STUDENT RESULT MANAGEMENT SYSTEM

A Project Report Submitted by

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In Partial Fulfillment of the Requirements

For the Degree of

Bachelor of Computer Application



DEPARTMENT OF COMPUTER APPLICATION TULA'S INSTITUTE, DEHRADUN (Affiliated to Sri Dev Suman University, Dehradun) 2021-2022



DECLARATION

We, declare that the work embodied in this Project report is my own original work carried out by me under the supervision of Mrs. Vandna Bansla for the session 2019-2022. at Tula's Institute, Dehradun. The matter embodied in this Project report has not been submitted elsewhere for the award of any other degree/diploma. We declare that we have faithfully acknowledged, given credit to and referred to the researchers wherever the work has been cited in the text and the body of the thesis. I further certify that I have not willfully lifted up some other's work, para, text, data, results, etc. reported in the journals, books, magazines, reports, dissertations, thesis, etc., or available at web-sites and have included them in this Project report and cited as my own work.

Date:	
Place:	Names & Signatures of the Students



Certificate from the Supervisor/Co-supervisor

This is to certify that the Project Report entitled:

"Student Management Result System"

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At Tula's Institute, Dehradun for the degree of **Bachelor of Computer Application** is their original work carried out by them under my guidance and supervision. This work is fully or partially has not been submitted for the award of any other degree or diploma. The assistance and help taken during the course of the study has been duly acknowledged and the source of literature amply recorded.

Supervisor Signature : Supervisor Name : Supervisor Designation : Date :

ACKNOWLEDGEMENT

We are heartily grateful to our project guide Mrs. Vandna Bansla (Department of Computer Application) for her being a constant source of encouragement at various stages of the completion of this project.

We want to thank our parents and lord, because without their blessing, perhaps we could do nothing. We wish to thank all my friends, colleagues, students, brother professionals and the campus staff (Department of Computer Application), who have helped me with the critical review of this project including my Friends.

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TABLE OF CONTENTS

<u>S.NO.</u>	CHAPTER NO.	PAGE NO.
	ABSTRACT	iii
	DEPARTMENTAL PROFILE	iv
1.	INTRODUCTION	1
2.	OBJECTIVE	2
3.	SYSTEM REQUIREMENTS	3
4.	LITERATURE REVIEW	5
5.	PROJECT METHODOLOGY	11
6.	OBSERVATION	13
7.	USE CASE DIAGRAMS	14
8.	OUTPUT RESULT	15
9.	CONCLUSION AND FUTURE SCOPE	17
10.	REFERENCES	18
	APPENDICES	

ABSTRACT

The education system is the backbone of the society, its main focus is to prepare the young talents for the future. The main purpose of this project is to provide the services in an efficient, cost effective manner, with the goal of reducing the time and resources currently required for such tasks. The main focus is to design a unique Student Management System that will improve experience of student Data Management in Institutes and Schools for both Students and the Administration authorities. The whole system will run on internet. The system is written in PHP, java script, HTML and CSS. Users will have the facility to log in from any place with internet connection. After that they will be able to do various tasks like: Uploading, retrieving, updating and storing various results. Student Management System is software which is helpful for students as well as the school authorities. In the current system all the activities are done manually which is very time consuming and costly. Our Student Result Management System aims at standardizing data, ensuring data integrity, reducing inconsistencies and making it more efficient & error free.

DEPARTMENT PROFILE

i. Vision of the Department

• To become centre of excellence in software development and research.

ii. Mission of the Department

- To induce ethical values and spirit of social commitment.
- To provide a learning ambience to enhance innovations and problem solving skills.
- To provide a comprehensive education, benchmarked against the highest global standards.
- To collaborate with software industry and adopting technology for achieving quality of technical education.
- To promote research based projects / activities in the emerging areas of technology convergence.

<u>LIST OF SYMBOLS/ABBREVIATIONS USED, FIGURES AND</u> <u>TABLES (if any)</u>

INTRODUCTION

Student Result Management System is a web-based application that mainly focuses on providing the results to the student and the faculty. The students check their respective results using their University or Institution's registered recognition id and get their grades and percentage of that particular academic year. The student accessing their results through institution's site is more convenient and the faculty can easily analyze the pass and failure of a particular subject. The system is divided into two modules- Student and Administrator (Faculty). The student using his roll number can view his results and the faculty using the joining year and the subject name can view pass and failure count in the selected subject. The Faculty uploads the results file to the database. The admin is provided with the privileges to modify the student results by updating the results during the changes in supplementary or revaluation examination. The update of any current score is done by the administrator.

OBJECTIVE

The main objective of developing this Student Result Management System, web portal is to provide efficient management services in schools and institutions. Currently Schools and various Institutions use a manual system for the management and maintenance of student result records. The current system requires numerous paper forms with data stores spread throughout the Institution infrastructure. Often information is incomplete or delayed. Multiple copies of the same record exists which may lead to inconsistencies in data in various data stores.

2.1 Scope

The aim of the project is to develop a web portal that can be used to maintain records of the student results so that students and faculties get access to them whenever required without any hustle. This is created to replace the old manually done paper work and to maximize the security and the problems it possesses.

Student Result Management System is a multi-user system, created for students and teachers that gives the students privilege to check their results after they are provided with a unique username and password for secure login. The faculty manages the student results and have full control of the system to read, write, alter and execute the results and then provide them to the students. The faculty has a unique username and password to perform all the activities in the system.

2.2 Significance

The computerized system of accessing and checking results will have an impact on the way the students access the results and its management and generation by the institute. The work for the institutions will become much easier since they will be able to store data much better as compared to traditional method of storing and declaring results.

The students will be able to smartly manage their results and also be able to keep a track of their progress report, whenever and wherever they want to access and on any device connected to internet service, just by entering their respective username and password provided to them by the institution, not only for the students, but also for the teachers as they will be able to keep the data in an organized and secure manner.

The Student Result Management System will be very handy as it will allow the teachers to grade the students even from home, and the in-built calculating operations automatically performs the grades calculation, that will save time and avoid errors in student results. The teachers need not to do all the work manually, and have a guaranteed better outcomes and management that would reduce time, human effort and errors.

SYSTEM REQUIREMENTS

Tools platform and hardware the web portal is meant to work on any web browser compatible with IE 5.0 or onwards.

Tool : Microsoft Visual Studio code 2022

Front end : HTML, CSS, JavaScript, Bootstrap

Database : Apache Tomcat, PHPmyadmin

Back end : PHP, XAMPP

3.1 Software Requirements:

OS: Any GUI Operating System

Any web browser compatible with IE 5.0 or onwards.

3.2 Hardware Requirements:

RAM: 2GB and above

HDD: 250GB and above (Free Memory)

Processor: 450MHz or above

CPU: 32cores

3.3 Technology Description:

3.3.1 HTML

The **HyperText Markup Language** or **HTML** is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript.

Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

HTML can embed programs written in a scripting language such as JavaScript, which affects the behavior and content of web pages. Inclusion of CSS defines the look and layout of content. The World Wide Web Consortium (W3C), former maintainer of the HTML and current maintainer of the CSS standards, has encouraged the use of CSS over explicit

presentational HTML since 1997. A form of HTML, known as HTML5, is used to display video and audio, primarily using the <a hr

The latest version of html is HTML5.

3.3.2 Microsoft Visual Studio Code 2022

Visual Studio Code, also commonly referred to as VS Code is a source code editor made by Microsoft for Windows, Linux and macOS. Features include support for debugging, syntax highlighting, intelligent code completion, snippets, and embedded Git. Users can change the theme, keyboard shortcuts, preferences, and install extensions that add additional functionality.

Visual Studio Code is a streamlined code editor with support for development operations like debugging, task running, and version control. It aims to provide just the tools a developer needs for a quick code-build-debug cycle and leaves more complex workflows to fuller featured IDEs, such as Visual Studio IDE.

Visual Studio Code is a source-code editor that can be used with a variety of programming languages, including Java, JavaScript, Go, Node.js, Python, C++ and Fortran. It is based on the Electron framework, which is used to develop Node.js Web applications.

The latest version of VS Code is Version 1.67

3.3.3 CSS

Cascading Style Sheets (CSS) is a stylesheet language used to describe the presentation of a document written in HTML or XML. CSS describes how elements should be rendered on screen, on paper, in speech, or on other media. CSS is among the core languages of the open web and is standardized across Web browsers according to W3C specifications. Previously, development of various parts of CSS specification was done synchronously, which allowed versioning of the latest recommendations. You might have heard about CSS1, CSS2.1, CSS3. However, CSS4 has never become an official version.

From CSS3, the scope of the specification increased significantly and the progress on different CSS modules started to differ so much, that it became more effective to develop and release recommendations separately per module. Instead of versioning the CSS specification, W3C now periodically takes a snapshot of the latest stable state of the CSS specification.

The latest version of CSS is CSS3.

3.3.4 JavaScript

JavaScript is a lightweight, interpreted programming language. It is designed for creating network-centric applications. It is complimentary to and integrated with Java. JavaScript is very easy to implement because it is integrated with HTML. It is open and cross-platform.

JavaScript is a must for students and working professionals to become a great Software Engineer especially when they are working in Web Development domains. It helps you developing great front-end as well as back-end softwares using different JavaScript based frameworks like jQuery, Node.JS etc. and there is tons of job growth and high pay for those who know JavaScript.

JavaScript is a high-level, often just-in-time compiled language that conforms to the ECMAScript standard. It has dynamic typing, prototype-based object-orientation, and first-class functions. It is multi-paradigm, supporting event-driven, functional, and imperative programming styles. JavaScript is that you will find tons of frameworks and Libraries already developed which can be used directly in your software development to reduce your time to market.

The latest version of JavaScript is ES2015.

3.3.5 Bootstrap

Bootstrap is a free and open-source tool collection for creating responsive websites and web applications. It is the most popular HTML, CSS, and JavaScript framework for developing responsive, mobile-first websites. Nowadays, the websites are perfect for all the browsers (Internet Explorer, Firefox, and Chrome) and for all sizes of screens (Desktop, Tablets, and Phones). All thanks to Bootstrap developers – Mark Otto and Jacob Thornton of Twitter, though it was later declared to be an open-source projects.

According to the Twitter developer Mark Otto:

"A super small group of developers and I got together to design and build a new internal tool and saw an opportunity to do something more. Through that process, we saw ourselves build something much more substantial than another internal tool. Months later, we ended up with an early version of Bootstrap as a way to document and share common design patterns and assets within the company."

Bootstrap is an HTML, CSS & JS Library that focuses on simplifying the development of informative web pages. The primary purpose of adding it to a web project is to apply Bootstrap's choices of color, size, font and layout to that project. As such, the primary factor is whether the developers in charge find those choices to their liking. Once added to a project, Bootstrap provides basic style definitions for all HTML elements. The result is a uniform appearance for prose, tables and form elements across web browsers.

The latest version of Bootstrap is Bootstrap 5.

3.3.6 Apache Tomcat

Apache Tomcat (called "Tomcat") is a free and open-source implementation of the Jakarta Servlet, Jakarta Expression Language, and the WebSocket technologies. Tomcat provides a "pure Java" HTTP web server environment in which Java code can run. Tomcat is developed and maintained by an open community of developers under the auspices of the Apache Software Foundation, released under the Apache License 2.0 license.

Tomcat started off as a servlet reference implementation by James Duncan Davidson, a software architect at Sun Microsystems. He later made the project open-source and played a key role in its donation by Sun Microsystems to the Apache Software Foundation. The Apache Ant software build automation tool was developed as a side-effect of the creation of Tomcat as an open source project.

Davidson had initially hoped that the project would become open-sourced and, since many open-source projects had O'Reilly books associated with them featuring an animal on the

cover, he wanted to name the project after an animal. He came up with *Tomcat* since he reasoned the animal represented something that could fend for itself. Although the tomcat was already in use for another O'Reilly title, his wish to see an animal cover eventually came true when O'Reilly published their Tomcat book with a snow leopard on the cover in 2003.

The latest version of Apache Tomcat is Apache Tomcat 10.

3.3.7 PHP

PHP is an open-source, interpreted, and object-oriented scripting language that can be executed at the server-side. PHP is well suited for web development. Therefore, it is used to develop web applications i.e. an application that executes on the server and generates the dynamic page. Some important points need to be noticed about PHP are PHP stands for Hypertext Preprocessor. PHP is an interpreted language, i.e., there is no need for compilation. PHP is faster than other scripting languages, for example, ASP and JSP.

PHP is a server-side scripting language, which is used to manage the dynamic content of the website. PHP can be embedded into HTML. PHP is an object-oriented language. PHP is an open-source scripting language which is a simple and easy to learn language.

The latest version of PHP is 8.1.6

3.3.8 XAMPP

XAMPP is a completely free, easy to install Apache distribution containing MariaDB, PHP, and Perl. The XAMPP open source package has been set up to be incredibly easy to install and to use.

XAMPP is an abbreviation where X stands for Cross-Platform, A stands for Apache, M stands for MYSQL, and the Ps stand for PHP and Perl, respectively. It is an open-source package of web solutions that includes Apache distribution for many servers and command-line executables along with modules such as Apache server, MariaDB, PHP, and Perl.

Latest version of XAMPP is XAMPP 8.1.6

3.4 Non Functional (Software System Attributes) Requirements:

3.4.1 Availability

The availability of this web portal is up to the Internet Connection of the student or client. Since it is a client server related website, it shall be attainable all the time. User or student should have an account to enter the system; if user doesn't have an account then user can only see the information which will be displayed on the homepage of the website.

3.4.2 Security

The authorisation mechanism of the system will block the unwanted attempts to the server and also let the system decide on which privileges may the user have. The system has different type of users so there are different levels of authorization.

3.4.3 Reliability

A backup file is maintained so that in case of system crash, the data will not be affected.

3.4.4 Portability

The system is developed using Html, Bootstrap, php and Javascript that makes the web portal more enhanced and portable to use.

3.4.5 Maintainability

This web portal will follow the modular structure so it will be easy to maintain.

LITERATURE REVIEW

Generating data and organizing data in a useful way is called data processing. The errors have been associated with the existing manual method of processing the student result in most of the universities, this make not only desirable but imperative that computerized approach be used in measuring student Result. The manual methods have been employed to suffer with a number of setbacks; they make the process to be time consuming and liable to error. This lead to examination results reach late, sometimes with wrong grades being considered and student CGPAs being wrongly computed, this lead to wrong conclusion in awarding of class of degree. The solution to the problem, therefore, is to find a method of processing result that would be sufficiently accurate and reasonably timely. Welling(2007) stated that the principle, that is the inputting data to a computer system was a punch cards-the So called IBM cards that generation of students were admonished never to fold, spindle or mutilate. Eludire (2011) observed that a number of problems associated with student result management System include late release of student result, in accuracy due to manual and monotonous calculation and retrieval inefficiency. According to him, the development of database concept is answer to this problem, where the amount of long-winded data is reduced and possibility that data contained on a file might be inaccurate because they were never automatic updating Option. Hemn and Wu Fei (2014) proposed a system in China that provides students result information. According to him, the student result Management system can be used to create, read and update the details of a student and also generate reports about his/her skills. These systems save time of retrieval and prevent data loss. This is a computerized examinations results management system for tertiary student's examination records. The system designed is meant to register students as soon as they have paid their departmental registration and only then will they be able to view their results. The system presents a single platform that will be used to manage the processing of all examination records within the institution and School.

4.1 Disadvantages of existing system:

- o OS dependency if computer program is coded in C language.
- The use of linear search in file handling might increase time complexity.
- o NO advanced feature benefit can be used such as in web application.

4.2 Proposed approach and its advantage over existing system:

- O User friendly (as faculties can easily use this portal).
- ALL time availability (system remains available as long as computer is well connected with network).
- o Easy computation and easy storage of data.

PROJECT METHODOLOGY

There are two modules in the project. They are:

- Student
- Faculty(Admin)

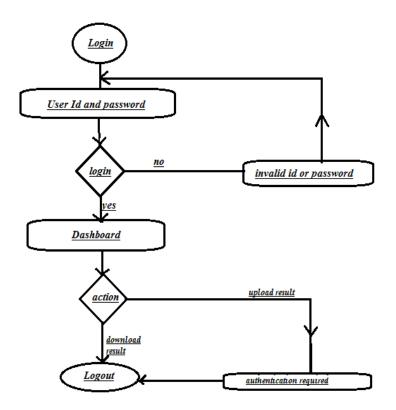
The system can be developed using web technologies HTML, CSS, PhP and using the database Apache Tomcat Server. The front end can consist of student registration with the respective university or school registered number and the password by the student. The student can view his results in the tabular format with the respective aggregate and percentage of that semester. The data based on the roll number of the student and all the data can be retrieved back to the table and displayed as results.

The PHP can also be used for visualization of data. We use fusion charts for the dynamic visualization. Primarily, the data can be collected from the college or school administration. This data includes institute's registered number of every student currently collected is then classified and tabulated into useful and understandable manner.

HTML is used for structuring the web page and its content. It is used to develop different pages like user registration, login page and the page for providing results.

CSS is used for styling the web page. PHP is used for connecting to the database and perform operations on it through queries.

5.1 Activity Diagram for overall System:



This is the Activity Diagram of result management system, which shows the flow of login activity, where admin will be able to login using their username and password. After login user can manage all operation on result, subject, class, etc.

5.2 MODULES IN THE SYSTEM:

- Admin Module
- Student Module

5.2.1 ADMIN MODULE:

Admin is main module of the system .In this module, the admin can create and manage the subjects, classes and can add the students and their results of the students. The admin is only one who has authority to Insert, update and delete the result and information of the student.

5.2.2 STUDENT MODULE:

In this module login id and password should be unique for the administrator of the college. In this application the system will provide you the unique id which is secure.

OBSERVATION

6.1 Economic Analysis

Among the most important information contained in feasibility study is Cost Benefit Analysis and assessment of the economic justification for a computer based system project. Cost Benefit Analysis delineates costs for the project development and weighs them against tangible and intangible benefits of a system. Cost Benefits Analysis is complicated by the criteria that vary with the characteristics of the system to be developed, the relative size of the project and the expected return on investment desired as part of company's strategic plan. In addition, many benefits derived from a computer-based system are intangible (e.g. better design quality through iterative optimization, increased customer satisfaction through programmable control etc.) As this is an in-house project for the company, to be used for its own convenience and also it is not that big a project. So neither it requires a huge amount of money nor any costly tools or infrastructure need to be set up for it.

6.2 Technical Analysis

During technical analysis, the technical merits of the system are studied and at the same time collecting additional information about performance, reliability, maintainability and predictability. Technical analysis begins with an assessment of the technical viability of the proposed system.

What technologies are required to accomplished system function and performance? How will these obtained from technical analysis form the basis for another go/no-go decision on the test system? If the technical risk is severe, if models indicate that the desired function cannot be achieved, if the pieces just won't fit together smoothly-it's back to the drawing board.

6.3 System Analysis

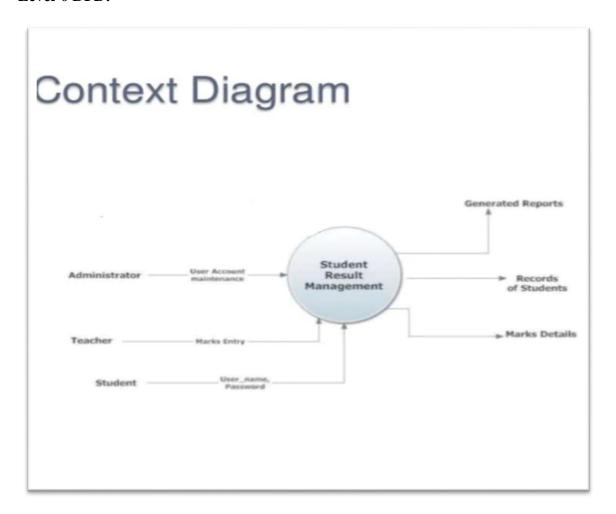
System analysis is a process of studying the business processors and procedures, generally referred to as business systems, to see how they can operate and whether improvement is needed.

This may involve examining data movement and storage, machines and technology used in the system, programs that control the machines, people providing inputs, doing the processing and receiving the outputs.

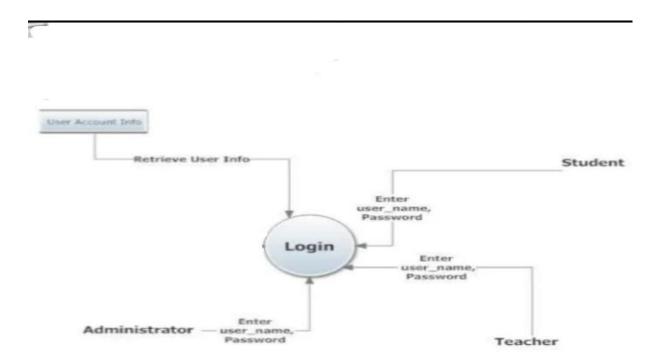
DFDs AND USE CASE DIAGRAMS

7.1 DFDs:

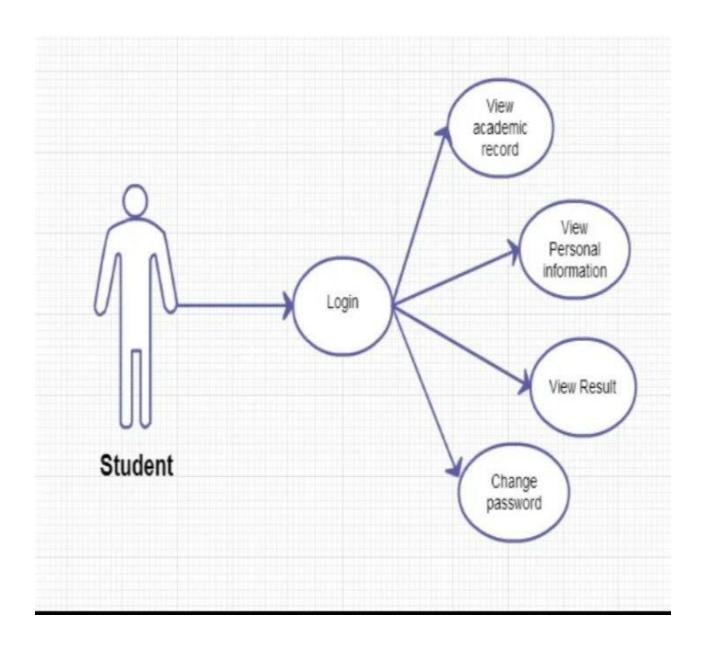
Level-0 DFD:

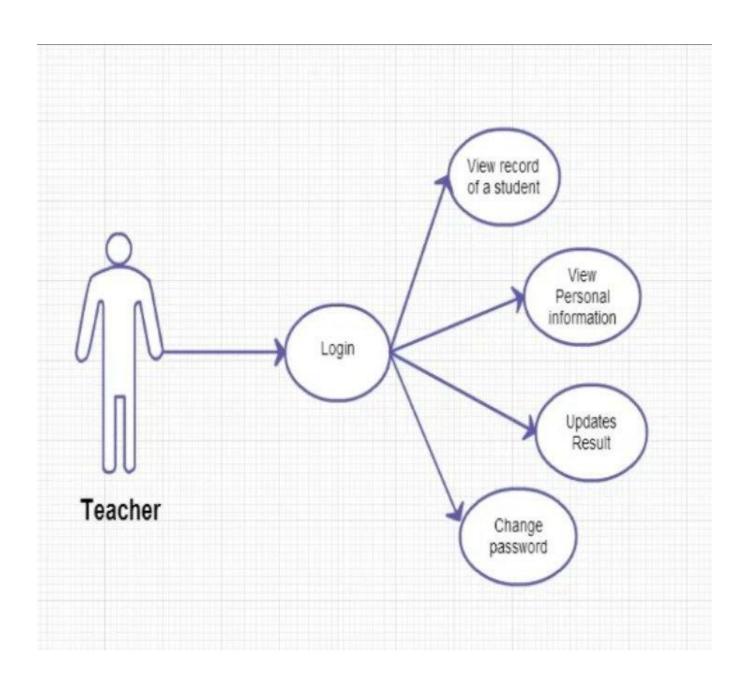


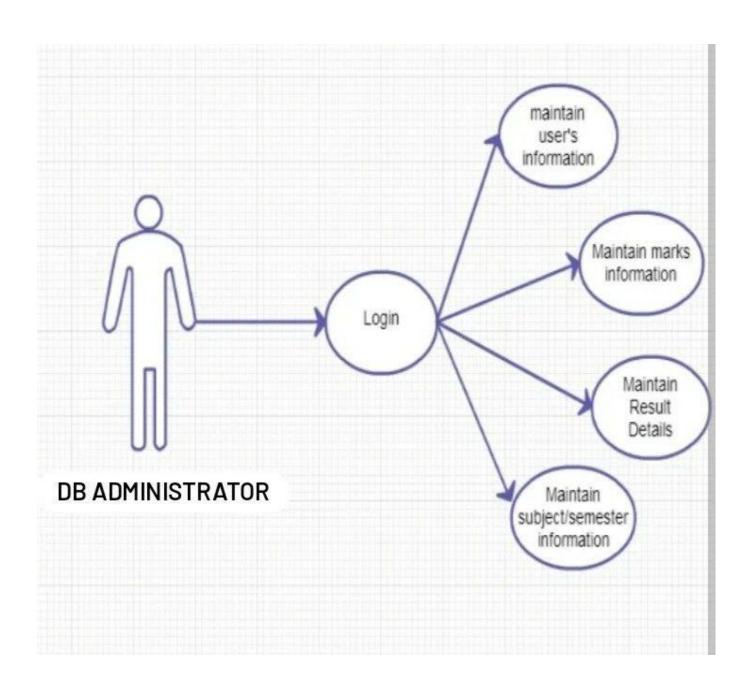
Level-1 DFD:

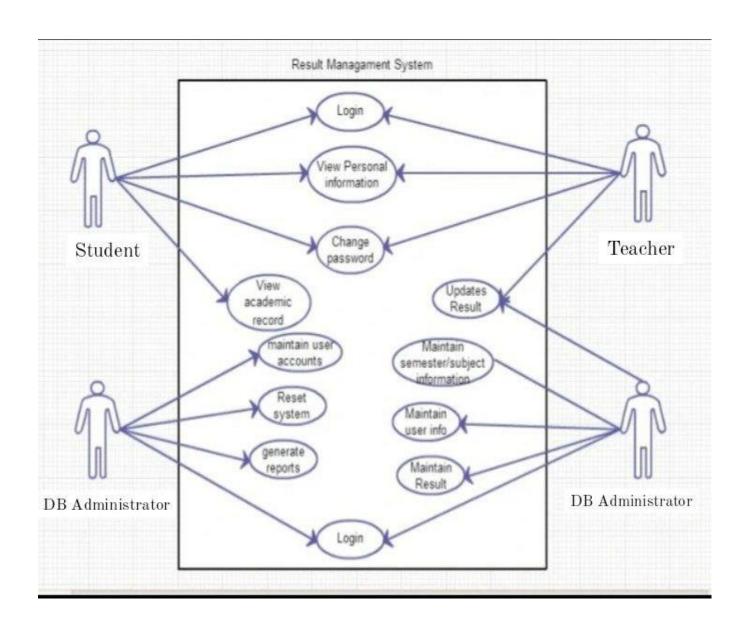


7.2 Use Case Diagrams:









FUTURE IMPLEMENTS AND CONCLUSION

8.1 FUTURE IMPLEMENTS:

Previously, data used to be inserted manually to analyze result. But, currently the project sql files for extraction of data. The future scope is that data can be fetched, parsed in other formats like doc, csv, odt, etc. Visualization can be provided to represent data in graphical format. Various representation like pie chart, graph, etc.

In near future, the system interface could be improved, with more attractive, interactive and meaningful images;

- Enhance the system with an email and SMS or email notifications.
- Enhance the current system by computerizing almost all the services provided by the institution, turning it into a complete Result and Record Management System.
- Evolve the system by developing several versions through user's feedback, if a complete solution has not been worked out.

8.2 CONCLUSION:

Student result management system is an online website and can be used at any place, any time and by any student or faculty. This application will avoid the calculation and simplify the process of visualizing results by students as well as faculty.

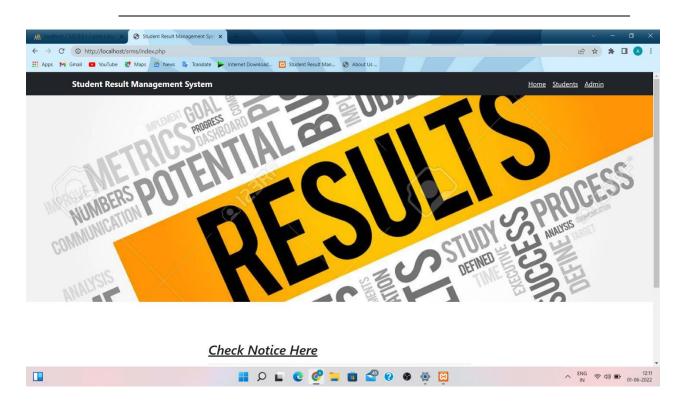
It is concluded that the system will works well and thus it will fulfill the end users requirement. The system is tested and errors are accurately removed. This application will be accessed from one or more than one system. This system is user friendly so that everyone can use this application easily. Admin or staff has to give the proper documentation. The staff is able to easily understand how this overall application work. The system is evaluated, implemented and its performance is found to be satisfactory to the end users. The required result for the user's requirements is generated.

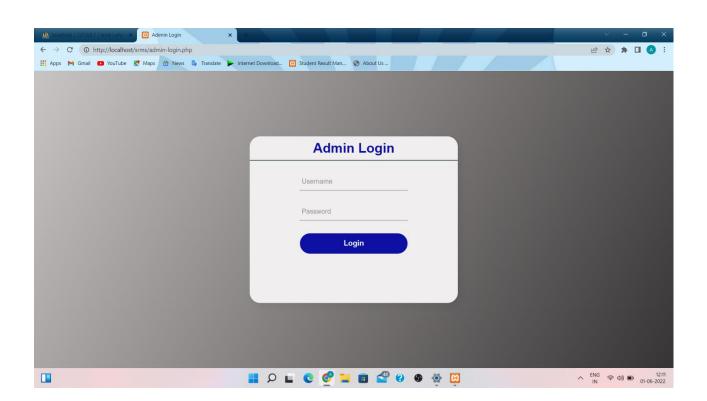
Further enhancements can be added to these system, because the features of this application is very attractive and it is useful than the present one.

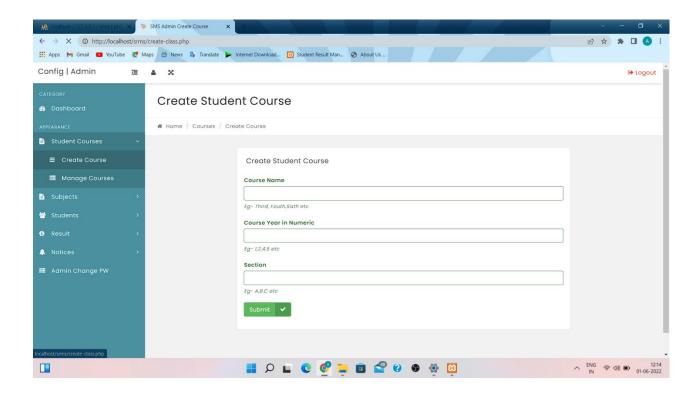
8.3 RECOMMENDATIONS:

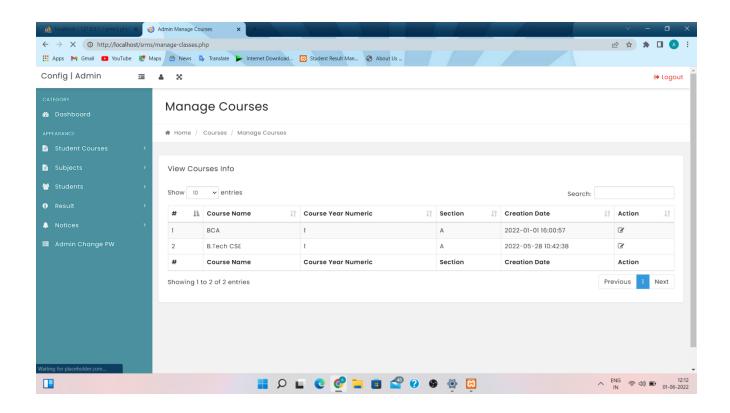
The mobile result processing system should be developed to enhance flexibility in operation, although this solution can be viewed on most mobile browsers via a network. The system should be recommended for other departments in the faculty and the entire school which will hasten the compilation of results for classes, graduation and convocation ceremonies. There should be regular orientation of new staff and students on the statutes implemented in the system following a user manual. Users should ensure at all times that the SRMS is not left unlocked on their computer. There should be provision of network connection ports on sitting desks, if possible wireless connection, to prevent delay in result compilation. There should be a vetting team to ensure that the results uploaded were in the recommended format and with accurate values.

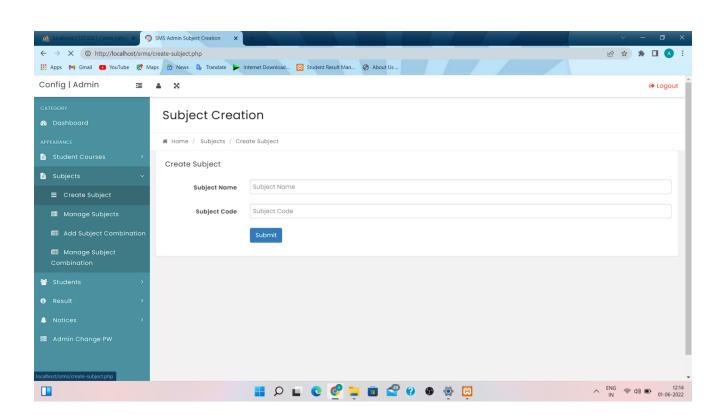
OUTPUT RESULTS

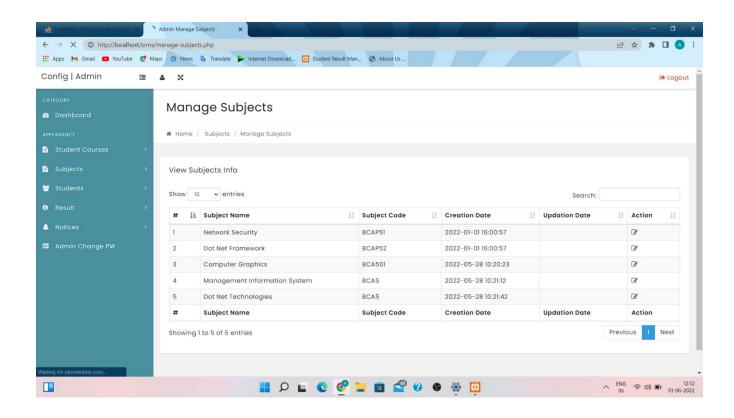


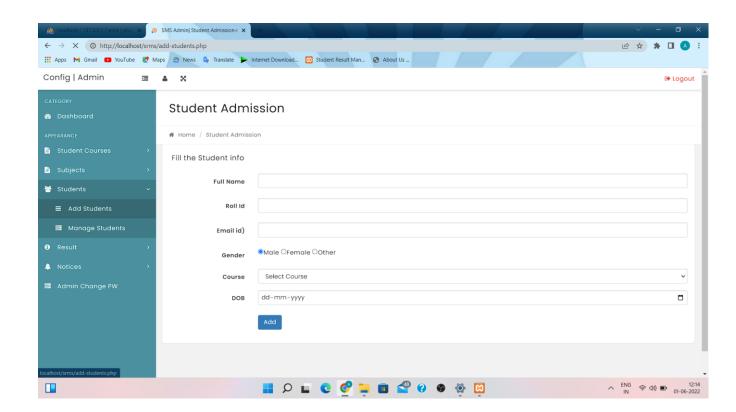


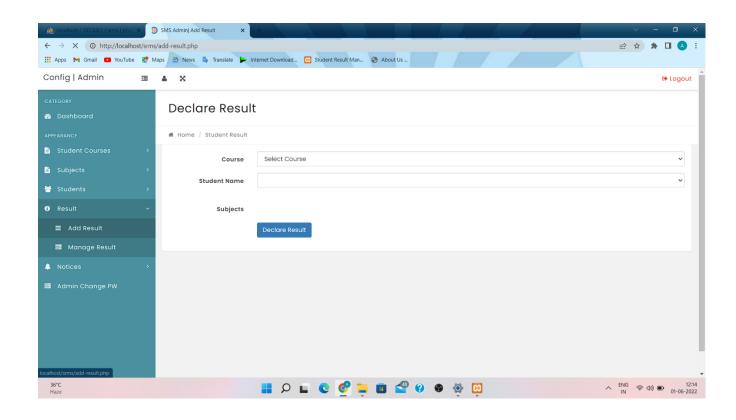


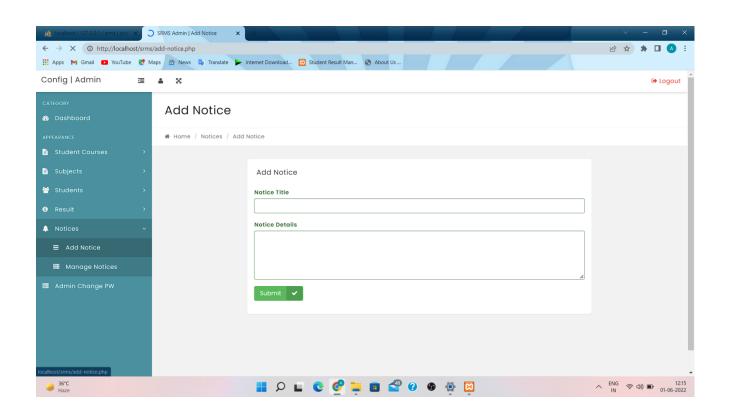


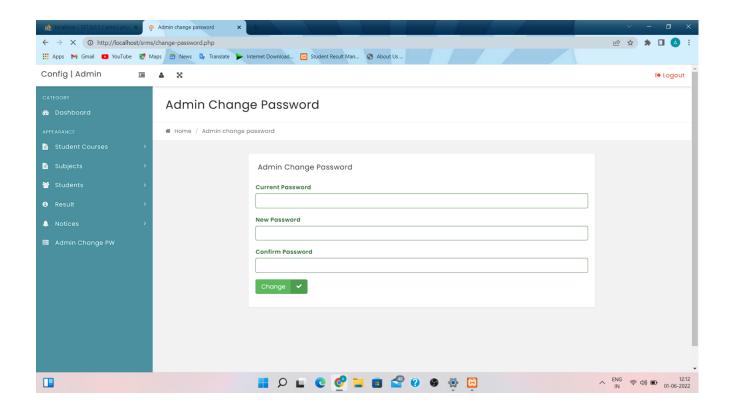




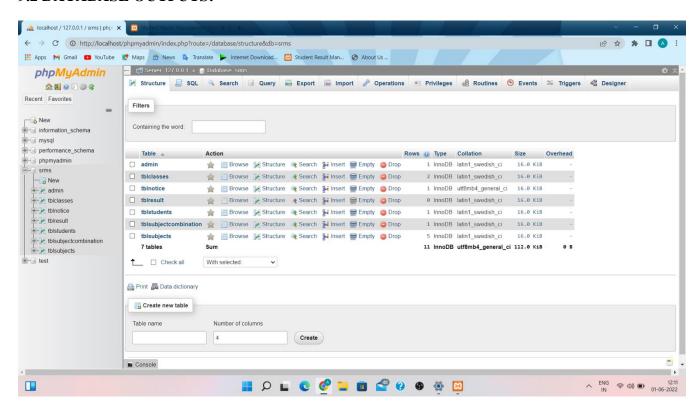








9.2 DATABASE OUTPUTS:



REFERENCES

- [1] https://www.jespublication.com
- [2] https://www.jmest.org
- [3] https://www.w3schools.com
- [4] https://localhost/phpmyadmin/
- [5] https://code.visualstudio.com
- [6] https://geeksforgeeks.org

APPENDIX