# Web Application for Student Welfare Department

## Bhavana Borkar, Neesha Poojary, Samyatha Ullal, Deeksha KS & Sunil Kumar

Canara Engineering College, India.

***Abstract:*** *In this article we propose a student welfare application for our college as most of the students these days have an android phone having an Access to the web would help them be connected to the student welfare officer Where the students of the college will have a direct contact with the student welfare officer and the student welfare officer with students and their parents. The student welfare department's web application is meant to give more flexibility to the stakeholders that they can add and retrieve information so quickly. Proposed application will define a well-structured interface to department and students for easy access of data. To maintain confidential in addressing the grievances posted by students.*

## 1. INTRODUCTION

A website is hosted on at least one web server, accessible via a network such as the Internet or a private local area network through an Internet address known as a uniform resource locator (URL). All publicly accessible websites collectively constitute the World Wide Web. Web pages can be viewed or otherwise accessed from a range of computer-based and Internet-enabled devices of various sizes, including desktop computers, laptops, PDAs and cell phones. A management system is a set of rules and procedures which help us to create organize and manipulate the database. It also helps us to add, modify delete data items in the database. The management system can be either manual or computerized.The management system is important because without the existence of some kind of rules and regulations it is not possible to maintain the database.

 The Student Welfare Department is committed to student wellbeing and betterment. It strives for the overall development of the student in all spheres of life through counselling and various other student-oriented programmes. The Department aims to facilitate a congenial atmosphere for students overall advancement. It encourage students individual, academic and integrated development by providing leadership and counselling services and thus prepare them for a diverse, enterprising and global society.

Our paper is based on providing a better approach for the existing system and to provide an easy way for the student welfare officer to keep track of all students in college and get in connect with parents for updating about their wards academic performance and other information. The student welfare officer can have a complete record of all the students which includes all their personal details and even the academics. The web application provides confidentiality between the students and the student welfare officer which makes the student more comfortable in sharing any of their grievances. The web application also provides a SMS sending service to keep the parents updated about the happenings in college.

## 2. OVERVIEW

This project is mainly intended for automating the procedure that can help the student welfare officer by saving their time based on this basic operation. Actually their activity is under two steps the first one is, To maintain the suggestion box and take necessary actions. The second job is to maintain the academic records of students and make a branch wise list of students with poor performance, which is more complex task, and here informing is through notice boards, whereas this is also a bit old fashioned task, which can be automated in our proposed system by updating it in the Web page. We propose a Student welfare Web application for college as most of the students these days have an android phone having an internet access would help them be connected to the student welfare department and its updates.

Once the application has been developed, the expected outcome will be as follows:
- Obtaining a user friendly application (for student and admin).
- Ease of registration, modification, filtering and verification

- Tracking and statistics.
- Maintaining grievance and counselling records.
- Notifications (instructions, news, messages etc)
- Chat forum for students and alumni.

# 3. LITERATURE SURVEY

### 3.1 Existing System
Presently the student welfare department of our college carries out all the activities manually and hence it occupies a lot of time. Also there are no applications developed to ease the work of student welfare department. When we actually conducted the survey on the existing carryout of the department we got some knowledge as noted below.

- It does not contain any information regarding students.
- The entire academic details of the students are handwritten and maintained in paper files which tedious to manage and maintain.
- A suggestion box is maintained to address the grievance of the students.
- The inland letters will be dispatched to parental address by post regarding the poor academic performance.
- The overall reports of all these activities are maintained in a bundle of files manually written. So in short the earlier system is not computerized. All operations in the department are done manually by maintaining records. It takes much time for a student welfare officer to collect and approve the details of students. There is poor communication between students and student welfare officer.

We have reviewed few IEEE papers and journals to enhance the web application of student welfare department. They are as follows:
### IMPROVING WEBSITE DESIGN
According to Melody Y Ivory and Marti A Hearst [ ] this paper helped in improving graphical aspects of our website. It focuses on identifying and grouping content items and developing category labels to reflect the sites information structure, a quality checker aims to help nonprofessional designers improve their sites.

### A FRAMEWORK FOR WEB BASED STUDENT RECORD MANAGEMENT SYSTEM USING PHP
According to Saurabhwalia and SatunderjitKaurGill[ ], this paper helped in creation and administration of error less, exceptional data in regards to a student' scholarly profession is discriminatingly paramount in the colleges and in universities.

# 4. IMPLEMENTATION

### 4.1 Modules

Our proposed system is divided into three modules described as follows

### 4.1.1 Student Module

- Students are given a privilege to update and view their personal details.
- Any news from the student welfare department will be made available to student using news flash.
- Students can enter their grievances based on any happenings in the college.
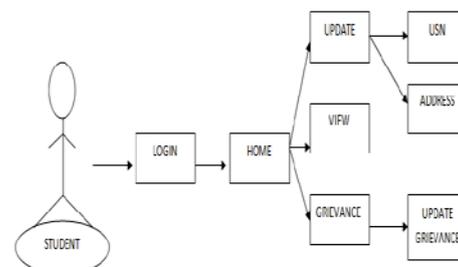- Students can interact directly with student welfare officer via chat forums.



**Fig 4.1.1: Student Module**

### 4.1.2 Admin Module (student welfare officer)

- Track every student's activities and keep their parents updated about their wards academics and attendance.
- Filter students based on any category (branch, average in internals, placed, extra- curricular activities etc.)
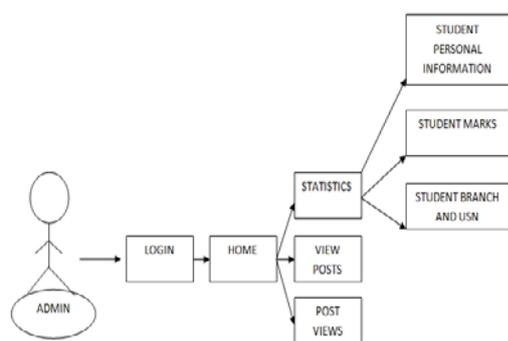- Look over and solve student's grievances.

**Fig 4.1.2:Admin Module**

### 4.1.3 Department Coordinator Module

- The coordinator will register into his/her profile i.e. to obtain their login id and password.
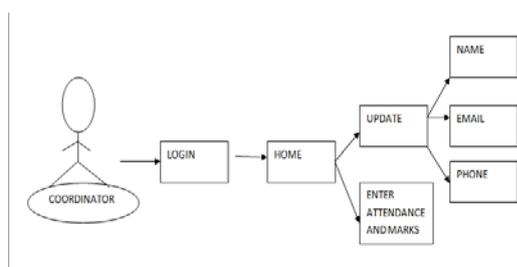- Update marks and attendance details of students who are below average.



**Fig 4.1.3: Department Co-ordinator Module**

## 5. ALGORITHM IMPLEMENTATION

### 5.1.1 Algorithm for Student Login
**Step 1**: Start
**Step 2**: Read username and password
**Step 3**: if valid user then log into the users profile
Else error
End if
**Step 4**: Stop

### 5.1.2 Algorithm for Update/View
**Step 1**: Start
**Step 2**: if (SESSION_DESTROY ())
        Users will logout
Else
Stays in same page
        End it
**Step 3**: View details, news feed and enter grievance
**Step 4**: Stop

### 5.1.2 Algorithm for Admin Login
**Step 1**: Start
**Step 2**: Read username and password
**Step 3**: if valid user then log into the users profile
 Else error
 End if
**Step 4**: Perform Administrator activities such as update statistics, view details andGrievance of students.
**Step 5**: Stop

## 6.SYSTEM TESTING

Software testing is a process used to identify the correctness, completeness and quality of the developed software or application. Testing is the process of questioning a product in order to evaluate it, where the questions are thins the tester tries to do with the product, and the product answers with its behavior in reaction to probing of the tester. The testing phase is performed after coding to detect all the errors and provide quality assurance and ensure reliability of the software. Testing is vital to the success of the system. During testing, the software to be tested is executed with a set of test cases, and the behavior of the system for the test cases is evaluated to determine if the system is performing as expected. Clearly, the success of testing in revealing errors depends critically on the test cases.

### 6.1 UNIT TESTING

In computer programming, a unit test is a method of testing the correctness of a particular module of source code. It is also called as Module Testing. The goal of unit testing is to isolate each part of the program and prove the correctness of each individual module.

### 6.2 ACCEPTANCE TESTING

The acceptance test suite may need to be performed multiple times, as all of the test cases may not be executed within single test iteration.

The acceptance test suite is run using predefined acceptance test procedures to direct the testers which data to use, the step-by-step processes to follow and the expected result following execution. The actual results are retained for comparison with the expected results. If the actual results match the expected results for each test case, the test case is said to pass. If the quantity of non-passing test cases does not breach the project's predetermined threshold, the test suite is said to pass. If it does, the system may either be rejected or accepted on

conditions previously agreed between the sponsor and the manufacturer.

The anticipated result of a successful test execution:

- test cases are executed, using predetermined data
- actual results are recorded
- actual and expected results are compared, and
- Test results are determined.

# 7. REQUIREMENT ANALYSIS

This document details the requirements for application. The software requirements shall be specified for all the phases in the system. A requirement analysis is a complete description of the behavior of the application to be developed.

## 7.1 FUNCTIONAL REQUIREMENTS

The functional requirements for the system describe the functionality or the services the application is expected to provide. There depend on the software being developed, the expected users of the software and the type of the system being used. Theapplicationwillcontain the following modules:

### 7.1.1. Student Mode
**REGISTRATION**:
Students need to register themselves in the application.
**LOGIN**:
Students will be provided with a particular username and password which they to remember if they have to login to their profile.
**UPDATE:**
Once logged in students can update their details and add specific details and also write their grievance what is required.
**VIEW:**
Students view the already available details.
**NEWS:**
All the news related to seminars or workshops or any other important information.

### 7.1.2. Admin Mode
**MONITOR:**
Admin keeps the track of all student activities.
**NEWS:**
Post important news and notifications are to given to the students.

### 7.1.3. SQL
SQL Database that saves all readings and information in the tables and queries for fast access. Some of the tables are as follows.
- Student table-dynamically updated, contains details of the student.
- Academic table-dynamically updated, contains the academic details of the student.
- Counseling table-dynamically updated contains counseled details of students.
- Grievance table-dynamically updated contains grievance updated by students.

## 7.2 NON FUNCTIONAL REQUIREMENTS

This specifies criteria that can be used to judge the operation of a system, rather than specific behaviors. These are constraints on the services or functions offered by the system.
- **System support environment:** The application should be able to function properly in different system environment.

- **Safety:** There should not be any loss of data due to any kind of system failure. The system should be able to recover itself from previous crashes and continue functioning properly.

- **Security:** Security requirements are particularly significant in many database systems. All the passwords that are generated or accepted must be stored in database in an encrypted form. Any outside users must not be able to access personal details.

- **Hardware limitation:** All the hardware needed for the smooth functioning of the application should be available. It can include the type of machines to be used, operating system available on the system, language supported and limits on primary and secondary storage. Hardware also be chosen in such a way that it is cost effective but does no compromise with the performance.

- **Reliability and fault tolerance:** It's always better if the system is highly reliable. Reliability requirements are very important for critical applications. Fault tolerance requirement can place a major constraint on how the system is to be designed. It often makes the system more complex and expensive.

## 8. CONCLUSION

Our project proposes astudent welfare web application for our college, to get an easy access to the students as well as parents regarding student's daily activity in college via mail and Mobile SMS and to get connected to the Student Welfare Department updates. It strives for overall development of the student in all spheres of life through counselling, grievances and various other student oriented programmes such as monitoring of their academic performance and co-curricular activities.

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