Student Council Android and Web App

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Abstract—This student council application is mainly designed for the Don Bosco Institute of technology students council. This web application involves a voting system which is an easy, fast, and efficient voting system. We have developed this project that simplifies the coordinating and advising system by automating some of the activities that are done manually. This project will show the design of the project and the information of the tools and techniques that were used to document the project and implementation tools of this system such as Reactjs. And we try to put sample UI and sample algorithm

Our system will have a centralized database and each user will have a user account that enables them to do some tasks such that votes check their status is vote or not, the candidate also checks the current point during the election. We have tried to connect all the portals in the web app where a student can easily connect with a staff member or any council member.

Keywords—Android, Web, Management, Communication, Events, Clubs.

INTRODUCTION (*HEADING 1*)

Student council is very important for daily happenings in college. There is a need for an integrated portal for effective collaboration in managing events.

This app aims to help the student council by including features like a voting portal, events page, teachers' contact portal and image gallery.

The aim of the Student Council is to work in partnership with the Board of Management, staff and parents for the benefit of the whole school community. The Student Council seeks to build a relationship based on mutual respect and trust with all in the school, and supports the staff, management and parents in their efforts to create and maintain an environment conducive to educational and personal development. As part of that process, the Student Council seeks to provide a line of communication between students, management, staff and parents, representing the views of the student body on matters of concern to them.

IMPLEMENTATION

Following features are implemented in the student council web app:

Events:

To show the latest events happening in college, added participation forms for each event.

Clubs:

Added various clubs thats exist in college with details about the meetings, locations.

C. Calendar

Calendar helps us to track the events with time and notes added to it, like the google calendar.

D. Gallery

Photos of important events, activities in college.

E. MEDIA

Contain informative videos about college.

F. MAP

Added the college Map to help the newly joined people.

G. FAQs

Some frequently asked questions for newly joined students.

STRUCTURE

The Students' Council consists of elected representatives of all departments and classes and all the other nominated persons. The duration of the Council is one full academic year. The Council is also supported by committees such as Incident Committee, Engineer Committee, which coordinate major students' festivals of the Institute.

The Council works under the leadership of the Students' Council President, Vice President, General Secretary and Joint Secretary. The basic outline and structure is as follows:
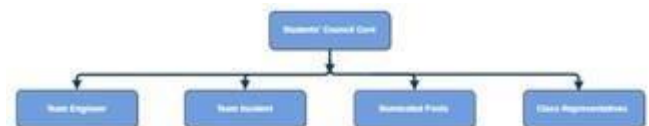
IV. Vision

We look forward to uphold the pillars Initiative, Engagement, Transparency, Accountability and Communication throughout the course of the year.

The Students' Council has been and will be instrumental in fulfilling vision and we urge every single student of this prestigious institution to get involved, participate and engage themselves in the activities of the Students' Council.

V. Objectives

The Students' Council along with its infrastructure is an organization to meet the following objectives:

- To foster and promote all student activities in the college.
- To promote and develop organizational abilities in students.
- To identify student issues and promote discussion on them by having Open Meets for the same.
- To develop a well-informed, articulate and participative student community life and to increase social awareness.
- To offer clerical and office support for all recognized student activities which includes permissions for venues as well as logistical support.

VI. Key Functions

The functions and activities of a Student Council should support the aims and objectives of the Council and promote the development of the school and the welfare of its students. In planning and undertaking activities during the course of the school year, the Council should:

- work closely with school management, teachers and parents,
- consult regularly with students in the school, and
- involve as many students as possible in the activities of the Council.

There is a wide range of activities of benefit to the school community which a Student Council may wish to undertake, some of which are outlined below:

Representing the views of the student body to the school management

This should be one of the fundamental aims of every Council. It involves talking and listening to the student body, considering their views and concerns, and discussing these with the school management on behalf of the students.

Promoting good communications within the school Improving communication within the school community is a shared responsibility and a Student Council can contribute to this process. Making presentations at staff meetings to keep staff informed of activities, keeping a Student Council notice-board or organizing a regular newsletter are just some ways the Council can communicate with the students, school management and staff, and parents.

Supporting the educational development and progress of students

A Student Council can contribute to the learning environment for students in the school by, for example, setting up study groups for students in exam classes or homework clubs, or organising lunch time activities such as language clubs.

Assisting with induction and/or mentoring for new first year students

Starting secondary school is a challenging new experience for 1st Year students. A mentoring program where senior students help new students to find their feet can help their integration into the school community.

Contributing to the development of school policy The Student Council can actively contribute to the development of school policy in a wide range of areas such as bullying, uniform requirements, behaviour code and extra-curricular activities. The Council could form sub-committees to consider individual policy issues, to consult with students, staff and parents on those issues and to represent the Council's views on those issues to school management.

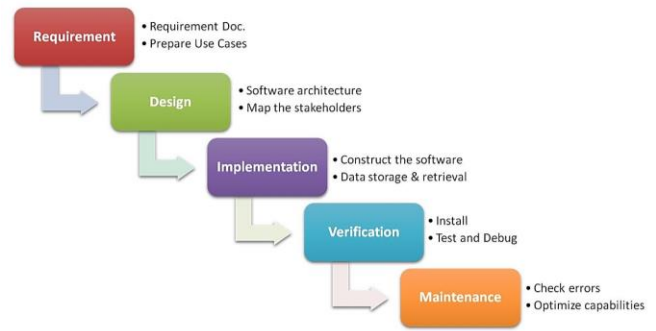**Assisting in school sporting and cultural activities** Student Councils can assist in organizing and developing sports and cultural activities within the school, including, for example, sports days and drama or musical events. .

Liaising with Student Councils in other schools It may be useful for a Student Council to liaise with Student Councils in other schools, particularly in the organisation of sporting and cultural activities and when fund-raising for charity. An existing Student Council could have a useful role in helping and advising a newly formed Student Council in another school.

VII. PROPOSED SYSTEM

- Considering the anomalies in the existing system computerization of the whole activity is being suggested after initial analysis.

- The android application is developed using Android Studio with JAVA as a programming language.

- Proposed system is accessed by three entities namely, Admin, Faculty and Student.

- Admin need to login with their valid login credentials first in order to access the android application.

- After successful login, admin can access all the modules and perform/manage each task accurately.
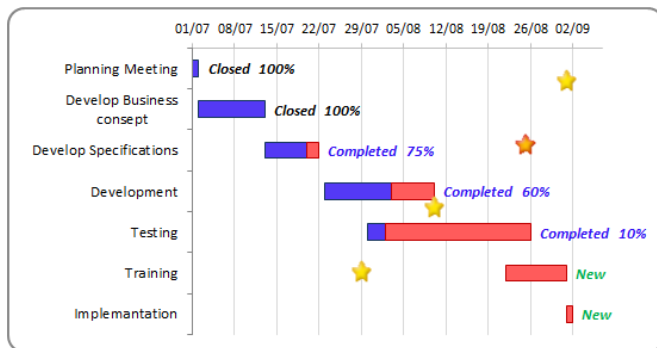
- Admin can perform task such as Admin can add, update, delete and view student.

- They can also assign student by year, section and department. Admin can Add, update, delete and view and assign department. They can Upload for all. Faculty can login using credentials.

- Faculty will get link to chat page for Department and college. Faculty can view recent chats with students and also search student.

- They will get Notification for chats.

- Student can login using credentials. Student will get link to chat page for Department, Section, year and college.

- Students can view chats with students and search student. Students can view recent chats with faculty and can search faculty. They will get Notification for chats

VIII. GANTT CHART

IX. Project Lifecycle Details

Waterfall Model:

The waterfall Model is a linear sequential flow. In which progress is seen as flowing steadily downwards (like a waterfall) through the phases of software implementation. This means that any phase in the development process begins only if the previous phase is complete. The waterfall approach does not define the process to go back to the previous phase to handle changes in requirement. The waterfall approach is the earliest approach that was used for software development.
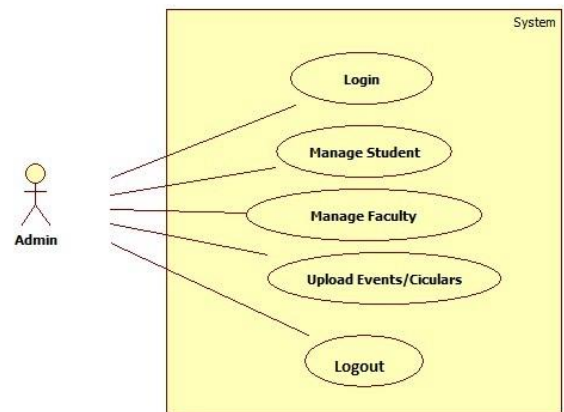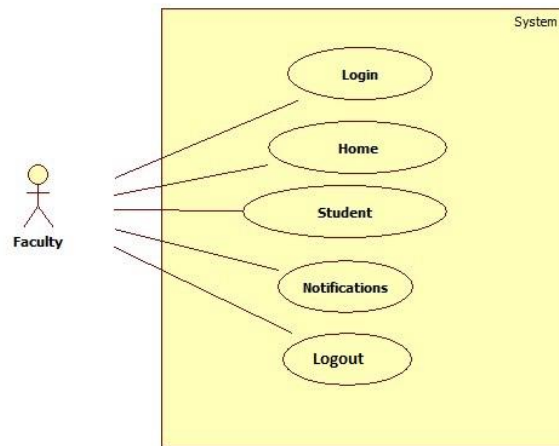
X. Project Design

(a). Fig. Use Case Diagram of Admin

(b). Fig. Use Case Diagram of Faculty

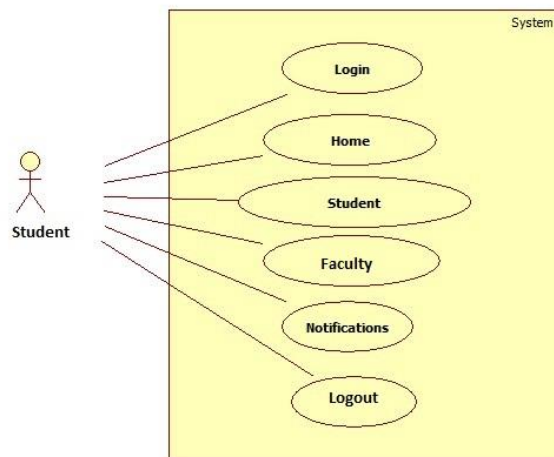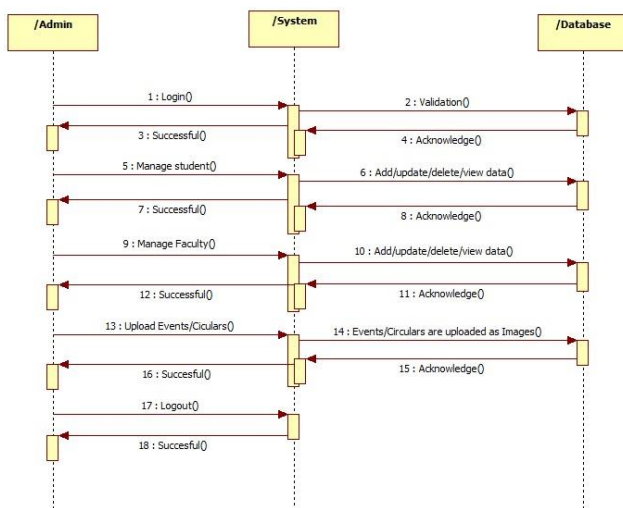*(c).* **Fig. Use Case Diagram of Student.**

Fig. Sequence Diagram of Admin

XI. Project Implementation.

Project Implementation Technology

The Project application is loaded in Android Studio. We used Android Studio for Design and coding of project. Created and maintained all databases into SQL Server, in that we create tables, write query for store data or record of project.

Hardware Requirement:

1. Laptop or PC

   ➢ i3 Processor Based Computer or higher
   ➢ 1GB RAM
   ➢ 5 GB Hard Disk

2. Android Phone or Tablet
   ➢ 1.2 Quad core Processor or higher
   ➢ 1 GB RAM

Software Requirement:

1. Laptop or PC
   ➢ Windows 7 or higher.
   ➢ Java
   ➢ Android Studio

2. Android Phone or Tablet

   ➢ Android v5.0 or Higher

Introduction to Android

Android Studio is the official Integrated Development Environment (IDE) for Android app development, based on IntelliJ IDEA . On top of IntelliJ's powerful code editor and developer tools, Android Studio offers even more features that enhance your productivity when building Android apps, such as:

- A flexible Gradle-based build system

- A fast and feature-rich emulator

- A unified environment where you can develop for all Android devices

- Instant Run to push changes to your running app without building a new APK

- Code templates and GitHub integration to help you build common app features and import sample code

- Extensive testing tools and frameworks

- Lint tools to catch performance, usability, version compatibility, and other problems

- C++ and NDK support

- Built-in support for Google Cloud Platform, making it easy to integrate Google Cloud Messaging and App Engine.

Project Structure

Each project in Android Studio contains one or more modules with source code files and resource files. Types of modules include:

- Android app modules

- Library modules

- Google App Engine modules

By default, Android Studio displays your project files in the Android project view, as shown in figure 1. This view is organized by modules to provide quick access to your project's key source files.

All the build files are visible at the top level under Gradle Scripts and each app module contains the following folders:

- manifests: Contains the AndroidManifest.xml file.

- java: Contains the Java source code files, including JUnit test code.

- res: Contains all non-code resources, such as XML layouts, UI strings, and bitmap images.

The Android project structure on disk differs from this flattened representation. To see the actual file structure of the project, select Project from the Project dropdown (in figure 1, it's showing as Android).

You can also customize the view of the project files to focus on specific aspects of your app development. For example, selecting the Problems view of your project displays links to the source files containing any recognized coding and syntax errors, such as a missing XML element closing tag in a layout file.

XII. Test Cases

Registration: To begin with login, user need to register by filling up basic registration details. There are multiple fields in registration page and every field has to fill by user. User cannot use character in the login id field.

Login: - Login id and password are kept compulsory fields, and if the id or password doesn't match then it will show an error message.

VALIDATION CRITERIA

1. In each form, no field which is not null able should be left blank.

2. All numeric fields should be checked for non-numeric values. Similarly, text fields like names should not contain any numeric characters.

3. All primary keys should be automatically generated to prevent the user from entering any existing key.

4. Use of error handling for each Save, Edit, delete and other important operations.

5. Whenever the user Tabs out or Enter from a text box, the data should be validated and if it is invalid, focus should again be sent to the text box with proper message.

ADVANTAGES OF PROJECT

Advantages:
- It is a user-friendly application.
- Students can easily get to know the notice.
- This will help student to solve their queries easily.

Limitations
- This application requires active internet connection.

- User need to put correct data or else it behaves abnormally.

Features

1) **Load Balancing:**

   Since the system will be available only the admin logs in the amount of load on server will be limited to time period of admin access.

2) **Easy Accessibility:**

   Records can be easily accessed and store and other information respectively.

3) **User Friendly:**

   The website/application will be giving a very user-friendly approach for all user.

4) **Efficient and reliable:**

   Maintaining all secured and database on the server which will be accessible according the user requirement without any maintenance cost will be a very efficient as compared to storing all the customer data on the spreadsheet or in physically in the record books.

5) **Easy maintenance:**

   College Connect is design as easy way. So maintenance is also easy.

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