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A NOVAL TIMETABLE SYSTEM FOR CLASS MANAGEMENT

A project report submitted in partial fulfilment of the requirement

for the award of degree of

BACHELOR OF TECHNOLOGY

In

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Submitted by

V SRI SAI
(19341A05I9)

P SATYAMANI SAI
(19341A05D9)

Y SURESH
(19341A05J3)

R SWAPNIQUE
(19341A05E1)

M SANTOSH KUMAR
(20345A0515)

Under the esteemed guidance of

Dr. M SATISH

Asst Professor, Dept. of CSE

GMR Institute of Technology
An Autonomous Institute Affiliated to JNTUK, Kakinada
(Accredited by NBA, NAAC with 'A' Grade & ISO 9001:2008 Certified Institution)

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Andhra Pradesh, India

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GMR Institute of Technology
An Autonomous Institute Affiliated to JNTUK, Kakinada

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Department of Computer Science and Engineering

CERTIFICATE

This is to certify that the thesis entitled **A NOVAL TIMETABLE SYSTEM FOR CLASS MANAGEMENT** submitted by **V Sri Sai (19341A05I9), P Satyamani Sai(19341A05D9), Y Suresh(19341A05J3), R Swapnique(19341A05E1), M Santosh Kumar(20345A0515)** has been carried out in partial fulfilment of the requirement for the award of degree of **Bachelor of Technology** in **Computer Science and Engineering** of **GMRIT, Rajam** affiliated to **JNTUK, KAKINADA** is a record of bonafide work carried out by them under my guidance & supervision. The results embodied in this report have not been submitted to any other University or Institute for the award of any degree.

Signature of Supervisor
Dr. M Satish
Assistant Professor
Department of CSE
GMRIT, Rajam.

Signature of HOD
Dr. A. V. Ramana
Professor & Head
Department of CSE
GMRIT, Rajam.

The report is submitted for the viva-voce examination held on ……..

Signature of Internal Examiner

Signature of External Examiner

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V Sri Sai **19341A05I9**
P Satyamani Sai **19341A05D9**
Y Suresh **19341A05J3**
R Swapnique **19341A05E1**
M Santosh Kumar **20345A0515**

ABSTRACT

If a student have any queries and when they need to approach faculty for doubt clearance it becomes a tedious task for them to get the information about the faculty like which class students they are dealing with or whether the faculty is on leave or any official meeting. These all cases can be solved by using a website that contains information about the faculty and the website is Class Time Table Management website. The website contains the names of the faculty and the time table of the faculty is collected and stored in the web pages. The student can get the information related to faculty by using the hyperlink that is associated with the name of faculty. It is simple and saves a lot of time and energy of students so that they can concentrate on their other works. Since time tables are prepared at the beginning of every semester, this website needs to be updated only when the time tables are given by the college and students can follow the time tables through their entire semester. In case of extreme cases, the changes in faculty time table will be automatically reflected through the Class Time Table Management website. Website is a software application program that uses web-based technology to perform specific tasks. This website requires front end development, also known as client side development which can be done by using HTML and CSS and JSP for back end development.

Keywords: Timetable, website, hyperlink, HTML, CSS, frontend, backend, JSP, validations.

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LIST OF SYMBOLS & ABBREVIATIONS

CSS	:	Cascading Style Sheet
DBMS	:	Data Base Management System
HTML	:	Hyper Text Markup Language
JS	:	JavaScript
JSP	:	Java Server Pages

1. INTRODUCTION

A timetable is a kind of schedule that sets out times at which specific events are intended to occur. A website is a group of World Wide Web pages usually containing hyperlinks to each other and made available online by an individual, company, educational institution, government, or organization. Frontend and Backend are the two most popular terms used in web development. These terms are very crucial for web development but are quite different from each other. Each side needs to communicate and operate effectively with the other as a single unit to improve the website's functionality. Front end development is programming which focuses on the visual elements of a website or app that a user will interact with (the client side). Meanwhile backend development focuses on the side of a website which users can't see (the server side). HTML stands for Hypertext Markup Language. It is used to design the front-end portion of web pages using a markup language. HTML is the combination of Hypertext and Markup language. Cascading Style Sheets fondly referred to as CSS is a simply designed language intended to simplify the process of making web pages presentable. CSS allows you to apply styles to web pages. It stores and arranges data, and also makes sure everything on the client-side of the website works fine. The parts and characteristics developed by backend designers are indirectly accessed by users through a front-end application.

MAJOR CHALLENGES IN THE CURRENT LITERATURE INLINE WITH YOUR PROPOSED WORK

- The First Challenge that it is easily can understand by any user and our team mainly focused on frontend of this project which is easily accessible by any user.
- The main challenge of this work is to save time for a students and teachers.
- The challenge from this work is to construct the time tables such a manner every user can easily find the number of periods per day.
- Every user can interact with teachers from this website.

SOLUTIONS TO THOSE CHALLENGES

- This project can create a block at bottom of every time table where every user can interact with teachers.
- This website can be easily accessible by mobile phones.
- Attractive way of time tables.

- Division of timetables like student time tables and staff tables which is easily understandable for everyone.

BACKGROUND FOR THE PROPOSED WORK

- The students of our college waiting at staff cabins for record corrections, project discussions which leads time wasting.
- This is due the students don’t have proper knowledge about schedule of particular teacher.so our team decided to create a website which is accessible by every student in the class itself.
- The student can also view their class time tables itself.

2. LITERATURE SURVEY

[1] Emmanuel, E., Friday, A.O. and Omolola, Y.S., 2019. Design of Automated Departmental Lecture Timetable System. Review of Computer Engineering Research, 6(1), pp.24-34.

- A lecture timetable is a tabular list showing the times which a particular lecture is scheduled to hold and the venue in each day of the week.
- Its content includes the course code for each course, the coded lecture venue, and the time for each lecture. A lecture timetable is designed every semester.
- The design of an automated lecture timetable for the department.
- A program is written in Visual Basic which produces the output in an error free tabular form displaying the courses/venues for each particular lecture schedule

[2] Ramesh, S.P., Gangwar, A., Singh, K. and Ayan, A., 2021. Automatic Timetable Generator. Annals of the Romanian Society for Cell Biology, pp.19323-19331.

- The Automatic Time Table Generator is a solution for our colleges existing manual system.
- The machine will accept all of the necessary inputs and process them in order to produce the timetable.
- Many restrictions are needed to generate a good time table. Combinatorial problems are defined declaratively in terms of constraints in constraint programming.
- Constraints are relationships between problem variables that describe the solution space by placing constraints on the values that the variables will take at the same time.
- Since colleges have varying instructional strategies, the time table problem can take several form Nevertheless, there are a number of entities and restrictions that are shared by both of these combinations.

[3] Zhang, L. and Lau, S., 2005, November. Constructing university timetable using constraint satisfaction programming approach. In International Conference on Computational Intelligence for Modelling, Control and Automation and International Conference on Intelligent Agents, Web Technologies and Internet Commerce (CIMCA-IAWTIC'06)(Vol. 2, pp. 55-60). IEEE.

- The timetabling problem consists of a set of subjects to be scheduled in different timeslots, a set of rooms in which the subjects can take place, a set of students who attend the subjects, and a set of subjects satisfied by rooms and required by timeslots.
- The paper focuses on developing a constraint satisfaction problem model for a university timetabling problem.
- A solution of a constraint satisfaction problem is a consistent assignment of all variables to values in such a way that all constraints are satisfied.
- Constraint satisfaction programming approach is implemented using ILOG Scheduler and ILOG Solver.

[4] Techie-Menson, H. and Nyagorme, P., Design and Implementation of a Web-Based Timetable System for Higher Education Institutions, researchgate.net

- Timetabling tells about sets of activities performed on timetable that must be open to various constraints. A timetable refers to a temporary structure of a lecture halls or classrooms.
- The project is mainly attentive on solving the issue of school lecture timetabling. A timetable is an ordered collection that contains details on activities which are scheduled before or held.
- Timetabling can be divided into many categories, including timetabling for school, scheduling of employees, timetabling for games ,timetabling for travel ,timetabling for food and timetabling for institutions.
- School timetabling or college timetabling problems vary between different institutions in terms of the conditions specified by the educational system
- Examination timetabling is the scheduling of a series of university courses for examinations, preventing the duplication of examinations of courses, and extending the examinations as far as practicable to the students and mainly useful to the students.

[5] Althunibat, A. and Muhairat, M.I., USER REQUIREMENTS MODEL FOR UNIVERSITY TIMETABLE MANAGEMENT SYSTEM., researchgate.net

- Course timetabling is one of three important educational timetabling categories (School, examination, and course timetabling) in the administration of an academic institution
- The processing of producing a course timetable is very time consuming, and saves a lot of time.
- Timetabling does not satisfy all categories and preferences of students and lecturers. These two issues disturb many universities at the present time. Therefore, many researches have been giving valuble attention to this kind of timetabling problem.
- Timetabling is a process of assigning a number of events to a fixed number of time slots in a week, and indicate rooms which the session will take in particular place.
- The implementation of Timetable Management System leads to the changing of traditional process of course timetabling.

[6] Guo, F. and Song, H., 2010, April. Research and application of data-mining technique timetable scheduling. In 2010 2nd International Conference on Computer Engineering and Technology (Vol. 1, pp. V1- 409).IEEE.

- Due to the need for flexibility, adaptability to future requirements, and the possibility of producing the deliverables within a limited time frame to address the stated challenges.
- The Rapid Application Development (RAD) software development model was used. This project aims to produce a practically oriented timetable algorithm capable of identifying the challenges.
- A computer assisted timetable generator is save a time for administrators indicated with the job of course and timetable creation and management.
- Timetable scheduling is still handled manually. For each semester or term, universities, colleges, high schools and several other educational institutions are to produce time tables.
- It is a tedious and painful job to build timetables manually, and the need to automate this exhausting operation.

[7] Kanagaraj, E., Arshad, N.S. and Santiagoo, R., Development of Timetable-based University Academic Portal, researchgate.net

- The portal allow student, lecturer and management staff to keep track of their class schedule and manage subject with more flexibility.
- The website are created using open source and freely available software and web services to reduce the development and production cost as well as to promote open source software.
- The website are created using Integrated Development Environment IDE) for web development. HTML, CSS, JavaScript and PHP script are written.
- IDE is used for accessing, administration and editing of MySQL database and tables.
- The algorithm is used to generate the timetable are written in PHP script to fetch student's registered subjects for the semester. Then, the script will fetch the class time periods for the selected subject and generate an array of subjects taken, subject name, class type, class times and class location.
- The website will be developed with PHP as server-side scripting language and MySQL database. jQuery Mobile, the most popular cross-browser JavaScript library will be included to simplify client-side scripting in HTML. The website are published to an online web server to test the system

[8] Bagul, M.R., Chaudhari, S.C., Nagare, S.N., Patil, P.R. and Kumavat, K.S., 2015. A Novel Approach for Automatic Timetable Generation. International Journal of ComputerApplications, 975, p.8887.

- The manual system of preparing time table in colleges is very time consuming . To overcome all these problems we propose to make an automated system with computer assisted timetable generator.
- Evolutionary techniques have been used to solve the time table scheduling problem. Methodologies like Genetic Algorithms, Evolutionary Algorithms etc have been used with mixed success.
- In this paper, we have reviewed the problem of educational time table scheduling with genetic algorithm. We have further solved the problem with a mimetic hybrid algorithm, genetic artificial immune network and compare the result with that obtained from genetic algorithm. Results show that GAIN is able to reach the ideal feasible solution faster than that of GA.
- The term heuristic is used for algorithms which find out solutions among all possible ones, but they do not confirm that the best will be found, they may be thought as about and not accurate algorithms.

[9] Popescu, D.A. and Bold, N., 2013, October. Web application presentation of timetable for a university website. In The 8th International Conference on Virtual Learning, October (Vol. 25, p. 26).

- The web application is created with the usage of PHP language combined with MySQL for databases, HTML, CSS and JavaScript. It also contains forms used by an administrator to log in, insert or delete classes in order to create the schedule.
- This form of the project can be developed and we could say that other updates are possible to be made.
- It is only a starting point in having informed persons and probably in attracting more students by maintaining an up-to-date website. The online activity is a plus for every faculty and it can bring more students to apply for a university.
- Obviously, this is a non-determinant factor in a decision of a student, but an organised internet activity can stand in front of the choice of students.
- The webpage is actually simulating a simple MySQL administration panel for databases.
- CSS is used for the style of some elements in HTML.
- The application is using MySQL functions that connect with PHP.

[10] Ajanovski, V.V., 2013. Integration of a course enrolment and class timetable scheduling in a student information system.International Journal of Database Management Systems, 5(1), p.85.

- In this paper, we are dealing with process of course enrolment and schedule a conflict free timetable
- To enroll a course the student must already have acquired a passing grade on one course to be able to take the following course.
- Virtual acadaemic advisor is introduce in order to decrease the complexity of course for students. ISIS(Integrated Student Information System) the virtual academic adviser is used as the main web page to perform term and course enrolment.

[11] Chaiwchan, W. and Klinhom, P., 2014. The Development of Online-Class Scheduling Management System Conducted by the Case Study of Department of Social Science: Faculty of Humanities and Social Sciences Suan Sunandha Rajabhat University. International Journal of Computer and Information Engineering, 8(8), pp.2740-2744.

- The machine will accept all of the necessary inputs and process them in order to produce the timetable.
- First and foremost, this project suggests using global constraints to model the basic core of College timetable issues.
- Automatic Timetable manger is a Java based software used to generate timetable automatically.
- The final system would be able to produce time tables completely automatically, saving the institute administration a lot of time and effort.

[12] Constance, K., Ibanga, J. and Esien, N.P., Design And Implementation Of Web Application With Google Map Location Visualization For Lecture Timetable In University Of Uyo.

- In this a web based lecture timetable management system is used.
- The web application uses google maps API to interface the timetable.
- It will use some tools such as (CSS, MYSQL,PHP).
- Modified Waterfall software development methodology is adopted for the development of the web-based lecture timetable management system.
- With this web application, students and staff can easily locate the lecture venues using the features on Google map.

[13] Al Perumal, S., Tabassum, M., Norwawi, N.M., Samy, G.A.N. and Al Perumal, S., 2018, November. Development of an Efficient Timetable System using AngularJS and Bootstrap 3. In 2018 8th IEEE InternationalConference on Control System, Computing and Engineering (ICCSCE) (pp. 70-75).IEEE.

- Managing subjects', lectures and classroom are complex issues in Universities and learning institutions. Programs, subjects' management and timetabling are hectic and time consuming tasks which create multidimensional and highly constrained issues in learning institutions.
- Creating educational timetable manually required a lot of time, several resources and numerous rounds of changes before it has been finalized.
- Assigning multiple subjects to one lecturer and allocating multiple classroom for different subjects are tough tasks as well and need a solid framework and comprehensive solution.
- Automatic generation of timetable is an attractive approach as compared to a manual approach.
- We have used AngularJS, Bootstrap 3, and PHP along other frameworks to design and develop an automatic timetable system which has a graphical user friendly and attractive interface.

[14] Techie-Menson, H. and Nyagorme, P., Design and Implementation of a Web-Based Timetable System for Higher Education Institutions.

- Creating educational timetable manually required a lot of time, several resources and umerous rounds of changes before it has been finalized.
- The developed system has a flexible representation and appropriate methods to create a easible, automatic timetable and avoid clashes.
- A realistic approach to building a timetabling program for lecture courses must be created, which can be tailored to suit any problem with higher education timetabling.
- By using the time table then we are to provide the flexibility, adaptability to future requirements, and the possibility of producing the fast access of data then we can attain with less time.

[15] Shaw, J.K., Ghosh, N., Srivastava, A., Singh, S., Mukherjee, S., Prasad, D. and Singh, R.P., 2022. Android Application for Effective Timing Management of Classes. In Proceedings of the 3rd International Conference on Communication, Devices and Computing (pp. 559-566). Springer, Singapore.

- An attempt to create a timetable management Android application that the students can easily access through their smart phones.
- A realistic approach to building a timetabling program for lecture courses must be created, which can be tailored to suit any problem with higher education timetabling.
- By using the time table then we are to provide the flexibility, adaptability to future requirements, and the possibility of producing the fast access of data then we can attain with less time
- Timetable is an ordered collection that contains details on activities that are scheduled to be held. Timetabling can be divided into many categories, including timetabling for school, scheduling of employees, timetabling for athletics and timetabling for travel
- The evaluation of the existing system will be carried out using the Joint Application Design (JAD) approach. JAD will facilitate cooperation among all stakeholders to enhance understanding and build upon teamwork.

3. METHODOLOGY

The Methodology is associated with writing code for the required website to maintain the timetables. The website is completed using multiple web pages. The website is built using the following technologies.

HTML:

HTML (**H**yper**T**ext **M**arkup **L**anguage) is the code that is used to structure a web page and its content. For example, content could be structured within a set of paragraphs, a list of bulleted points, or using images and data tables. As the title suggests, this article will give you a basic understanding of HTML and its function

HTML is a *markup language* that defines the structure of your content. HTML consists of a series of elements, which you use to enclose, or wrap, different parts of the content to make it appear a certain way, or act a certain way. The enclosing tags can make a word or image hyperlink to somewhere else, can italicize words, can make the font bigger or smaller, and so on. For example, take the following line of content:

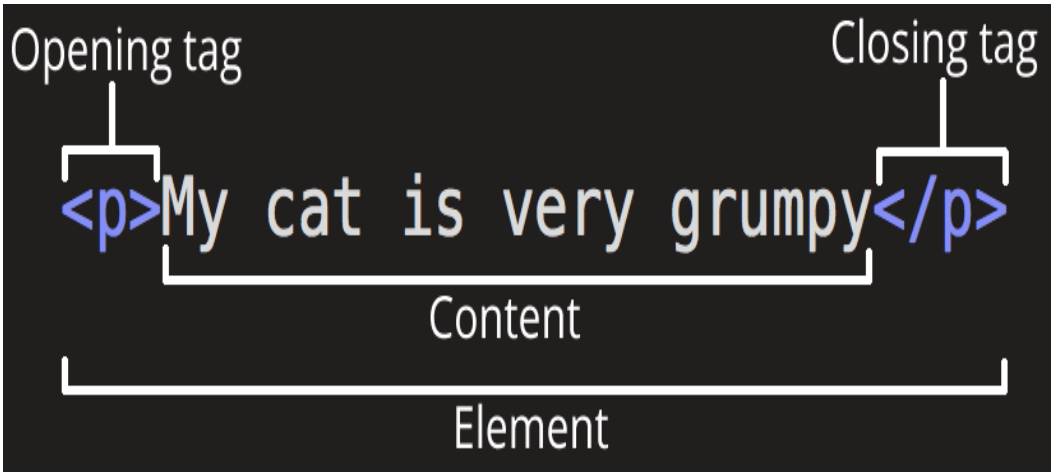
Figure 3.1: HTML logo

My cat is very grumpy

If we wanted the line to stand by itself, we could specify that it is a paragraph by enclosing it in paragraph tags:

My cat is very grumpy

Figure 3.2: Anatomy of an HTML element



The main parts of our element are as follows:

1. **The opening tag:** This consists of the name of the element (in this case, p), wrapped in opening and closing **angle brackets**. This states where the element begins or starts to take effect — in this case where the paragraph begins.
2. **The closing tag:** This is the same as the opening tag, except that it includes a *forward slash* before the element name. This states where the element ends — in this case where the paragraph ends. Failing to add a closing tag is one of the standard beginner errors and can lead to strange results.
3. **The content:** This is the content of the element, which in this case, is just text.
4. **The element:** The opening tag, the closing tag, and the content together comprise the element.

HTML Table:

HTML table tag is used to display data in tabular form (row * column). There can be many columns in a row.We can create a table to display data in tabular form, using <table> element, with the help of <tr> , <td>, and <th> elements.In Each table, table row is defined by <tr> tag, table header is defined by <th>, and table data is defined by <td> tags.HTML tables are used to manage the layout of the page e.g. header section, navigation bar, body content, footer section etc. But it is recommended to use div tag over table to manage the layout of the page . The HTML tables allow web authors to arrange data like text, images, links, other tables, etc. into rows and columns of cells.The HTML tables are created using the **<table>** tag in which the **<tr>** tag is used to create table rows and **<td>** tag is used to create data cells. The elements under <td> are regular and left aligned by default

CSS:

CSS is used to control the style of a web document in a simple and easy way.CSS is the acronym for "Cascading Style Sheet". This tutorial covers both the versions CSS1,CSS2 and CSS3, and gives a complete understanding of CSS, starting from its basics to advanced concepts. XML dialects **Cascading Style Sheets (CSS)** is a stylesheet language used to describe the presentation of a document written in HTML or XML (including such as SVG, MathML or XHTML).

Figure 3.3: CSS logo

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. Cascading Style Sheets, fondly referred to as CSS, is a simple design language intended to simplify the process of making web pages presentable.CSS is a MUST for students and working professionals to become a great Software Engineer specially when they are working in Web Development Domain. I will list down some of the key advantages of learning CSS:

- **Create Stunning Web site** - CSS handles the look and feel part of a web page. Using CSS, you can control the color of the text, the style of fonts, the spacing between paragraphs, how columns

are sized and laid out, what background images or colors are used, layout designs,variations in display for different devices and screen sizes as well as a variety of other effects.

- **Become a web designer** - If you want to start a carrer as a professional web designer, HTML and CSS designing is a must skill.
- **Control web** - CSS is easy to learn and understand but it provides powerful control over the presentation of an HTML document. Most commonly, CSS is combined with the markup languages HTML or XHTML.
- **Learn other languages** - Once you understands the basic of HTML and CSS then other related technologies like javascript, php

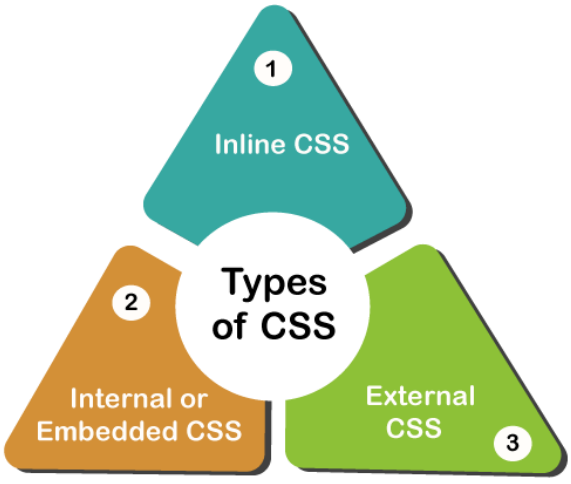
Types of CSS:

CSS (Cascading Style Sheet) describes the HTML elements which are displayed on screen, paper, or in other media. It saves a lot of time. It controls the layout of multiple web pages at one time. It sets the font-size, font-family, color, background color on the page. It allows us to add effects or animations to the website. We use CSS to display animations like buttons, effects, loaders or spinners, and also animated backgrounds.

Without using **CSS**, the website will not look attractive. There are **3** types of **CSS** which are below:

- Inline CSS
- Internal/ Embedded CSS
- External CSS

Figure 3.4: Types of cascading style sheets



Here, we use only inline and internal in our project.

1. **Internal CSS:**

The Internal CSS has **<style>** tag in the **<head>** section of the **HTML** document. This CSS style is an effective way to style single pages. Using the CSS style for multiple web pages is time-consuming because we require placing the **style** on each web page.

We can use the internal CSS by using the following steps:

1. Firstly, open the **HTML** page and locate the **<head>**

2. Put the following code after the **<head>** Syntax:<style type="text/css">

3. Add the **rules** of CSS in the new line.

4. Close the style tag.

5. Inline CSS

Inline CSS is used to style a specific **HTML** element. Add a **style** attribute to each HTML tag without using the selectors. Managing a website may difficult if we use only **inline CSS**. However, Inline **CSS** in HTML is useful in some situations. We have not access the **CSS files** or to apply styles to element.We can create CSS rules on the HTML page.We cannot create and upload a separate document in inline CSS.Inline CSS, adding **CSS** rules to HTML elements is **time-consuming** and **messes** up the HTML structure.It styles multiple elements at the same time which can affect the page size and download time of the page.

JAVA SCRIPT:

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 specially when they are working in Web Development Domain. I will list down some of the key advantages of learning Javascript.Javascript is the most popular programming language in the world and that makes it a programmer's great choice. Once

you learnt Javascript, it helps you developing great front-end as well as back-end softwares using different Javascript based frameworks like jQuery, Node.JS etc.Javascript is everywhere, it comes installed on every modern web browser and so learn Javascript you really do not need any special environment setup. For example Chrome, Mozilla Firefox , Safari and every browser you know as of today, supports Javascript.Javascript helps you create really beautiful and crazy fast websites. You can develop your website with a console like look and feel and give your users the best Graphical User Experience.JavaScript usage has now extended to mobile app development, desktop app development, and game development. This opens many opportunities for you as Javascript Programmer.Due to high demand, there is tons of job growth and high pay for those who know JavaScript.

Figure 3.5: Javascript logo

You can navigate over to different job sites to see what having JavaScript skills looks like in the job market.Great thing about 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.There could be 1000s of good reasons to learn Javascript Programming. But one thing for sure, to learn any programming language, not only Javascript, you just need to code, and code and finally code until you become expert.

JavaScript Form Validation Understanding Client-Side Validation:

Web forms have become an essential part of web applications. It is often used to collect user's information such as name, email address, location, age, and so on. But it is quite possible that some user might not enter the data what you've expected. So to save bandwidth and avoid unnecessary strain on your server resources you can validate the form data on client-side (i.e. user's system) using JavaScript before passing it onto the web server for further processing.Client-side validation is also helpful in creating better user

experience, since it is faster because validation occurs within the user's web browser, whereas server-side validation occurs on the server, which require user's input to be first submitted and sent to the server before validation occurs, also user has to wait for server response to know what exactly went wrong.In the following section we will take a closer look at how to perform JavaScript form validation and handle any input errors found appropriately and gracefully.

JSP:

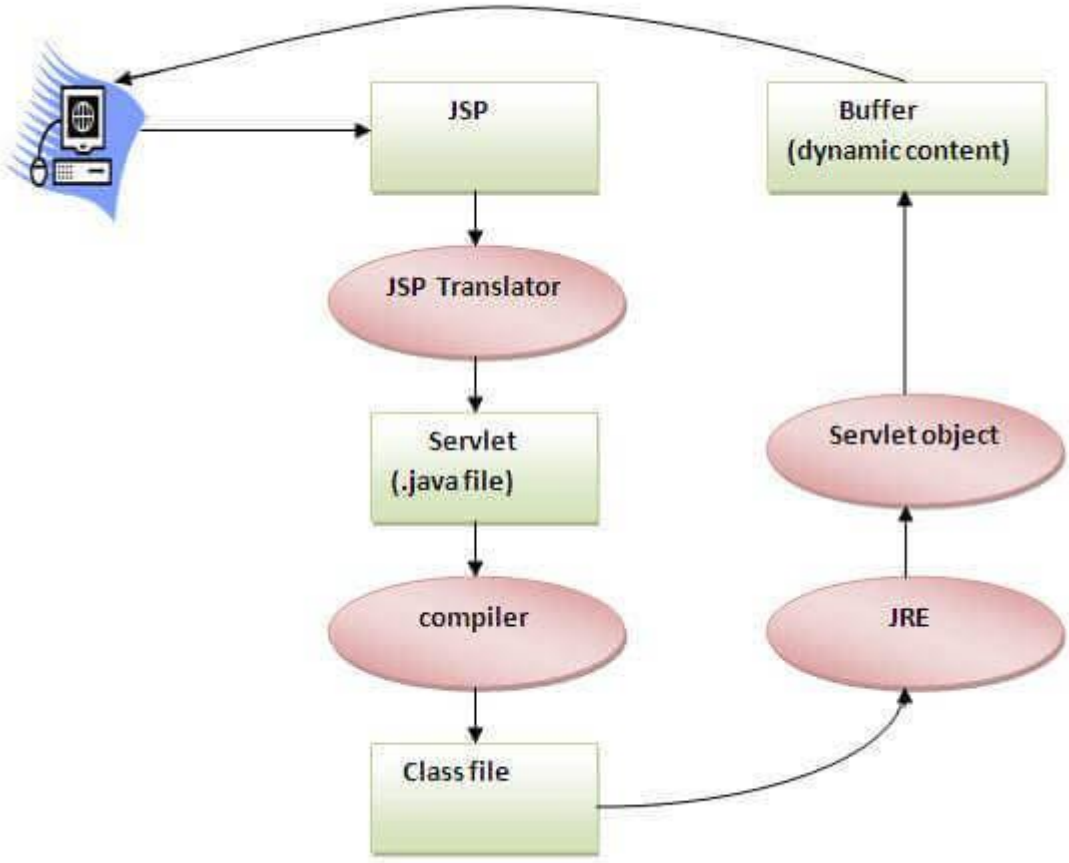
Figure 3.6: JSP logo

JSP technology is used to create web application just like Servlet technology. It can be thought of as an extension to Servlet because it provides more functionality than servlet such as expression language, JSTL, etc.A JSP page consists of HTML tags and JSP tags. The JSP pages are easier to maintain than Servlet because we can separate designing and development. It provides some additional features such as Expression Language, Custom Tags, etc.

As in the below diagram, JSP page is translated into Servlet by the help of JSP translator. The JSP translator is a part of the web server which is responsible for translating the JSP page into Servlet. After that, Servlet page is compiled by the compiler and gets converted into the class file. Moreover, all the processes that happen in Servlet are performed on JSP later like initialization, committing response to the browser and destroy.

The web pages required for the construction of our website are Home page, Login Page, Registration Page, Student and faculty page, Student timetable page, faculty timetable page, section timetable page followed by 10 faculty timetable pages.

Figure 3.7: JSP stepwise process



The website contains the below html files.

HOME Page:

The home page contains a heading and it is linked to login and registration pages. The code for the Home page is as below:

<html>

<head>

<title>Timetable Management System</title>

<style>

body {

background-image: url('gmrbgpics.jpg');

```
  background-repeat: no-repeat;
  background-attachment: fixed;
  background-size: 100% 100%;
}
h1 {
  font-size: 60px;
}
a:link, a:visited {
  background-color: skyblue;
  color: white;
  padding: 15px 25px;
  text-align: center;
  text-decoration: none;
  display: inline-block;
}
a:hover, a:active {
  background-color: black;
}
</style>
</head>
<body><center><b>
<h1>GMRIT Timetable Management System</h1>
```


LOGIN

                               REGISTER

</body>

</html>

Login page:

The login page is a form for a student or faculty to login to the website. It takes the username, password as inputs and checks whether the user is a valid one or not by checking the details using store.1 jsp file.

The code for the login page is as below:

<html>

<head>

<h1><body text="white" >   <u>Login Page</u></body></h1>

<title>Login Page</title>

<style>

body{background-image:url('loginbg.jpg') ;height :95%;background-position:center;background-size:cover;border-style:double dashed;}

</style>

</head>

<body ><font size="5">

<form method="post" action="store1.jsp">


```
Enter your login credentials:<br><br><br><br>   

User name:<input  type="text"  name="uname" />

<span id="error"></span>

<br><br><br><br>

Password:<input  type="text"   name="password" id="password"  />

<br><br>

<input type="submit" value="login"  />

<input type="reset" value="reset" />

</i><br><br></font>

</body>

</html>
```

Registration Page:

The registration page is used by the student or faculty to get registered. It is a html form with validations. It takes first name, date of birth, JNTU no, phone number, email, password as input and the details are stored in the database using store.jsp file. The code of the registration page is as below:

```
<html>

  <head>

    <h1><center><body text="purple"><font size="40"><b><i><u>Registration
page</u></i></b></font></body></h1>

<title>Registration Page</title>
```

```
<style>

body{background-image:url('registration bg.jpg') ;background-position:center;background-
size:cover;border-style:double  dashed;}

</style>

<script type="text/javascript">

function validate()

{

re =/^[A-Z a-z]+$/;

if(!re.test(document.getElementById("firstname").value))

{

window.alert('invalid user name ');

}

if(document.trail.password.value.length<=6)

{

alert('password is too short!! ');

}

if(document.trail.phno.value.length<10)

{

alert('enter a valid phone number!! ');

}

var x=document.trail.email.value;

var atposition=x.indexOf("@");

var dotposition=x.lastIndexOf(".");
```

```
if (atposition<1 || dotposition<atposition+2 || dotposition+2>=x.length)
{
 alert("enter a valid e-mail address");
}
je =/[0-9]{5}[a,A][a-j A-J 0-9]/;
if(!je.test(document.getElementById("jntu").value))
{
window.alert('invalid jntu number ');
}
}
</script>
  </head>
<body >
<form method="post" action="store.jsp"><i><center>
<fieldset>
First name:<input type="text" name="fname" id="firstname" /><br><br>
Date of birth:<input type="date" name="dob"><br><br>
JNTU No:<input type="text" name="jntu_no" id="jntu" /><br><br>
<u>Faculty/Student</u>:<br><br>
Faculty:<input type="radio" name="type" value="faculty"><br><br>
Student:<input type="radio" name="type" value="student"><br><br>
Phone Number:<input type="text" name="phone" id="phno" /><br><br>
```

```
Email :<input type="text" name="email" id="email" />

Password:<input type="text" name="password" id="password" /><br><br>

</fieldset><br>

<br><br><input type="submit" value="register"/>

<input type="reset" value="reset"/>

</i></center>

</form>

</body>

</html>
```

Student and faculty page:

This page appears when the login details are successfully submitted and the user is identified as a valid user. This page can link to student and faculty timetable pages. The code of this html page is as below:

```
<html>

<head>

<title>Student and Faculty Timetables</title>

<style>

body {

  background-image: url('studentandfacultybg.jpg');

  background-repeat: no-repeat;

  background-attachment: fixed;

  background-size: 100% 100%;

}

body {
```

```
  font-size: 30px;
}
h1 {
  font-size: 60px;
color:white
}
a:link, a:visited {
  background-color: sandybrown;
  color: white;
  padding: 15px 25px;
  text-align: center;
  text-decoration: none;
  display: inline-block;
}

a:hover, a:active {
  background-color: skyblue;
}
</style>
</head>
<body><center><b>
 <h1>Student and Faculty Timetables</h1>
```

```
<br><br>
<a href="studenttimetable.html" target="_blank">STUDENT TIMETABLES</a>
<br><br><br>
<a href="facultytimetable.html" target="_blank">FACULTY TIMETABLES</a>
</center><b></body>
</html>
```

Student Timetable:

This page contains section wise timetables of students. The code for student timetable is as below:

```
<html>
<head>
<title>Student Timetables</title>
<style>
body {
  background-image: url('studenttimetablebg.jpg');
  background-repeat: no-repeat;
  background-attachment: fixed;
  background-size: 100% 100%;
}
h1 {
  font-size: 60px;
}
body {
```

```
  font-size: 30px;
}
a:link, a:visited {
  background-color: chocolate;
  color: white;
  padding: 15px 25px;
  text-align: center;
  text-decoration: none;
  display: inline-block;
}
a:hover, a:active {
  background-color: cadetblue;
}
</style>
</head>
<body><center><br><br>
<h1 style="color:white;">Student Timetables</h1>
<br><br><br><br>
<a href="asec.html" target="_blank">A section Timetable</a>
                
<a href="bsec.html" target="_blank">B section Timetable</a><br><br>
<a href="csec.html" target="_blank">C section Timetable</a><br><br><br>
```

```
</center>

</body>

</html>
```

Faculty Timetable:

This faculty timetable page contains the timetables of nearly 10 faculyt. The code for the faculty timetables page is as below:

```
<html>

<head>

<title> Faculty Timetable</title>

<style>

body {

  background-image: url('facultybg1.jpg');

  background-repeat: no-repeat;

  background-attachment: fixed;

  background-size: 100% 100%;

}

h1 {

  font-size: 60px;

}

body {

  font-size: 40px;

}

a:link, a:visited {
```

```
  background-color: lightcoral;
  color: white;
  padding: 15px 25px;
  text-align: center;
  text-decoration: none;
  display: inline-block;
}

a:hover, a:active {
  background-color: black;
}
</style>
</head>
<body><center>
<h1>Faculty Timetables</h1>
<br>
<table cell padding="10">
<tr>
<td><a href="satishsir.html" target="_blank">Dr M Satish</a></td>
              
<td><a href="laxmansir.html" target="_blank">Dr K Lakshmanarao</a></td>
           
```

```
<td><a href="aravindsir.html" target="_blank">Dr K Aravind</a>

<br><br>

<tr><td><a href="balajeesir.html" target="_blank">Dr M Balajee </a>

<td><a href="christinsir.html" target="_blank">Dr R Christin</a>

<td><a href="lakshmidevi.html" target="_blank">Mrs. N Lakshmi Devi</a>

<br><br>

<tr><td><a href="prasadsir.html" target="_blank">Dr V Prasad</a>

<td><a href="routhusir.html" target="_blank">Dr R.Srinivas Rao</a>

<td><a href="srividya.html" target="_blank">Dr K.Srividya</a>

<br><br>

<tr><td><a href="vasudharani.html" target="_blank">Dr V Vasudha Rani</a>

</center>

</body>

</html>
```

Satish sir:

This page contains the timetable of Dr. M Satish. It contains the timetable and course credit information. The student or faculty can add their name and comment they want to add. The code for this page is as below:

```
<!DOCTYPE html>
```

```
<html>

<body><p style="font-size:20px">

Department : CSE<br>

Year/Semister: II /4th<br>

Faculty: Dr M Satish<br>

Academic Year: 2021-2022<br>

<h1>TIME TABLE</h1>

<table border="5" cellspacing="0" align="center" >

<!--<caption>Timetable</caption>-->

<tr>

        <td align="center" height="50" width="100"><br> <b>Day/Period</b></br></td>

        <td align="center" height="50" width="100"><b>[1]<br>9:00-9:50</b></td>

        <td align="center" height="50" width="100"><b>[2]<br>9:50-10:40</b></td>

        <td align="center" height="50" width="100"><b>[3]<br>10:50-11:40</b></td>

        <td align="center" height="50" width="100"><b>[4]<br>11:40-12:30</b></td>

        <td align="center" height="50" width="100"><b>12:30-1:30</b></td>

        <td align="center" height="50" width="100"><b>[5]<br>1:30-2:20</b></td>

        <td align="center" height="50" width="100"><b>[6]<br>2:20-3:10</b></td>

        <td align="center" height="50" width="100"><b>[7]<br>3:20-4:10</b></td>

           <td align="center" height="50" width="100"><b>[8]<br>4:10-5:00</b></td>

</tr>

<tr>
```

```
        <td align="center" height="50"><b>Monday</b></td>
        <td align="center" height="50">20CS405</td>
        <td align="center" height="50"></td>
        <td  align="center" height="50">20IT403</td>
        <td align="center" height="50"></td>
           <td rowspan="6" align="center" height="50"><h2>L<br>U<br>N<br>C<br>H</h2></td>
           <td align="center" height="50"></td>
        <td align="center" height="50"></td>
        <td align="center" height="50"></td>
        <td align="center" height="50"></td>
</tr>
<tr>
        <td align="center" height="50"><b>Tuesday</b>
        <td align="center" height="50"></td>
           <td align="center" height="50">20CS405</td>
         <td align="center" height="50"></td>
        <td align="center" height="50">19IT403</td>
         <td colspan="3" align="center" height="50">20BEXO3</td>
          <td align="center" height="50"></td>
</tr>
<tr>
        <td align="center" height="50"><b>Wednesday</b></td>
```

```
        <td align="center" height="50">201T403</td>
        <td  colspan="3" align="center" height="50">20CS407</td>
           <td align="center" height="50"></td>
         <td align="center" height="50"></td>
        <td align="center" height="50">20CS405</td>
        <td align="center" height="50"></td>
</tr>
<tr>
        <td align="center" height="50"><b>Thursday</b></td>
        <td align="center" height="50"></td>
        <td align="center" height="50"></td>
         <td align="center" height="50">20CS405</td>
        <td align="center" height="50"></td>
        <td align="center" height="50"></td>
        <td colspan="3" align="center" height="50">20CS407</td>
</tr>
<tr>
        <td align="center" height="50"><b>Friday</b></td>
        <td align="center" height="50"></td>
         <td align="center" height="50">20IT403</td>
           <td align="center" height="50"></td>
           <td align="center" height="50">20CS405</td>
```

```
            <td  align="center" height="50"></td>
          <td align="center" height="50"></td>
           <td  align="center" height="50"></td>
           <td  align="center" height="50"></td>
</tr>
<tr>
          <td align="center" height="50"><b>Saturday</b></td>
          <td align="center" height="50"></td>
          <td  align="center" height="50">20IT403</td>
          <td  align="center" height="50"></td>
          <td  align="center" height="50"></td>
          <td align="center" height="50"></td>
             <td align="center" height="50"></td>
             <td align="center" height="50"></td>
</tr>
</table></p><br><br>
<table border="5" cellspacing="0" align="left"  width="1330px" >
<tr>
          <td align="center" height="50"><br><b>SI.No</b></br></td>
          <td align="center" height="50" ><b>Code</b></td>
          <td align="center" height="50" ><b>Course Title</b></td>
          <td align="center" height="50" ><b>Credit</b></td>
```

```
        <td align="center" height="50" ><b>Hours <br>Allotted</b></td>
</tr>
<tr>
                <td align="center"  height="25">1</td>
                <td align="center"   height="25">20CS405</td>
                <td align="center"   height="25">Java in Web Technologies(Sec-C)</td>
                <td align="center"   height="25">3</td>
                <td align="center"  height="25">5</td>

</tr>
<tr>
                <td align="center"  height="25">2</td>
                <td align="center"   height="25">20IT403</td>
                <td align="center"   height="25">Operating Systems(Sec-B)</td>
                <td align="center"   height="25">3</td>
                 <td align="center"   height="25">5</td>
</tr>
<tr>
                <td align="center" height="25">3</td>
                <td align="center"   height="25">20S407</td>
                <td align="center"   height="25">Java in Web Technologies(Sec-C)</td>
                <td align="center"   height="25">1.5</td>
```

```
                <td align="center"   height="25">6</td>
</tr>
<tr>
                <td align="center" " height="25">4</td>
                <td align="center"  height="25">20BEX03</td>
                <td align="center"   height="25">Problem Solving and Programming<br> skills lab(Section-N)</td>
                <td align="center"   height="25">1.5</td>
                 <td align="center"   height="25">3</td>
</tr>
</table>
<p>
Enter your name: <span id="outputName"></span><button id="name">Faculty/Student name</button><br><br>
The comment that you would like to add:
 <span id="outputComment"></span><button id="note">Add your point</button>
</p>
<script>
document.getElementById("name").onclick = function(){
var name = prompt("Enter your name");
  document.getElementById("outputName").innerText = name;
}
document.getElementById("note").onclick = function(){
```

```
var note = prompt("Enter your note");

  document.getElementById("outputComment").innerText = note;

}

</script>

</body>

</html>
```

Faculty timetables of another 9 faculty members are also present in the faculty timetable webpage.

4. EXPERIMENTATION AND RESULTS

The website runs on the Apache Tomcat Server and the timetable management website runs producing the following results. The entry page of the website is as below:

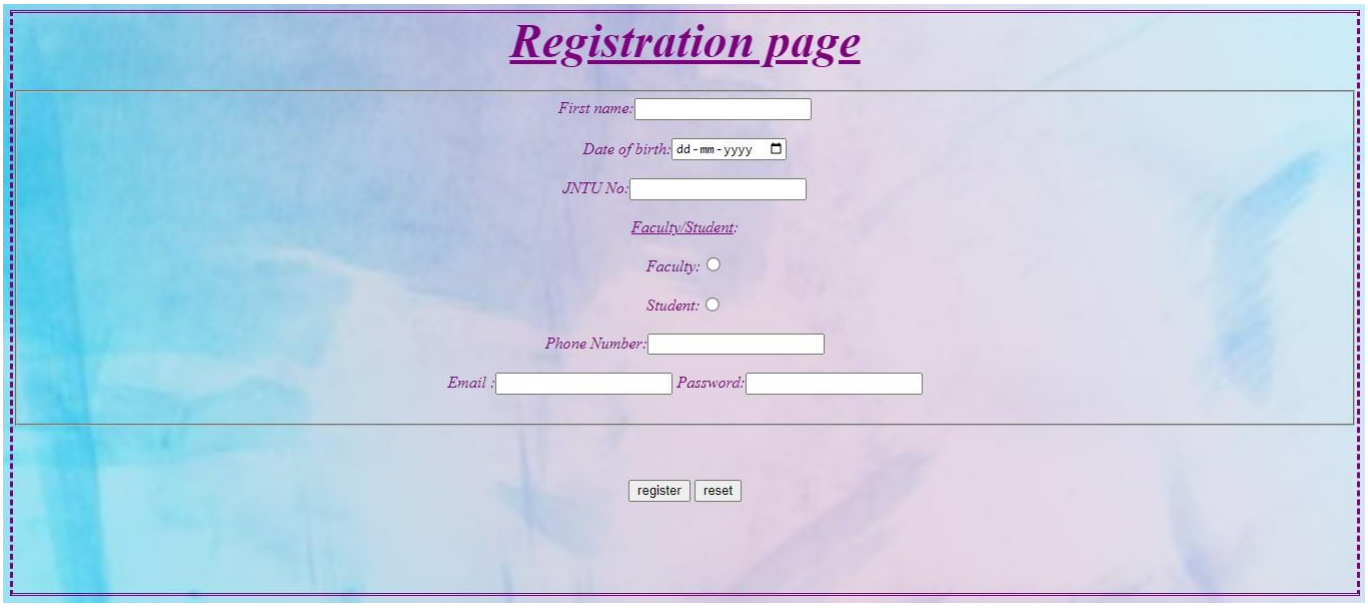
Figure 4.1: Home page

Login page is opened upon clicking the login button

Figure 4.2: Login page

Registration page is opened upon clicking register button. The inputs are taken and saved on clicking the submit button

Figure 4.3: Register Page

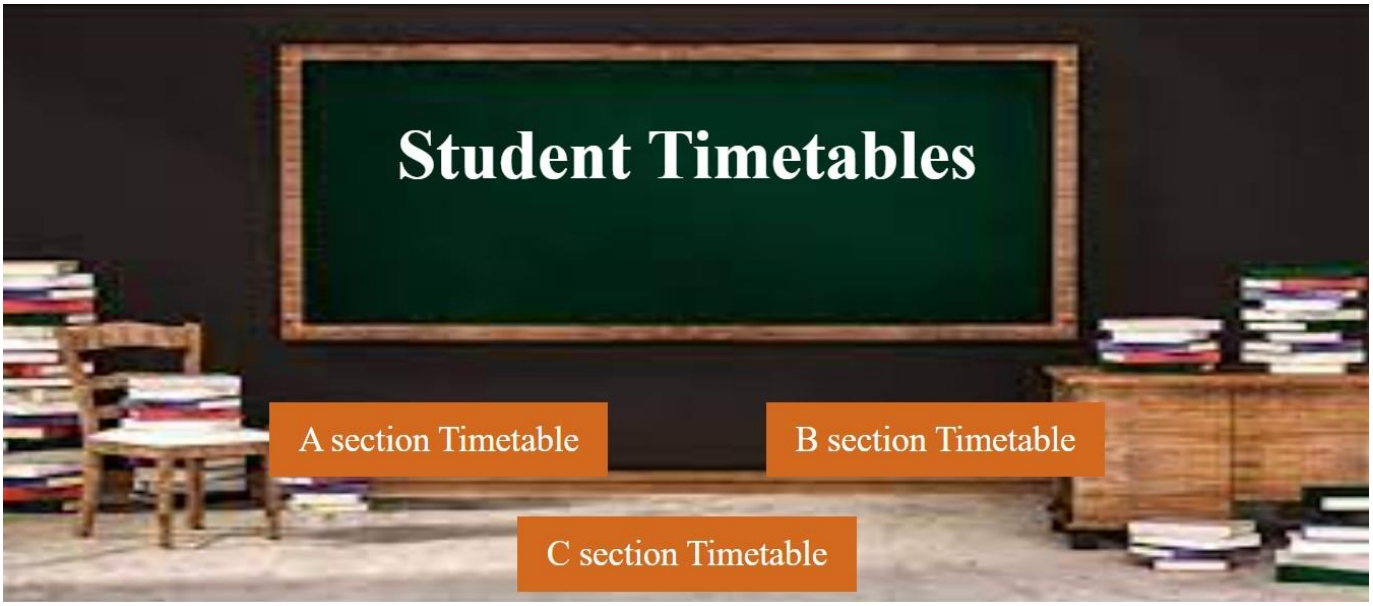


The Student and Faculty web page is used to display two buttons as a choice for users to select either student or faculty timetables.

Figure 4.4: Student and Faculty Page

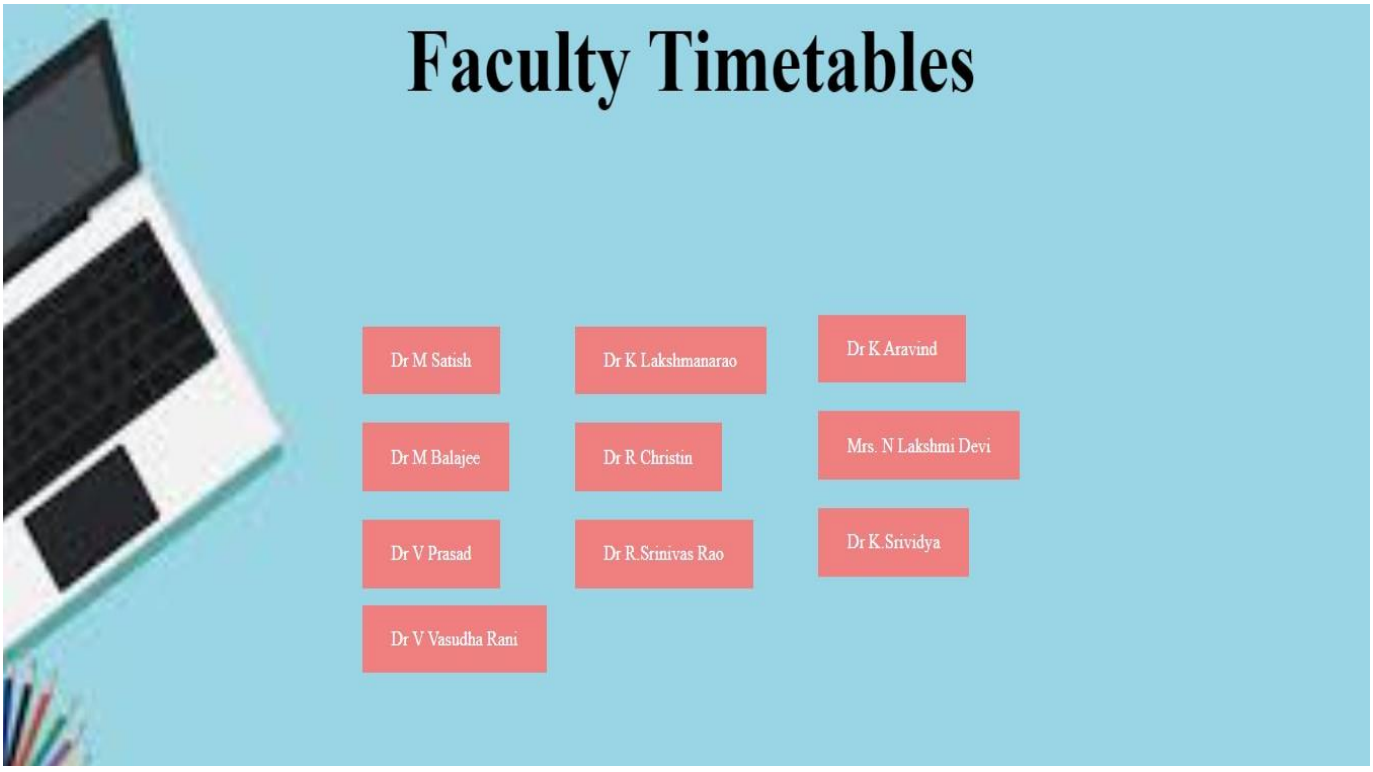
The Student timetable is a path to open the timetables of three sections

Figure 4.5: Student timetable



Faculty timetables web page consists of ten various webpages that represents the faculty timetables.

Figure 4.6: Faculty timetable



Each faculty timetable web page contains the faculty timetable and details of the courses they were teaching.

Figure 4.7: Satish sir timetable

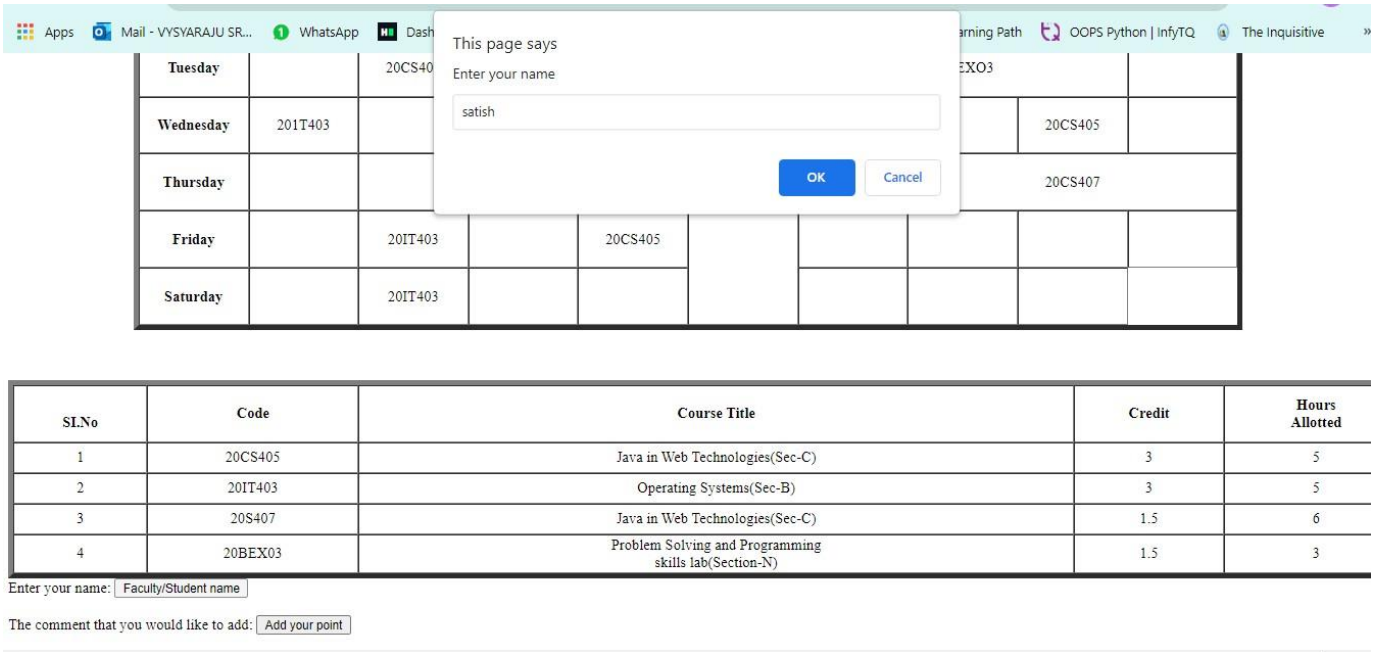
Department : CSE
Year/Semister: II /4th
Faculty: Dr M Satish
Academic Year: 2021-2022

TIME TABLE

Day/Period	[1] 9:00-9:50	[2] 9:50-10:40	[3] 10:50-11:40	[4] 11:40-12:30	12:30-1:30	[5] 1:30-2:20	[6] 2:20-3:10	[7] 3:20-4:10	[8] 4:10-5:00
Monday	20CS405		20IT403		LUNCH				
Tuesday		20CS405		19IT403		20BEXO3			
Wednesday	201T403	20CS407						20CS405	
Thursday			20CS405				20CS407		
Friday		20IT403		20CS405					
Saturday		20IT403							

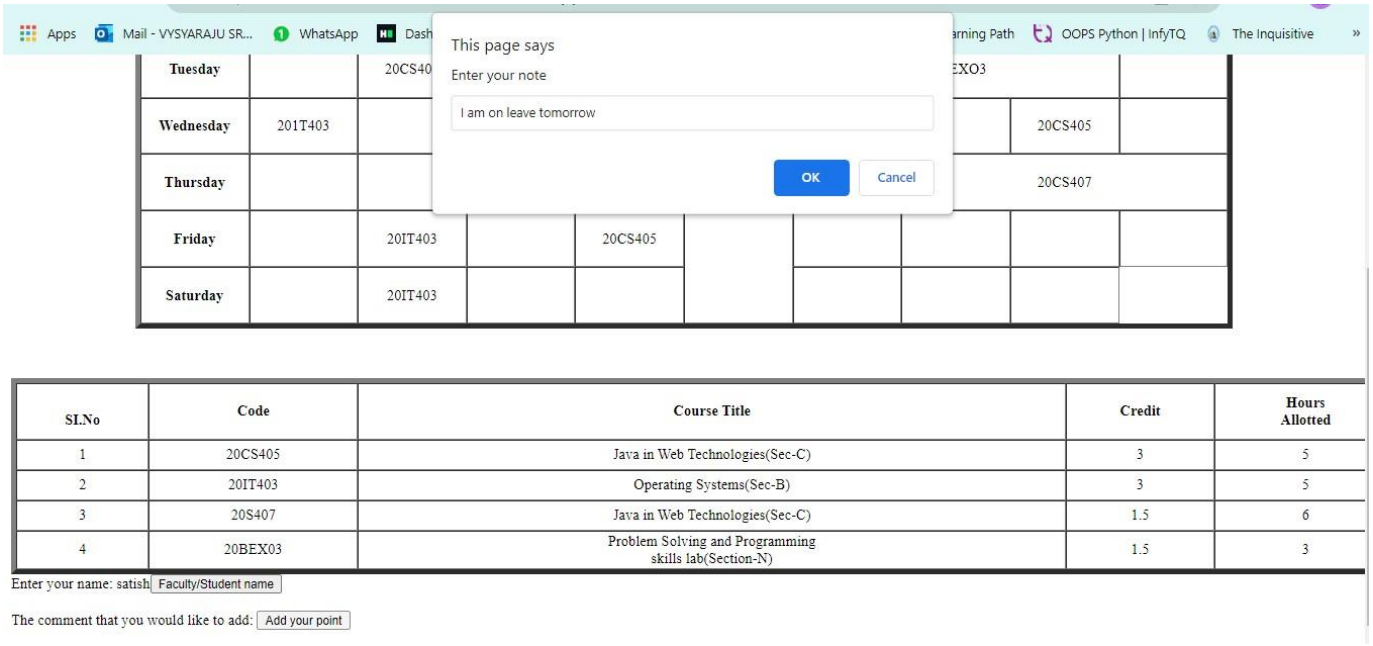
The course credit details and the number of hours required for teaching the course is also represented.

Figure 4.8: Course credit details



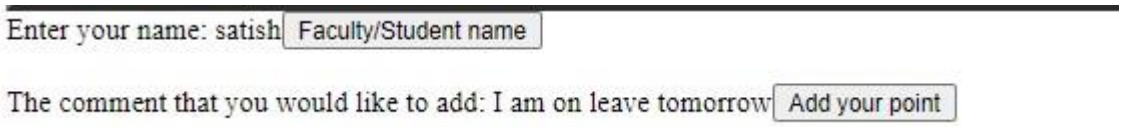
The students and faculty can also give their note or comment by filling the name and comment inputs by using prompt function.

Figure 4.9: Taking input through prompt



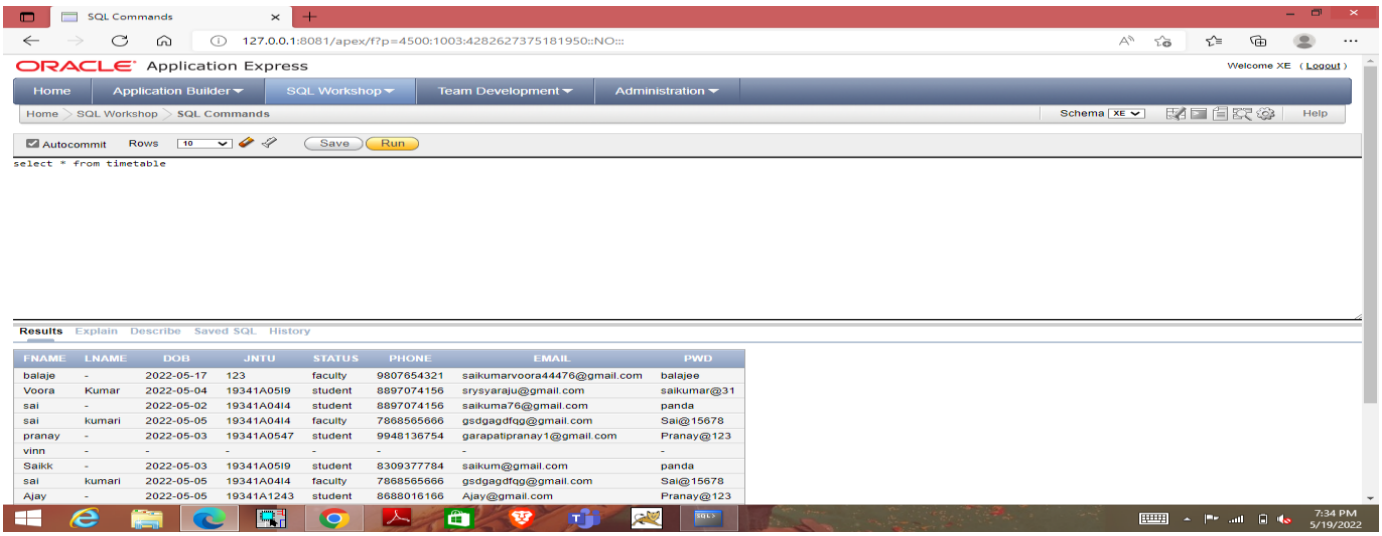
The taken inputs are shown over the web page

Figure 4.10: Display results



In the server side using the store.jsp file, the registration details are stored in the database.

Figure 4.11: Database details



5. CONCLUSION

A website is created using HTML, CSS and Java Script as front end languages and JSP for backend. The Timetable management website contains many web pages like home, login, register, student and faculty, student, faculty and several other web pages for displaying the timetables of faculties. The home page contains login and register buttons. The login page is used to identify the valid registered uses. The person who wants to access the website must be registered first by entering various required details like username, password, phone number, JNTU no, email and others. A student and faculty timetable webpage appears for a verified user upon login. This webpage contains student timetable and faculty timetable buttons. The user upon selecting student timetable can access the section wise timetable whereas upon accessing the faculty timetable can see various faculty names. The faculty timetables of nearly ten faculties can be mentioned. The person can select the required faculty timetable and see the information. The student or faculty can also give any information by entering their name and comment by using window prompt. For a faculty timetable the courses covered by the faculty is also mentioned along with their credits. The data of registered user is stored in the database by clicking the submit button. Through this website the students can find their required teacher current class whether they are busy or involved in any class. It reduces he student efforts to find their faculty.

APPENDIX

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