STUDENT RESULT MANAGEMENT SYSTEM

An Application Development – 1 (Project) Report Submitted
In partial fulfillment of the requirement for the award of the degree of

Bachelor of Technology
in
Computer Science and Engineering (Data Science)

by

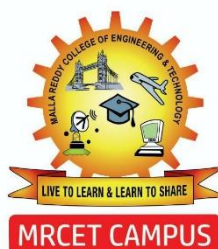|	
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(Autonomous Institution – UGC, Govt. of India)
(Affiliated to JNTU, Hyderabad, Approved by AICTE, Accredited by NBA & NAAC – 'A' Grade, ISO 9001:2015 Certified)
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2022-2023

DECLARATION

We hereby declare that the project entitled **"Student Result Management System"** submitted to **Malla Reddy College of Engineering and Technology,** affiliated t**o** Jawaharlal Nehru Technological University Hyderabad (JNTUH) as part of III Year B.Tech – I Semester and for the partial fulfillment of the requirement for the award of **Bachelor of Technology** in **Computer Science and Engineering (DataScience)** is a result of original research work done by us.

It is further declared that the project report or any part thereof has not been previously submitted to any University or Institute for the award of degree or diploma.

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MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

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CERTIFICATE

This is to certify that this is the bonafide record of the project titled " **Student Result Management System** " submitted by **D.Saikiran** bearing **Roll No. 20N31A6714** of B.Tech III Year – I Semester in the partial fulfillment of the requirements for the degree of **Bachelor of Technology** in **Computer Science and Engineering (Data Science)**, Dept. of CSE (Emerging Technologies) during the year 2022-2023. The results embodied in this project report have not been submitted to any other university or institute for the award of any degree or diploma.

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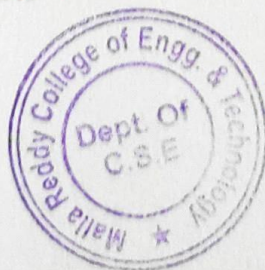Dr.P.Dileep
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We feel ourself honored and privileged to place our warm salutation to our college "Malla Reddy College of Engineering and Technology (Autonomous Institution – UGC Govt. of India) and our Principal **Dr. S Srinivasa Rao,** Professor who gave us the opportunity to do the Application Development -1 (Project) during our III Year B.Tech and profound the technical skills.

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ABSTRACT

The purpose of Student Result Management System is to automate the existing manual system by the help of computerized equipment's and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. The required software and hardware are easily available and easy to work with.

Student Result Management System, as described above, can lead to error free, secure, reliable, and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus, it will help organization in better utilization of resources. The organization can maintain computerized records without redundant entries. That means that one need not be distracted by information that is not relevant, while being able to reach the information.

The aim is to automate its existing manual system by the help of computerized equipments and full-fledged computer software, fulfilling their requirements, so that their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. Basically, the project describes how to manage for good performance and better services for the clients.

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CHAPTER 1

INTRODUCTION

The "Student Result Management System" has been developed to override the problems prevailing in the practicing manual system. This software is supported to eliminate and, in some cases, reduce the hardships faced by this existing system. Moreover, this system is designed for the particular need of the company to carry out operations in a smooth and effective manner.

The application is reduced as much as possible to avoid errors while entering the data. It also provides error message while entering invalid data. No formal knowledge is needed for the user to use this system. Thus, by this all it proves it is user-friendly. Student Result Management System, as described above, can lead to error free, secure, reliable, and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus, it will help organization in better utilization of resources.

Every organization, whether big or small, has challenges to overcome and managing the information of Result, Student, Class, Subject, Semester. Every Student Result Management System has different Student needs, therefore we design exclusive employee management systems that are adapted to your managerial requirements. This is designed to assist in strategic planning, and will help you ensure that your organization is equipped with the right level of information and details for your future goals. Also, for those busy executive who are always on the go, our systems come with remote access features, which will allow you to manage your workforce anytime, at all times. These systems will ultimately allow you to better manage resources.

1.1 Problem Definition

The students' results are generated through a spreadsheet application and then printed on a paper, attached to a wall for declaration and then stored. Despite having an application that generates the result, it is not very effective as the system consumes a lot of time and human resources in performing various tasks, it is costly, it lacks data security and efficiency. And at present, the institution needs an advanced and computerized environment. And once implemented, it will minimize all the problems mentioned.

1.2 Scope

The application will manage the information about various students enrolled in this course in different years, the subjects offered during different semesters of the course, the marks obtained by the various students in various subjects in different semesters. The application will greatly simplify and speed up the result preparation and management process.

It may help collecting perfect management in details. In a very short time, the collection will be obvious, simple and sensible. It will help a person to know the management of passed year perfectly and vividly. It also helps in current all works relative to Student Result Management System. It will be also reduced the cost of collecting the management & collection procedure will go on smoothly. Our project aims at Business process automation, i.e., we have tried to computerize various processes of Student Result Management System.

•   In computer system the person has to fill the various forms & number of copies of the forms can be easily generated at a time.

•   In computer system, it is not necessary to create the manifest but we can directly print it, which saves our time.

•   To assist the staff in capturing the effort spent on their respective working areas.

- To utilize resources in an efficient manner by increasing their productivity through automation.

- The system generates types of information that can be used for various purposes.

- It satisfies the user requirement

- Be easy to understand by the user and operator

- Have a good user interface

1.3 Existing System:

- Existing process of the getting information for the student is done manually.

- All the wanted information need to be provided by the administration.

- If the students want to know the results of the particular subject so there should wait for long time because work done manually.

- The information about their courses, results and other information accessing is not possible.

1.4 Proposed System:

- System needs store information about new entry of Student.

- System needs to help the internal staff to keep information of Result and find them as per various queries.

- System needs to maintain quantity record.

- System needs to keep the record of Subject.

- System needs to update and delete the record.

- System also needs a search area.

- It also needs a security system to prevent data.

CHAPTER-2

System Requirements

2.1 Software Requirements:

NAME OF THE COMPONENT	SPECIFICATION
operating system	windows 7,Linux
Database	MySQL server
Browser	Chrome, Microsoft edge
Webserver	Xampp
scripting language	php

2.2 Hardware Requirements:

NAME OF THE COMPONENT	SPECIFICATION
Processor	Standard processor with 1.6GHZ
RAM	4GB RAM or more
Hard Disk	250 GB or more

CHAPTER-3

System Design
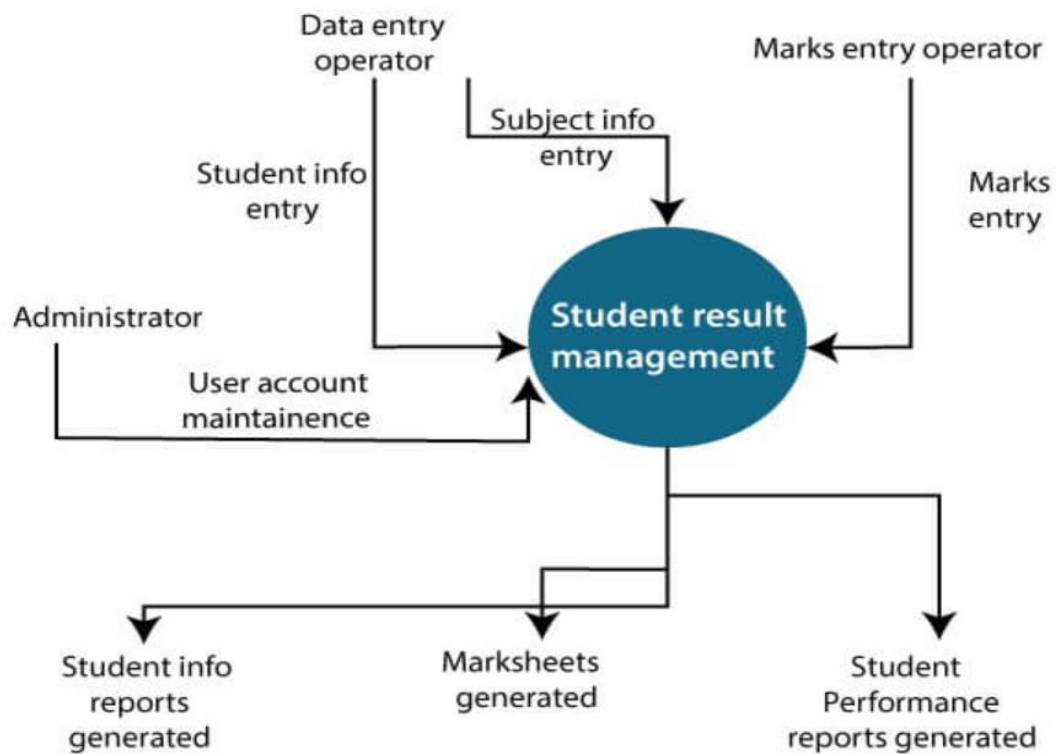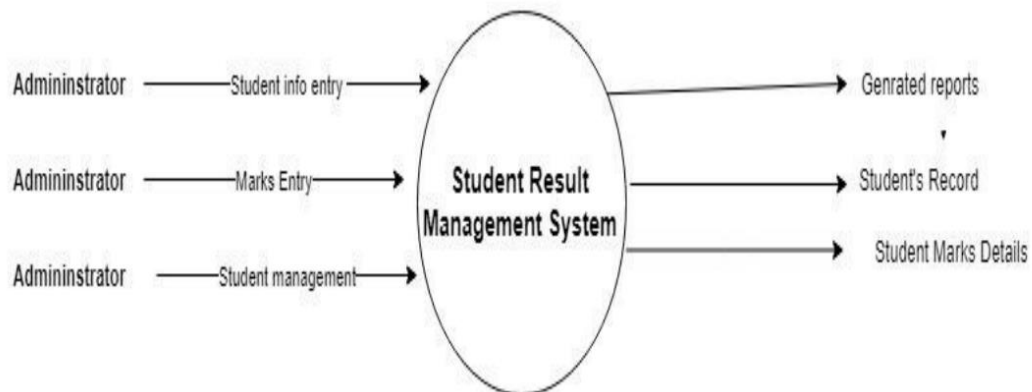
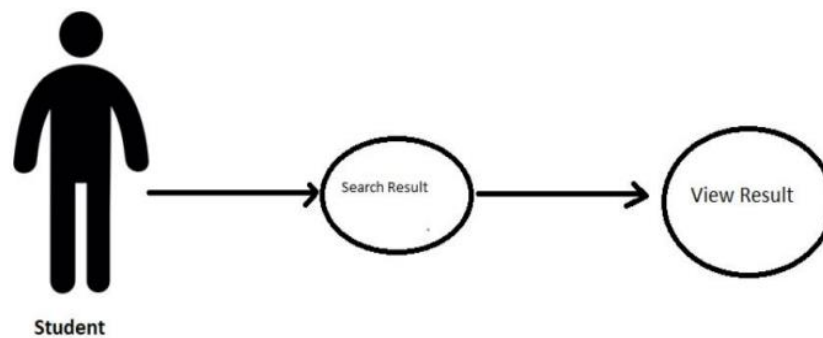### 3.1 Dataflow Diagrams / UML Diagrams
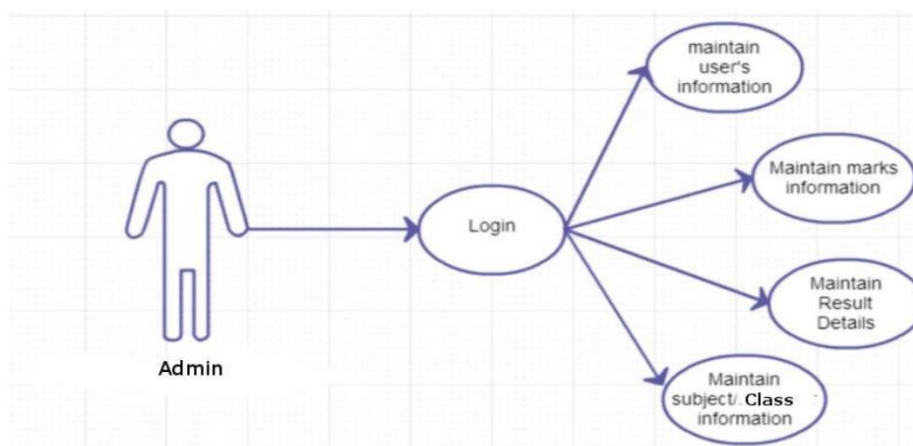

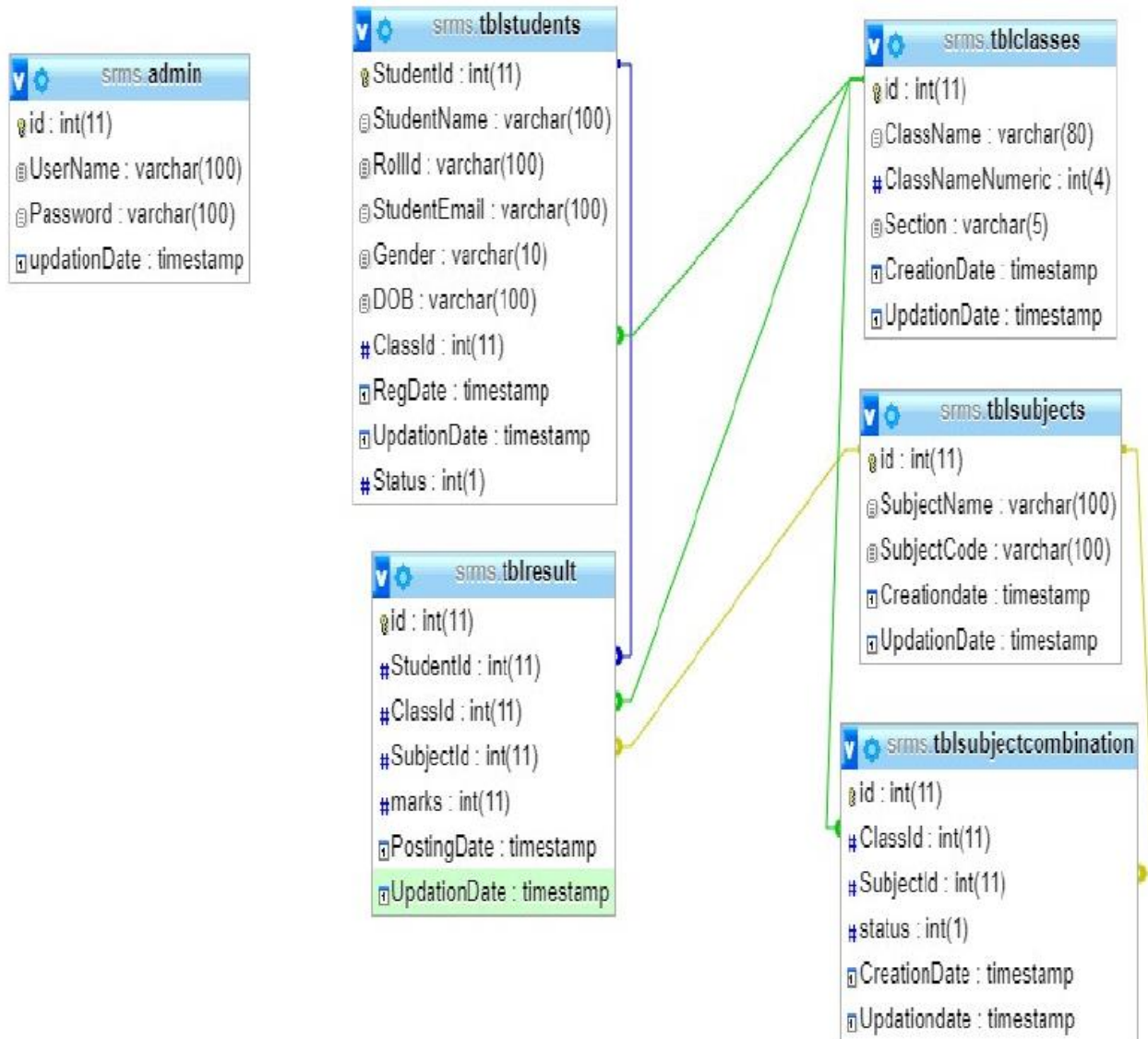**Fig: Level-0 DFD of result management system**

3.2 ER Diagram

USER USE CASE DIAGRAM:

ADMIN USE CASE DIAGRAM :

RELATIONSHIP DIAGRAM

CHAPTER 4

IMPLEMENTATION

Implementation is the stage where the theoretical design is turned into a working system. The most crucial stage in achieving a new successful system and in giving confidence on the new system for the users that it will work efficiently and effectively .The system can be implemented only after thorough testing is done and if it is found to work according to the specification .It involves careful planning, investigation of the current system and its constraints on implementation, design of methods to achieve the changeover and an evaluation of change over methods a part from planning. Two major tasks of preparing the implementation are education and training of the users and testing of the system. The more complex the system being implemented, the more involved will be the systems analysis and design effort required just for implementation. The implementation phase comprises of several activities. The required hardware and software acquisition is carried out. The system may require some software to be developed. For this, programs are written and tested. The user then changes over to his new fully tested system and the old system is discontinued.

INTRODUCTION TO HTML

The hypertext markup language (HTML) is a simple markup language. Used to create a hypertext document that are portable from one platform to another HTML documents are SGML (Standard generalized markup language) documents with generic semantics that are appropriate for representing information from a wide range of applications. This specification

defines HTML version 3 2. HTML 3.2aims to capture recommended practice as of early '96 and as such a replacement for HTML2.0 (RFC 1866)

WHY TO USE HTML?

Website is a collection of pages, publications, and documents that reside on web server. While these pages publications and a document as a formatted in a single format, you should use HTML for home page and all primary pages in the site. This will enable the millions of web users can easily access and to take advantage of your website.HTML is considered first for formatting any new material you plan to publish on the web. HTML documents are platform independent, meaning that they do not confirm to any standard. If they are created properly, you can move home page to any server platform or you can access them with any complaint www browser.

STRUCTURE OF HTML:

HTML elements perform a defined task. HTML uses two types of elements. Empty Tags. Container Tags These tags differ because of what they represent. Empty tags represent formatting constricts such as line breaks and horizontal rules. Container tags define a section of text, formats, and dot all of the selected text. A container tag has both a beginning and an ending.

LAYOUT:

An HTML document consists of text, which comprises the content of the document and tags, which, defines the structure, and appearance of the document. The structure of an HTML document is simple, consists of outer.

<HTML>tag enclosing the document header and body

<HTML>

<HEAD>

<TITLE>the title of HTML document</TITLE>

</HEAD>

<BODY>

This is where the actual HTML documents

Text lies, which is displayed in the browser

</BODY>

</HTML>

HTML FORMS:

Creating a form usually involves two independent steps: Creating the layout for the form itself and then writing a script program on the server side to process the formation you get back from a form. To create a form, you use the <FORM> tag. Inside the opening and closing FORM tags are each of the individual form elements plus any other HTML content to create a layout for that form. The opening tag of the FORM element usually includes the attributes: METHOD and ACTION. The METHOD attributes can be either GET or POST which determines how your form data is sent to the script to process it. The ACTION attribute is a pointer to the script that processes the form on the server side. The ACTION can be included by a relative path or by a full URL to a script on your server or somewhere else. For example, the following <FORM>.

BACK-END TECHNOLOGY

MySQL Introduction:

There are a large number of database management systems currently available, some commercial and some free. Some of them : Oracle, Microsoft Access, MySQL and PostgreSQL. These database systems are powerful, feature-rich software, capable of organizing and searching millions of records at very high speeds.

Understanding Databases, Records, and Primary Keys Every Database is composed of one or more tables. These Tables, which structure data into rows and columns, Impose organization on the data. The records in a table(below) are not arranged in any particular order.

Types of SQL:

Data Definition Language (DDL) :

DDL Consists of statements that define the structure and relationships of a database and its table. These Statements are used to Create, drop and modify databases and tables.

Data Manipulation Language(DML):

DML statements are related to altering and extracting data from a database. These statements are used to add records to, update records in, and delete records from, a database; perform queries; retrieve table records matching one or more user specified criteria; and join tables together using their common fields.

Data Control Language (DCL) :

DCL statements are sued to define access levels and security privileges for a database. You would use these statements to grant or deny user privileges, assign roles, change passwords, view permissions, and create rulesets to protect access to data. The Syntax of SQL is quite intuitive. every SQL statement begins with an "action word" like DELETE, INSERT, ALTER etc. It ends with a semicolon. whitespace, tabs, carriage returns are ignored.

Some example of valid SQL statements:

CREATE DATABASE employee;

SELECT name FROM users where email =" anuj.lpu1@gmail.com";

DELETE FROM cars WHERE year_of_manufacture < 198

PHP:

PHP is a server-side scripting language designed specifically for the web. Within an HTML page, you can embed PHP code that will be executed each time the page is visited. Your PHP code is interpreted at the web server and generates HTML or other output that the visitor will see. PHP was introduced in 1994. As of November 2007, it was installed on more than 21 million domains worldwide, and this number is growing rapidly. You can see the current number at http://www.php.net/usage.phpPHP is an Open-Source project. PHP originally stood for Personal Home Page and now stands for PHP Hypertext Preprocessor.

Unique Features:

If you are familiar with other server-side language like ASP.NET or JSP you might be wondering what makes PHP so special, or so different from these competing alternatives well, here are some reasons:

1. Performance

2. Portability (Platform Independent)

3. Ease of Use

4. Open Source

5. Third-Party Application Support

6. Community Support

PHP MySQL connectivity :

Use the MySQL connect( ) function to established connection to the MySQL server. To access the database functionality, we have to make a connection to database using Php. MySQL connect() function is used to establish the connection to MySQL server. four arguments need to be passed to MySQL connect() function.

Hostname : if you are working on local system , you can use localhost or you can also provide ip address or server name.

Username : if there is a existing user , you can provide username. default username is 'root'.

Password : by default, password is blank or null.dbname : it is an optional field . it is basically a name of the database that need to be connected.mysql_connect(host, username, password, dbname);host(Server name)-- --Either a host name(server name) or an IP addressusername--- -The MySQL user name password----The password to log in with dbname----Optional. The database to be used when performing queries.

MySQL Close Connection:

```php
<?php
// Create connection
$con=mysql_connect("localhost","root","","my_db") or die(mysql_error());
//code to be executed.
// Close connection
mysql_close($con);
?>
```

after work with the database is done, we have to close the connection using

mysql_close() function

in which the connection to the database is passed.

Client-side Script(JAVASCRIPT)

JavaScript:

JavaScript is a new scripting language for Webpages. Scripts written with java script can be embedded into your HTML pages. With java script you have many possibilities for

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enhancing your HTML page with interesting elements. For example, you are able to respond to user-initiated events quite easily. Some effects

that are now possible with java script were some times ago only possible with CGI. So, you can create really sophisticated pages with the help of java script on the Internet.

The first browser to support java script was the Netscape Navigator 2.0 of course the higher versions do have java script as well. You might know that java does not run on all Netscape Navigators 2.0 (or higher versions) versions. But this is not true for java script - although there are some problems with the different versions .The Mac version for example seems to have many bugs. In the near future there are going to be some other browsers, which support java script. The Microsoft Internet explorer 3.0 is going to support java script. JavaScript enabled browsers are going to spread soon - it is worth learning this new technique now. You might realize that is really easy to write Java Script scripts. We have to know is some basic techniques and some work-around for problems you might encounter. Of course, we need a basic. Understanding HTML before reading this tutorial you can find many really good online resources about HTML. Best you make an online search about 'html' at yahoo if you want to get informed about HTML. Now I want to show some small scripts so you can learn how they are implemented into HTML-documents and to show which possibilities you have with the new scripting language. The following is a very small script, which will only print a text into an HTML document.

<html>

<head>

My first JavaScript

</head>

<body>

This is a normal HTML document

<script language="JavaScript">

Document.write ("this is a java script")

</script><b r>

Backing HTML again

</body>

</html>

Functions:

Functions are bet declared between the <Head> tag of HTML page. Functions are called by user-initiated events. Seems reasonable to keep the functions between the <Head> tags. They are loaded first before a user can do anything that might call a function. Scripts can be placed between inside comment fields to ensure that older browser do not display the script itself.

<html>

<head>

<script language="JavaScript">

function pushbutton (){

alert ("Hello!");

}

</script>

</head>

<body>

```
<form>

<input type="button" name="Button1" value="push me" onclick="pushbutton

()">

</form>

</body>

</html>
```

If we want to test this one immediately and you are using a Java Script enabled browser then please go ahead and push the button.

This script will create a button and when you press it a window will pop up saying "hello!". In fact, we have a lot of possibilities just by adding functions to our scripts.

The common browsers transmit the form information by either method: here's the complete tag including the GET transmission method attribute for the previous form.

Input Elements:

Use the <input> tag to define any one of a number of common form elements including text fields multiple choice lists click able images and submission buttons. There are many attributers for this tag only that types and name attributes are required for each element, each type of input element uses only a subset of the followed attributes. Additional <input> attributes may be required based upon which type of the form element you specify.

Submit button:

The submit button (<input type=submit>) does what its name implies, settings in motion the form's submission to the server from the browser. We many have more than submit buttons will be added to the parameter list the browser sends along to the server.

Example:

< Input type ="submit">

<Input type="submit" value="submit" name="name">

Reset button:

The reset button if firm <input> button is nearly self- explanatory; it lets the user reset erase or set to some default value all elements in the form. By default, the browser displays a reset button worth the label "reset". We can change that by specifying a value attribute with tour own button label.

DATA BASE MODELS

Single Tier:

In a single tier the server and client are the same in the sense that a client program that needs information (client) and the source of this type of architecture is also possible in java, in case flat files are used to store the data. However, this is useful only in case of small applications. The advantage with this is the simplicity and portability of the application developed.
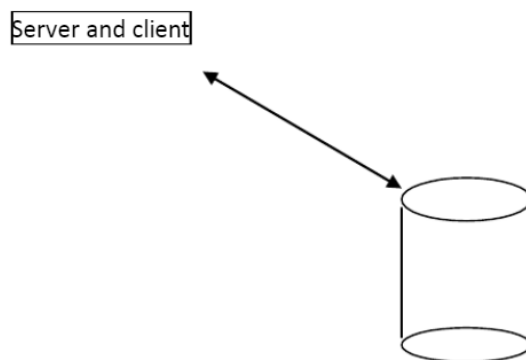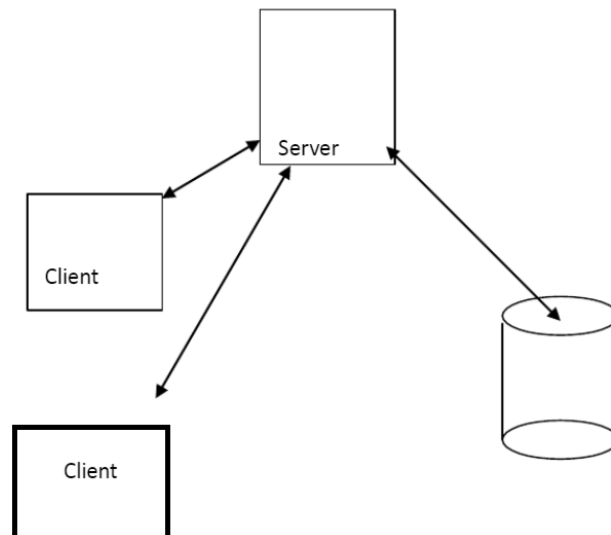
Server and client

Database

Two Tier(client- server):

In Two Tier (client- server) In two tier architecture the database resides in one machine and client in different machine they are connected through the network. In this type of

architecture, a database management takes control of the database and provides access to clients in a network. This software bundle is also called as the server. Software in different machines, requesting for information are called as the clients.

Three Tier and N-Tier:

In the three-tier architecture, any number servers can access the database that resides on server. Which in turn serve clients in a network. For example, you want to access the database using java applets, the applet running in some other machine, can send request only to the server from which it is down loaded. For this reason, we will need to have an intermediate server which will accept the requests from applets and them to the actual database server. This intermediate server acts as a two-way communication channel also. This is the information or data from the database is passed on to the applet that is requesting it. This can be extended to make n tiers of servers, each server carrying to specific type of request from clients, however in practice only 3 tiers architecture is popular.

<div align="center">**Testing**</div>

Testing is a process of executing a program with the indent of finding an error. Testing is a crucial element of software quality assurance and presents ultimate review of specification, design and coding.System Testing is an important phase. Testing represents an interesting anomaly for the software. Thus, a series of testing are performed for the proposed system before the system is ready for user acceptance testing. A good test case is one that has a high probability of finding an as undiscovered error. A successful test is one that uncovers an as undiscovered error.

Testing Objectives:

1. Testing is a process of executing a program with the intent of finding an error

2. A good test case is one that has a probability of finding an as yet

undiscovered error

3. A successful test is one that uncovers an undiscovered error

Testing Principles:

•All tests should be traceable to end user requirements

•Tests should be planned long before testing begins

•Testing should begin on a small scale and progress towards testing in large

•Exhaustive testing is not possible

•To be most effective testing should be conducted by a independent third party.

The primary objective for test case design is to derive a set of tests that has the highest livelihood for uncovering defects in software. To accomplish this objective two different categories of test case design techniques are used.

They are

- White box testing.

- Black box testing.

White-box testing:

White box testing focus on the program control structure. Test cases are derived to ensure that all statements in the program have been executed at least once during testing and that all logical conditions have been executed.

Block-box testing:

Black box testing is designed to validate functional requirements without regard to the internal workings of a program. Black box testing mainly focuses on the information domain of the software, deriving test cases by partitioning input and output in a manner that provides through test coverage. Incorrect and missing functions, interface errors, errors in data structures, error in functional logic are the errors falling in this category.

Testing strategies:

A strategy for software testing must accommodate low-level tests that are necessary to verify that all small source code segment has been correctly implemented as well as high-level tests that validate major system functions against customer requirements.

Testing fundamentals:

Testing is a process of executing program with the intent of finding error. A good test case is one that has high probability of finding an undiscovered error. If testing is conducted successfully, it uncovers the errors in the software. Testing cannot show the absence of defects, it can only show that software defects present.

Testing Information flow:

Information flow for testing flows the pattern. Two class of input provided to test the process. The software configuration includes a software requirements specification, a design specification and source code.

Test configuration includes test plan and test cases and test tools. Tests are conducted and all the results are evaluated. That is test results are compared with expected results. When erroneous data are uncovered, an error is implied and debugging commences.

Unit Testing:

Unit testing is essential for the verification of the code produced during the coding phase and hence the goal is to test the internal logic of the modules. Using the detailed design description as a guide, important paths are tested to uncover errors with in the boundary of the modules. These tests were carried out during the programming stage itself. All units of Vienna SQL were successfully tested.

Integration testing :

Integration testing focuses on unit tested modules and build the program structure that is dictated by the design phase.

System testing:

System testing tests the integration of each module in the system. It also tests to find discrepancies between the system and its original objective, current specification and system documentation. The primary concern is the compatibility of individual modules. Entire system is working properly or not will be tested here, and specified path ODBC connection will correct or not, and giving output or not are tested here these verifications and validations are done by

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giving input values to the system and by comparing with expected output. Top-down testing implementing here.

Acceptance Testing:

This testing is done to verify the readiness of the system for the implementation. Acceptance testing begins when the system is complete. Its purpose is to provide the end user with the confidence that the system is ready for use. It involves planning and execution of functional tests, performance tests and stress tests in order to demonstrate that the implemented system satisfies its requirements.

Tools to special importance during acceptance testing include:

Test coverage Analyzer – records the control paths followed for each test case. Timing Analyzer – also called a profiler, reports the time spent in various regions of the code are areas to concentrate on to improve system performance. Coding standards – static analysers and standard checkers are used to inspect code for deviations from standards and guidelines.

Test Cases:

Test cases are derived to ensure that all statements in the program have been executed at least once during testing and that all logical conditions have been executed.

Using White-Box testing methods, the software engineer can drive test cases that

- Guarantee that logical decisions on their true and false sides

- Exercise all logical decisions on their true and false sides.

- Execute all loops at their boundaries and within their operational bounds.

- Exercise internal data structure to assure their validity. The test case specification for system testing has to be submitted for review before system testing commences.
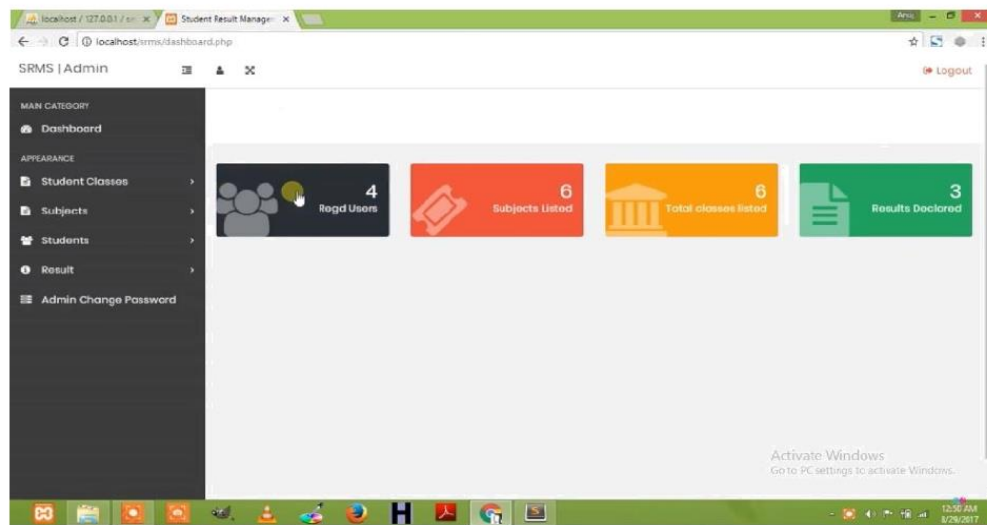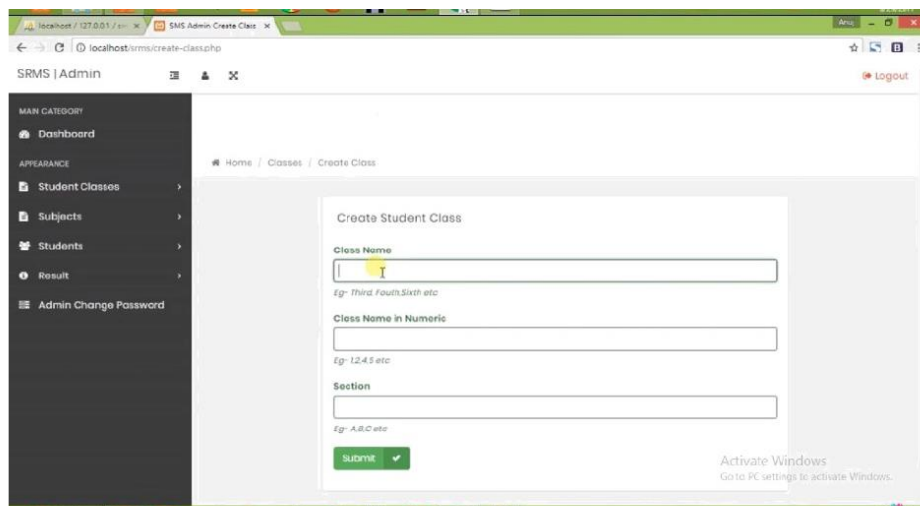
RESULTS

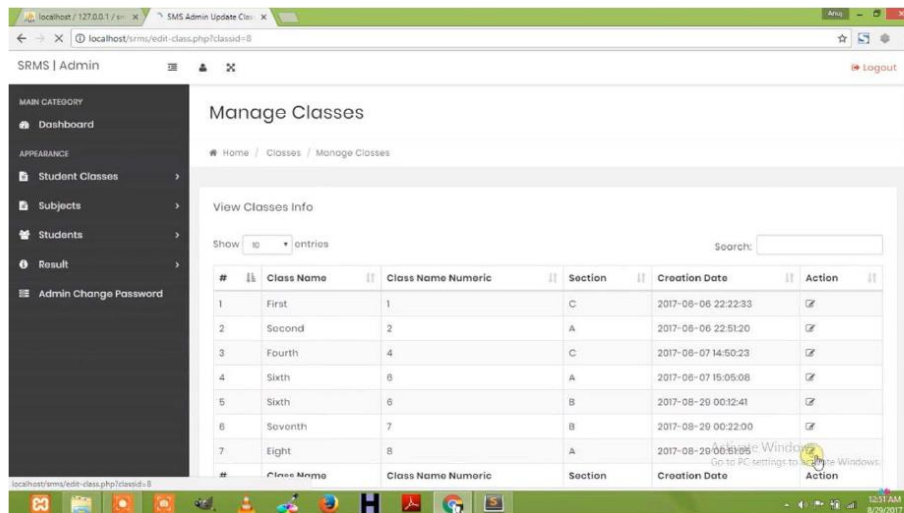**Figure 1- Dashboard**

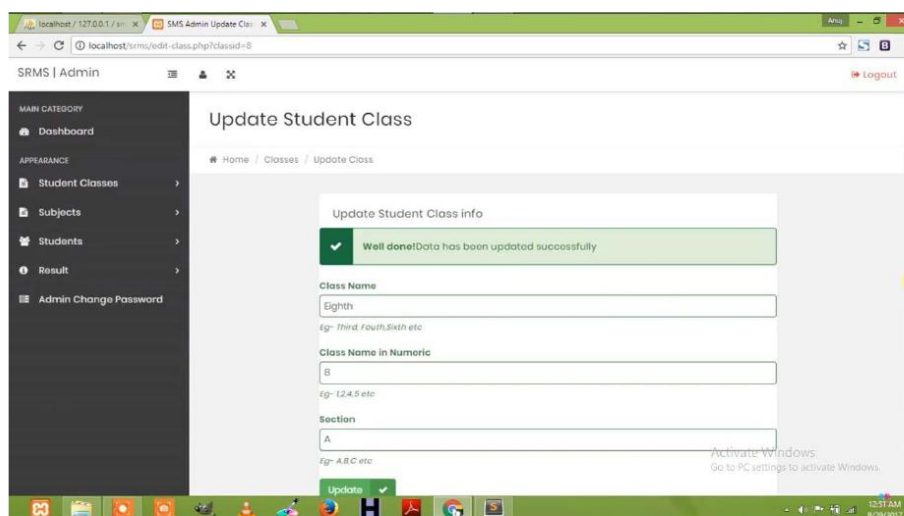
Figure 2 -Admin Create Class

Figure 3 -Manage Classes

Figure 4 -Update Student Class

Figure 5 -Student Admission
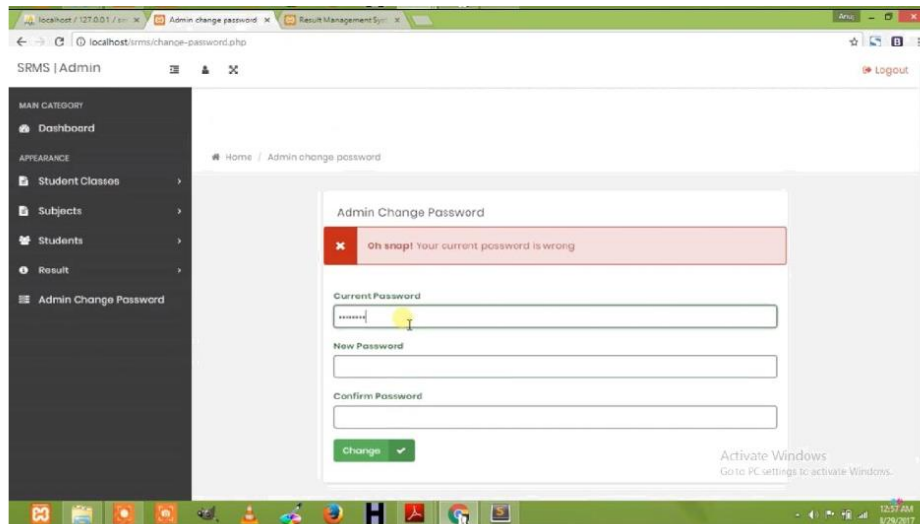

Figure 6 -Marks of Student

Figure 7 -Admin Change Password

CONCLUSION

The package was designed in such a way that future modifications can be done easily.

The following conclusions can be deduced from the development of the project.

- Automation of the entire system improves the efficiency

- It provides a friendly graphical user interface which proves to

  be better when compared to the existing system.

- It gives appropriate access to the authorized users depending on their permissions.

- It effectively overcomes the delay in communications.

- Updating of information becomes so easier.

- System security, data security and reliability are the striking features.

- The System has adequate scope for modification in future if it is necessary.

FUTURE SCOPE:

- We can give more advance software for Student Result Management System including more facilities

- We will host the platform on online servers to make it accessible worldwide.

- Integrate multiple load balancers to distribute the loads of the system.

- Create the master and slave database structure to reduce the overload of the database queries

BIBLIOGRAPHY:

The following books were referred during the analysis and execution phase of the project PHP and MySQL Web Development Book by Luke Welling Head First PHP & MySQL Book by Lynn Beighley and Michael Morrison PHP & MySQL for Dummies Book by Janet Valade.

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