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DEVELOPMENT OF A SMALL FOSS APPLICATION NAMED 'TEACHER STUDENT PORTAL' USING FREE AND OPEN SOURCE SOFTWARES

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ABSTRACT

Developing new application softwares using proprietary softwares is a process which encounters with the economic issues. Many times the budget gets overrun. And the govt. organizations and many times even private sector has no big amounts of budget to spend upon the proprietary softwares licences. In such scenario free and open source softwares is a good option to depend upon.

Keywords: free and open source software, proprietary software, budget.ur

1. INTRODUCTION

This *Teacher Student portal* is a web application. This is designed in Open source system including HTML, PHP and Mysql server. This system is based on client server concept and is using centralized terminology.

Following are the silent features of this portal: -

- It is a single location for students and teachers to be connected for class assignments and test.
- Teachers are administrator whereas students are normal user.
- In this system teacher are allowed to upload, check the class tests , assignments.
- Whereas students use this system to download the test and assignments of their subjects or class.
- Teacher can create, reset & lock the accounts of students.
- Teacher can upload, modify and delete the assignments and tests for students.
- Centralized control over the assignment and test for students.
- It is easy and fast in processing.
- Paper work load has been reduced.

2. TECHNOLOGY USED OR TECHNICAL CONCEPTS

What is PHP?

- PHP files can contain text, HTML tags and scripts
- PHP files are returned to the browser as plain HTML
- PHP files have a file extension of ".php", ".php3", or ".phtml"

In starting PHP was called PHP/FI, and developed by Rasmus Lerdorf in 1995, as a simple set of scripts for tracking accesses to his online resume (PHP History, 2005). He has named this set of scripts 'Personal Home Page Tools'; hence, the acronym PHP (PHP History, 2005). Many people has seen his website and asked for the tool via email. As the popularity of the tool has grown, so as its functionality. Rasmus later has written a much larger implementation written in the C programming language, which has been able to communicate with databases, and enabled users to develop simple dynamic Web Pages (PHP History, 2005).

In July of 2004, PHP version 5 was released. However, it was PHP version 4 that penetrated the Web market as a robust application solution. "Today, many software developers use PHP.

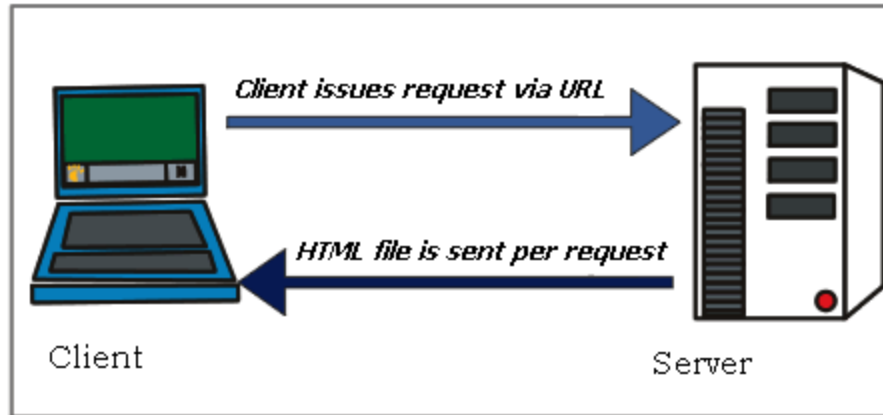


figure 1

PHP web pages are treated just like static HTML pages with the exception that PHP files are first executed by the web server before the information is sent to a client computer. Since the information is first processed on the server, the content that is delivered to the client is dynamic in that it will change based on the request; hence the phrase dynamic web pages. This description relates to the term server-side in the definition provided.

The term cross-platform means that PHP can run on a multitude of operating systems that have the necessary software modules to support it. Traditionally, PHP was used on UNIX/Linux based systems using the Apache web server. However, recent extensions to the Apache web server and the wide-spread acceptance of PHP as a serious web-based application solution has lead to developments on IIS (Microsoft) servers as well. PHP can run on any system that is running the Apache web server.

PHP and HTML

As previously mentioned, PHP can be embedded within HTML. It is important that you understand the difference between the purpose of PHP and HTML. PHP is used to dynamically deliver the information that is to be presented in HTML. The HTML itself only has to do with the presentation of the information. Any gathering or processing of information will be accomplished using PHP, whereas the presentation of the information is accomplished using HTML.

```
<html>
<h3>A PHP Program</h3>
<? echo "Hello world!"; ? >
</html>
```

The diagram above is an example of PHP embedded within HTML. Notice that the PHP source code is encapsulated with the `<?php ... ?>` tag. When the web server receives a request for a specific PHP web page, the web server will first process any of the source code found within this tag, then deliver the resource to the client. This is what we mean by embedding PHP within HTML. Keep in mind, simply putting this information within a file is not sufficient. The subsequent sections will explain how to accomplish this followed by a step-by-step example.

MYSQL :-

- MySQL is a database server
- MySQL is ideal for both small and large applications
- MySQL supports standard SQL
- MySQL compiles on a number of platforms

- MySQL is free to download and use

MySQL is an implementation of a relational database management system that traditionally runs on Linux and UNIX systems. It is arguably the world's most popular open source database system and is friendly to the Linux/Apache/PHP environment.

PHP + MySQL

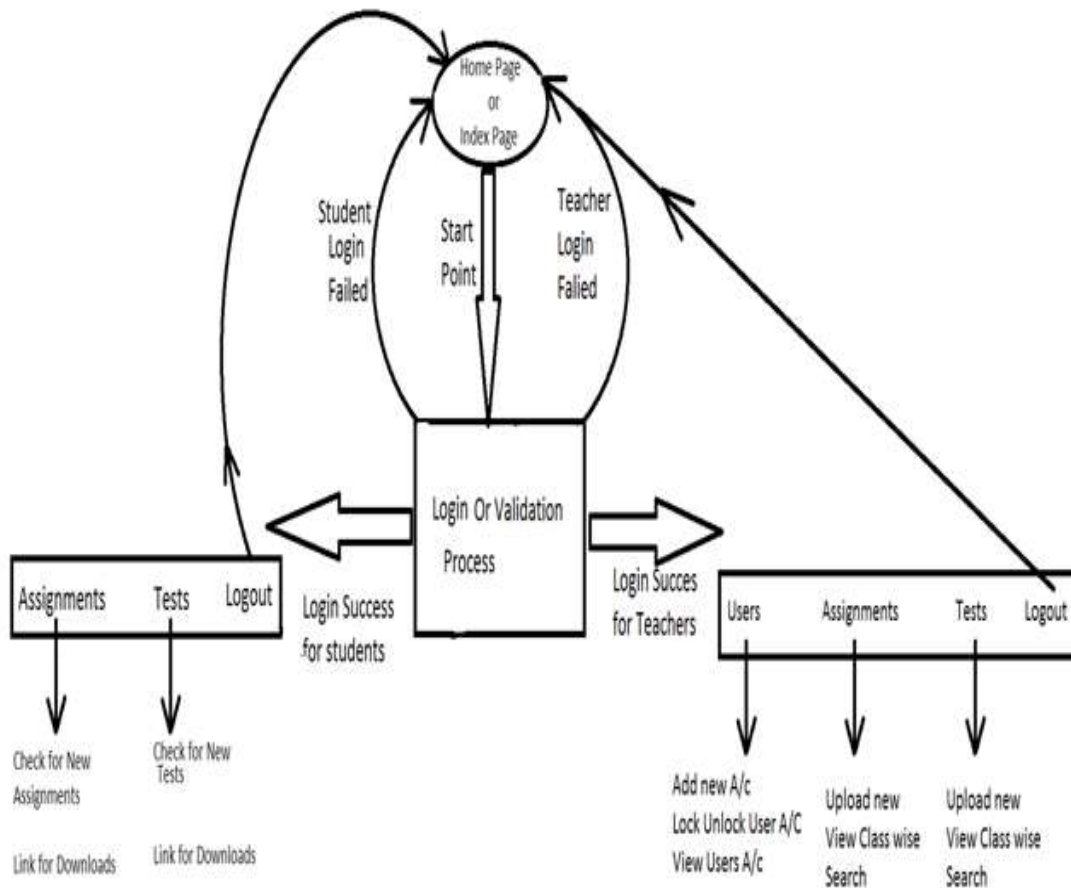
Why PHP?

- [1] Platform Independent: - PHP +MYSQL runs on different platforms (Windows, Linux, Unix, etc.)
- [2] Compatibility:-PHP is compatible with almost all servers used today (Apache, IIS, etc.)
- [3] Open Source:- PHP is FREE to download from the official PHP resource: www.php.net
- [4] Easiness: PHP is easy to learn and runs efficiently on the server side.

3. ANALYSIS OF TEACHER STUDENT PORTAL

To analysis the portal, we have to compare this with offline technique of giving assignments and tests to students of various classes.

Offline technique uses printing of assignments /test and then distribute them to different class students. Which is very costly and time consuming.



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Working of Teacher Student Portal

This portal is developed in PHP and my sql based open source system. It uses php basic concepts like simple input output, Session, cookies to little advanced concepts like Database base connectivity, File upload and download terminology. This portal consisted of 28 main files which help in its working and accomplishment.

This portal is separated in two different sub portal students' portal and Teachers portal. Which have their own work functionalities as described in above data flow diagram.

This portal has two work functionalities Student portal and Teacher portal. Student's portal is for all students who have account in the database. Whereas Teacher portal is meant for teachers to manage student accounts and manage assignments as well as tests.

Working of system starts with index page where user put his id and password and select whether student or teacher portal.

Index Page

Welcome to Teacher Student Portal

Login Screen

Email address

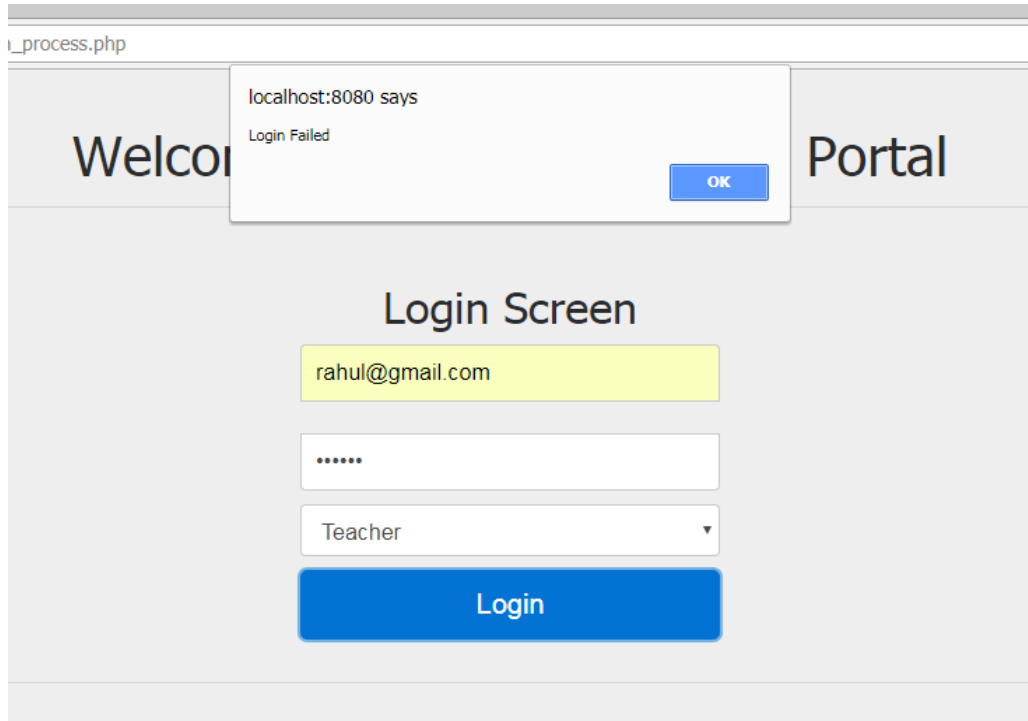
Password

Teacher

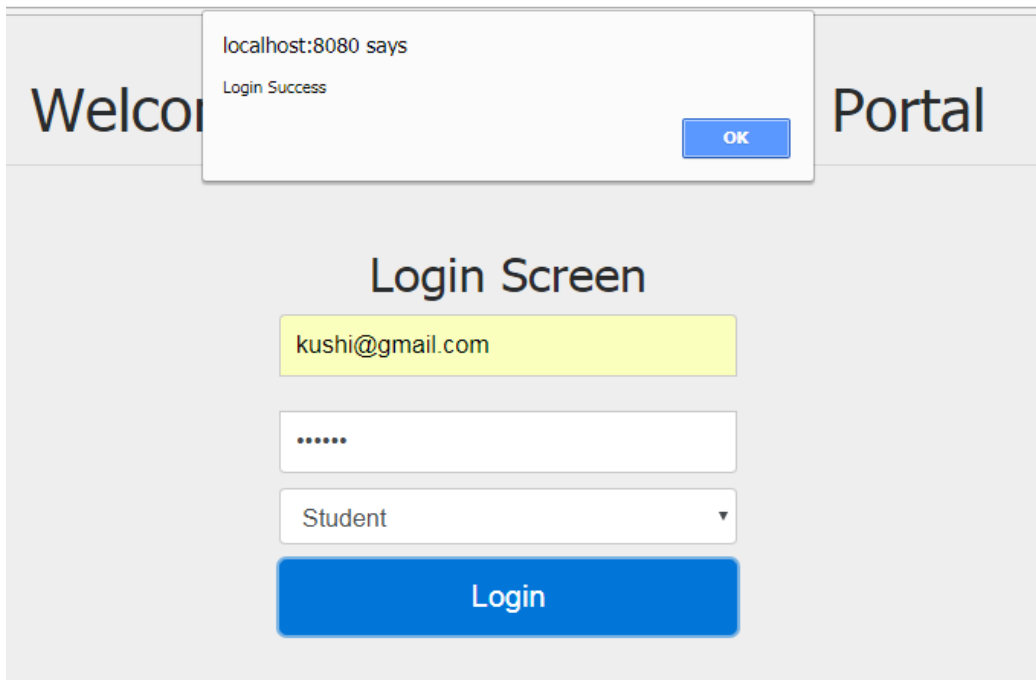
Login

In this case Data is travelled to login process page where user is authenticated with database table 'login' to verify his details.

Upon success full validated , user is directed to respective portal i.e student or teacher portal. Apart from authentication, user data like class , role is fetched from the database which is stored in session as well as cookies.

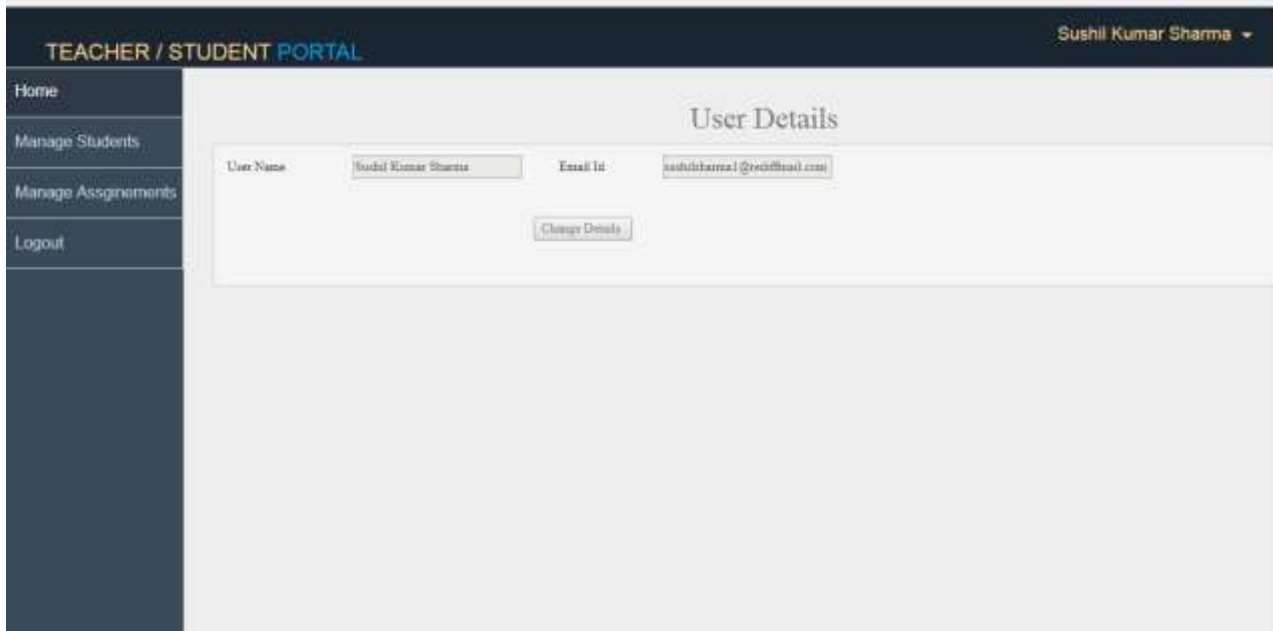


Incorrect login details login process

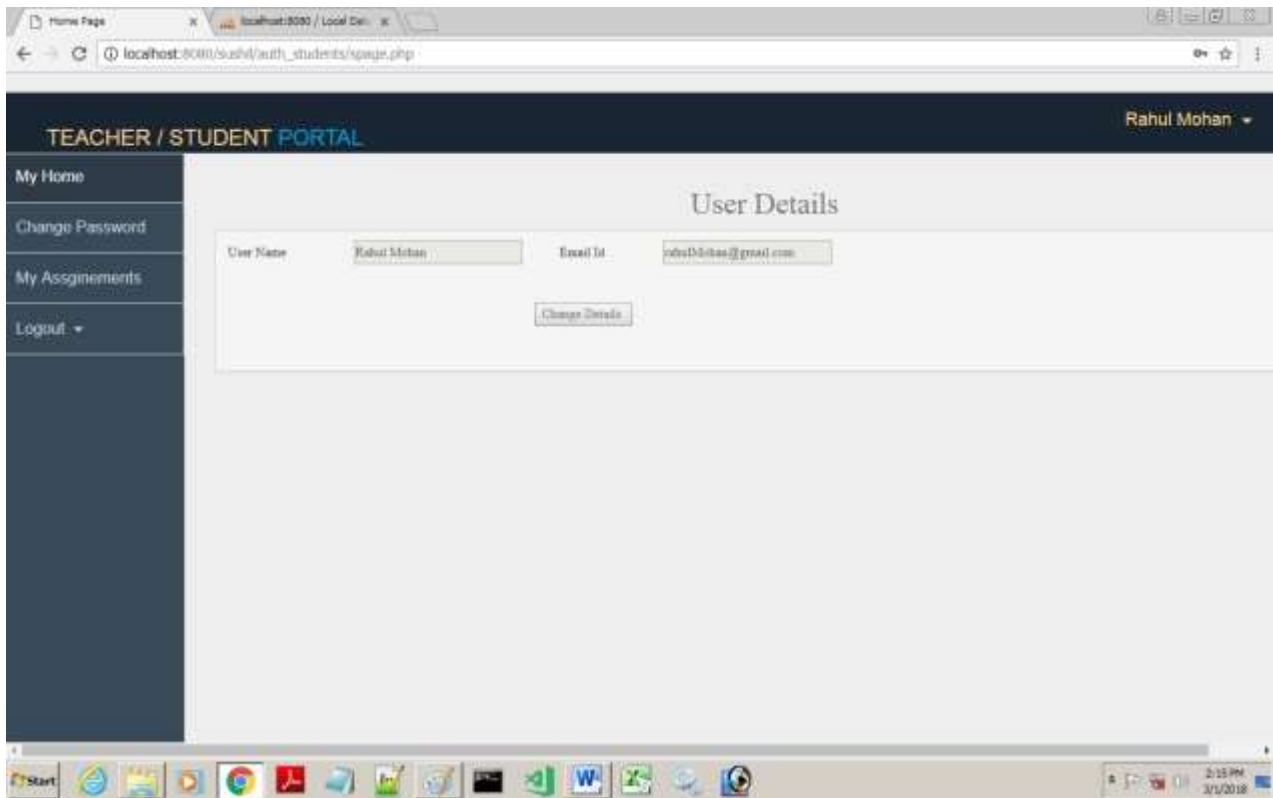


Correct login details

After success in authentication process, user is directed to his portal i.e student or teacher portal.



Teacher Portal Screen



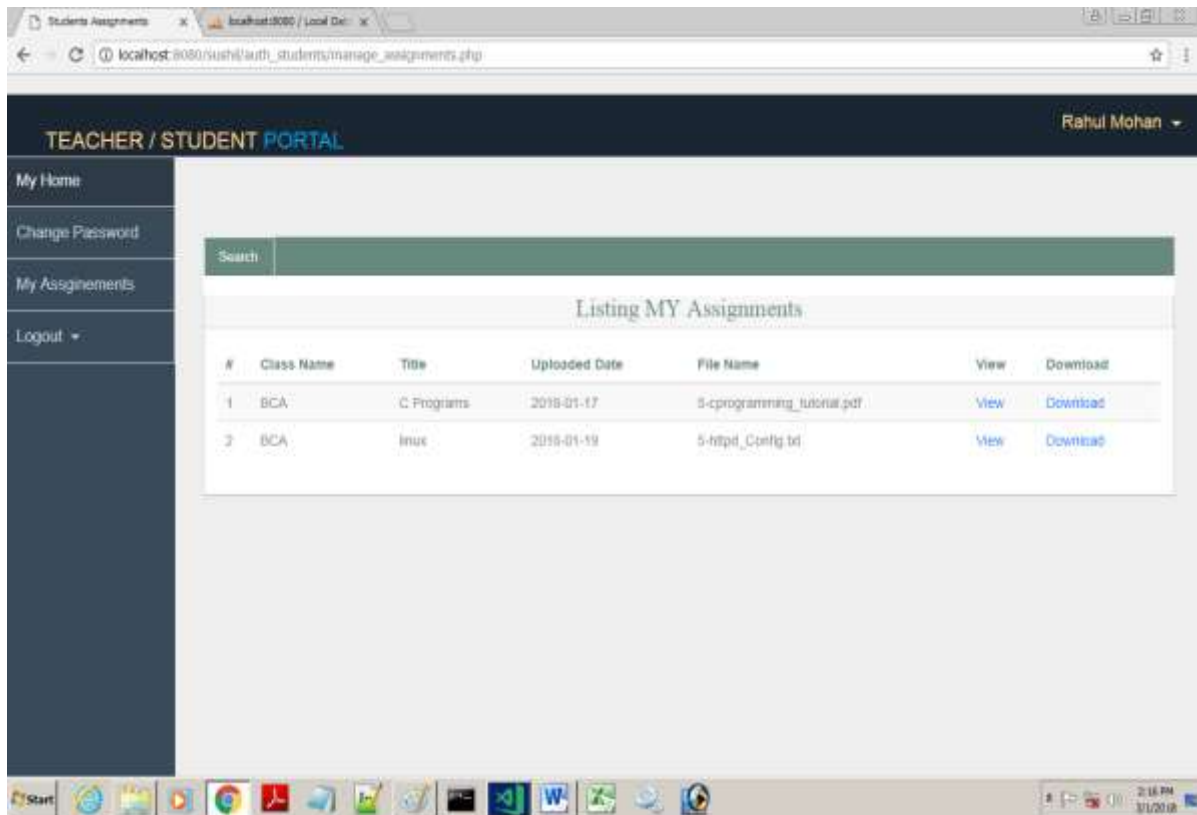
Student Portal screen

Student portal consisted of following menu options: -

My Home -: Screen which appears after the success full logged in.

Change password: In this case student can change password for his accounts.

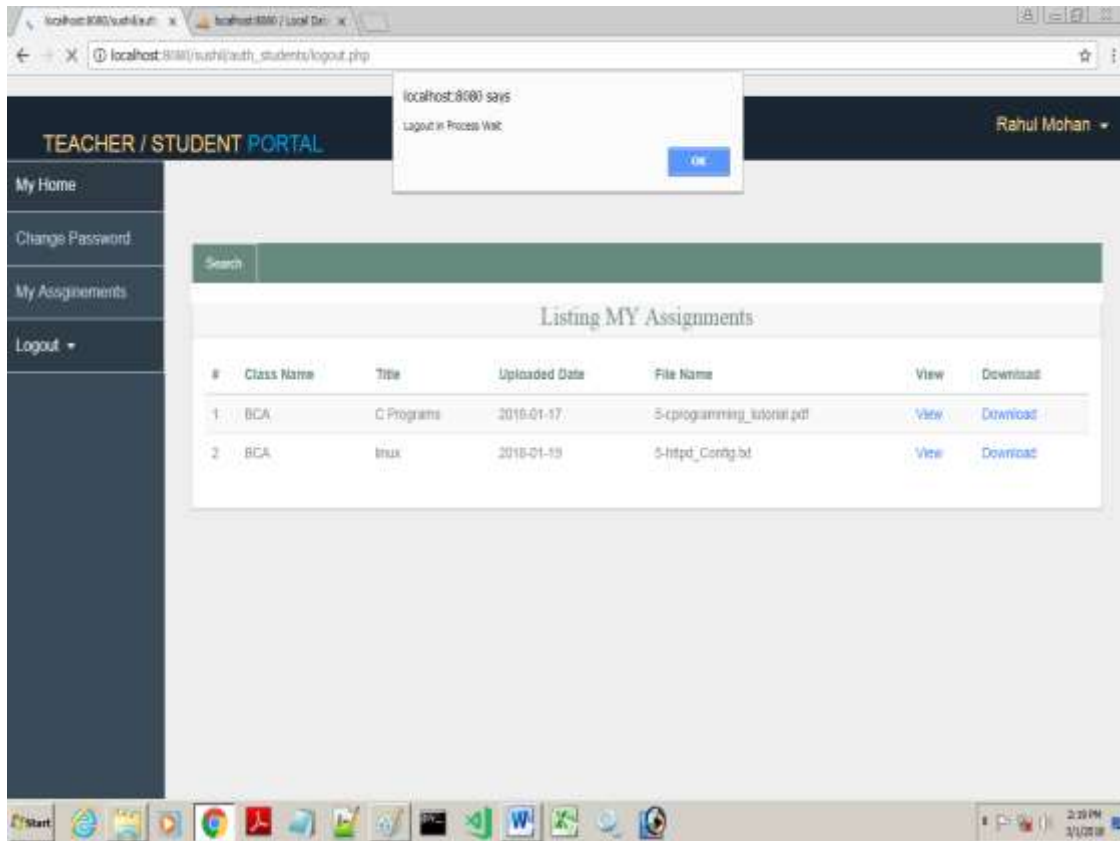
My assignments: in this case student will be able to see the assignments and test which is being uploaded by the teacher for his class.



Sample screen for My assignment option

Under this screen student can view and download them in his computer for his references.

Logout option in menu helps the user to log out the user and redirect to the main index page.



A sample logout screen

When user click on logout option, all cookies and session data will be deleted. Temporary data items will be deleted from database table.

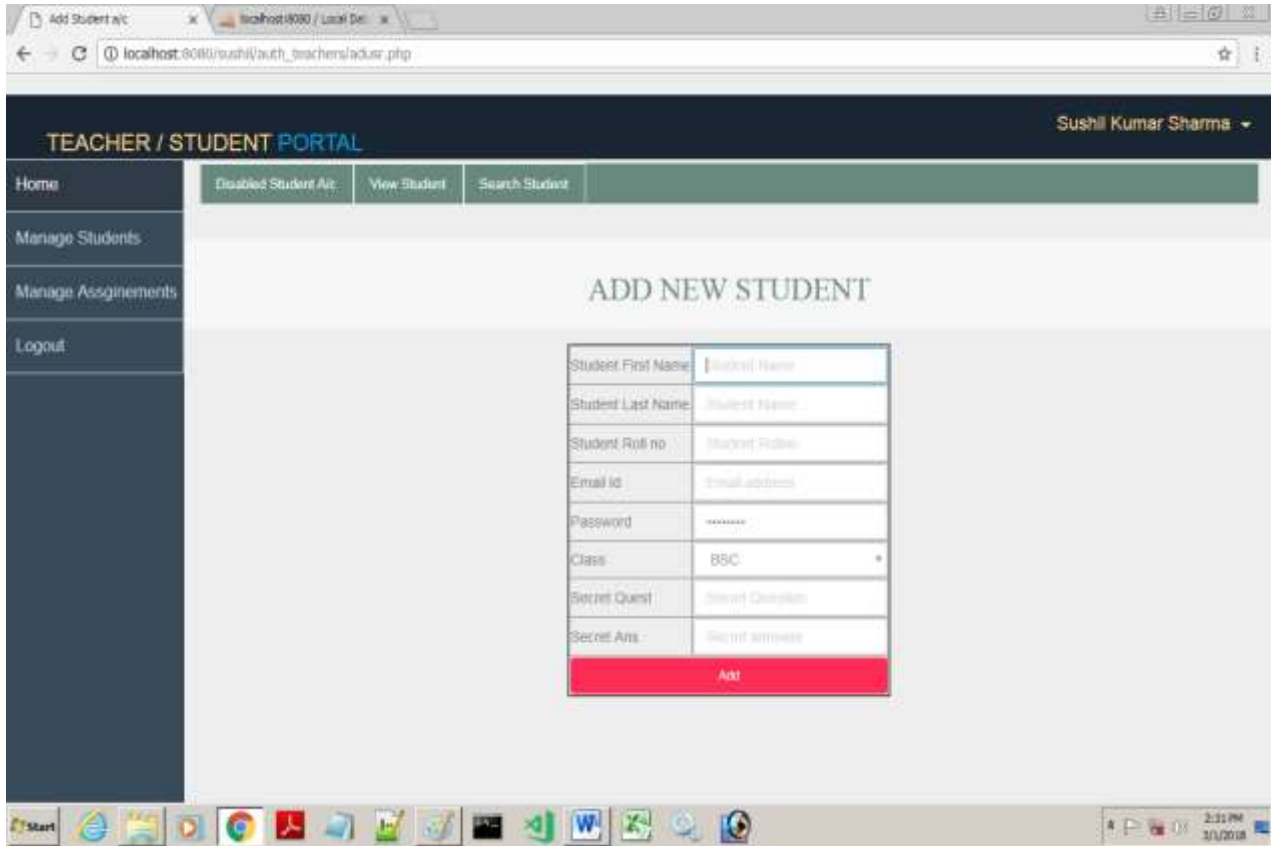
Teacher Portal Screen shorts

Student account Management

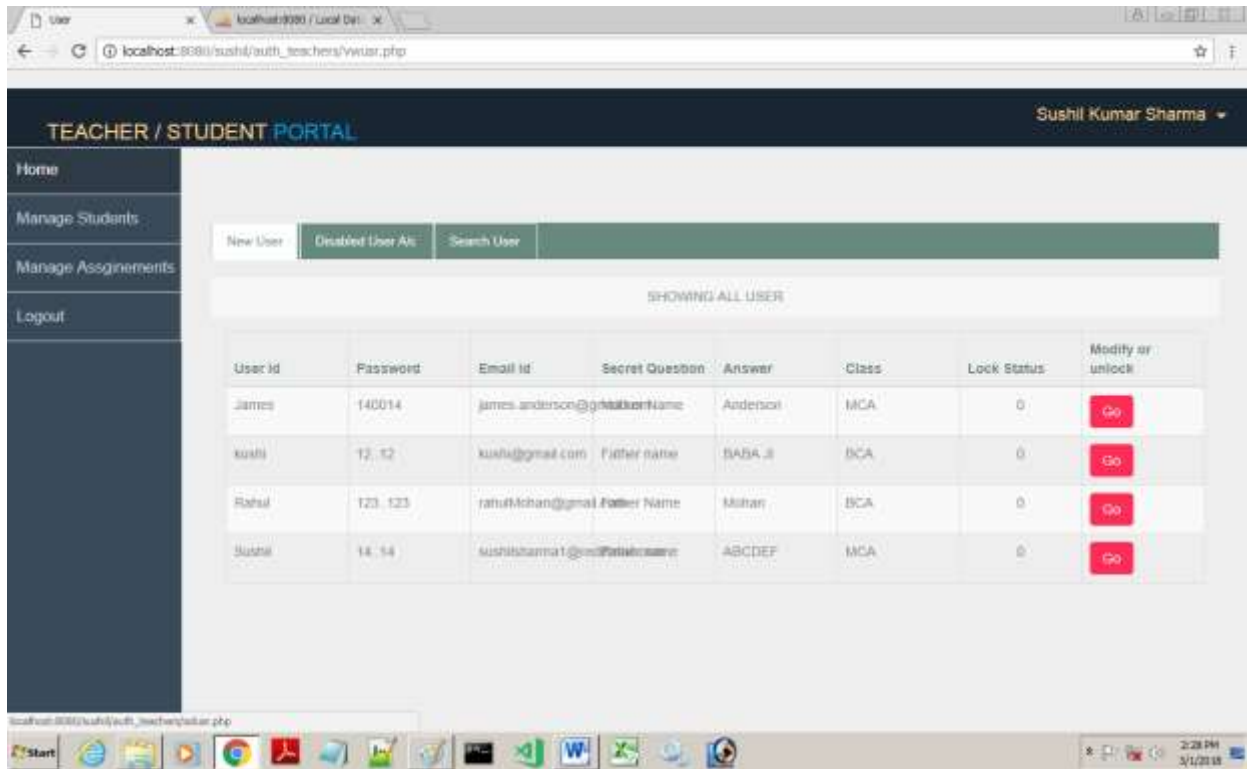
- Manage student accounts: -
- Add new Student accounts
- View student details.

Assignment / Test Management

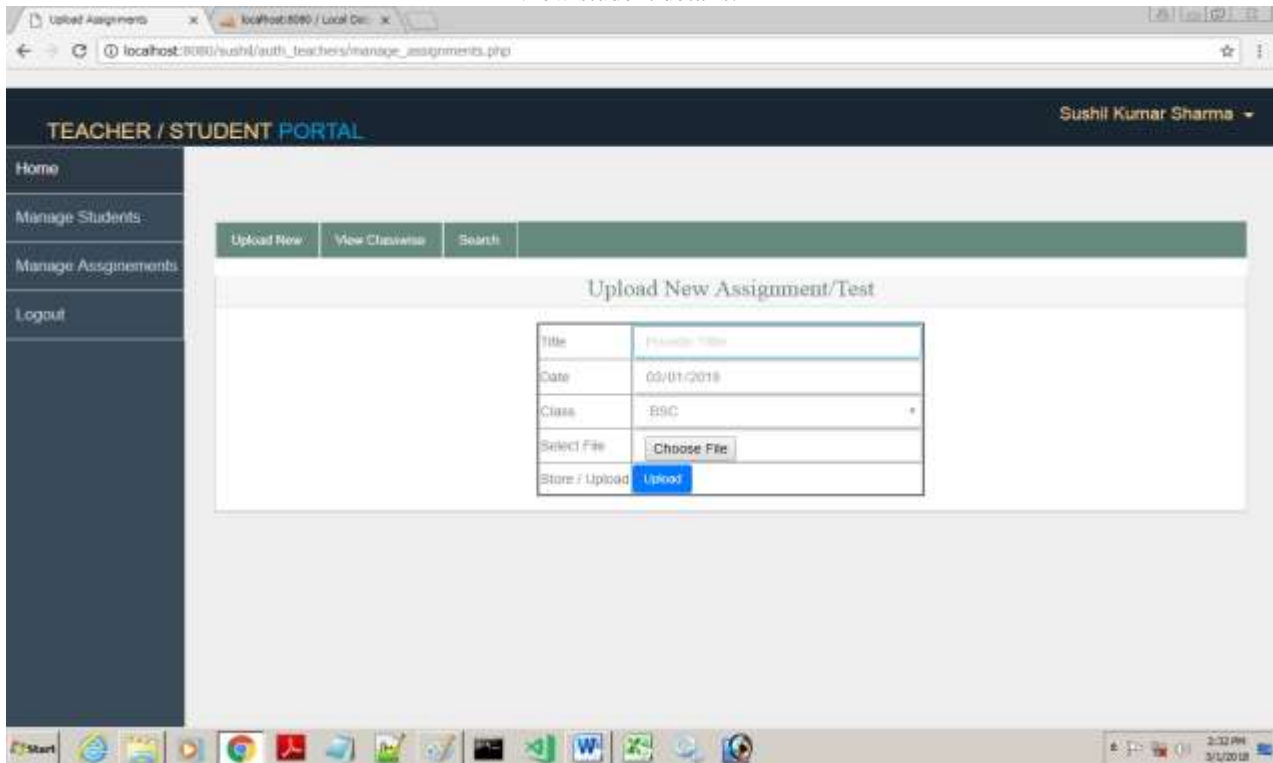
- Upload new Test/ Assignment.
- View class wise uploaded test assignments.
- Search Assignment tests.



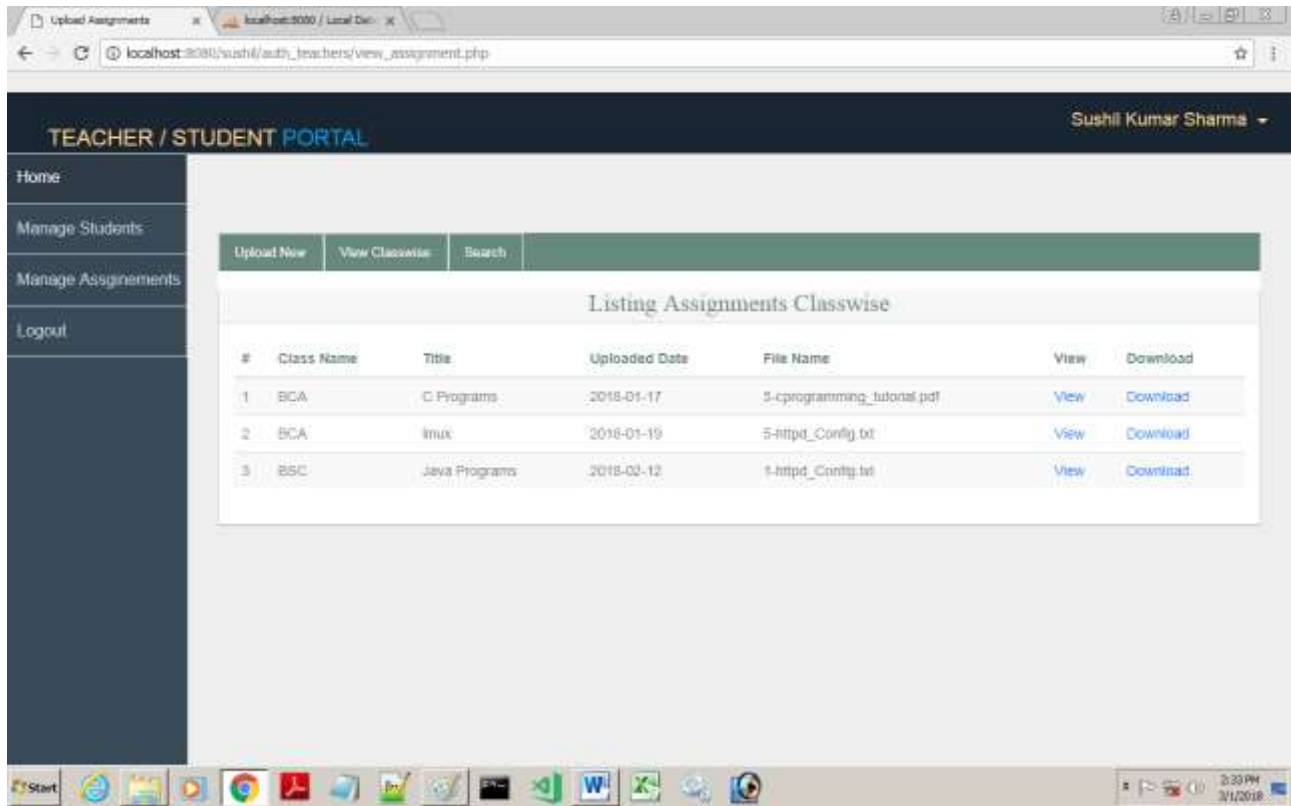
New Student Account screen



View student details.



Upload new Assignment



The screenshot displays a web browser window with the URL `localhost:8080/sushil/auth_teachers/view_assignment.php`. The page header includes 'TEACHER / STUDENT PORTAL' and the user name 'Sushil Kumar Sharma'. A sidebar on the left contains navigation links: Home, Manage Students, Manage Assignments, and Logout. The main content area features a table with the following data:

#	Class Name	Title	Uploaded Date	File Name	View	Download
1	BCA	C Programs	2018-01-17	5-cprogramming_tutorial.pdf	View	Download
2	BCA	linux	2018-01-19	5-htpjd_Config.txt	View	Download
3	BSC	Java Programs	2018-02-12	1-htpjd_Config.txt	View	Download

View assignment Class wise

4. CONCLUSION

Developing softwares applications in free and open source softwares is easy and of good quality. They can solve our budget constraints.

REFERENCES

No references has been used