare and upload Final Report	25-03-2020 to 27-03-2020

Chapter 4 4. Feasibility Study

Feasibility study is an assessment of the practicality of a proposed project or system.

An analysis and evaluation of a proposed project to determine if it is technically feasible, is feasible within the estimated cost, and will be profitable. Feasibility studies are almost always conducted where large sums are at stake Also called feasibility analysis. See also cost benefit analysis.

4.1 Technical Specification

Types of Feasibility:

- 1. Technical feasibility
- 2. Legal feasibility
- 3. Operational feasibility
- 4. Schedule feasibility
- 5. Resource feasibility
- 6. Financial feasibility

All projects are feasible given unlimited resources and infinite time! This feasibility study report is in concern with the system analysis carried out for the project to make sure that the project being implemented is actually feasible.

Technical Feasibility:

The study of functions, performance and constraints that may affect the ability to achieve an acceptable system lead to the following constraints:

Methodology:

13

The approach should be object oriented.

The software should be well documented.

The software should be easily configurable.

Development Feasibility:

The development environment for the Application Module (Mobile Application) is Android

Studio. Mobile software has been developed in JAVA based operating systems.

The Database has been designed in SQLite.

We have used SQLite DB browser for windows 7 OS.

Resource Availability:

The assistance of the project guides, the availability of relevant documentation as well as the

availability of the required software and hardware, greatly contributed in making this project

feasible.

Technology:

Operating system used: Windows 7.

Back End: SQLite.

Front End: JAVA, Android Studio.

Economic Feasibility:

Procurement cost:

Software cost: none since all the technologies are open source.

Consulting cost: none.

Equipment installation cost: None, as software can be installed by downloading

from website.

Project related costs:

Cost of application software: All the applications are freely available on the

internet.

Cost of mobile device: Depends on mobile phone used.

Cost of static IP: None.

Cost of web space: Cannot be determined at this instant.

14

Chapter 5 5.Software Requirement Specification

5.1 Software requirement

1. Android -

Android is a mobile operating system developed by Google, based on a modified version of the Linux kernel and other open source software and designed primarily for touchscreen mobile devices such as smartphones and tablets. In addition, Google has further developed Android TV for televisions, Android Auto for cars, and Android Wear for wrist watches, each with a specialized user interface. Variants of Android are also used on game consoles, digital cameras, PCs and other electronics.

2. Android Studio –

Android Studio is the official integrated development environment (IDE) for Google's Android operating, built on JetBrains' IntelliJ IDEA software and designed specifically for Android development. It is available for download on Windows, macOS and Linux based operating systems. It is a replacement for the Eclipse Android Development Tools (ADT) as primary IDE for native Android application development.

Features –

The following features are provided in the current stable version:

- 1. Gradle-based build support
- 2. Android-specific refactoring and quick fixes
- 3. Lint tools to catch performance, usability, version compatibility and other problems
- 4. Pro Gear integration and app-signing capabilities
- 5. Template-based wizards to create common Android designs and components
- 6. A rich layout editor that allows users to drag-and-drop UI components, option to preview layouts on multiple screen configurations
- 7. Support for building Android Wear apps
- 8. Built-in support for Google Cloud Platform, enabling integration with Firebase Cloud Messaging (Earlier 'Google Cloud Messaging') and Google App Engine
- 9. Android Virtual Device (Emulator) to run and debug apps in the Android studio.

Hardware Requirements –

Windows OS -

- 1. Microsoft Windows 7/8/10 (32-bit or 64-bit)
- 2. 2 GB RAM minimum, 8 GB RAM recommended
- 3. 2 GB of available disk space minimum, 4 GB Recommended (500 MB for IDE + 1.5 GB for Android SDK and emulator system image)
- 4. 1280 x 800 minimum screen resolution
- 5. JDK 8
- 6. For accelerated emulator: 64-bit operating system and Intel processor with support for Intel VT-x, Intel EM64T (Intel 64), and Execute Disable (XD) Bit functionality

1. Java –

Android applications are developed using the Java language. As of now, that's really your only option for native applications. Java is a very popular programming language developed by Sun Microsystems (now owned by Oracle). Developed long after C and C++, Java incorporates many of the powerful features of those powerful languages while addressing some of their drawbacks. Still, programming languages are only as powerful as their libraries. These libraries exist to help developers build applications.

Some of the Java's important core features are:

- 1) It's easy to learn and understand
- 2) It's designed to be platform-independent and secure, using virtual machines
- 3) It's object-oriented

2. Database SQLite –

SQLite is a system contained in a C programming library. In contrast to many other database management systems, SQLite is not a client–server database engine. Rather, it is embedded into the end program.

SQLite is ACID-compliant and implements most of the SQL standard, using a dynamically and weakly typed SQL syntax that does not guarantee the domain integrity.

SQLite is a popular choice as embedded database software for local/client storage in application software such as web browsers. It is arguably the most widely deployed database engine, as it is used today by several widespread browsers, operating systems, and embedded systems (such as mobile phones), among others. SQLite has bindings to many programming languages.

5.2 Hardware Requirement:

8 GB RAM recommended; plus 1 GB for the Android Emulator

500 MB disk space for Android Studio, at least 1.5 GB for Android SDK,

Disk space emulator system images, and caches

Java version Java Development Kit (JDK) 8

Screen

1280×800 minimum screen resolution.

5.3 Technology Details

Android Studio is the official integrated (IDE) for Google's Android operating system, built on JetBrains' IDEA software and designed specifically for Android development. It is available for download on Windows, macOS and Linux based

RAM

operating systems. It is a replacement for the Eclipse Android Development Tools (ADT) as primary IDE for native Android application development.

Criterion	Description
OS version	Microsoft® Windows® 7/8/10 (32-bit or 64-bit) Mac® OS X® 10.10 (Yosemite) or higher, up to 10.13 (macOS High Sierra) GNOME or KDE desktop Linux (64 bit capable of running 32-bit applications) (GNU C Library (glib) 2.19+)
RAM	3 GB RAM minimum, 8 GB RAM recommended; plus 1 GB for the Android Emulator
Disk space	2 GB of available disk space minimum, 4 GB recommended (500 MB for IDE + 1.5 GB for Android SDK and emulator system image)
Java version	Java Development Kit (JDK) 8
Screen resolution	1280×800 minimum screen resolution

Chapter 6 6.System Design

GP Awasari Application that you to do something when you arrive at, or leave application .Like when u enter into the application a logo of college will be displayed. The main purpose of GP Awasari Application is to provide services to users like students or college staff for getting any information related to the college. We have created two modules in this app which are student module and Admin module.

6.1 Proposed System

1. GP Awasari App:

GP Awasri app is the college related app which having two modules that is student and admin module. When the app will be started our application will show the logo of the college and then student module will be start directly. Student will not need to login. Login will be required for the admin which are the staff members of the college. In out app, we are giving lots of features to the users. That is student can directly check there results of exams conducted by MSBTE, we have added the information about the staff members of each department. Also we have provided the link of various online learning platforms like swayam, nptel, etc.. Pros: : Straightforward and simple to use and user friendly behavior, In admin module teachers can display the marks of UT that's why lots of written work can be avoided, also we are giving the links of various online platforms because of which the students which are not from technical background they can also use that online platforms they need not to search on internet. Cons: Internet is required to run the app, for update application we required some time.

2. Study Material For Students:

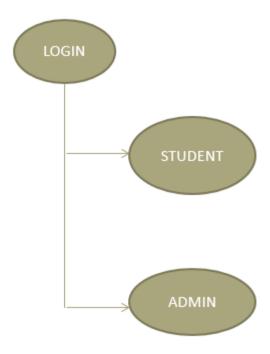
In this application we are giving the most important thing that is we are providing the curriculums, exam marks to the students. Also, we are providing staff information and the detail information of the vision and mission of the college. We also providing model questions and answer papers

of the end semester exams taken by the MSBTE Board due to that, student will get all information on one platform they will not need to search any where on the internet. Also we have given one option of notice board where the notices displayed by the teachers.

6.2 System Design Diagram:

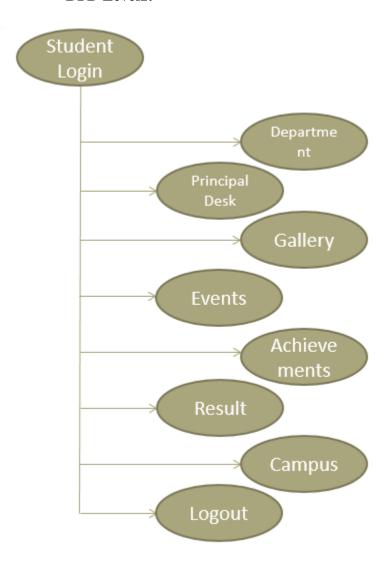
1. DFDs

• DFD Level 0:-



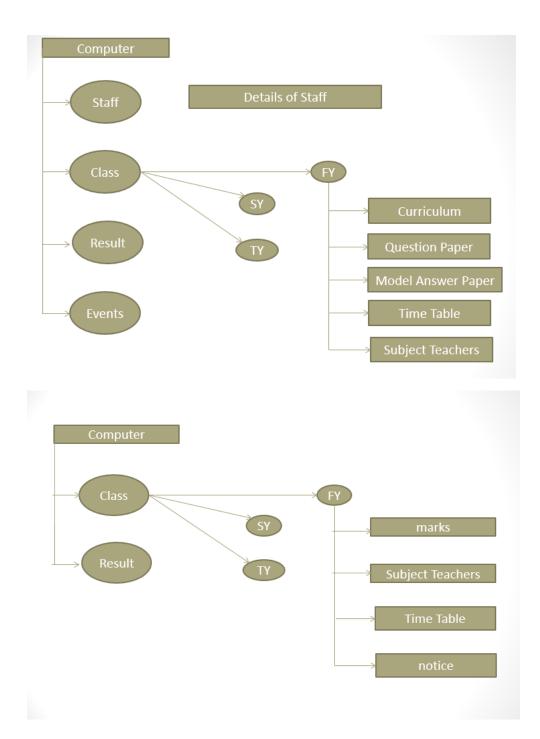
- In this flow diagram first there will be a two login modules STUDENT and ADMIN.
- STUDENT will have only read permission
- ADMIN will have read, write and execute permission
- ADMIN will be able to make changes in the application like if they want to upload or change any data so they can do it.

• DFD Level1:



- 1. Information about the department.
- 2. The details of the Principal
- 3. Gallery includes the photos and videos about GPA like State or Institute level events ,Gathering ,etc...
- 4. Event will provide the schedule of events and more information about it.
- 5. Result contains the semester result link.

- 6. Campus will provide the information about the company requirements and campus details.
- 7. Log out is for logging out purpose.



Chapter 7 7.Result Analysis

7.1 Test cases

Test cases for Admin Login Page: -

Sr No	Test case ID	Testcase Objective	Prerequisites	Steps	I/P Data	Expected Result	Actual Result	Status
1	TC_1	Check the validity of user name field	Username field is available and not passive.	1.Click/Focus on Username field. 2.Enter Username.	Text	Username should be entered.	Username is entered only characters	Pass
2	TC_2	Check the validity of password field.	Password field is available and not passive.	1.Click/Focus on Password field. 2.Enter Password.	Char acter, digit, symb ols	Password should be entered correctly.	Password is entered in combination of alphanumeri c character and special symbols	Pass
3	TC_3	Check the functionali ty of login button.	N/A	Click on Login button.	N/A	Login should be successful and going to next page.	Login is successful and go to next page.	Pass

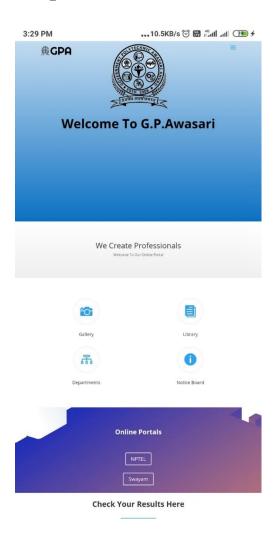
Test Cases for Student Module: -

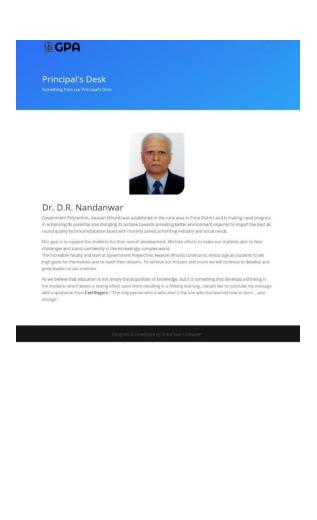
Sr. No	Test_c ase_I D	Test_case Objectives	Prere quisite s	Steps	Expected Result	Actual Result	Statu s
1	TC_1	Test the Homepage of the Application	NULL	1.Open The GPAwasari app and Test the Homepage 2. Is logo there? 3.Is it Purely interactive?	Homepage should be completely interactive and it should be of user friendly behavior.	Homepage is completely interactive and user friendly also	Pass
2	TC_2	Check the Menu	NULL	1.Click on Menu.	It should display slide bar which contains the list of menu and when we click on it again then that slide bar should be closed.	When clicked on menu then the list of menu is displayed	Pass
3	TC_3	Check the feasibility of first option in menu	NULL .	1.Click on About Us.	After clicking on About Us, it should immediately display the next page which contains the information about the app developers.	When clicked on About Us it immediately switches to the next page and displayed the content in that.	Pass
4	TC_4	Check the feasibility of second option in menu	NULL .	1.Click on Gallery	After clicking on Gallery ,it should immediately display the next page which contains the images and the videos of various college events.	When clicked on About Us it immediately switches to the next page and displayed the content in that.	Pass
5	TC_5	Check the Feasibility of third option in menu	NULL	Click on Principal's Desk Menu	After clicking on Principal's Desk ,it should immediately display the next page which contains the	When clicked on Principal's Desk it immediately switches to the next page and displayed	Pass

					information about the Principal of the college.	the information of principal of the college.	
6	TC_6	Check the Feasibility of fourth option in menu	NULL	Click on Department in Menu	After clicking on Department ,it should immediately display the next page which contains the list of various departments in the college and after selecting the one department it should display the department and faculty's information	When clicked on Department itimmediately switches to the next page and displayed the list of various departments in the college and after selecting the one department it displayed the contents as expected.	Pass
7	TC_7	Check the Feasibility of fifth option in menu	NULL	Click on UT Results in Menu	After clicking on UT Results ,it should immediately display the next page which contains the departments with the class(FY,SY,TY) after selecting one it should display te marks of UT.	When clicked on UT Results it immediately switches to the next page and displayed the information as expected.	Pass
8	TC_8	Check the Feasibility of sixth option in menu	NULL	Click on Notice Board Menu.	After clicking on Notice Board, it should immediately display the next page which contains the various notices from teachers.	When clicked on Notice Board it immediately switches to the next page and displayed the notices	Pass
9	TC_9	Check the performanc e of application after giving	NULL	Performing Load Testing	Use the application at the same time by many users it should respond	App responded when we apply the load to the application	Pass

		load to the application.			good that is immediately.		
10	TC_10	To Check the swayam ,Nptel links given on homepage of the app	NULL	Click on the button for swayam and Nptel video	After clicking on the go to link button it should go to the nptel website.	Link of Nptel is displaying after clicking the button.	Pass

Snapshots:

























Automobile Engineering













Chandrakala Dahake

Chapter 8 8.Advantages and Disadvantages

8.1 Advantages:

- 1. We get all things in one platform.
- 2. This application is user friendly and the non technical students can also use it easily.
- 3. UT Marks can be display in the app itself so no need to do the written work so time saves.
- 4. Notices can display in application.
- 5. Result check directly on one click no need to search the sites on the google.
- 6. Nptel and swayam are the online learning platform so in this application the link is provided.

8.2 Disadvantages:

- 1. User can use this application only with android mobile phone.
- 2. User must have an internet connection.

Chapter 9 9.Future Scope

The future application of this system is to include attendance. Attendance enhances the usability of the application. It will reduce the paper work of the teachers to note the attendance they can directly do entry to server and this will be purely safe and transparent. Also we can add Library option because of this user will get the books in the library online itself no written work will be required.

Chapter 10 10.Conclusion

The final system allow user to easily use GP Awasari application. This app having two module which are student and admin module. Where the Admin module needs login and only teachers will have the authority to this application, only they can update the marks of the UT ,add notices to notice board. On the other hand students can check the Gallery of the College, check the curriculum, Check the marks of UT, check notices on the notice board, etc. This application will be one platform for many uses.

Chapter 11 11.References

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Chapter 12 12.Appendix

- 1. Java
- 2. Android Studio
- 3. SQLite
- 4. Map