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# AI Model Timetable Generator

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**ABSTRACT:** The "Automatic Time Table Generator" is a user-friendly web application designed to streamline time table management for educational institutions. In the manual system, staff members are required to manually create and update their time tables, and students may have to go through several channels to obtain information on class schedules and absences. This can lead to confusion and errors, delays in the dissemination of information. The system offers a range of features to support administrators and staff alike, providing a comprehensive solution for all stakeholders. Time Table Generator System is a Web application that will be helpful for the staff (Admin) to create the "Time Table" under each department. The Admin will be able to update the existing "Time Table" of the classes whenever he wants. Admin also able to add the staff who will be handling the corresponding papers. This system will reduce the manual work of the staff for preparing the time table and also reduce the time taken to prepare the time table.

## I. INTRODUCTION

The "Automatic Time Table Generator" web application is intended to the process of developing and overseeing staff members' class schedules in educational institutions more efficient. It offers administrators and employees a productive and easy-to-use platform for working together to manage class schedules, guaranteeing the best use of available resources and employee happiness. The objectives of this project are to decrease conflict, increase overall staff productivity, and optimise scheduling efficiency. To provide safe access to the application, implement a strong user authentication system with distinct roles (administrators, staff members). In institutions with a lot of students, the manual timetable preparation method takes a long time and frequently results in different classes conflicting in same room or with same teachers teaching multiple sessions at once. The idea is to create an automated system in order to solve all of these issues. The system will receive a variety of inputs, such as subject and class details, department and faculty details, break details, day and hour details, etc. With these inputs, it will generate a potential schedule that will make the best use of all available resources while adhering to any restrictions or college regulations. Core subjects and electives are included in the list of subjects. Institutions provide a wide variety of courses, each with multiple subjects. There are now few faculty members, and each one teaches multiple courses. The faculty members now needed to be scheduled at the allotted time slots so that their timings will not overlap in the timetable. Due to the fact that the majority of college administrative tasks are now computerised, the majority of lecture schedule scheduling is still done by hand because it is inherently complex and takes a lot of time and effort. The lecture schedule scheduling challenge is one in which we must find a solution to meet the specified limitations. Software built on PHP called Automatic Timetable Generator is used to create timetables automatically. Timetable management is done by hand right now. Having all the periods managed automatically will be beneficial. It To ensure efficient timetable generation, a faculty will specify the maximum and lowest work that can be done each day and each week.

## II. MODULE DESCRIPTION

- Register

The Automatic Time Table Generator system's Admin Registration Module makes it easier for administrators to securely register and authenticate. It provides all inputs are validated by capturing necessary information like name, email, username, and password.

- Login

In this module, the authorized person can login the system using his/ her user name and password.

- Add details

Administrators can enter and maintain scheduling data in the Time Table Generator system using the Add Time Table Details Module. It makes it possible to enter information about subjects, employees, class assignments, breaks, and day slots. To avoid scheduling overlaps, the module makes sure that data validation and conflict resolution are done. For efficiency, it allows bulk uploads and offers an easy-to-use interface for seamless timetable administration.

- Generate time table

Using data input, the Time Table Generator System's Generate Time Table Module creates ideal schedules automatically. It ensures that there are no conflicts by efficiently allocating courses, teachers, rooms, and time slots. The module generates balanced schedules by considering constraints such as preferences and availability. With its report generation and manual adjustment capabilities, it offers a complete scheduling solution.

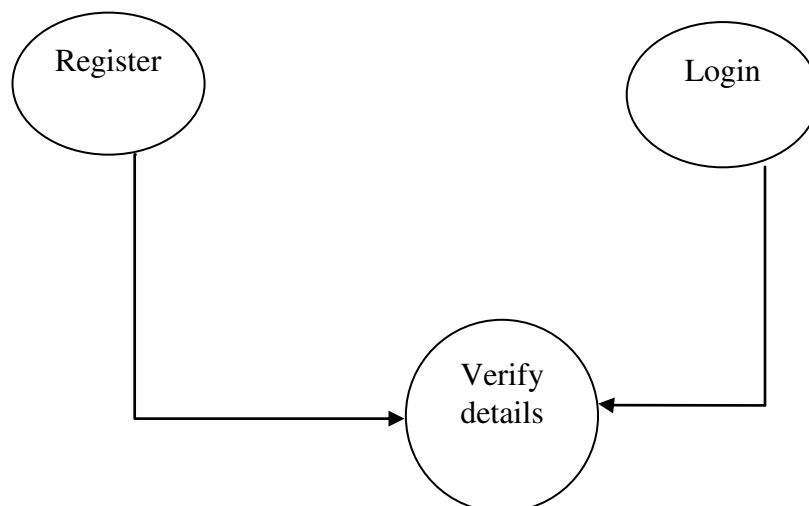
- Logout

The Time Table Generator System's Logout Module safely terminates user sessions, guaranteeing that all data is deleted and access is withdrawn. To prevent unintentional logouts, it offers a confirmation prompt. If a logout is successful, it then reroutes users to the login page. By blocking unwanted access following session termination, this module contributes to security maintenance.

### III. DATA FLOW DIAGRAM

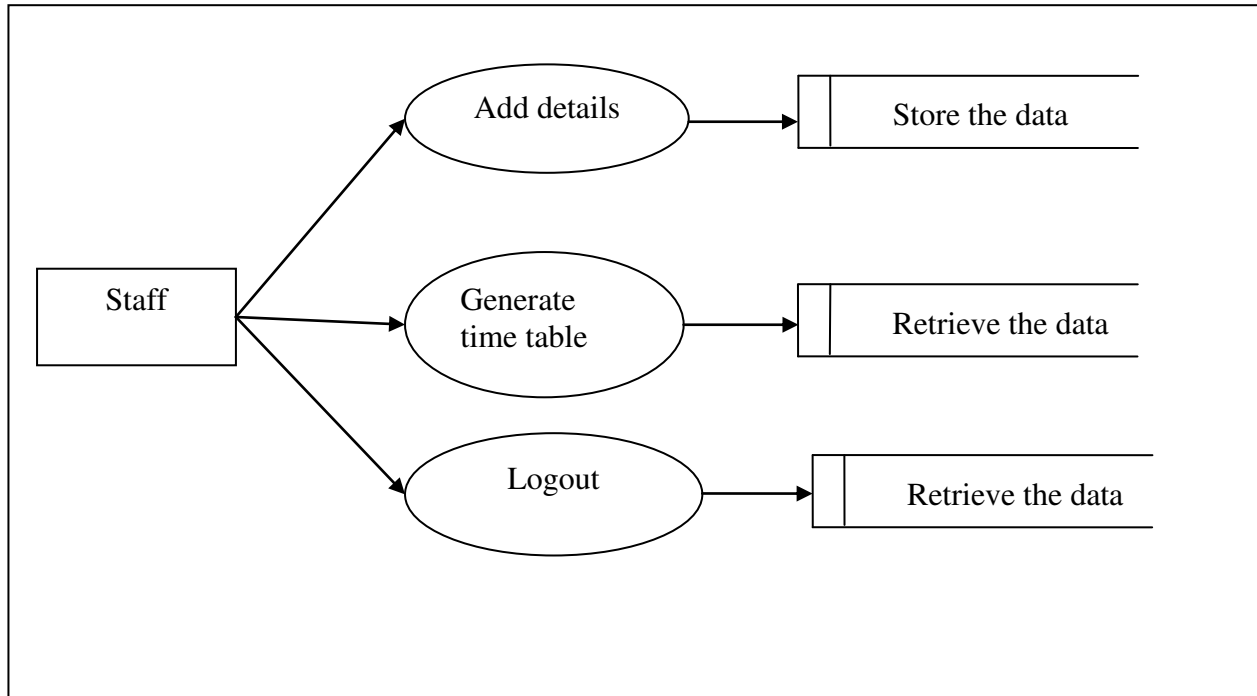
#### LEVEL 0

The system's division into "sub-systems" or processes, manages a specific data flow to an external agent and provide the system's functionality, as demonstrated by the Level 0 DFD. Additionally, it shows the data moves between the system's various parts and highlights data storage that are essential to its operation.



#### LEVEL 1

This Level 1 Data Flow Diagram highlights the main functions carried out by the system. As a rule, to describe the system was using between two and seven functions - two being a simple system and seven being a complicated system. This enables us to keep the model manageable on screen or paper.



#### IV. SYSTEM TESTING

System testing is defined as testing of a complete and fully integrated software product. This testing falls in black-box testing wherein knowledge of the inner code is not a pre-requisite and by the testing team. The final test to verify that the product to be delivered meets the specifications mentioned in the requirement document. It should investigate both functional and non-functional requirements.

#### UNIT TESTING

The first test carried out in development is the unit test. Generally, the source code is divided into smaller components called units, which are further divided into modules. These units exhibit specific behaviours. The practice of testing these code components is called unit testing. Which unit test is utilised depends on the language that was used to design the project. Unit tests ensure that all project routes have well-defined inputs and outputs and function exactly as specified by the specifications.

#### V. SAMPLE SOURCE CODE

```

<?php

$servername="localhost";
$username = "root";
$password = "";
$dbname = "users";

$conn =
mysqli_connect($servername,$username,$password,$dbname);
if(!$conn){
die("cant reach database" .mysqli_connect_error());
}
?>

<form role="form" method="post">
  
```

```
<div class="formgroup">
  <label for="un">Username:</label>
<input type="text" class="form-control" name="un" >
</div>

<div class="form-group">
  <label for="email">Email address:</label>
<input type="email" class="form-control" name="email">
</div>

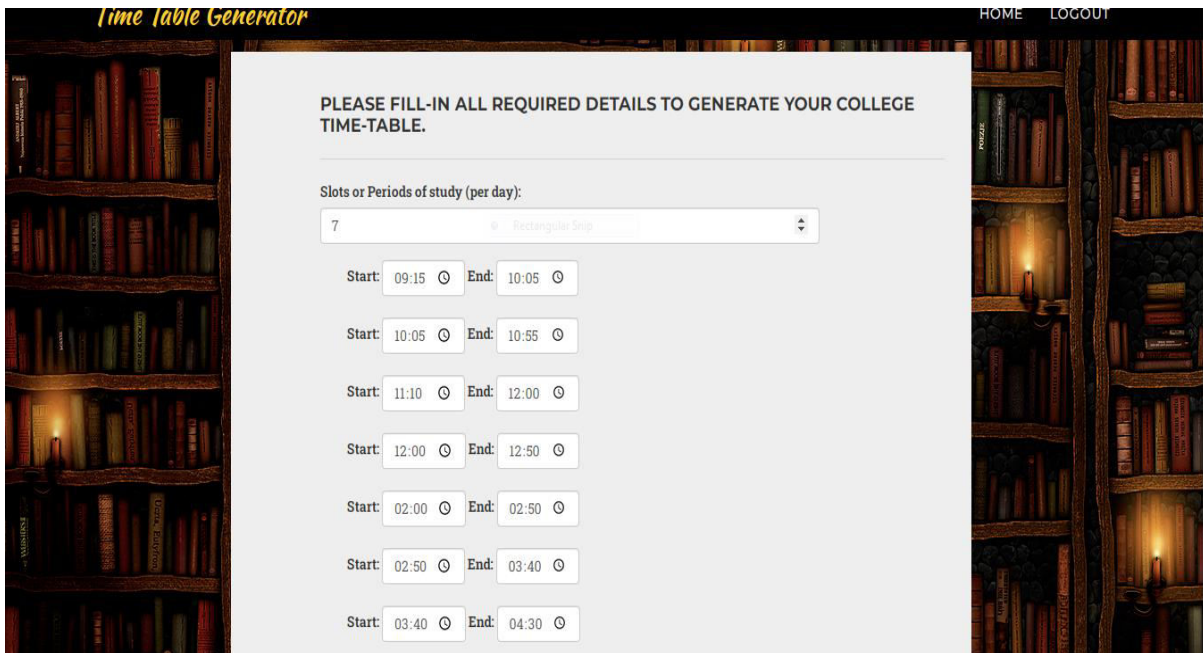
<div class="form-group">
  <label for="country">Country:</label>
<input type="text" class="form-control" name="country" >
</div>



<div class="form-group">
  <label for="pwd">Password:</label>
<input type="password" class="form-control" name="pwd" >
</div>

<input type="submit"
name="btn1" >

</form>
```

### OUTPUT SCREENSHOTS







Insert Break after period number (skip if no break):

No. of days (per week):

Monday  
 Tuesday  
 Wednesday  
 Thursday  
 Friday  
 Saturday  
 Sunday



No of Teachers:



Name:  Subject:

Name:  Subject:

Name:  Subject:

Name:  Subject:

Name:  Subject:



Number of Student Groups:

Batch Name:  No of subjects:

Subject\*:  Time Required(in hours)\*\*:

Subject\*:  Time Required(in hours)\*\*:

Subject\*:  Time Required(in hours)\*\*:

Subject\*:  Time Required(in hours)\*\*:

Subject\*:  Time Required(in hours)\*\*:

\*subject names allotted to a batch must be from the subjects taught by teachers (ignore case)  
\*\*total hours of study for any batch must not exceed total available hours

### MCA 1st year

	Monday	Tuesday	Wednesday	Thursday	Friday
09:15 - 10:05	Python - Biju balakrishnan	Deep learning - Nirmala	Python - Biju balakrishnan	Data structure and algorithm - Jayasudha	Python - Biju balakrishnan
10:05 - 10:55	Web development - Princess maria john	Networking - vignesh	Web development - Princess maria john	Python - Biju balakrishnan	Web development - Princess maria john
BREAK					
11:10 - 12:00	Networking - vignesh	Networking - vignesh	Deep learning - Nirmala	Web development - Princess maria john	Data structure and algorithm - Jayasudha
12:00 - 12:50	Deep learning - Nirmala	Free Period	Deep learning - Nirmala	Data structure and algorithm - Jayasudha	Python - Biju balakrishnan
BREAK					
02:00 - 02:50	Networking - vignesh	Free Period	Deep learning - Nirmala	Data structure and algorithm - Jayasudha	Data structure and algorithm - Jayasudha
02:50 - 03:40	Networking - vignesh	Data structure and algorithm - Jayasudha	Data structure and algorithm - Jayasudha	Deep learning - Nirmala	Web development - Princess maria john
03:40 - 04:30	Free Period	Data structure and algorithm - Jayasudha	Python - Biju balakrishnan	Deep learning - Nirmala	Free Period

[Print Timetable](#)

## VI. CONCLUSION

A web application was developed for timetable management. Overall, time management methods can directly reduce stress. The process will result in fewer surprises, less time pressure and some urgent events from one task to another and from one place to another. Being productive can be an objective for you and this can be done by introducing time management. It gives an idea of what needs to be done to better manage the workload. It allows a person to be organized and achieve the expected results with less work and errors. Time cannot be increased but can be managed. Time management allows people to succeed and they can easily enjoy their lives. Most successful people define the scheduling process as undoubtedly leading to professional and equally personal success.

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