

School Notify

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Abstract

Whole world and administrators of Educational institutions' in our country are concerned about regularity of student attendance, student's overall academic performance. Conventional methods used until now, were more time consuming and not much fruitful as parents could not keep tab on their child's daily progress. Hence, there is a requirement of "School Notify" app based on android and windows integrated with communication gateway, login functionality which will notify the parents about various activities of their child by using this app parents instant communication with teacher and aware about Result and performance of Student.

Software life cycle or software process is considered as a subset of systems development life cycle. Out of many models for such processes every describing approaches to a spread of tasks or activities that happen throughout the method. Each process model follows a particular well defined life cycle in order to ensure success in the process of software development.

In this app, basic problem of student management in schools is defined and the main objective is to provide computer vision to it. As a prerequisite, various computerized systems being developed by using different techniques have been reviewed. This app focuses on the advancement and modernization of the primitive methods which are being used till now in school.

Introduction

School Notify is a teacher-parent communication tool that simplifies, centralizes, and accelerates communication between teachers and parents. With this app, teachers can easily organize contact details of their students' parents, provide announcements, share important news and updates, and engage parents in either a 1-on-1 or group conversation with ease. Teachers need to communicate and engage parents on a regular basis but traditional practices such as giving them notes, conversing over the phone, and meeting in schools can be taxing and time-consuming for both parties. School Notify bridges the communication gap between teachers and parents, equipping teachers with modern tools that enable them to create and send notes to parents with just a few clicks, provide them with the latest school news through SMS or email, and informing them of their children's grades, homework, and achievements among others.

School Notify helps teachers, and schools in general, graduate from paper-based communication and information dissemination (letters, newsletters, print-outs, etc.) as well as multiple digital channels (online forums, group chats, and web portals) into a more efficient, paperless system that centralizes communication. The software provides teachers and schools with a unified platform that enables them to communicate and engage parents via a single channel and deliver time-sensitive information right on time before they lose relevance.

School Notify, all information announced through this medium is thoroughly scrutinized and reviewed prior to approval and announcement. This results in a harmonious and productive relationship between parents and teachers that greatly impact not only the learning and development of the students but also adds value to the school as a reliable and strong academic institution.

Many software development projects have been known to incur extensive and costly design errors. The most expansive errors are often introduced early in the development process. This underscores the need for better requirement definition and software design methodology.

1.0.1 Motivation

Motivation of this research work is to provide the security to the app by using login method as email id. To provide parental access so that the parent can send the information like leave application . The attendance list of the student can also be seen in this app.

1.0.2 Existing System

Many of the school Notify apps are directly login by using phone number. They don't have the parental access, means that the parents are not able to give the reply on the app. The school authority only have the permission to send data as message, video or PDF.

1.0.3 Proposed System

The proposed system deal with the challenges faced by the old app of schoolnotification. The limitation of the existing app are considerable removed by this newapp. The lack of authentication, no parental access, no teaches-parent direct communication, teachers information are removed in this app.

1.0.4 Features of Proposed System

- Daily updates of the events that are taking place in school is update on app
- Class wise timetable of classes is provided
- Exam time table is updated while class test and annual exam
- The syllabus of papers is also provided before exam on app
- Parents can also send queries about studies , and co-curricular activities
- Parents can email the queries of students to the respective subject teacher as the email id of all the teaching staff is provided on the app

Purpose

2.1.1 Purpose

The School Notify system is an approach to improve the current system. It provides an effective parent-teacher communication. This system provides an instant communication with teacher. Basic functionality of our application are: Announcement of event and circular, exam schedule, attendance report, assignment sharing, Timetable, Leave application, Parent note to Teacher, Teacher note to Parent, List of Holidays, Faculty Detail, Result and performance of Student. Thus "School Notify" is a mobile application

which provides efficient and cost effective solution for parents regarding their child.

The objective of our application is to provide mobile friendly which enables effective Parent Teacher Communication. The primary goal of our application is to provide effective and smart system to the schools using which parents, students and teacher can communication with each other.

2.1.2 Project Scope

The system "School Notify" can be used by any school who wants to make the communication between parent and teacher effective. Using this app parent take care of his child's study. Parent can also get the regular details of the school. Due to the use of "School Notify" they can make their child's performance at a good level. Using MAC teacher can also send complains of the student to the respective parent at that time, so it leads to the improvements of that student. By considering all these factors one can make a school to a smart school.

Specification

3.1.1 Design and Implementation Constraints

For the development of proposed system following is the requirement

- JDK 1.8.0 or above version.
- SQL Lite
- Android Stdio 3.5.1

3.1.2 System Features

- Save money
- Save Time.
- Efficiency.
- Daily updated.
- Queries can be cleared in second .
- Easy for parents to keep watch on their child progress.
- Easy to use.
- Paperless work.

3.1.3 Hardware Interfaces

- Computer- A electronic device dedicated to carry out sequence of Arithmetic and logical operations.
- Processor – i5 8th gen
- Speed - 3.96 GHz
- RAM – 8GB RAM
- Hard Disk - 1TB
- Key Board - Standard Windows Keyboard
- Mouse - Two or Three Button Mouse
- Monitor – LED

3.1.4 Software Quality Requirements

Following table shows various quality attributes and its level in order to test quality of system,

Attribute	Performance
Availability	System is should be up at any time in day (24 x 7).
Maintainability	Easy to maintain.
Usability	Easy to use.

Table 3.1: Software Quality Attributes

3.1.5 Analysis Models

A data flow diagram (DFD) is a graphical representation of the "flow" of data through an information system, modelling its process aspects. Often they are a preliminary step used to create an overview of the system which can later be elaborated. DFDs can also be used for the visualization of data processing (structured design).

3.1.6 Data Flow Diagrams Level 0

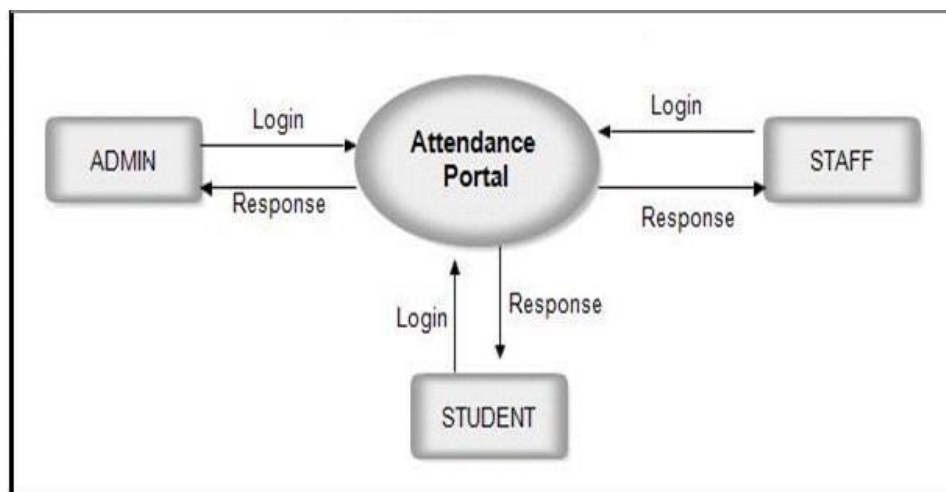


Figure 3.1: DFD Level 0

3.1.7 Data Flow Diagrams Level

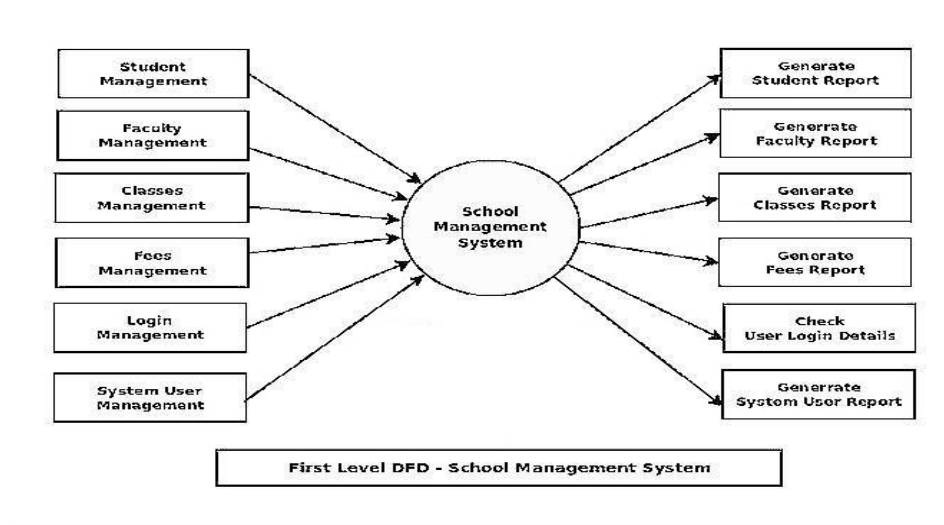


Figure 3.2: DFD Level 1

3.5.3 Class Diagram

Class diagram show set of classes interfaces and their relationship. Class diagram show static design of system.

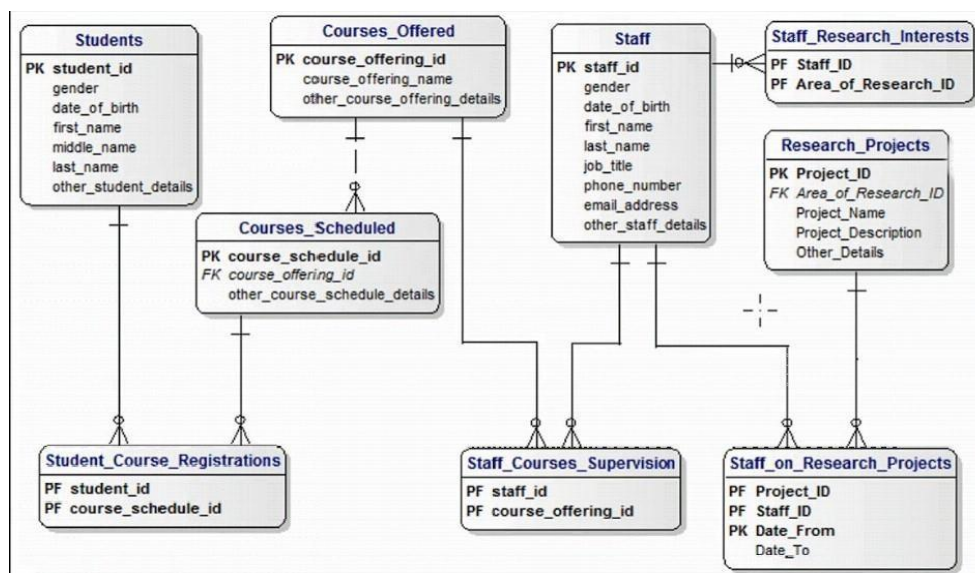


Figure 3.3: Class Diagram

System Design

4.1.1 Flow of Proposed System

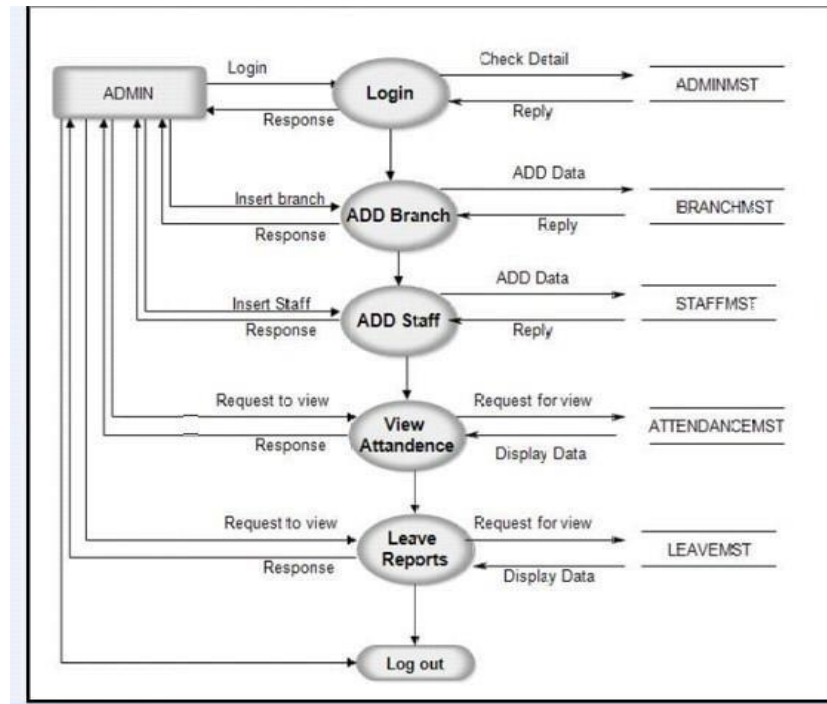


Figure 4.1: Flow of Proposed System

4.1.2 UML Diagrams

The Unified Modeling Language (UML) was created to forge a common, semantically and syntactically rich visual modeling language for the architecture, design, and implementation of complex software systems both structurally and behaviorally. UML has applications beyond software development, such as process flow in manufacturing.

It is analogous to the blueprints used in other fields, and consists of different types of diagrams. In the aggregate, UML diagrams describe the boundary, structure, and the behavior of the system and the objects within it.

UML is not a programming language but there are tools that can be used to generate code in various languages using UML several object-oriented notations: Object-Oriented Design, Object Modeling Technique,

4.1.3 Use Case Diagram

Use-case diagram is used to define functions of the system and to capture and analyze the functional requirements of an application system. A use case model is a collection of use cases which specify the behavior of a system.

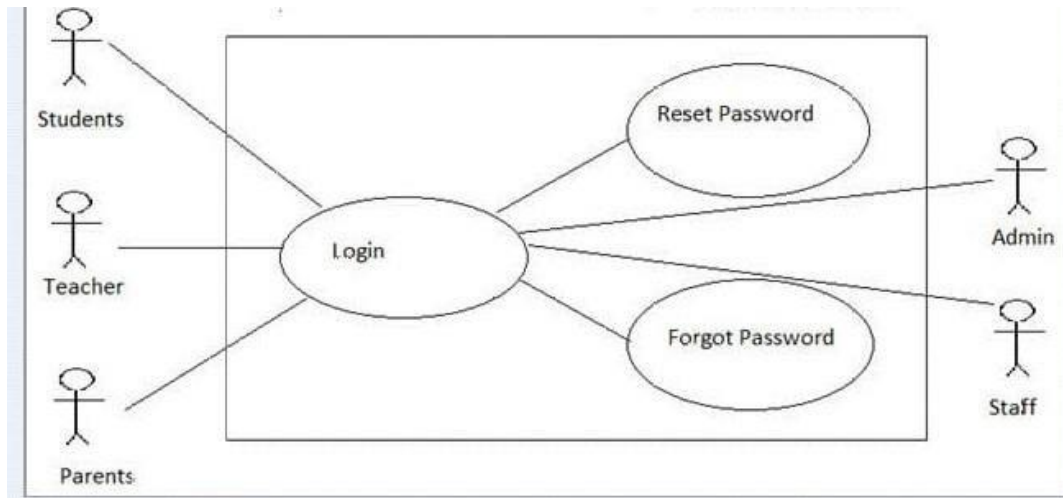


Figure 4.2: Use Case Diagram

4.1.4 Sequence Diagram

Sequence diagram figure shows an event in the system that causes each object to interact with each other.

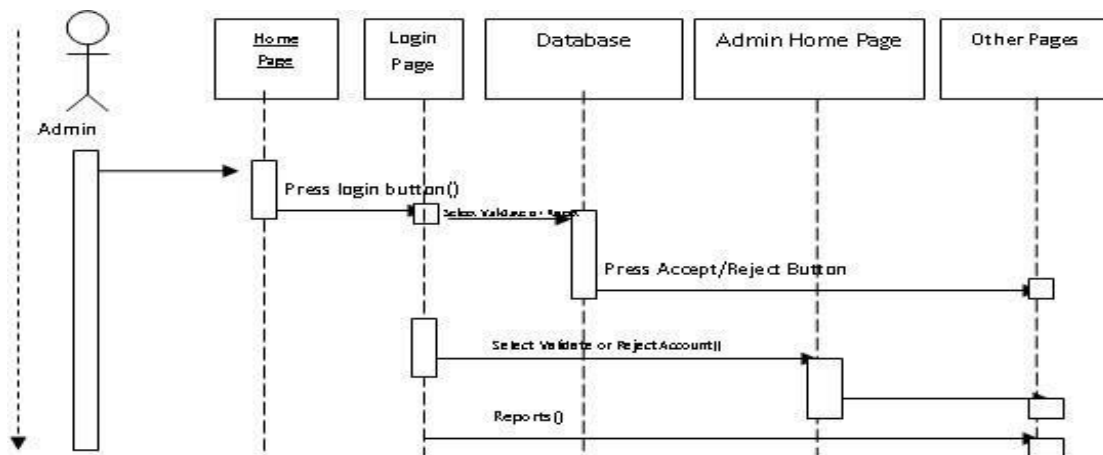


Figure 4.3: Sequence Diagram

Software Implementation

5.1.1 Implementation of the School Notify

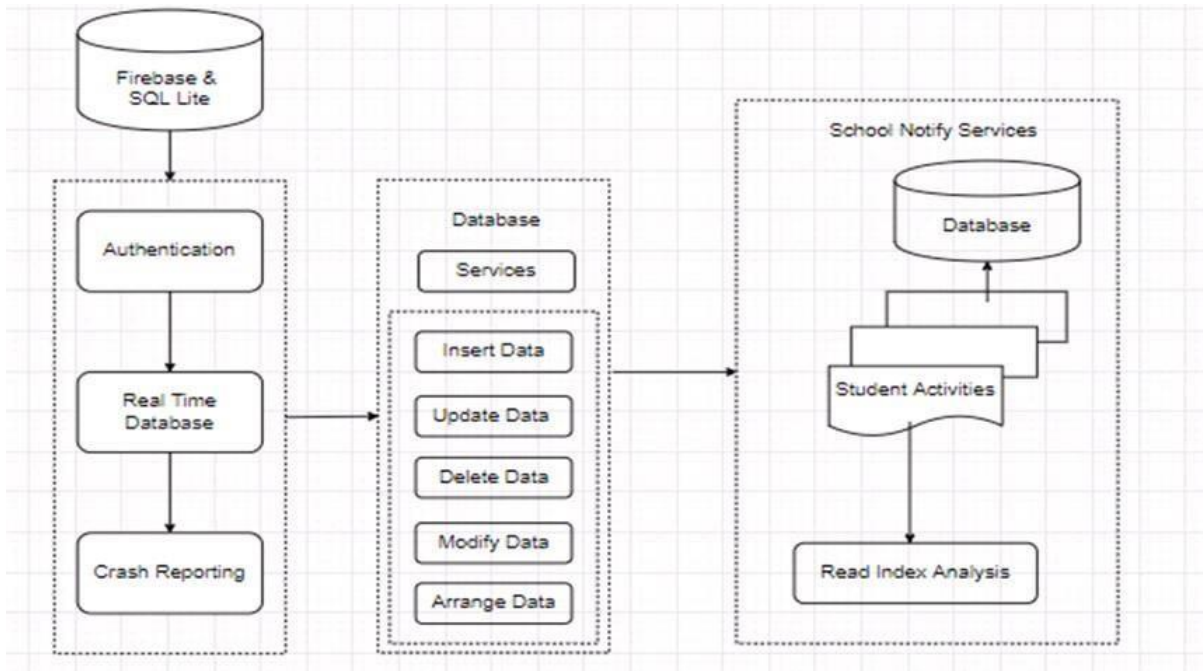


Figure 7.1: System Architecture

The implementation of the School Notify Service came after a sequential process of development until the final working application was produced. The methods utilized in the implementation included literature review and action research. The following subsections will explain the research methods that were used to design and implement the system. In order to capture the importance of designing and implementing an SchoolNotify Service a literature review was done in an academic way. To achieve the goal of implementing the system, the literature review was done in a way that informed what other workplaces have done with relation to a workplace diary system. In the context of development through ICTs. There was also a look at the different services that can be catered through ICTs. In order to fully understand and motivate the use of an School Notify Service over a physical diary, their importance was equally evaluated.

5.1.2 System Requirements

In order to fully understand the system requirements, it was important to understand the existing infrastructure in which the system would be deployed. This helped in making sure that similar software platforms were used or not. The technology, Android Studio which is a free integrated software bundle suitable for the Windows operating system and includes the Firebase database. The advantage of using Android Studio is that the various components installed and configured with each other, display no delays and give minimal problems in configuration. This is because open source software is freely available. Additionally, it allows for reuse, diffusion, it has open standards and helps gain independence from vendors.

5.1.3 User Roles and Responsibilities

The School Notify Service is capable of providing services to only two different users .i.e. the Parent, Teacher and the System Administrator. In order for both these entities to access the system, they have to be authenticated and authorized according to their individual functionalities. Upon accessing the system, they are then directed to their different interfaces. The following diagram illustrates the different roles performed by the two users in the School Notify Service.

5.1.4 The Administrator

The administrator is responsible for setting up and maintaining the School Notify Service. The administrator is also responsible for administering user accounts, verify proper working of peripherals and also monitor system performance. Additionally, the administrator is responsible for creating file systems, creating backup and recovery policy and monitor the system communication within the database. In the School Notify Service, the administrator will also create new users, reset user passwords, activate/deactivate user accounts, monitor server security and other special services.

5.1.5 The Parents

The parents in this system's context are the people who acquire services from the School Notify Service. They utilize their mobile to interact with the system through giving input to the system and obtaining output from the system. The School Notify Service also allows Parents to manage their child's Homework, Attendance, Activity, reminders.

5.1.6 Database Design

One of the components of the School Notify Service is the Firebase database. The name of the database is School Notify. This database is used to store data, such as login credentials and School data. For example, the school data stored in the database can be viewed, updated and deleted using those queries. This section of the paper will focus on the design of the database. As mentioned above, the database is a Firebase database which is an Google's mobile development database. It operates as a server which allows multiple users to access databases. This allows the developer to browse and edit the database and its' tables from Firebase website.

5.1.7 School Notify Service

One of the components of the School Notify Service system architecture is in the firebase database. It is a very fast and robust mobile development database, which is utilized in the system to store, update, search, delete, view and retrieve data. In addition to the afore-mentioned advantages, Firebase is a Google's software, easy to configure and when complimented with a user friendly interface, it is also easy to interact with the client and make enhance data addition and retrieval processes. It is also portable, meaning that it can be utilized on different platforms. Hence, the Firebase database was used in the School Notify Service. Below is an illustration of the interfaces used and an in-depth explanation of the firebase database used in the School Notify Service.

Results

6.1 Results of Compare App Feature

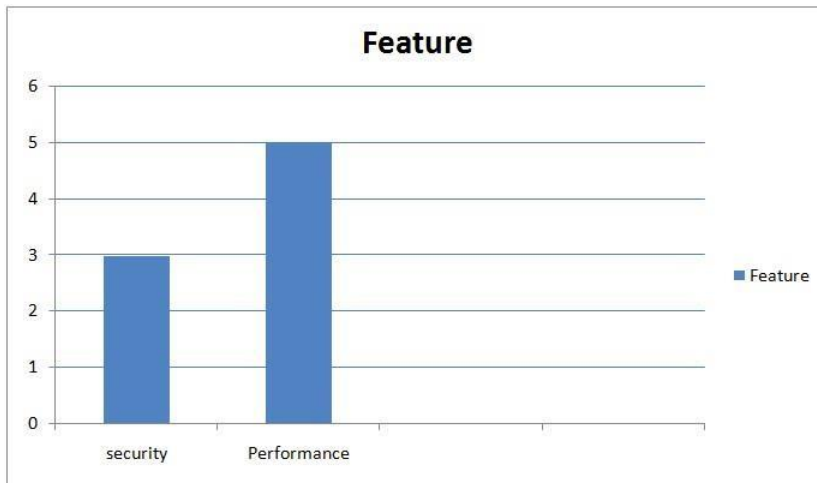


Figure 9.1: Results of Compare App Feature

We tested this app on standard Feature Here we showed how much rate take by security of app as compare to performance of app.

6.2 Results of Hardware and software Requirement

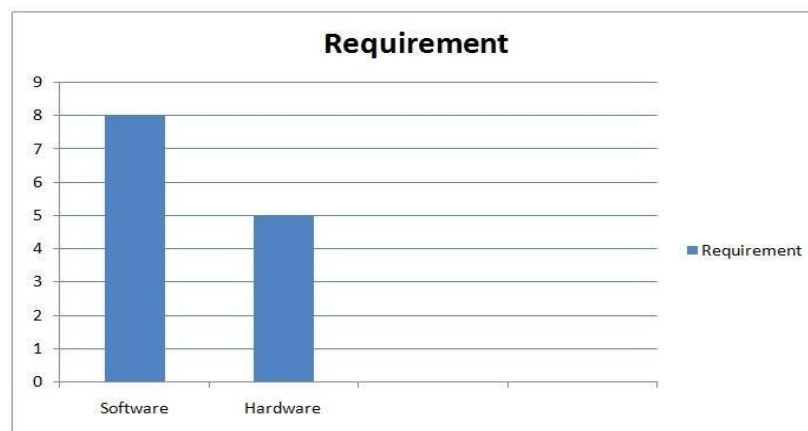


Figure 9.2: Results of Hardware and software Requirement

We also calculated hardware and software requirement . We used requirement as parameter to calculate the rate of hardware and software requirement. Graph shows that our hardware and software requirement results are very good.

Conclusion

The School Notify offers reliability, time savings and easy control. Students and their parents will also view results, attendance and curriculum details using this application. Also students can view details, notifications anywhere and anytime. The application will greatly simplify and speed up the result preparation and management process. It provides high security and a system that reduces the work and resources required in traditional process. The School Notify provides the new way of computing and displaying an operations with responsive and attractive user interface. Thus, on the basis of literature survey and by analyzing the existing system, we have come to a conclusion that School Notify will not only aid the automation to the college ,but will also help to digitize the system and in turn help to deploy resources efficiently.

7.1 Future Scope

- The system being designed is economically with respect to the students and teachers point of view.
- All data will be stored securely on the server managed by the School.

7.2 Execution

- Meets the requirements that guided its design and development.
- Responds correctly to all kinds of inputs.
- Performs its functions within an acceptable time.
- Is sufficiently usable.
- Can be installed and run in its intended environments.
- Achieves the general result its desire.
- First Write a code of app in Android Studio.

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