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STUDENT MANAGEMENT SYSTEM

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Abstract - Student management system deals with efficient and user friendly maintenance of student details. It helps in maintenance of three aspects of a student that is fees, attendance and result. Student can pay the fees and check results and attendance. The teacher can update the attendance of the student based on the presence or absence of in the class which is maintained on the daily basis, check their results, fees status and detain them if failed to maintain the minimum attendance or marks. The administrator can check on all three aspects of a student. The user can either be admin, student or teacher.

Keywords: student details [1], [2], [3], [4], attendance [1], [2], marks [1], [2], fees status [6], results.

INTRODUCTION

Student management is becoming a basic necessity in education in modern-day age and it is to automate all functions performed on a daily basis in the college. With the help of this system we can gather all the useful information needed to the management in few clicks. Main purpose is to create software which will manage the working of these different modules. The interconnectivity among modules reduces the time required to perform different operational task. The software help gather the basic information of student automatically. It helps students, faculty and management department of college. The system is capable of storing the details of students, faculty and teachers and maintains their details in a dynamic way. The proposed system provides the easiest way to manage all aspects of student and college. The software help explore all the activities happening inside the college which students do not know about. It can handle the activities of students and teachers. Using this system, user can manage student details, student internal marks, external marks, student attendance. Each student's attendance is being updated on a daily basis. If any student's attendance percentage is found to be below the mark, it sends alert message to the parent's number regarding their child attendance. Using this system user can retrieve any information related to student. The objective of the system is to reduce the paper work and to eliminate manual processes and to save significant staff time.

OBJECTIVE

The main objective of the system is to reduce the paper work and to eliminate manual processes and to save significant staff time. Using this system, students can view student details, internal marks, external exam marks, attendance and pay fees. Admin can view the student's details by entering usn. Retrieval of any information related to student and fees payment can be done. The teacher and admin, give their feedback to students through the notification module.

System Design

- **Data Flow Diagram:**

The whole architecture structure stems from the original flow diagram. The diagram below more accurately portrays the flow through the system.

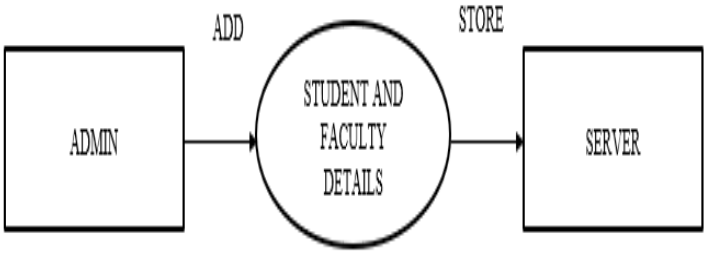

Figure 1: DFD Level 0

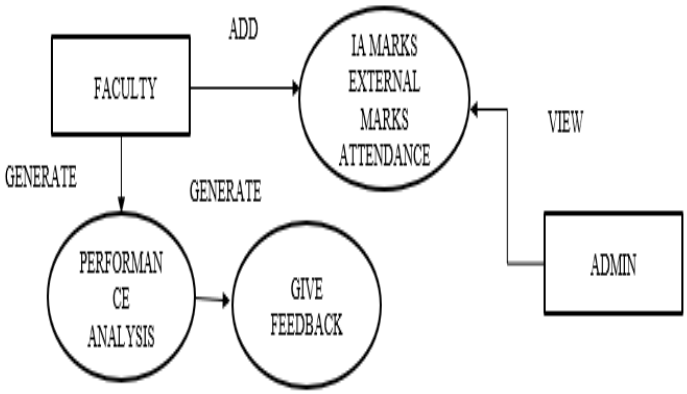

Figure 2: DFD Level 1

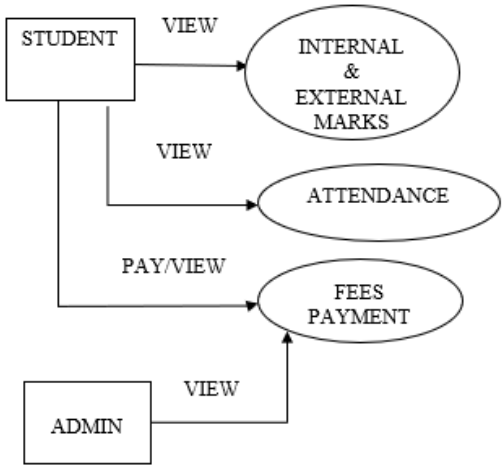

Figure 3: DFD Level 2

- **Use case diagram:**

Represent the actors and their relationship with the different entities in the system.

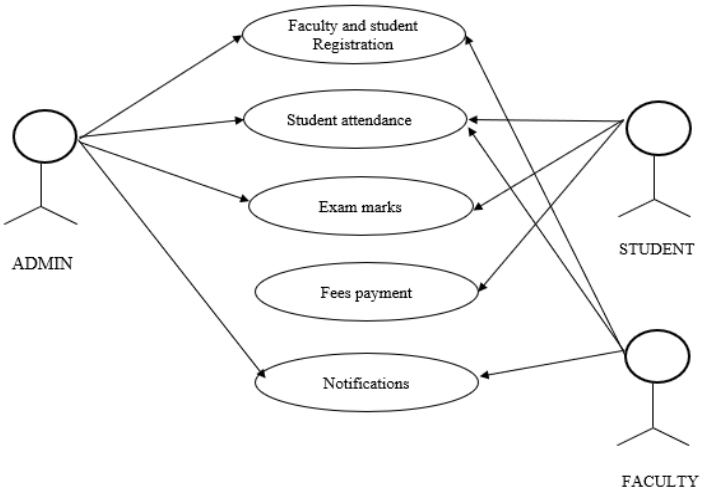

Figure 4: Use Case Diagram

- **ER Diagram:**

Represents the relationship between the different entities present in the system.

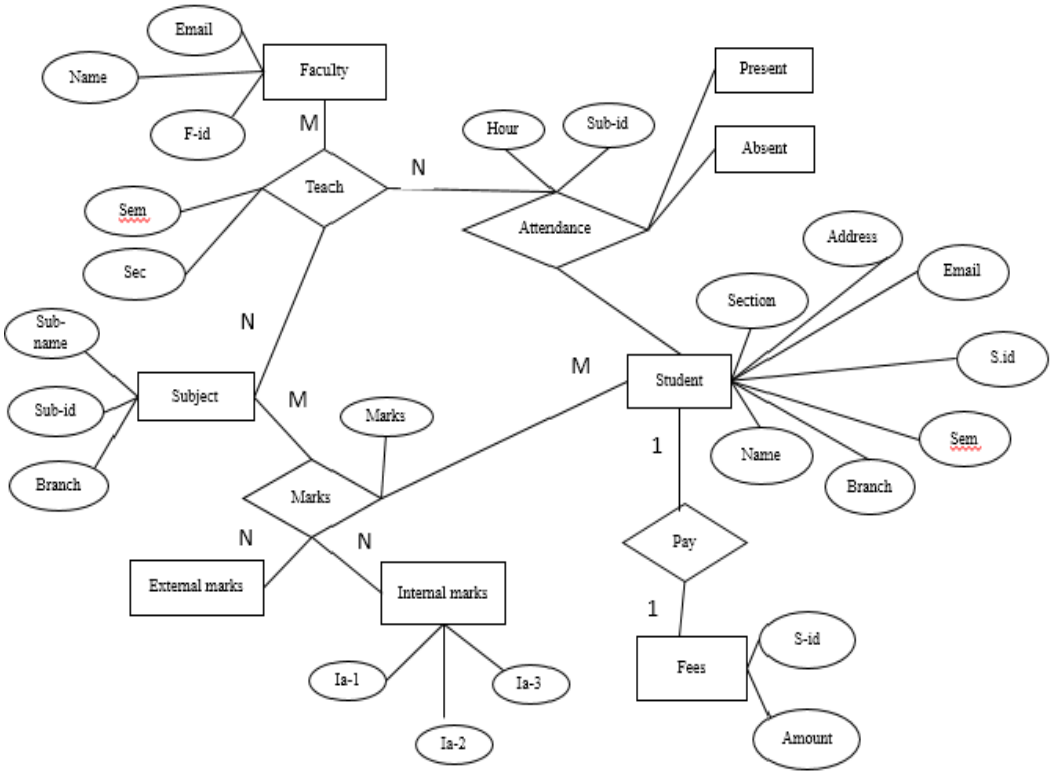

Figure 5:ER Diagram

Tools Used

- **NetBeans IDE**

IDE is much more than a text editor. The NetBeans Editor help indent lines, matches words, brackets, and highlight source code syntactically and semantically. It provides code templates, coding tips, and refactoring tools.

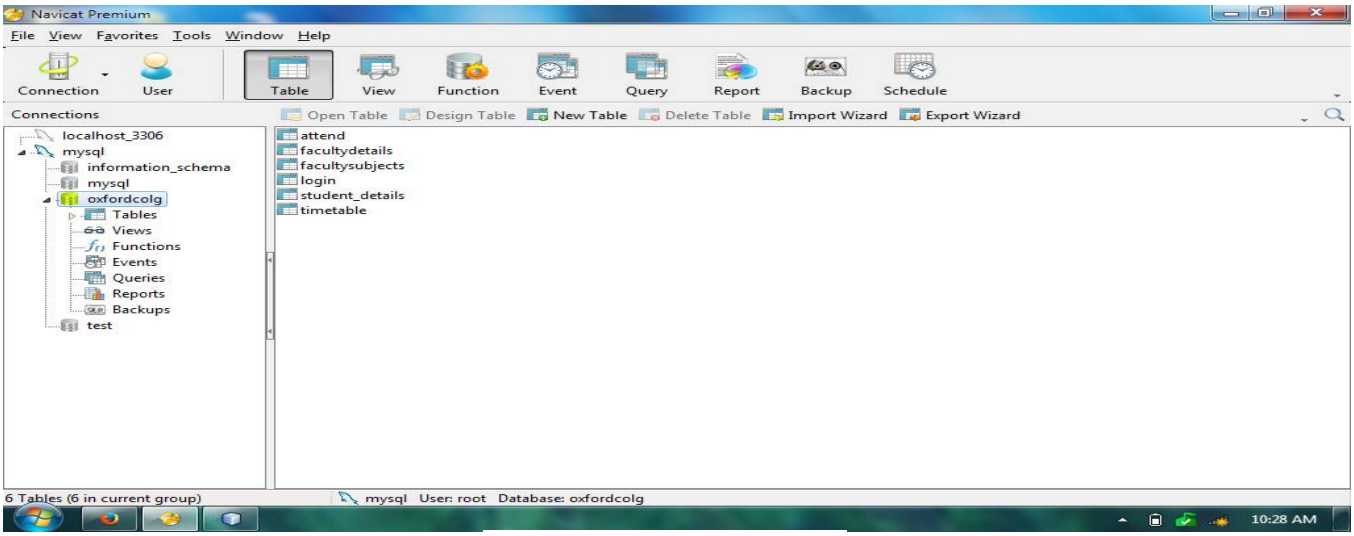

Figure 6: Snapshot of net beans

The editor supports many languages such as Java, C/C++, XML and HTML, PHP, JavaScript and JSP. The editor is extensible and the user can plug in support for many other languages. Keeping a clear overview of large applications, with thousands of folders and files, and millions of lines of code, is a daunting task. NetBeans IDE provides different views of data, from multiple project windows to helpful tools for setting up applications and managing them efficiently. New developers can easily understand as it is well organized. Design GUIs for Java SE, HTML5, C/C++, Java EE, PHP and Java ME applications quickly and smoothly by using editors and drag-and-drop tools in the IDE. For Java SE applications, the NetBeans GUI Builder automatically takes care of correct spacing and alignment, while supporting in-place editing.

- **MySQL**

MySQL is an open-source relational database management system (RDBMS). MySQL is free and open-source software under the terms of the GNU General Public License, and is also available under a variety of proprietary licenses. Ships with no GUI tools to administer MySQL databases or manage data contained within the databases. Users may use the included command line tools, or use MySQL "front-ends", desktop software and web applications that create and manage MySQL databases, build database structures, back up data, inspect status, and work with data records. The official set of MySQL front-end tools, MySQL Workbench is actively developed by Oracle, and is freely available for use.

- **Navicat Premium**

Navicat Premium is a multi-connections database administration tool allowing user to connect to MySQL, MariaDB, SQL Server, and SQLite, Oracle and PostgreSQL databases simultaneously within a single application, making database administration to multiple kinds of database so easy. Navicat Premium combines the functions of other Navicat members and supports most of the features in MySQL, MariaDB, SQL Server, SQLite, Oracle and PostgreSQL including Stored Procedure, Event, Trigger, Function, View.

Implementation

It revolves around the different modules present and the type of user using it. The types of users are:

- **Administrator:**

Register the faculty, student and can have the overall view of all the parameters of a student just by entering the usn.

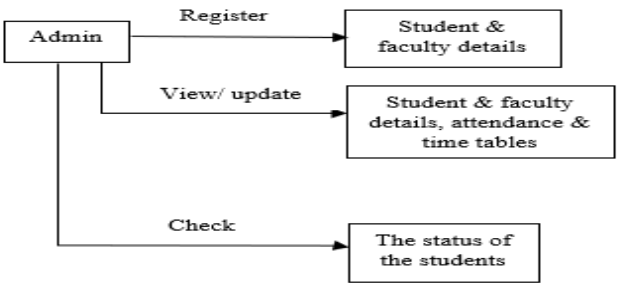

Figure 7: Admin Representation

- **Student:**

Pay fees and check their personal or academic details updated by faculty.

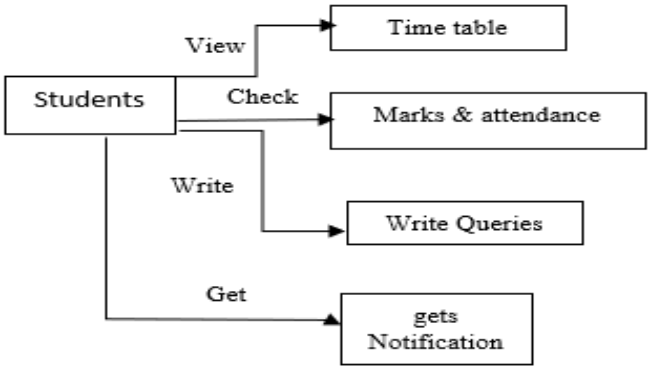

Figure 8: Student Representation

- **Faculty:**

Update student attendance, marks and send notifications.

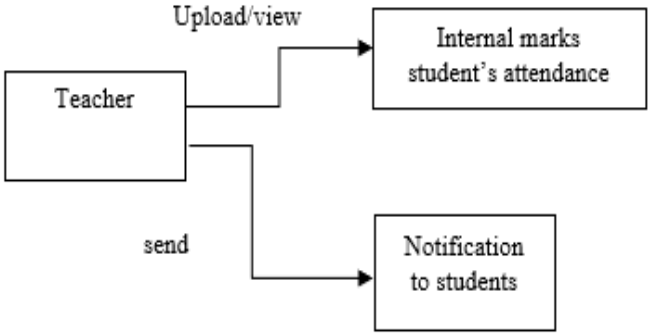

Figure 9: Faculty Representation

The modules present in the system are:

- **Attendance:**

Updated by the teacher on daily basis and this updated information can be viewed by the student and admin.

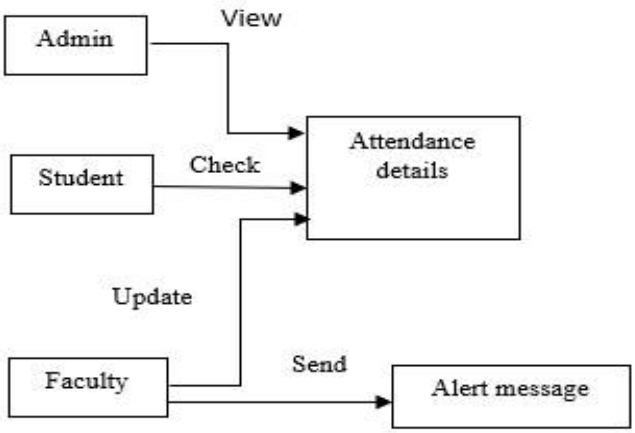

Figure 10: Attendance Module Representation

- **Notification:**

Notifications are sent to sent to students from admin and faculty.

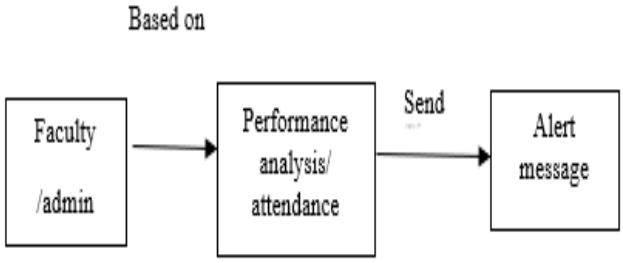

Figure 11: Notification Module Representation

- **Marks:**

Internal marks and external exam marks are updated for the student or an excel sheet with the all students marks can be uploaded.

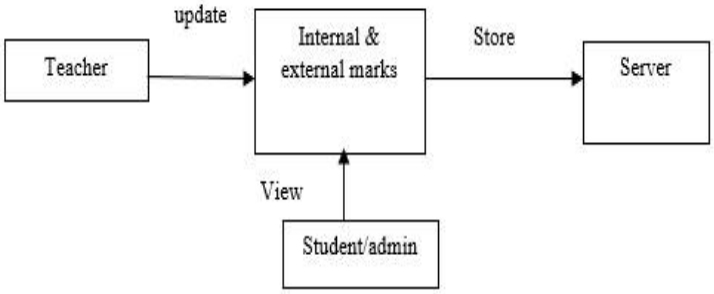

Figure 12: Marks Module Representation

- **Payment:**

Fees id paid by the student through an online payment gateway.

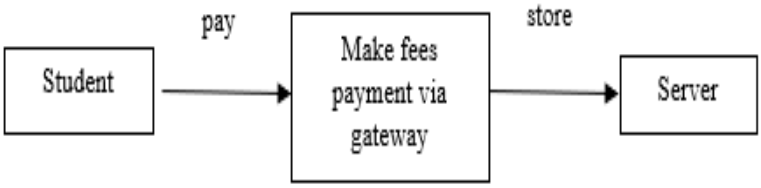

Figure 13: Payment Module Representation

Result

- **Login Page**

This page is displayed for all the users to login to their account.

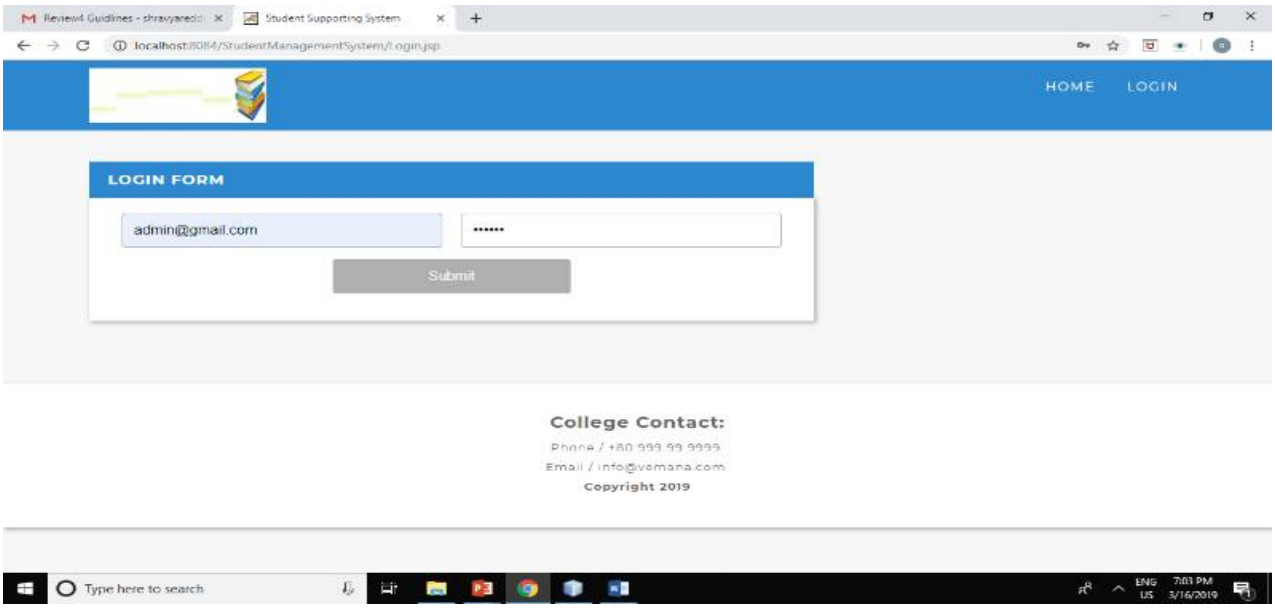

Figure 15: Login

- **Registration Page**

Admin registers the faculty and student based by filling the requires details.

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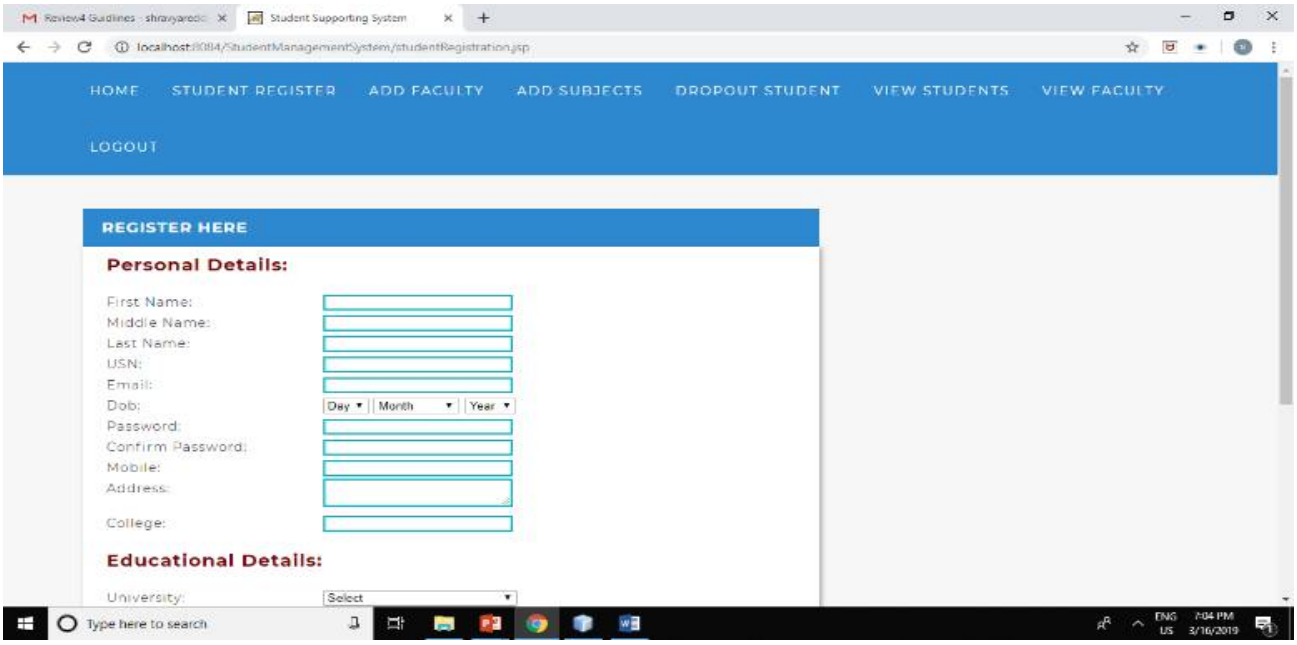

Figure 16: Registration

- **Marks Page**

Faculty updates the marks of the student through this page.

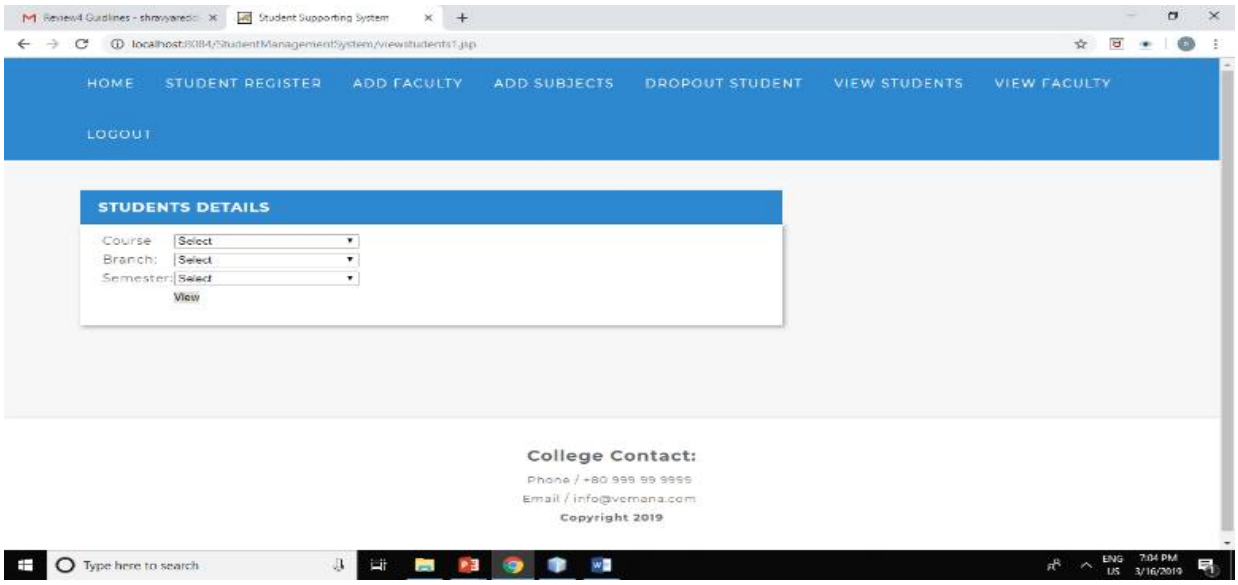

Figure 17: Update marks

CONCLUSION

The software will manage the working of the modules efficiently. The interconnectivity among modules will reduce the time taken to perform different operational task. The software help to gather the basic information of student automatically, it helps both the students and the management department of the college. The system is capable of storing all the details of from the time students and teachers have joined the college and also maintain their details in a dynamic order thereby eliminating the paper work and reducing the staff required.

FUTURE ENHANCEMENT

The future enhancement of the system can be done by introducing online examination module to conduct online examination. Further, the faculty can upload subject notes and videos of their class lectures on this site and students who has missed those classes can view those videos.

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