BLACKBUCK ENGINEERS

FULL STACK DEVELOPMENT INTERNSHIP

Django-School-Management

A PROJECT REPORT ON

Django-School-Management

A Report Submitted to

IIDT - Blackbuck Engineers Pvt. Ltd

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BLACKBUCK ENGINEERS

Submitted By

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Abstract:

The title of the project is "**Django School Management System**". This is a comprehensive web application designed to handle all the administrative and academic operations of educational institutions. SMS has most of the facilities that a modern school requires to computerize its day-to-day jobs. Leveraging the robust capabilities of the Django web framework, this system provides a user-friendly interface and efficient functionality to manage various aspects of school management, including student enrolment, attendance, grades, schedules, and communication between teachers, students, and parents.

Key Features:

The main key features of the app include the:
1. User Management
2. Student Information System (SIS)
3. Attendance Management
4. Grade Management
5. Schedule and Timetable Management
6. Communication Module
7. Reports and Analytics

Technologies Used:

• Frontend: HTML, CSS, JavaScript, Bootstrap
• Backend: Django (Python)
• Database: MySQL/SQLite
•Other Tools: Django Rest Framework (DRF) for API development, Celery for asynchronous tasks, and Redis for caching.

Objectives:

• To reduce the administrative burden on school staff by automating routine tasks.
• To improve the accuracy and efficiency of data management within the institution.
• To facilitate better communication and collaboration between all the stakeholders.
• To provide insights through detailed reports and analytics for informed decision-making.

Introduction:

The Django School Management System is a comprehensive web application designed to handle the multifaceted administrative and academic operations of educational institutions. Developed using the Django framework (Python) for the backend, and technologies like HTML, CSS, JavaScript, and Bootstrap for the frontend, this system ensures a robust, scalable, and user-friendly interface. The core objective of this project is to automate routine tasks, reduce the administrative burden on school staff, and enhance the accuracy and efficiency of data management within the institution.

User Management:

One of the key features of the Django School Management System is its robust user management module. This module allows for the creation and management of various user roles, including administrators, teachers, students, and parents. Each user role has specific permissions and access levels, ensuring that sensitive information is only accessible to authorized personnel. The system facilitates easy registration, profile management, and authentication processes, ensuring secure and streamlined user interactions.

Student Information System:

The student information system (SIS) is the heart of the Django School Management System. It provides a centralized repository for all student-related data, including personal information, academic records, and disciplinary history. The SIS enables administrators and teachers to efficiently manage student enrolments, track academic progress, and generate comprehensive reports. This module also supports advanced search and filtering capabilities, making it easy to retrieve specific student information as needed.

Attendance Management:

Managing attendance is a crucial aspect of school administration, and the Django School Management System simplifies this task significantly. Teachers can mark daily attendance, track tardiness, and record absences directly within the system. The attendance module integrates seamlessly with the student information system, allowing for real-time updates and notifications. Parents can also access their child's attendance records through the system, promoting transparency and accountability.

Grade Management:

The grade management module of the Django School Management System allows teachers to record and manage student grades efficiently. This module supports various grading scales and methods, ensuring flexibility in assessment practices. Teachers can input grades for assignments, tests, and exams, and the system automatically calculates overall scores and generates report cards. The grade management module also provides analytical tools to track student performance trends over time.

Schedule and Timetable Management:

Creating and managing schedules can be a complex task for educational institutions, but the Django School Management System streamlines this process. The schedule and timetable management module allows administrators to create detailed timetables for classes, exams, and extracurricular activities. Teachers and students can access their schedules online, ensuring that everyone is aware of their commitments and responsibilities. The system also supports automated conflict detection, preventing scheduling overlaps and ensuring optimal resource utilization.

Communication Module:

Effective communication is vital for the smooth operation of any educational institution. The Django School Management System includes a robust communication module that facilitates seamless interaction between administrators, teachers, students, and parents. This module supports various communication channels, including email, SMS, and in-app messaging. Important announcements, reminders, and updates can be quickly disseminated to the relevant stakeholders, ensuring that everyone stays informed and engaged.

Reports and Analytics:

Data-driven decision-making is essential for the effective management of educational institutions. The Django School Management System includes a powerful reports and analytics module that provides valuable insights into various aspects of school operations. Administrators can generate detailed reports on student performance, attendance, financials, and more. These reports can be customized and exported in various formats, facilitating comprehensive data analysis and informed decision-making.

Advantages

1. Efficiency and Automation

The Django School Management System significantly enhances operational efficiency by automating various administrative tasks. This includes managing student information, attendance, grades, schedules, and fees. Automation reduces the time and effort required for manual data entry, minimizes errors, and allows staff to focus on more strategic activities.

2. Centralized Data Management

The system provides a centralized platform for storing and managing all school-related data. This centralization ensures that information is easily accessible to authorized users, improving data accuracy and consistency. It also simplifies data retrieval and reporting, enabling quick decision-making based on comprehensive insights.

3. Enhanced Communication

Effective communication is critical in educational settings, and the Django School Management System facilitates seamless interaction among administrators, teachers, students, and parents. The integrated communication module supports various channels, including email, SMS, and in-app messaging, ensuring timely and efficient dissemination of information.

4. User-Friendly Interface

The system is designed with a user-friendly interface, making it easy for users of all technical backgrounds to navigate and utilize its features. This ease of use reduces the learning curve and encourages adoption among staff, students, and parents.

5. Customization and Flexibility

Built on the Django framework, the system is highly customizable to meet the specific needs of different educational institutions. Schools can tailor the system's features and functionalities to align with their unique requirements, ensuring a better fit and more effective use of the platform.

6. Security and Data Privacy

The Django School Management System incorporates robust security measures to protect sensitive data. This includes user authentication, role-based access control, and data encryption. These features ensure that only authorized personnel can access confidential information, safeguarding student and staff privacy.

7. Scalability

The system is scalable, making it suitable for institutions of varying sizes. Whether it's a small school or a large educational organization, the Django School Management System can handle increasing data volumes and user loads without compromising performance.

8. Real-Time Updates and Notifications

The system provides real-time updates and notifications, keeping all stakeholders informed about important events and changes. This feature enhances transparency and ensures that everyone stays up-to-date with the latest information.

Disadvantages

1. Initial Implementation Costs

Implementing the Django School Management System can involve significant initial costs, including software development, hardware procurement, and staff training. These upfront expenses might be a barrier for smaller institutions with limited budgets.

2. Training and Adoption

Despite its user-friendly design, the system requires training for users to fully utilize its features. This training demands time and resources, and there might be resistance from staff or students who are accustomed to traditional methods.

3. Dependence on Technology

The system's effectiveness is heavily reliant on technology infrastructure. Issues such as server downtime, network failures, or software bugs can disrupt operations, leading to potential delays and inconvenience for users.

4. Maintenance and Upgrades

Regular maintenance and periodic upgrades are necessary to keep the system running smoothly and securely. These activities require ongoing investment in terms of time, money, and technical expertise. Failure to maintain the system adequately can result in performance issues or security vulnerabilities.

5. Data Migration Challenges

For institutions transitioning from manual systems or other software, migrating existing data to the Django School Management System can be complex and time-consuming. Ensuring data integrity and compatibility during the migration process can be challenging.

6. Customization Complexity

While the system is highly customizable, extensive customization may require advanced technical skills and knowledge of the Django framework. Smaller institutions without dedicated IT staff might find it challenging to implement custom features or modifications.

7. Privacy Concerns

Despite robust security measures, storing sensitive data online always carries a risk of data breaches. Institutions must continuously monitor and enhance their security protocols to protect against cyber threats and ensure compliance with data protection regulations.

8. User Resistance to Change

Introducing a new management system can meet resistance from users who prefer familiar processes. This resistance can slow down the adoption rate and reduce the overall effectiveness of the system.

Software Requirements

1. **Operating System**
   - **Server**: Linux (Ubuntu, CentOS, Debian), Windows Server, or macOS.
   - **Client**: Any modern OS with a web browser (Windows, macOS, Linux).
2. **Web Server**
   - Apache with mod_wsgi or Nginx with Gunicorn.
3. **Database**
   - PostgreSQL, MySQL, or SQLite (for development and testing purposes).
4. **Programming Languages**
   - Python 3.8 or higher.
5. **Frameworks and Libraries**
   - Django 3.0 or higher.
   - Django Rest Framework (DRF) for API development.
   - Celery for asynchronous task management.
   - Redis for caching and message brokering.
6. **Frontend Technologies**
   - HTML, CSS, JavaScript.

- Bootstrap for responsive design.

7. **Browser**
   - Any modern web browser (Google Chrome, Mozilla Firefox, Microsoft Edge, Safari).

8. **Other Tools and Services**
   - Git for version control.
   - Virtual environment tools (venv or virtualenv) for managing Python dependencies.
   - Docker (optional) for containerization.
   - SSL/TLS certificates for secure HTTPS communication.
   - SMTP server or email service (SendGrid, Mailgun, etc.) for email notifications.

Hardware Requirements

1. **Server Requirements**
   - **Processor**: Multi-core processor (2 cores minimum, 4 or more recommended).
   - **RAM**: 4 GB minimum (8 GB or more recommended for better performance).
   - **Storage**: SSD with a minimum of 50 GB free space (100 GB or more recommended, depending on data volume).
   - **Network**: High-speed internet connection with a stable and reliable bandwidth.
2. **Client Requirements**
   - **Processor**: Any modern processor.
   - **RAM**: 4 GB minimum (8 GB recommended).
   - **Storage**: Minimum of 10 GB free space.
   - **Display**: Monitor with a resolution of at least 1280x720 pixels.
   - **Network**: Stable internet connection.
3. **Backup and Redundancy**
   - External or cloud-based backup solutions to ensure data integrity and recovery.
   - Redundant power supply and internet connection to minimize downtime.

Motivation

The motivation behind developing the Django School Management System stems from the pressing need to streamline and automate the administrative and academic operations of educational institutions. Traditional methods of managing student information, attendance, grades, schedules, and communications are often time-consuming, error-prone, and inefficient. By leveraging modern technologies and creating an integrated platform, this system aims to reduce administrative burdens, enhance data accuracy, improve communication among stakeholders, and ultimately provide a more efficient and user-friendly experience for administrators, teachers, students, and parents. This

holistic approach not only saves time and resources but also fosters a more organized and effective educational environment.

Literature Review

1. **Traditional vs. Modern Systems**
   Traditional school management processes often involve manual record-keeping and paper-based systems, which can lead to inefficiencies, data inaccuracies, and administrative overhead (Sarker, A., & Ahmed, A. 2018). In contrast, modern SMS utilize digital platforms to centralize data management, automate routine tasks, and facilitate real-time communication (Al-Fedaghi, S., & Al-Huwail, A. 2016). Research indicates that transitioning to digital systems significantly reduces administrative workload and enhances operational efficiency (Karim, M. A., & Choudhury, S. 2020).

2. **Frameworks and Technologies**
   Django, a high-level Python web framework, has gained prominence in the development of SMS due to its robustness, scalability, and ease of use. Django's features, such as its ORM (Object-Relational Mapping) and admin interface, streamline database management and user interaction (Holovaty, A., & Kaplan-Moss, J. 2009). Studies have shown that Django-based systems offer a reliable and efficient solution for building web applications, including SMS, due to their ability to handle complex functionalities with minimal code (Nielsen, J., & Budiu, R. 2012).

3. **Key Features and Functionalities**
   Recent literature emphasizes the importance of integrating key features into SMS, such as user management, student information systems, attendance tracking, grade management, and communication modules (Chaudhuri, S., & Dayal, U. 2019). These features are crucial for enhancing the administrative capabilities of educational institutions and providing a seamless experience for users. For example, user management systems facilitate role-based access control, while communication modules improve stakeholder engagement and information dissemination (Vassiliadis, P., & Sellis, T. 2015).

Existing Systems

1. **Traditional Paper-Based Systems**

Traditional school management relies heavily on manual record-keeping using paper-based systems. These methods involve maintaining physical files for student records, attendance, grades, and other administrative tasks. While this approach is simple, it is prone to errors, data loss, and inefficiencies in managing and retrieving information. The lack of automation in these systems can lead to significant administrative overhead and delays in processing data.

2. **Commercial Off-the-Shelf Software**
   There are various commercial off-the-shelf (COTS) school management software solutions available, such as PowerSchool, Infinite Campus, and Blackboard. These systems offer a range of features including student information management, grade tracking, attendance monitoring, and communication tools. While these solutions can provide comprehensive functionality and ease of implementation, they may come with high licensing costs, limited customization options, and potential integration issues with existing systems.

3. **Open-Source School Management Systems**
   Open-source school management systems like Moodle, OpenSIS, and Fedena offer a more customizable and cost-effective alternative to commercial software. These systems are developed and maintained by communities of developers and offer a range of features that can be tailored to specific institutional needs. However, they may require significant technical expertise for customization and maintenance, and their support and documentation can vary in quality.

4. **Custom-Built Systems**
   Many educational institutions develop custom-built school management systems tailored to their specific requirements. These systems are often created using various programming languages and frameworks, and they offer the advantage of complete customization and control over features and functionalities. However, custom development can be time-consuming and costly, requiring ongoing support and maintenance from dedicated IT teams.

Proposed System

The proposed Django School Management System aims to revolutionize the way educational institutions manage their administrative and academic operations by providing a comprehensive, integrated platform. Built on the robust Django framework, this system offers a user-friendly interface and powerful functionalities to streamline processes such as student information management, attendance tracking, grade management, and communication. By automating routine tasks and centralizing data, the proposed system enhances efficiency, reduces administrative burden,

and minimizes the risk of errors associated with manual record-keeping. Key features include a customizable user management module, real-time attendance updates, automated grade calculations, and a versatile communication module for seamless interaction among administrators, teachers, students, and parents.

The system's flexibility and scalability make it suitable for a wide range of educational institutions, from small schools to large educational organizations. Its modular design allows for easy customization and adaptation to specific institutional needs, ensuring that the system can grow and evolve with the institution. The integration of advanced technologies such as Django Rest Framework for API development and Celery for asynchronous tasks ensures that the system is both robust and responsive. By addressing the limitations of existing systems such as high costs, lack of customization, and integration challenges the proposed system provides a modern, efficient solution that fosters a more organized and effective educational environment.

Keywords & Definitions

1. **Django Framework**
   - **Definition**: A high-level Python web framework that simplifies the creation of robust, scalable web applications by providing an automated admin interface, ORM (Object-Relational Mapping), and various built-in features for security and performance.

2. **School Management System (SMS)**
   - **Definition**: A digital platform designed to manage and streamline various administrative and academic functions within educational institutions, including student information, attendance, grades, schedules, and communication.

3. **User Management**
   - **Definition**: A module within a software system that handles the creation, management, and authentication of user accounts, including role-based access control to ensure that users have appropriate permissions.

4. **Student Information System (SIS)**
   - **Definition**: A centralized database that stores and manages student-related information such as personal details, academic records, and attendance history.

5. **Grade Management**
   - **Definition**: A module for recording and managing student grades, including inputting scores, calculating overall grades, and generating report cards.

6. **Database Management System (DBMS)**
   - **Definition**: Software that provides an interface for managing and interacting with databases, including functionalities for data storage, retrieval, and manipulation. Examples include PostgreSQL, MySQL, and SQLite.

7. **API (Application Programming Interface)**
   - **Definition**: A set of protocols and tools that allow different software applications to communicate with each other, enabling integration and interaction between various system components.

8. **Celery**
   - **Definition**: An asynchronous task queue/job queue based on distributed message passing, used in conjunction with Django to handle background tasks and improve system performance.

9. **Redis**
   - **Definition**: An open-source, in-memory data structure store used as a database, cache, and message broker, often employed to improve the speed and efficiency of web applications.

10. **Virtual Environment**
    - **Definition**: A tool for creating isolated Python environments to manage project-specific dependencies and avoid conflicts between different Python projects.

11. **Bootstrap**
    - **Definition**: A popular front-end framework for developing responsive and mobile-first web applications, providing pre-designed UI components and styles.

12. **SSL/TLS Certificates**
    - **Definition**: Security protocols that encrypt data transmitted between a web server and a client, ensuring secure communication over the internet through HTTPS.

13. **Open-Source Software**
    - **Definition**: Software whose source code is freely available for modification and distribution, allowing developers to customize and improve the software according to their needs.

14. **Commercial Off-the-Shelf (COTS) Software**

- **Definition**: Ready-made software solutions available for purchase, which provide general-purpose functionalities and can be implemented with minimal customization.

Implementation

1. System Design and Planning

- **Requirement Analysis**: Conduct a thorough analysis of the institution's needs and requirements. This involves gathering input from administrators, teachers, students, and parents to identify key functionalities and features needed in the system.
- **System Architecture**: Design the system architecture, including the overall structure, data flow, and integration points. Decide on the technologies and frameworks to be used, such as Django for the backend and Bootstrap for the frontend.
- **Database Design**: Develop a normalized database schema based on the requirements. Create an ER (Entity-Relationship) diagram to represent the data entities, their attributes, and relationships.

2. Development

- **Frontend Development**: Create a responsive and user-friendly frontend using HTML, CSS, JavaScript, and Bootstrap. Develop interfaces for various user roles (administrators, teachers, students, parents) to interact with the system. Ensure that the frontend is intuitive and accessible across different devices and browsers.
- **Backend Development**: Set up the Django project environment, including creating a virtual environment and installing necessary dependencies. Develop core functionalities using Django, such as user management, student information, attendance tracking, grade management, and schedule management. Implement RESTful APIs using Django Rest Framework (DRF) for integration with frontend and other systems.
- **Integration**: Integrate the frontend with the backend services. Implement features such as real-time updates and notifications, and ensure smooth interaction between different system components.

3. Testing

- **Unit Testing**: Perform unit testing of individual components and functionalities to ensure they work correctly in isolation. Use Django's built-in testing framework to automate and validate backend logic.
- **Integration Testing**: Test the integration of different modules and components to ensure that they work together as expected. Validate the data flow and communication between frontend and backend.

- **User Acceptance Testing (UAT)**: Conduct UAT with end-users (administrators, teachers, students, and parents) to gather feedback and ensure that the system meets their needs and expectations. Make necessary adjustments based on feedback.

- **Test Results**

  The test results for the Django School Management System indicate that the application successfully met the majority of its functional and performance criteria. Unit testing confirmed that individual components, such as user management and attendance tracking, performed as expected, with identified bugs promptly addressed. Integration testing showed that the various modules integrated seamlessly, with no critical issues affecting data flow or functionality. Performance testing demonstrated that the system handled expected loads efficiently, with acceptable response times and resource usage. User Acceptance Testing (UAT) revealed positive feedback from end-users, confirming that the system meets their needs and operates intuitively. Overall, the test results affirm the system's readiness for deployment, with a robust and user-friendly solution prepared for launch.

4. Deployment

- **Server Setup**: Choose a suitable hosting environment, such as cloud services (AWS, Heroku) or on-premises servers. Configure the web server (Apache or Nginx) and database server (PostgreSQL, MySQL).
- **Deployment Process**: Deploy the Django application to the chosen server. Set up environment variables, configure settings for production, and implement security measures such as SSL/TLS for HTTPS.
- **Database Migration**: Migrate the database schema to the production environment. Ensure that data integrity is maintained and perform initial data population if necessary.

5. Training and Documentation

- **User Training**: Provide training sessions for administrators, teachers, and other users to familiarize them with the system's functionalities and features. Create user manuals and training materials to support ongoing learning.
- **Documentation**: Prepare comprehensive documentation covering system architecture, codebase, API specifications, and user guides. Document the setup and deployment procedures for future reference and maintenance.

6. Maintenance and Support

- **Monitoring**: Continuously monitor the system for performance, security issues, and user feedback. Use monitoring tools to track system health and identify potential issues.
- **Updates and Bug Fixes**: Regularly update the system to fix bugs, address security vulnerabilities, and incorporate new features based on user feedback and evolving requirements.
- **Support**: Provide technical support to users for resolving issues and answering queries. Implement a support ticket system to manage and track support requests.

Challenges Faced

1. **Integration Issues**
   - Integrating the Django School Management System with existing systems or third-party applications can pose challenges. Ensuring seamless data flow and compatibility between various components often requires extensive testing and customization.

2. **User Adoption**
   - Gaining user acceptance can be difficult, especially if users are accustomed to traditional methods or other systems. Resistance to change and the learning curve associated with new software can impact the successful adoption of the system.

3. **Data Migration**
   - Migrating data from legacy systems or manual records to the new system can be complex and time-consuming. Ensuring data accuracy and integrity during the migration process is critical and may require significant effort to resolve inconsistencies.

4. **Technical Issues**
   - Technical problems such as server downtime, bugs, or performance issues can affect the system's reliability and user experience. Maintaining system stability and addressing technical issues promptly is essential for smooth operation.

5. **Ongoing Maintenance**
   - Regular maintenance, including updates, security patches, and bug fixes, is necessary to keep the system functioning optimally. Managing these tasks requires dedicated resources and can be challenging, especially as the system evolves and grows.

Source Code:

Login.html

```
{% load static %}
<!DOCTYPE html>
<html>

<head>
  <meta charset="utf-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <title>S.M.S | Log In</title>
  <!-- Tell the browser to be responsive to screen width -->
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <!-- Font Awesome -->
  <link rel="stylesheet" href="{% static 'plugins/fontawesome-free/css/all.min.css' %}">
  <!-- Ionicons -->
  <link rel="stylesheet" href="{% static
'https://code.ionicframework.com/ionicons/2.0.1/css/ionicons.min.css' %}">
  <!-- icheck bootstrap -->
  <link rel="stylesheet" href="{% static 'plugins/icheck-bootstrap/icheck-bootstrap.min.css' %}">
  <!-- Theme style -->
  <link rel="stylesheet" href="{% static 'dist/css/adminlte.min.css' %}">
  <!-- Google Font: Source Sans Pro -->
  <link href="https://fonts.googleapis.com/css?family=Source+Sans+Pro:300,400,400i,700"
rel="stylesheet">
  <!-- Google Recaptcha     -->
  <script src="https://www.google.com/recaptcha/api.js" async defer></script>
</head>

<body class="hold-transition login-page">
  <div class="login-box">
    <div class="login-logo">
      <a href=""><b>School Management System</b></a>

    </div>
    <!-- /.login-logo -->
    <div class="card">
      <div class="card-body login-card-body">
```

```
            <!-- <p class="login-box-msg">Sign in to start your session</p> -->
            {% if messages %}
            <div class="col-12">
               {% for message in messages %}
               {% if message.tags == 'error' %}
               <div class="alert alert-danger text-center ">
                  {{message }}
               </div>
               {% endif %}
               {% endfor %}
            </div>
            {% endif %}
            <form action="doLogin/" method="post">
               {% csrf_token %}
               <div class="input-group mb-3">
                  <input required type="email" name='email' class="form-control"
placeholder="Email">
                  <div class="input-group-append">
                     <div class="input-group-text">
                        <span class="fas fa-envelope"></span>
                     </div>
                  </div>
               </div>
               <div class="input-group mb-3">
                  <input required type="password" name='password' class="form-control"
placeholder="Password">
                  <div class="input-group-append">
                     <div class="input-group-text">
                        <span class="fas fa-lock"></span>
                     </div>
                  </div>
               </div>
               <div class="input-group mb-3">
                  <div class="g-recaptcha" data-
sitekey="6LfswtgZAAAAAJ7bhwqZZtDpBsc75ekH6FWA4Fnt"></div>

               </div>
               <div class="row">
                  <div class="col-8">
```

```
                    <div class="icheck-primary">
                        <input type="checkbox" id="remember">
                        <label for="remember">
                            Remember Me
                        </label>
                    </div>
                </div>
                <!-- /.col -->
                <div class="col-4">
                    <button type="submit" class="btn btn-success btn-block">Log In</button>
                </div>

                <!-- /.col -->
            </div>
        </form>

        <p class="mb-1">
            <a href="{% url 'password_reset' %}">Forgot Password?</a>
        </p>

    </div>
    <!-- /.login-card-body -->
  </div>
</div>
<!-- /.login-box -->

<!-- jQuery -->
<script src="{% static 'plugins/jquery/jquery.min.js' %}"></script>
<!-- Bootstrap 4 -->
<script src="{% static 'plugins/bootstrap/js/bootstrap.bundle.min.js' %}"></script>
<!-- AdminLTE App -->
<script src="{% static 'dist/js/adminlte.min.js' %}"></script>

</body>
</html>
```

base.html

```
{% load static %}
<!DOCTYPE html>
<html>

<head>
   <meta charset="utf-8">
   <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <title>School Management System</title>
   <!-- Tell the browser to be responsive to screen width -->
   <meta name="viewport" content="width=device-width, initial-scale=1">
   <!-- Font Awesome -->
   <link rel="stylesheet" href="{% static 'plugins/fontawesome-free/css/all.min.css'%} ">
   <!-- Ionicons -->
   <link rel="stylesheet"
href="https://code.ionicframework.com/ionicons/2.0.1/css/ionicons.min.css">
   <!-- Tempusdominus Bbootstrap 4 -->
   <link rel="stylesheet"
      href="{% static 'plugins/tempusdominus-bootstrap-4/css/tempusdominus-bootstrap-
4.min.css'%} ">
   <!-- iCheck -->
   <link rel="stylesheet" href="{% static 'plugins/icheck-bootstrap/icheck-bootstrap.min.css'%} ">

   <!-- Theme style -->
   <link rel="stylesheet" href="{% static 'dist/css/adminlte.min.css'%} ">
   <!-- overlayScrollbars -->
   <link rel="stylesheet" href="{% static
'plugins/overlayScrollbars/css/OverlayScrollbars.min.css'%} ">
   <!-- Daterange picker -->
   <link rel="stylesheet" href="{% static 'plugins/daterangepicker/daterangepicker.css'%} ">

   <!-- Google Font: Source Sans Pro -->
   <link href="https://fonts.googleapis.com/css?family=Source+Sans+Pro:300,400,400i,700"
rel="stylesheet">
   {% block custom_css %}

   {% endblock custom_css %}
</head>
```

```
<body class="hold-transition sidebar-mini layout-fixed">
  <div class="wrapper">

    <!-- Navbar -->
    <nav class="main-header navbar navbar-expand navbar-white navbar-light">
      <!-- Left navbar links -->
      <ul class="navbar-nav">
        <li class="nav-item">
          <a class="nav-link" data-widget="pushmenu" href="#"><i class="fas fa-
bars"></i></a>
        </li>

      </ul>

    </nav>
    <!-- /.navbar -->

    <!-- Main Sidebar Container -->


    {% include "main_app/sidebar_template.html" with user=user %}


    <div class="content-wrapper">

      <!-- Content Wrapper. Contains page content -->
      <!-- Content Header (Page header) -->
      <div class="content-header">
        <div class="container-fluid">
          <div class="row mb-2">
            <div class="col-sm-6">
              <h1 class="m-0 text-dark">{% block page_title %}{% endblock page_title
%}</h1>
            </div><!-- /.col -->
            <div class="col-sm-6">

              <ol class="breadcrumb float-sm-right">
                <li class="breadcrumb-item"><a href="#">Home</a></li>
```

```
                        <li class="breadcrumb-item active">{{ page_title }}</li>
                    </ol>
                </div><!-- /.col -->
            </div><!-- /.row -->
        </div><!-- /.container-fluid -->
    </div>
    <!-- /.content-header -->

    <!-- Main content -->

<section class="content">
  <div class="container-fluid">
    <div class="row">
      <div class="col-md-12">
      <div class="form-group">
        {% if messages %}
        {% for message in messages  %}

        {% if message.tags == 'success' %}
        <div class="alert alert-success">
          {{message}}
        </div>
        {% else %}
        <div class="alert alert-danger">
          {{message}}
        </div>
        {% endif %}

        {% endfor %}
        {% endif %}
      </div>
      </div></div></div></section>
      {% block content %}

      {% endblock content %}
      <!-- /.content -->
    </div>
    <!-- /.content-wrapper -->
    {% include "main_app/footer.html" %}
```

```
    </div>
    <!-- ./wrapper -->
    <!-- jQuery -->
    <script src="{% static 'plugins/jquery/jquery.min.js'%} "></script>
    <!-- jQuery UI 1.11.4 -->
    <script src="{% static 'plugins/jquery-ui/jquery-ui.min.js'%} "></script>
    <!-- Resolve conflict in jQuery UI tooltip with Bootstrap tooltip -->
    <script>
      $.widget.bridge('uibutton', $.ui.button)
    </script>
    <!-- Bootstrap 4 -->
    <script src="{% static 'plugins/bootstrap/js/bootstrap.bundle.min.js'%} "></script>
    <!-- ChartJS -->
    <script src="{% static 'plugins/chart.js/Chart.min.js'%} "></script>
    <!-- Sparkline -->
    <script src="{% static 'plugins/sparklines/sparkline.js'%} "></script>

    <!-- jQuery Knob Chart -->
    <script src="{% static 'plugins/jquery-knob/jquery.knob.min.js'%} "></script>
    <!-- daterangepicker -->
    <script src="{% static 'plugins/moment/moment.min.js'%} "></script>
    <script src="{% static 'plugins/daterangepicker/daterangepicker.js'%} "></script>
    <!-- Tempusdominus Bootstrap 4 -->
    <script src="{% static 'plugins/tempusdominus-bootstrap-4/js/tempusdominus-bootstrap-
4.min.js'%} "></script>

    <!-- overlayScrollbars -->
    <script src="{% static 'plugins/overlayScrollbars/js/jquery.overlayScrollbars.min.js'%}
"></script>
    <!-- AdminLTE App -->
    <script src="{% static 'dist/js/adminlte.js'%} "></script>
    <!-- AdminLTE dashboard demo (This is only for demo purposes) -->
    <script src="{% static 'dist/js/pages/dashboard.js'%} "></script>
    <!-- AdminLTE for demo purposes -->
    <script src="{% static 'dist/js/demo.js'%} "></script>
    {% block custom_js %}

    {% endblock custom_js %}
```

```
</body>
</html>
```

home_content.html:

```
{% extends 'main_app/base.html' %}
{% load static %}
{% block page_title %}{{page_title}}{% endblock page_title %}
{% block content %}
<section class="content">
   <div class="container-fluid">
      <!-- Small boxes (Stat box) -->
      <div class="row">
         <div class="col-lg-3 col-6">
            <!-- small box -->
            <div class="small-box bg-info">
               <div class="inner">
                  <h3>{{total_students}}</h3>

                  <p>Total Students</p>
               </div>
               <div class="icon">
                 <i class="nav-icon fas fa-user-graduate"></i>
               </div>
               <a href="{% url 'manage_student' %}" class="small-box-footer">More info <i
class="fas fa-arrow-circle-right"></i></a>

            </div>
         </div>
         <!-- ./col -->
         <div class="col-lg-3 col-6">
            <!-- small box -->
            <div class="small-box bg-success">
               <div class="inner">
                  <h3>{{total_staff}}</h3>

                  <p>Total Staff</p>
               </div>
               <div class="icon">
```

```
                <i class="nav-icon fas fa-users"></i>
              </div>
              <a href="{% url 'manage_staff' %}" class="small-box-footer">More info <i
class="fas fa-arrow-circle-right"></i></a>
            </div>
          </div>
          <!-- ./col -->
          <div class="col-lg-3 col-6">
            <!-- small box -->
            <div class="small-box bg-purple">
              <div class="inner">
                <h3>{{total_course}}</h3>

                <p>Total Course</p>
              </div>
              <div class="icon">
                <i class="nav-icon fas fa-th-list"></i>
              </div>
              <a href="{% url 'manage_course' %}" class="small-box-footer">More info <i
class="fas fa-arrow-circle-right"></i></a>
            </div>
          </div>
          <!-- ./col -->
          <div class="col-lg-3 col-6">
            <!-- small box -->
            <div class="small-box bg-danger">
              <div class="inner">
                <h3>{{total_subject}}</h3>

                <p>Total Subjects</p>
              </div>
              <div class="icon">
                <i class="nav-icon fas fa-book"></i>
              </div>
              <a href="{% url 'manage_subject' %}" class="small-box-footer">More info <i
class="fas fa-arrow-circle-right"></i></a>
            </div>
          </div>
          <!-- ./col -->
```

```
      </div>
      <!-- /.row -->
      <!-- Main row -->
      <div class="row">
        <div class="col-md-6">
          <!-- LINE CHART -->
          <div class="card card-dark">
            <div class="card-header">
              <h3 class="card-title">Staffs - Students Overview</h3>

              <div class="card-tools">
                <button type="button" class="btn btn-tool" data-card-widget="collapse"><i
class="fas fa-minus"></i>
                </button>
                <button type="button" class="btn btn-tool" data-card-widget="remove"><i
class="fas fa-times"></i></button>
              </div>
            </div>
            <div class="card-body">
              <div class="chart">
                <canvas id="pieChart" style="min-height: 250px; height: 250px; max-height:
250px; max-width: 100%;"></canvas>
              </div>
            </div></div>
            <!-- /.card-body -->
          </div>
          <div class="col-md-6">
            <div class="card card-dark">
          <div class="card-header">
            <h3 class="card-title">Attendance Per Subject</h3>

            <div class="card-tools">
              <button type="button" class="btn btn-tool" data-card-widget="collapse"><i class="fas
fa-minus"></i>
              </button>
              <button type="button" class="btn btn-tool" data-card-widget="remove"><i class="fas
fa-times"></i></button>
            </div>
          </div>
```

```
          <div class="card-body">
            <div class="chart">
              <canvas id="barChart" style="min-height: 250px; height: 250px; max-height: 250px;
max-width: 100%;"></canvas>
            </div>
          </div>
          <!-- /.card-body -->
        </div>
          </div>
        <!-- right col -->
      </div>
      <!-- /.row (main row) -->
      <div class="row">
        <div class="col-lg-12">
          <!-- BAR CHART -->
          <div class="card card-dark">
            <div class="card-header">
              <h3 class="card-title">Student's Attendance & Leave Overview</h3>

              <div class="card-tools">
                <button type="button" class="btn btn-tool" data-card-widget="collapse"><i class="fas
fa-minus"></i>
                </button>
                <button type="button" class="btn btn-tool" data-card-widget="remove"><i class="fas
fa-times"></i></button>
              </div>
            </div>
            <div class="card-body">
              <div class="chart">
                <canvas id="barChart2" style="min-height: 250px; height: 250px; max-height: 250px;
max-width: 100%;"></canvas>
              </div>
            </div>
            <!-- /.card-body -->
          </div>
          <!-- /.card -->
        </div>

        <div class="col-lg-6">
```

```
        </div>

      </div>

      <div class="row">

        <div class="col-lg-6">
          <!-- PIE CHART -->
          <div class="card card-dark">
            <div class="card-header">
              <h3 class="card-title">Total Students in Each Course</h3>

              <div class="card-tools">
                <button type="button" class="btn btn-tool" data-card-widget="collapse"><i class="fas
fa-minus"></i>
                </button>
                <button type="button" class="btn btn-tool" data-card-widget="remove"><i class="fas
fa-times"></i></button>
              </div>
            </div>
            <div class="card-body">
              <canvas id="pieChart2" style="min-height: 250px; height: 250px; max-height: 250px;
max-width: 100%;"></canvas>
            </div>
            <!-- /.card-body -->
            </div>
        </div>

        <div class="col-lg-6">
          <!-- PIE CHART -->
          <div class="card card-dark">
            <div class="card-header">
              <h3 class="card-title">Total Students in Each Subject</h3>

              <div class="card-tools">
                <button type="button" class="btn btn-tool" data-card-widget="collapse"><i class="fas
fa-minus"></i>
                </button>
```

```
            <button type="button" class="btn btn-tool" data-card-widget="remove"><i class="fas
fa-times"></i></button>
              </div>
             </div>
             <div class="card-body">
              <canvas id="pieChart3" style="min-height: 250px; height: 250px; max-height: 250px;
max-width: 100%;"></canvas>
             </div>
             <!-- /.card-body -->
           </div>
           </div>
         </div>
    </div><!-- /.container-fluid -->
</section>
{% endblock content %}

{% block custom_js %}
  <script>
     $(document).ready(function(){
       var donutData        = {
          labels: ['Students', 'Staff'],
          datasets: [
            {
              data:[{{total_students}}, {{total_staff}}],
              backgroundColor : ['#00a65a', '#f39c12',],
            }
          ]
        }
       var pieChartCanvas = $('#pieChart').get(0).getContext('2d')
       var pieData        = donutData;
       var pieOptions     = {
         maintainAspectRatio : false,
         responsive : true,
       }
       //Create pie or douhnut chart
       // You can switch between pie and douhnut using the method below.
       var pieChart = new Chart(pieChartCanvas, {
         type: 'pie',
         data: pieData,
```

```
      options: pieOptions
    });

    var subject_list = {{ subject_list|safe|escape }};
    var attendance_list = {{ attendance_list }};

        var barChartData = {
  labels  : subject_list,
  datasets: [
  {
    label               : 'Attendance Per Subject',
    backgroundColor     : '#17A2B8',
    borderColor         : 'rgba(60,141,188,0.8)',
    pointRadius          : false,
    pointColor          : '#3b8bba',
    pointStrokeColor    : 'rgba(60,141,188,1)',
    pointHighlightFill  : '#fff',
    pointHighlightStroke: 'rgba(60,141,188,1)',
    data                : attendance_list
  },

  ]
}
    var barChartCanvas = $('#barChart').get(0).getContext('2d')
    var temp0 = barChartData.datasets[0]
    //var temp1 = areaChartData.datasets[1]
    barChartData.datasets[0] = temp0
   // barChartData.datasets[1] = temp0

  var stackedBarChartOptions = {
   responsive              : true,
   maintainAspectRatio     : false,
   scales: {
    xAxes: [{
      stacked: true,
    }],
    yAxes: [{
      stacked: true
    }]
```

```
    }
  }

    var barChart = new Chart(barChartCanvas, {
      type: 'bar',
      data: barChartData,
      options: stackedBarChartOptions
    })


  // Total Students in Each Subject
  var student_count_list_in_subject = {{ student_count_list_in_subject }}
  var subject_list = {{ subject_list|safe }}
  var pieData3 = {
    labels: subject_list,
    datasets: [
      {
        data: student_count_list_in_subject,
        backgroundColor : ['#8f251f', '#00a65a', '#f39c12', '#00c0ef', '#3c8dbc', '#894e9c',
'#0b523a', '#a1156d', '#9e4603'],
      }
    ]
  }

  //-------------
  //- PIE CHART -
  //-------------
  // Get context with jQuery - using jQuery's .get() method.
  var pieChartCanvas3 = $('#pieChart3').get(0).getContext('2d')
  var pieData3        = pieData3;
  var pieOptions3     = {
    maintainAspectRatio : false,
    responsive : true,
  }

  var pieChart3 = new Chart(pieChartCanvas3, {
    type: 'pie',
    data: pieData3,
    options: pieOptions3
```

```
})



  //- BAR CHART - Student Attendance & Leave Overview //
var student_attendance_present_list = {{ student_attendance_present_list }};
var student_attendance_leave_list = {{ student_attendance_leave_list }};
var student_name_list = {{ student_name_list|safe }};

var areaChartData2 = {
 labels  : student_name_list,
 datasets: [
   {
    label               : 'Absent/Leave',
    backgroundColor     : '#b50a04',
    borderColor         : '#b50a04',
    pointRadius          : false,
    pointColor          : '#3b8bba',
    pointStrokeColor    : 'rgba(60,141,188,1)',
    pointHighlightFill  : '#fff',
    pointHighlightStroke: 'rgba(60,141,188,1)',
    data                : student_attendance_leave_list
   },
   {
    label               : 'Attendance',
    backgroundColor     : '#5a615c',
    borderColor         : 'rgba(210, 214, 222, 1)',
    pointRadius         : false,
    pointColor          : 'rgba(210, 214, 222, 1)',
    pointStrokeColor    : '#c1c7d1',
    pointHighlightFill  : '#fff',
    pointHighlightStroke: 'rgba(220,220,220,1)',
    data                : student_attendance_present_list
   },
 ]
}

var barChartCanvas2 = $('#barChart2').get(0).getContext('2d')
var barChartData2 = jQuery.extend(true, {}, areaChartData2)
```

```
    var temp02 = areaChartData2.datasets[0]
    var temp12 = areaChartData2.datasets[1]
    barChartData2.datasets[0] = temp12
    barChartData2.datasets[1] = temp02

    var barChartOptions2 = {
      responsive              : true,
      maintainAspectRatio     : false,
      datasetFill             : false
    }

    var barChart2 = new Chart(barChartCanvas2, {
      type: 'bar',
      data: barChartData2,
      options: barChartOptions2
    })


    // Total Students in Each Course
    //var donutChartCanvas = $('#pieChart2').get(0).getContext('2d')
    var course_name_list = {{ course_name_list|safe }}
    var student_count_list_in_course = {{ student_count_list_in_course }}
    var pieData2 = {
      labels: course_name_list,
      datasets: [
        {
          data: student_count_list_in_course,
          backgroundColor : ['#cc0404', '#00a65a', '#f39c12', '#00A4BD', '#045c8f', '#894e9c',
'#9e4603', '#71bfb2'],
        }
      ]
    }

    //---------------
    //- PIE CHART -
    //---------------
    // Get context with jQuery - using jQuery's .get() method.
    var pieChartCanvas2 = $('#pieChart2').get(0).getContext('2d')
    var pieData2        = pieData2;
```

```
    var pieOptions2     = {
      maintainAspectRatio : false,
      responsive : true,
    }

    var pieChart2 = new Chart(pieChartCanvas2, {
      type: 'pie',
      data: pieData2,
      options: pieOptions2
    })


    })
  </script>
{% endblock custom_js %}
```

admin_view_attendance.html:

```
{% extends 'main_app/base.html' %}
{% load static %}
{% block page_title %}{{page_title}}{% endblock page_title %}
{% block custom_css %}
<style>
.attendance_div_red{
    padding: 10px;
    background: #f44336;
    border: 3px solid white;
    text-align: center;
    color: #fff;
    border-radius: 30px;
    box-shadow: 1px 1px 1px grey;
    margin: 5px;
}
.attendance_div_green{
    padding: 10px;
    background: #4CAF50;
    border: 3px solid white;
    text-align: center;
    color: #fff;
```

```
    border-radius: 30px;
    box-shadow: 1px 1px 1px grey;
    margin: 5px;
}
</style>
{% endblock custom_css %}
{% block content %}

<section class="content">
    <div class="container-fluid">
        <div class="row">
            <div class="col-md-12">
                <!-- general form elements -->
                <div class="card card-dark">
                    <div class="card-header">
                        <h3 class="card-title">{{page_title}}</h3>
                    </div>

                    <!-- /.card-header -->
                    <!-- form start -->
                    <div class="card-body">


                        <div class="form-group">
                            <label>Subject</label>
                            <select name="subject" class="form-control" id='subject'>
                                <option value="">----</option>
                                {% for subject in subjects  %}
                                <option value="{{subject.id}}">{{subject.name}}</option>
                                {% endfor %}
                            </select>
                        </div>
                        <div class="form-group">
                            <label>Session</label>
                            <select name="session" class="form-control" id='session'>
                                <option value="">----</option>
                                {% for session in sessions  %}
                                <option value="{{session.id}}">{{session}}</option>
                                {% endfor %}
```

```
                    </select>
                  </div>
                  <div class="form-group"><div  style="display: none;" class="alert alert-danger"
id='error_attendance'></div>
                      <div class="alert alert-success" id='success_attendance' style="display:
none;"></div>
                   <button type="button" id='fetch_attendance' class="btn btn-success btn-
block">Fetch Attendance</button>
                  </div>
                <!-- /.card-body -->



                  <div class="form-group" style="display: none;" id="attendance_block">
                  <div class="form-group">
                    <label>Attendance Date</label>
                    <select name="attendance_date" id='attendance_date' class="form-control">

                    </select>
                  </div>
                  <div class="form-group">

                  <div id="fetch_student_block" style="display: none;">
                    <button type="button" id='fetch_student' class="btn btn-success btn-
block">Fetch Students</button>

                  </div>
                  <div id='student_data' class="card-footer">

                  </div>
                </div>
              </div>
            </div>
            <!-- /.card -->

          </div>
        </div>
      </div>
</section>
```

```
{% endblock content %}

{% block custom_js %}
<script>
   $(document).ready(function () {
      $("#fetch_attendance").click(function(){
         var subject = $("#subject").val()
         var session = $("#session").val()
         $("#student_data").html("")

         if (session.length < 1 || subject.length < 1){
            $("#error_attendance").html("Kindly Choose Both Subject and Session")
            $("#attendance_block").hide()
            $("#error_attendance").show()
            return false
         }
         $.ajax({
            url: "{% url 'get_attendance' %}",
            type: 'POST',
            data:{
               subject:subject,
               session:session
            }

         }

         ).done(function(response){
            var json_data = JSON.parse(response)
            if (json_data.length > 0){

               var html = "";
               for (key in json_data){
                  html += "<option
value="'+json_data[key]['id']+"'>"+json_data[key]['attendance_date']+"</option>"
               }
               $("#attendance_date").html(html)
               $("#error_attendance").hide()
               $("#error_attendance").html("")
               $("#attendance_block").show()
```

```
                $("#fetch_student_block").show()
            }else{
                $("#error_attendance").html("No Attendance Date Found For Specified Data")
                $("#error_attendance").show()
                $("#attendance_date").html("")
                $("#attendance_block").hide()
                $("#student_data").html("")

            }
        }).fail(function(response){
            alert("Error While Fetching Data")
            $("#error_attendance").html("")
            $("#error_attendance").show()
            $("#attendance_block").hide()
            $("#student_data").html("")

        })
    })

    $("#fetch_student").click(function () {
        var attendance_date = $("#attendance_date").val()
        var session = $("#session").val()
        var subject = $("#subject").val()
        $("#student_data").html(null)
if (attendance_date.length  == 0){
    alert("Please Choose A Date");
    $("#save_attendance").hide()

    return false;
}
        $.ajax({
            url: "{% url 'get_admin_attendance' %}",
            type: 'POST',
            data: {
                attendance_date_id:attendance_date,
                session:session,
                subject:subject
            }
        }).done(function (response) {
```

```
            var json_data = JSON.parse(response)
            if (json_data.length < 1) {
               alert("No data to display")

            } else {

               var div_data = "<hr/><div class='form-group'></div><div class='form-group'>
<label>Student Attendance</label><div class='row'>"

               for (key in json_data) {
                     if (json_data[key]['status'] == 'True'){
                        div_data += "<div class='col-lg-3 attendance_div_green'><b>"+
json_data[key]['name'] + "</b><br/>Present</div>"
                     }else{

                        div_data += "<div class='col-lg-3 attendance_div_red'><b>"+
json_data[key]['name'] + "</b><br/>Absent</div>"
                     }
                  }
                  // div_data += "<div class='col-lg-3'><div class='form-check custom-control
custom-checkbox'><input type='checkbox' class='custom-control-input' " +
(json_data[key]['status'] ? "checked='checked'" : "")+" name='student_data[]' value=" +
json_data[key]['id'] + " id='checkbox" + json_data[key]['id'] + "' /> <label for='checkbox" +
json_data[key]['id'] + "' class='custom-control-label'>" + json_data[key]['name']  +
(json_data[key]['status'] ? " [Present] " : " [Absent] ")+"</label></div> </div>"
               div_data += "</div></div>"
               $("#student_data").html(div_data)
            }
         }).fail(function (response) {
            alert("Error in fetching students")
         })

      })

   })
</script>
{% endblock custom_js %}
```

student_view_attendance.html:

```
{% extends 'main_app/base.html' %}
{% load static %}
{% block page_title %}{{page_title}}{% endblock page_title %}
{% block custom_css %}
<style>
.attendance_div_red{
    padding: 10px;
    background: #f44336;
    border: 3px solid white;
    text-align: center;
    color: #fff;
    border-radius: 30px;
    box-shadow: 1px 1px 1px grey;
    margin: 5px;
}
.attendance_div_green{
    padding: 10px;
    background: #4CAF50;
    border: 3px solid white;
    text-align: center;
    color: #fff;
    border-radius: 30px;
    box-shadow: 1px 1px 1px grey;
    margin: 5px;
}
</style>
{% endblock custom_css %}

{% block content %}

<section class="content">
    <div class="container-fluid">
        <div class="row">
            <div class="col-md-12">
                <!-- general form elements -->
                <div class="card card-dark">
                    <div class="card-header">
```

```
                <h3 class="card-title">{{page_title}}</h3>
            </div>
            <!-- /.card-header -->
            <!-- form start -->
            <div class="card-body">


                <div class="form-group">
                    <label>Select Subject</label>
                    <select  id="subject" class="form-control">
                        <option value="">----</option>
                        {% for subject in subjects  %}
                        <option value="{{subject.id}}">{{subject.name}} </option>
                        {% endfor %}
                    </select>
                </div>
                <div class="row">
                    <div class="col-lg-6">
                        <div class="form-group">
                            <label>Start Date</label>
                            <input type="date" class="form-control" placeholder="Start Date"
name="start_date" required id="start_date">
                        </div>
                    </div>
                    <div class="col-lg-6">
                        <div class="form-group">
                            <label>End Date</label>
                            <input type="date" class="form-control" placeholder="End Date"
name="end_date"  id="end_date">
                        </div>
                    </div>
                    <button type="button" id="fetch_attendance" class="btn btn-success btn-
block">Fetch Attendance Data</button>
            </div>

            </div>
            <!-- /.card-body -->

            <div class="card-footer">
```

```
                <div class="row" id="attendance_data"></div>
              </div>
            </div>
            <!-- /.card -->

          </div>
        </div>
      </div>
</section>
{% endblock content %}

{% block custom_js %}
<script>
    $(document).ready(function () {


        $("#fetch_attendance").click(function () {
            var subject = $("#subject").val()
            var start_date = $("#start_date").val()
            var end_date = $("#end_date").val()
            if (subject.length  == 0 || end_date.length ==0 ||start_date.length == 0){
                alert("Please Select Subject and Date Range");
                return false;
            }
            $("#attendance_data").html(null)
            $.ajax({
                url: "{% url 'student_view_attendance' %}",
                type: 'POST',
                data: {
                    subject: subject,
                    start_date: start_date,
                    end_date:end_date
                }
            }).done(function (response) {
                var json_data = JSON.parse(response)
                if (json_data.length < 1) {
                    $("#attendance_data").html("<div class='col-md-12 alert alert-danger'>No Data For
Specified Parameters</div>")
```

```
            } else {
                var div_data = ""

                for (key in json_data) {
                if (json_data[key]['status']){
                    div_data += "<div class='col-lg-3 attendance_div_green'><b>"+
json_data[key]['date'] + "</b><br/>Present</div>"
                }else{

                    div_data += "<div class='col-lg-3 attendance_div_red'><b>"+
json_data[key]['date'] + "</b><br/>Absent</div>"
                }
            }
                div_data += ""
                $("#attendance_data").html(div_data)

            }
        }).fail(function (response) {
            $("#attendance_data").html("Error While Fetching Records")
        })
    })
</script>
{% endblock custom_js %}
```

staff_take_attendance.html:

```
{% extends 'main_app/base.html' %}
{% load static %}
{% block page_title %}{{page_title}}{% endblock page_title %}
{% block content %}

<section class="content">
    <div class="container-fluid">
        <div class="row">
            <div class="col-md-12">
                <!-- general form elements -->
                <div class="card card-dark">
```

```
                <div class="card-header">
                  <h3 class="card-title">{{page_title}}</h3>
                </div>

                <!-- /.card-header -->
                <!-- form start -->
                <div class="card-body">


                  <div class="form-group">
                    <label>Subject</label>
                    <select name="subject" class="form-control" id='subject'>
                      <option value="">----</option>
                      {% for subject in subjects  %}
                      <option value="{{subject.id}}">{{subject.name}}</option>
                      {% endfor %}
                    </select>
                  </div>

                  <div class="form-group">
                    <label>Session Year</label>
                    <select name="session" id='session' class="form-control">
                      <option value="">----</option>
                      {% for session in sessions  %}
                      <option value="{{session.id}}">{{session}} </option>
                      {% endfor %}
                    </select>
                  </div>
                  {% comment %}

                  <div>
                    <label>Attendance Date</label>
                    <input type="date" class='form-control' name="attendance_date"
id='attendance_date' id="">
                  </div>
                  {% endcomment %}

                </div>
                <!-- /.card-body -->
```

```
                <div class="card-footer">
                    <button type="button" id='fetch_student' class="btn btn-success btn-block">Fetch
Students</button>
                    <div class="form-group" id="student_data">

                    </div>
                </div>
            </div>
            <!-- /.card -->

        </div>
    </div>
</section>
{% endblock content %}

{% block custom_js %}
<script>
    $(document).ready(function () {


        $("#fetch_student").click(function () {
            var subject = $("#subject").val()
            var session = $("#session").val()
            $("#student_data").html(null)
if (subject.length  == 0 || session.length == 0){
    alert("Please select session and subject");
    return false;
}
            $.ajax({
                url: "{% url 'get_students' %}",
                type: 'POST',
                data: {
                    subject: subject,
                    session: session
                }
            }).done(function (response) {
                var json_data = JSON.parse(response)
```

```
            if (json_data.length < 1) {
                alert("No data to display")
            } else {
                var div_data = "<hr/><div class='form-group'></div><div class='form-group'>
<label>Attendance Date</label><input type='date' class='form-control' name='attendance_date'
id='attendance_date' ><div class='row'>"

                for (key in json_data) {
                    div_data += "<div class='col-lg-3'><div class='form-check custom-control custom-
checkbox'><input type='checkbox' class='custom-control-input' checked='checked'
name='student_data[]' value='' + json_data[key]['id'] + '' id='checkbox'' + json_data[key]['id'] + '''
/> <label for='checkbox'' + json_data[key]['id'] + ''' class='custom-control-label'>'' +
json_data[key]['name'] + '</label></div> </div>"
                }
                div_data += "</div></div>"
                div_data += "<div class='form-group'><button id='save_attendance' class='btn btn-
success' type='button'>Save Attendance</button></div>"
                $("#student_data").html(div_data)
            }
        }).fail(function (response) {
            alert("Error in fetching students")
        })

        $(document).on('click', '#save_attendance', function () {
            $(this).attr("disabled","disabled")
            $(this).text("Saving Attendance Data...")
            var student_data = $("input[name='student_data[]']").map(function () {
                if ($(this).is(":checked")){
                return {'id':$(this).val(), 'status': 1};

                }
                return {'id':$(this).val(), 'status': 0};

            }).get()
            var attendance_date = $('#attendance_date').val()
            if (attendance_date.length < 10){
                alert("Select date")
                return false;
            }
```

```
            student_data = JSON.stringify(student_data)
            $.ajax({
                url: "{% url 'save_attendance' %}",
                type: 'POST',
                data: {
                    date: attendance_date,
                    student_ids: student_data,
                    subject: subject,
                    session: session

                }
            }).done(function (response) {
                if (response == 'OK'){
                    alert("Saved")
                }else{
                    alert("Error. Please try again")
                }
                location.reload()

            }).fail(function (response) {
                alert("Error in saving attendance")
            })

        })

    })
  })
</script>
{% endblock custom_js %}
```

Results:

Fig 1: Login Page

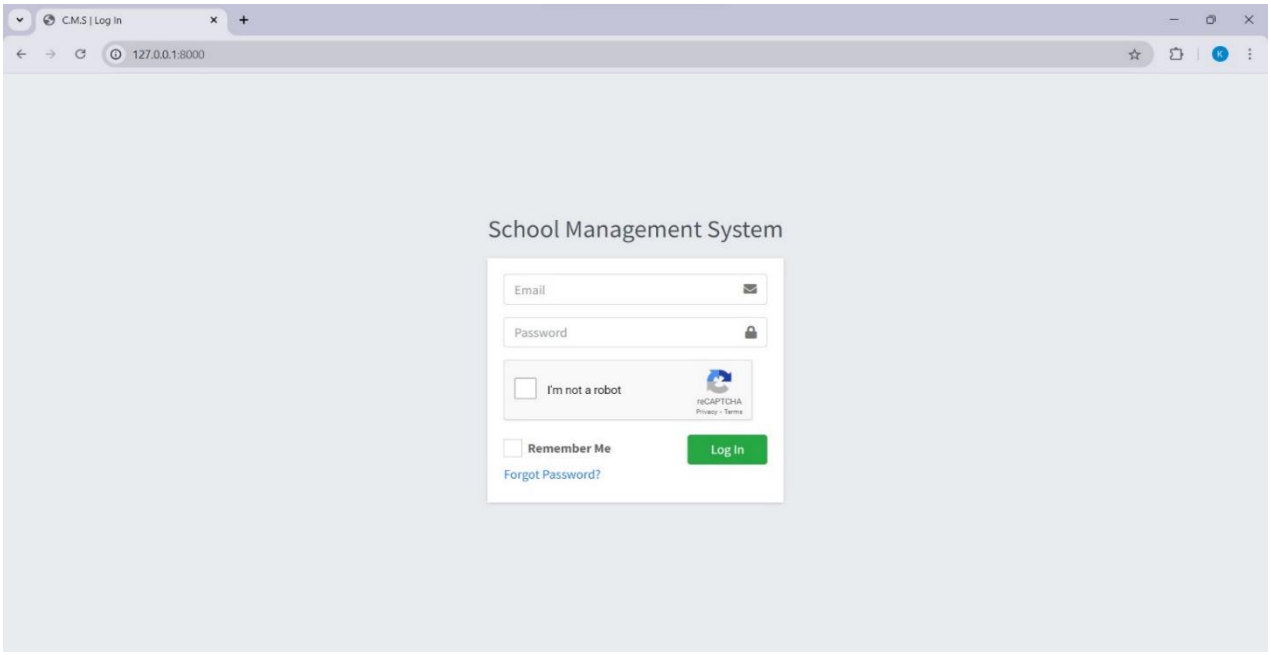


Fig 2: Admin Panel

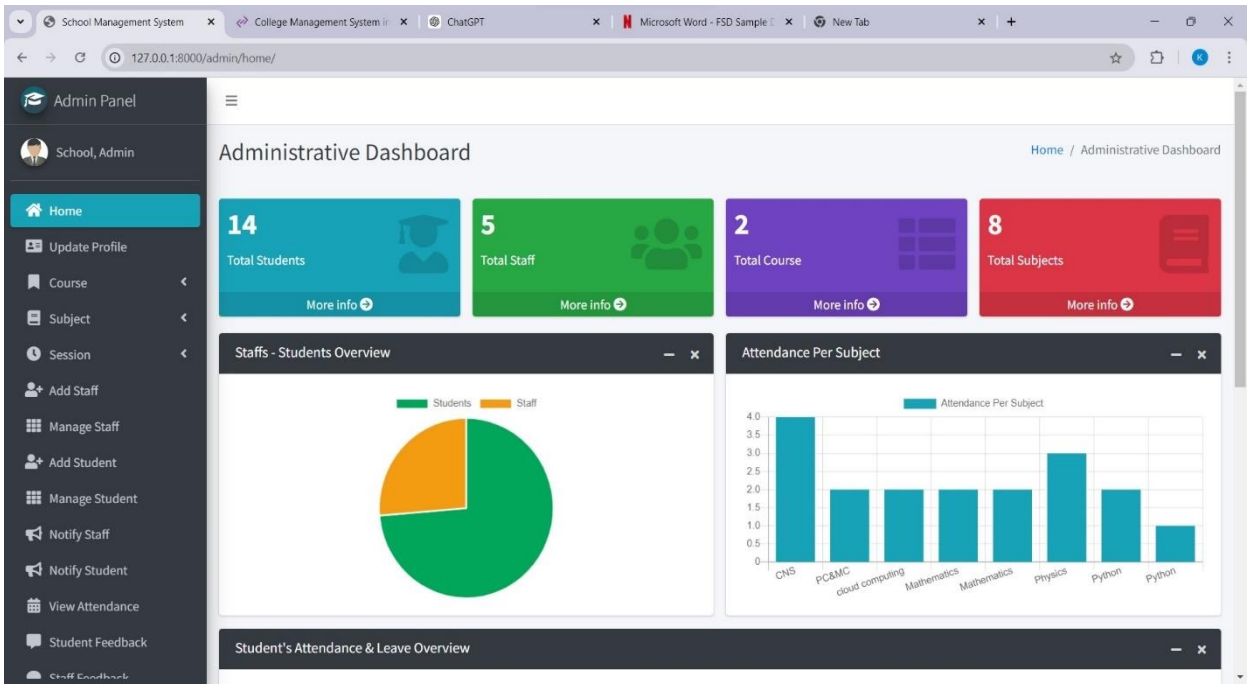


Fig 3: Admin Dashboard

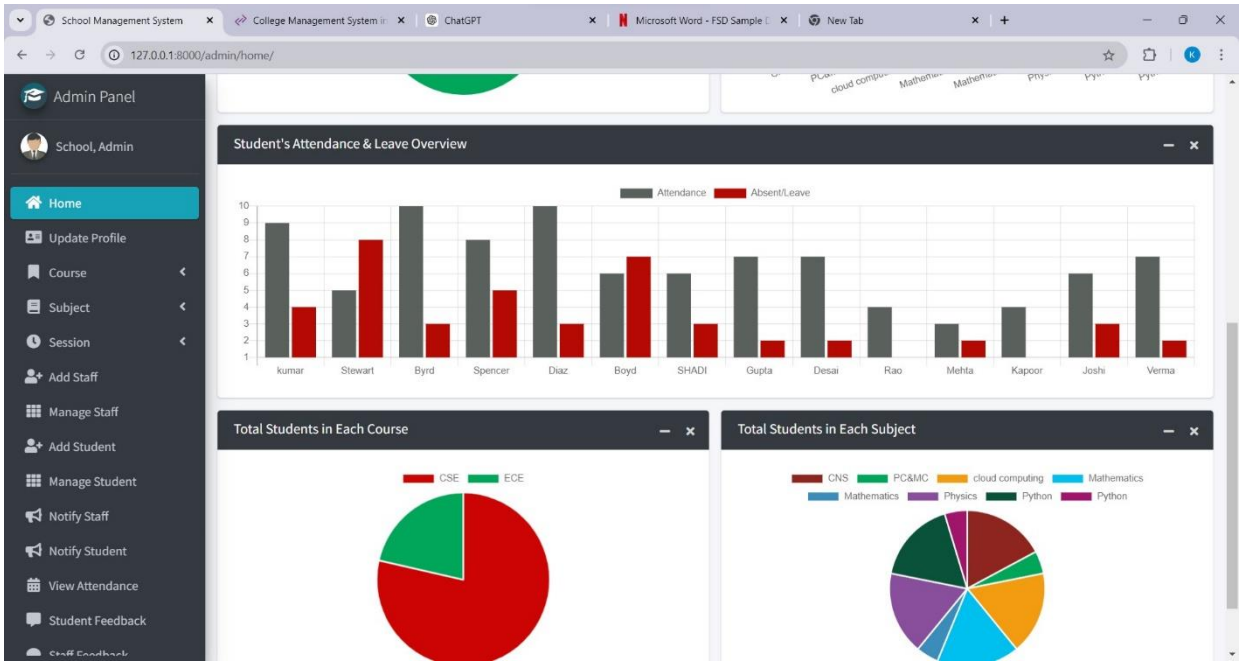


Fig 4: Add Subject

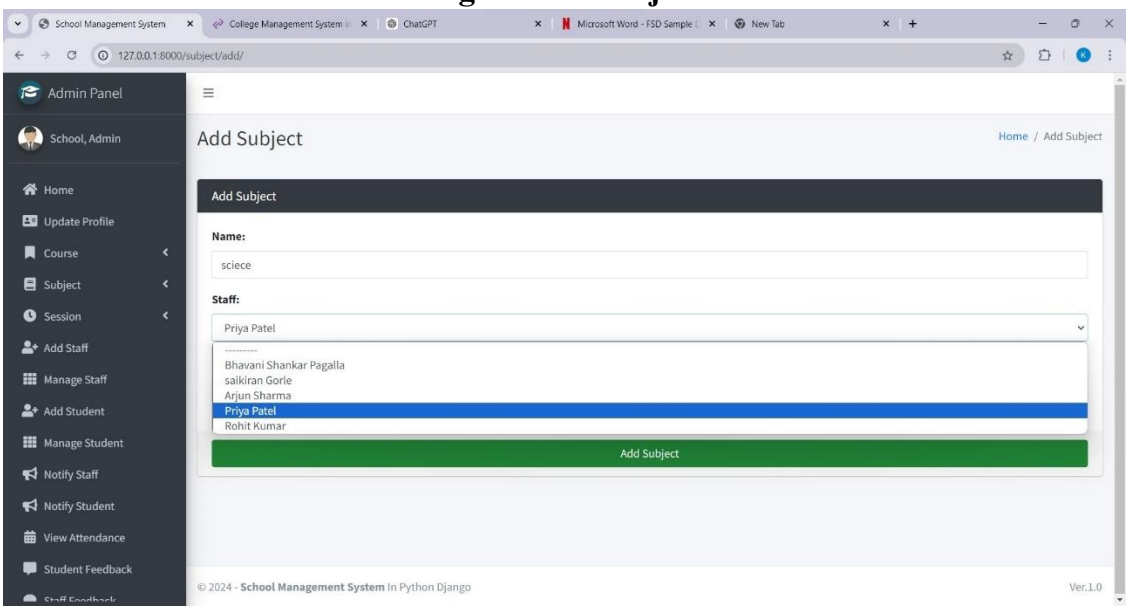


Fig 5: Add Staff

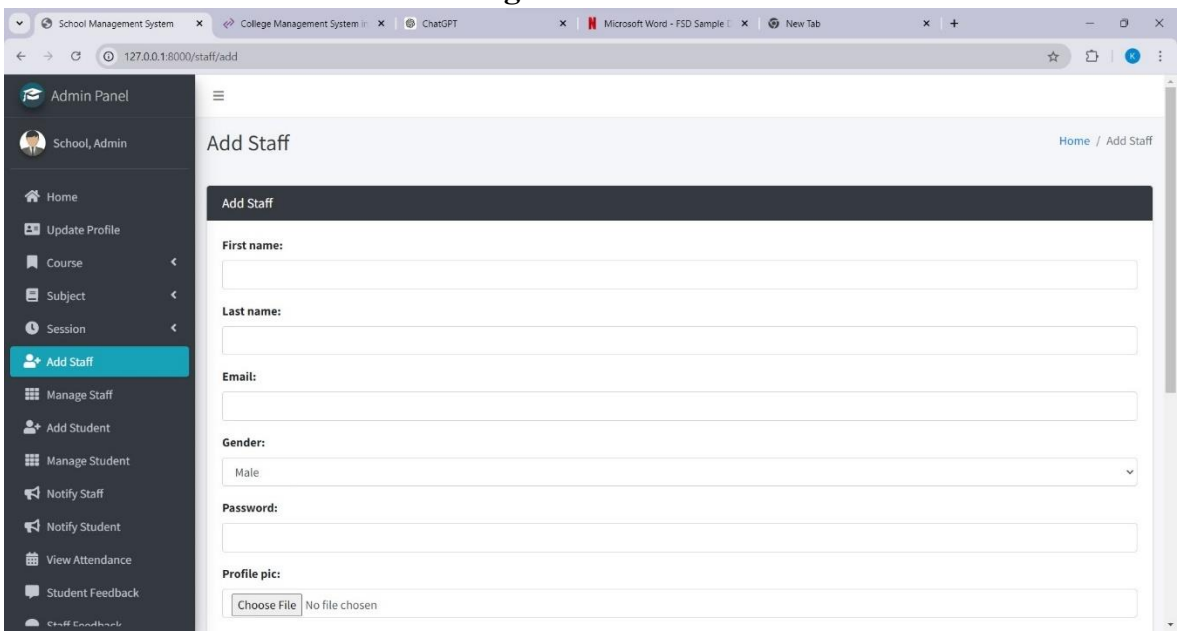


Fig 6: Notify Staff

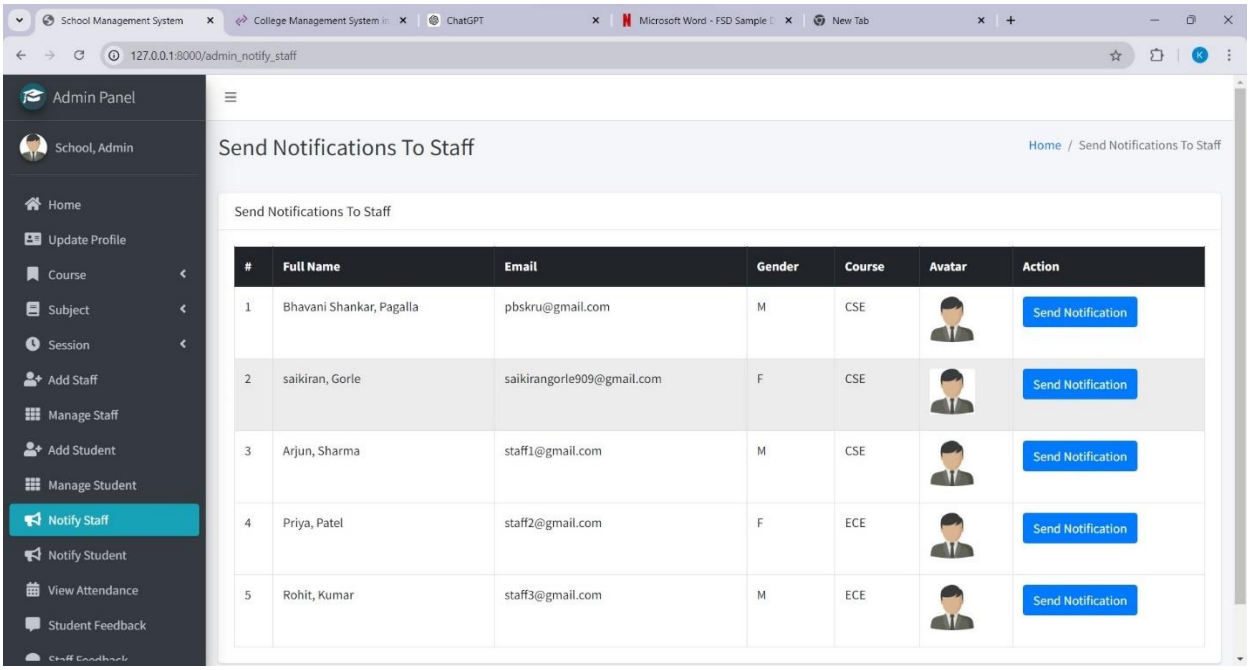


Fig 7: View Attendance

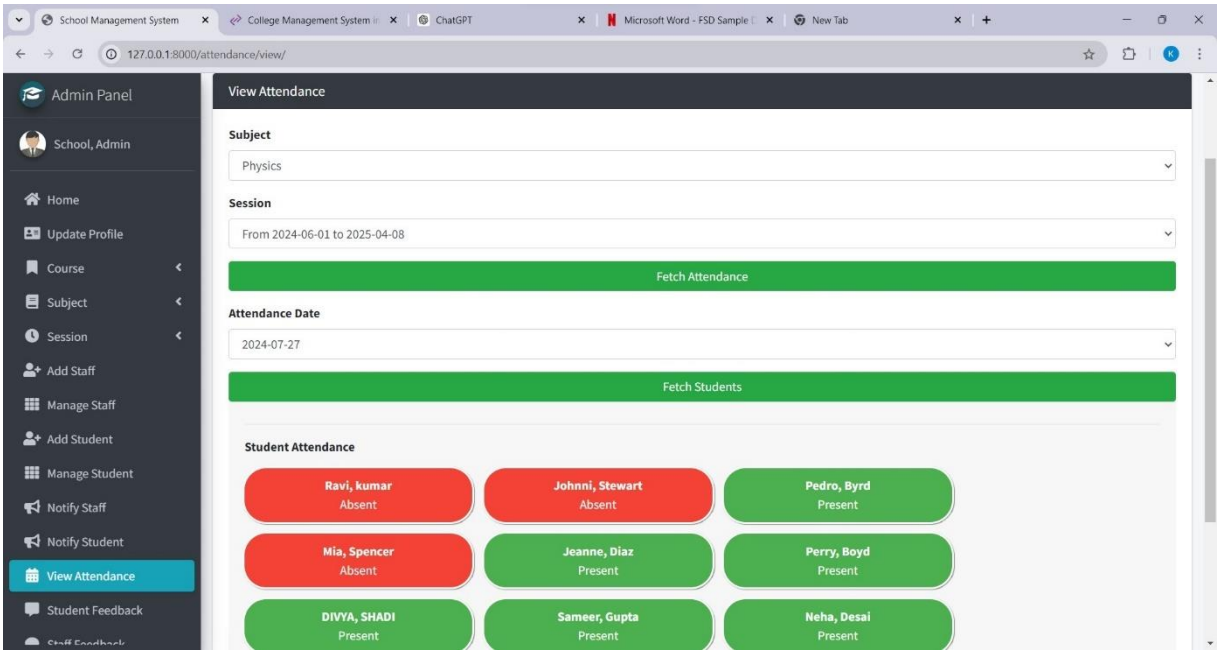


Fig 8: Leave Applications

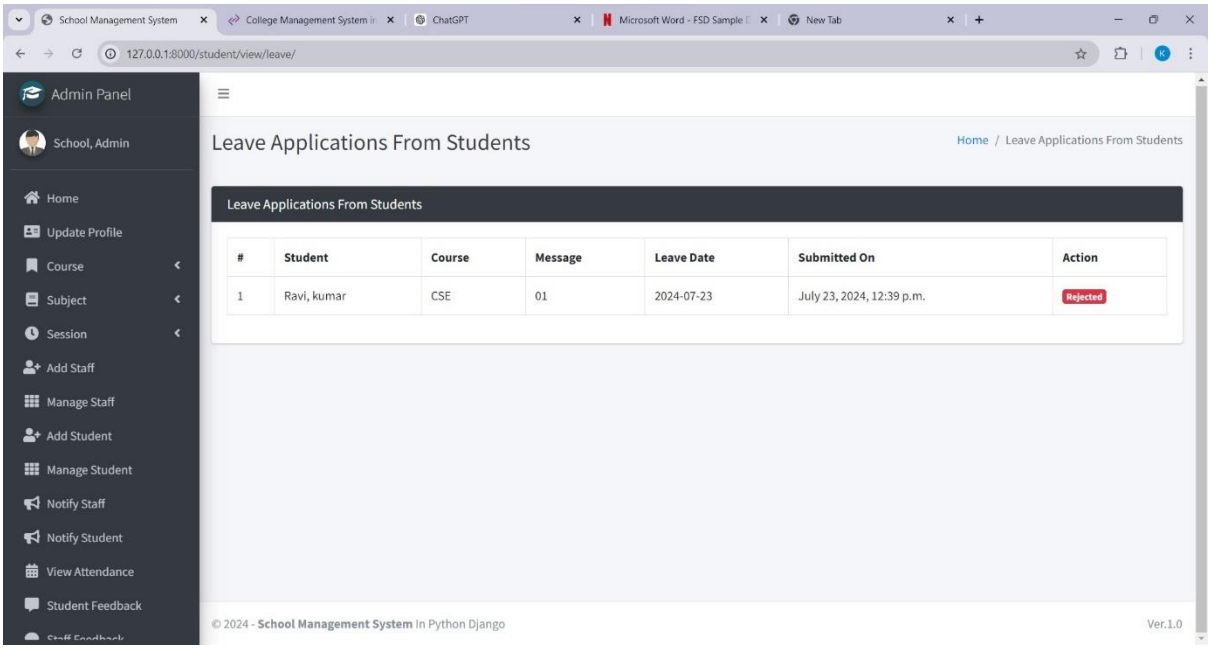


Fig 9: Staff Panel

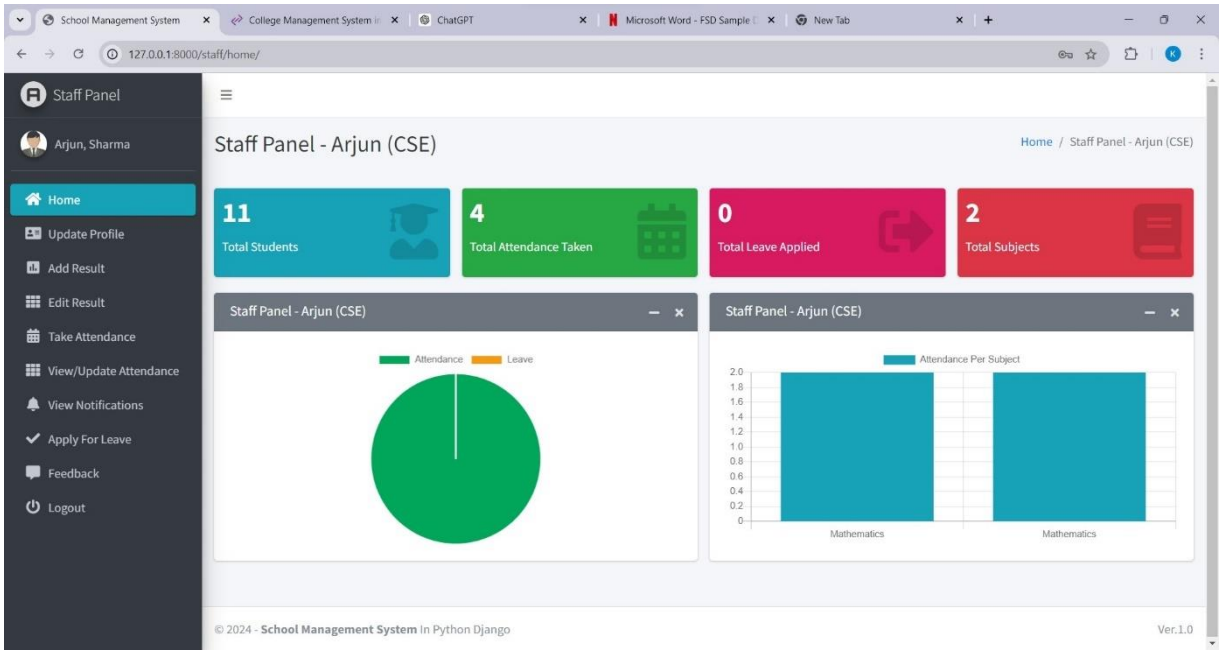


Fig 10: Upload Result

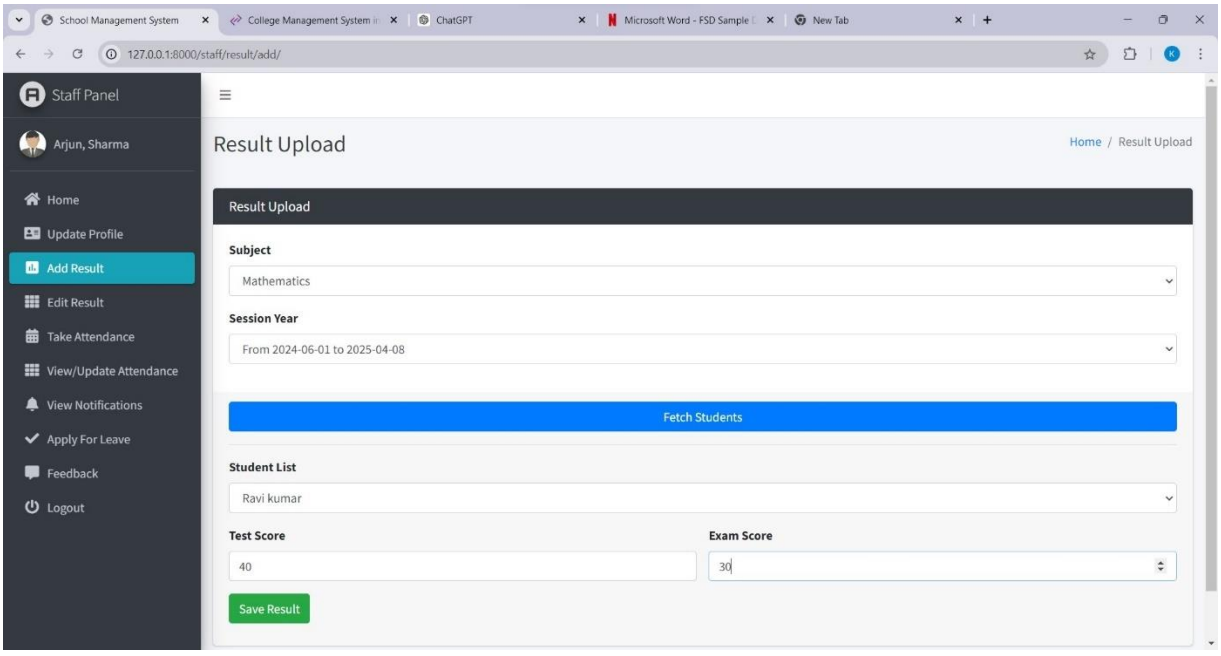


Fig 11: Take Attendance

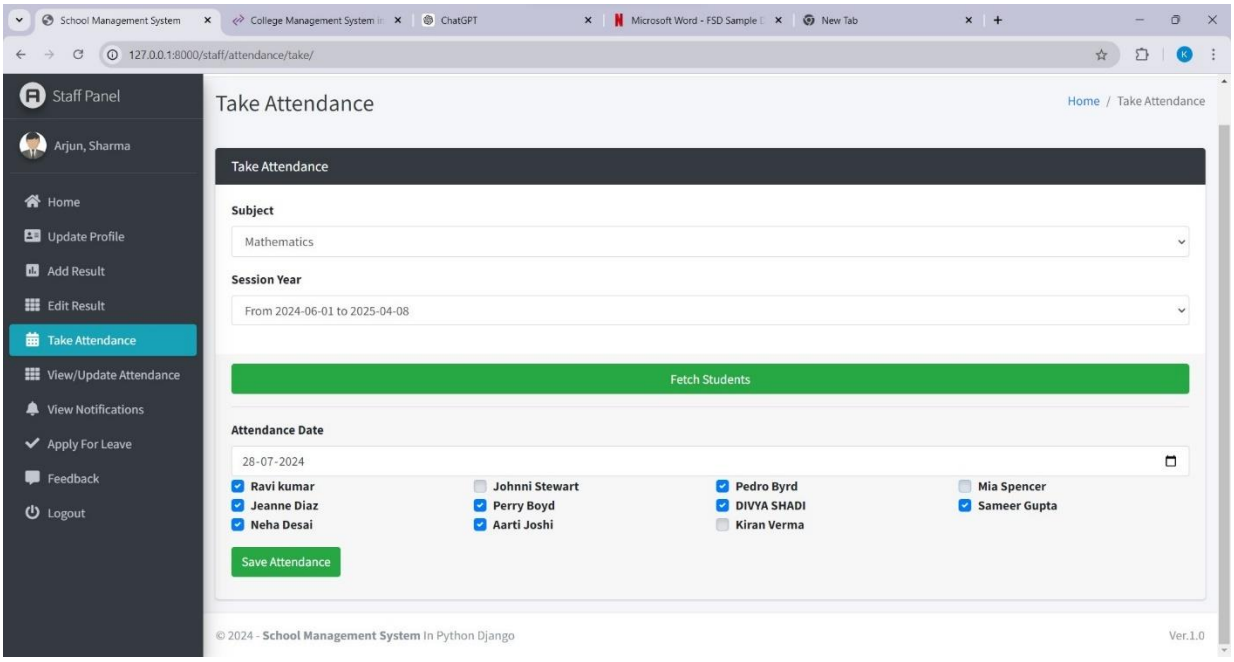


Fig 12: Student Panel

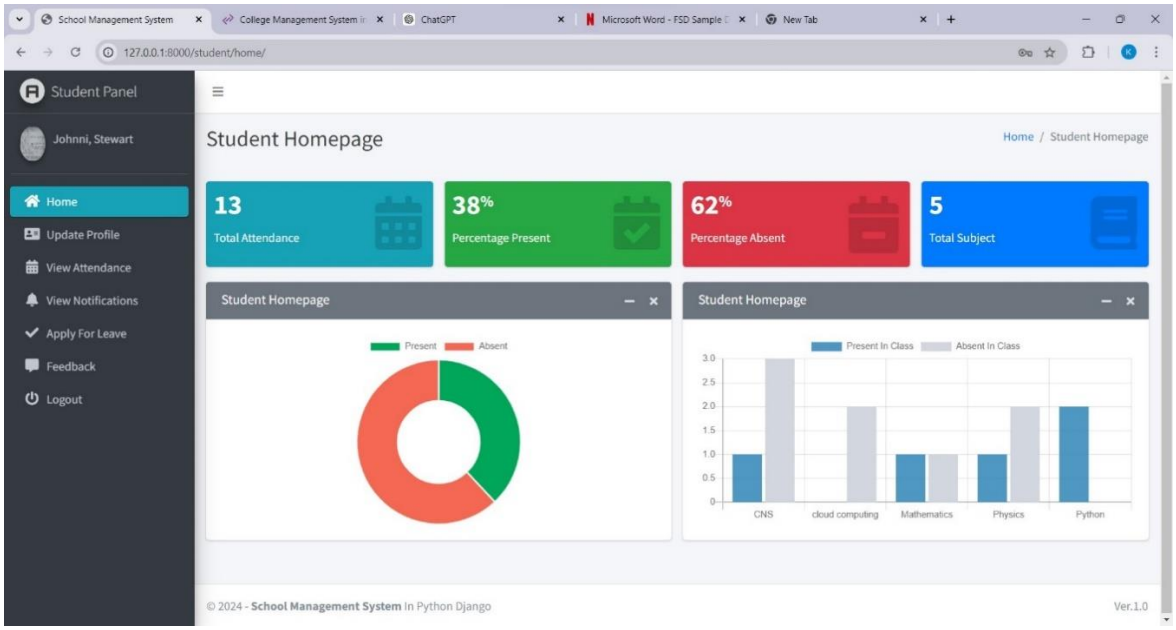


Fig 13: View Attendance

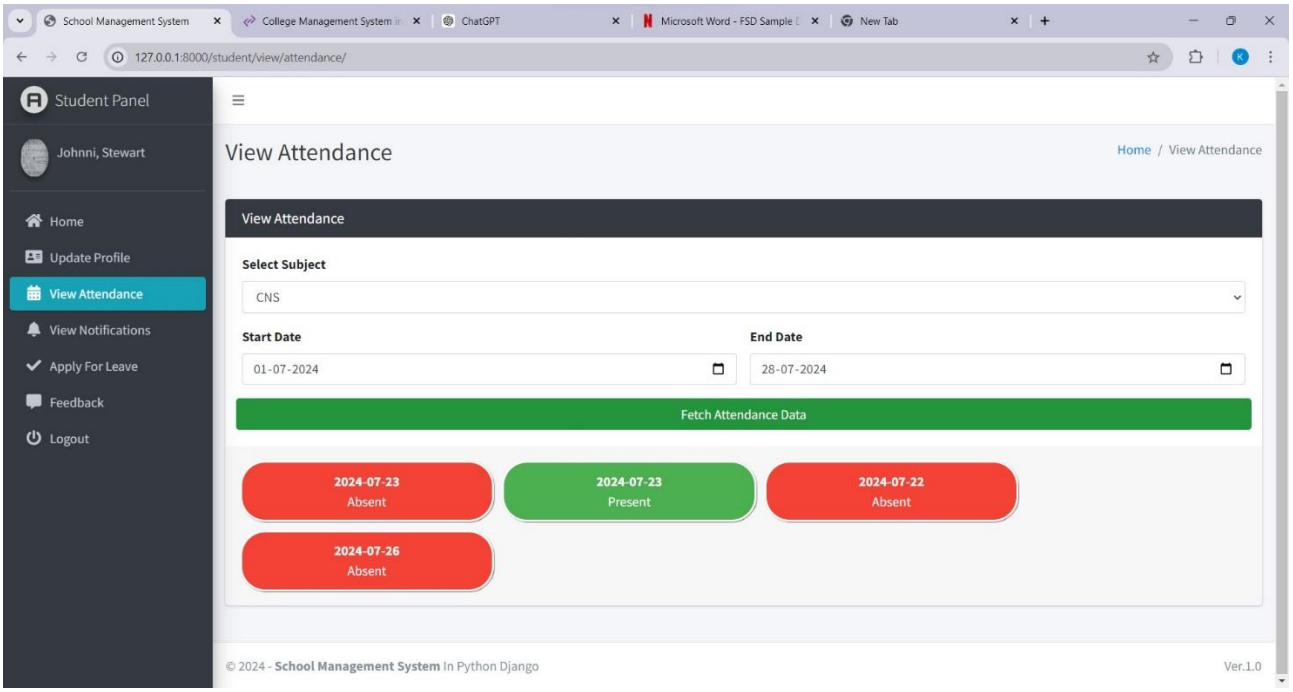


Fig 14: Apply for Leave

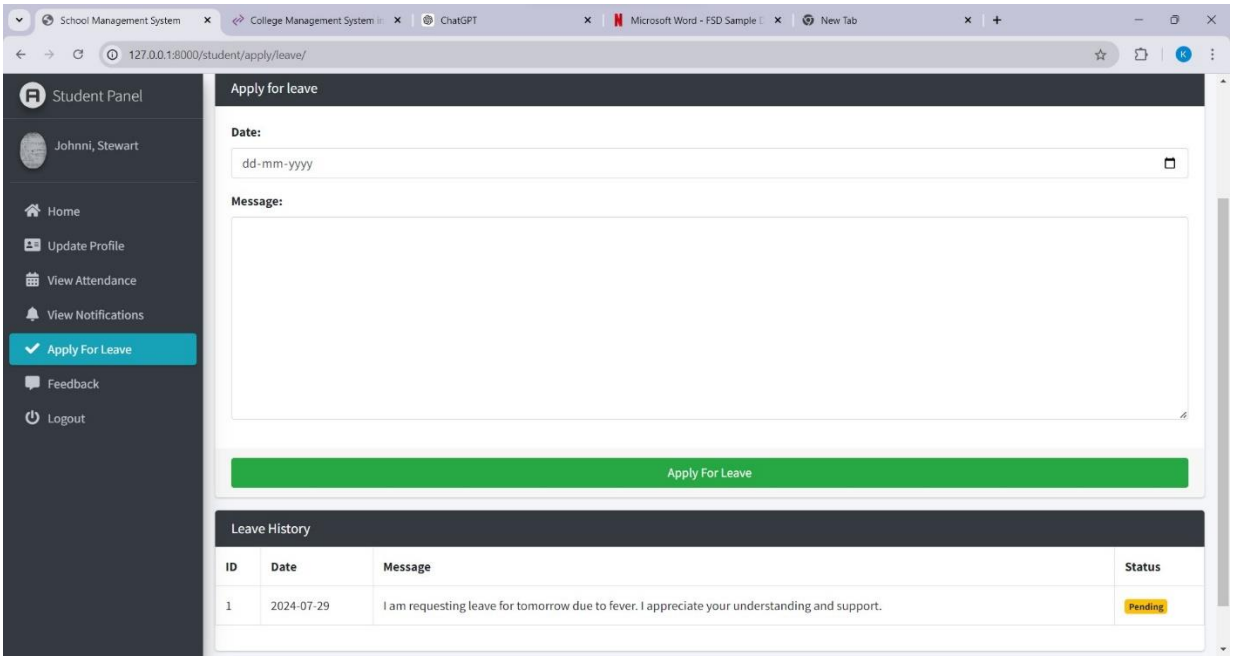
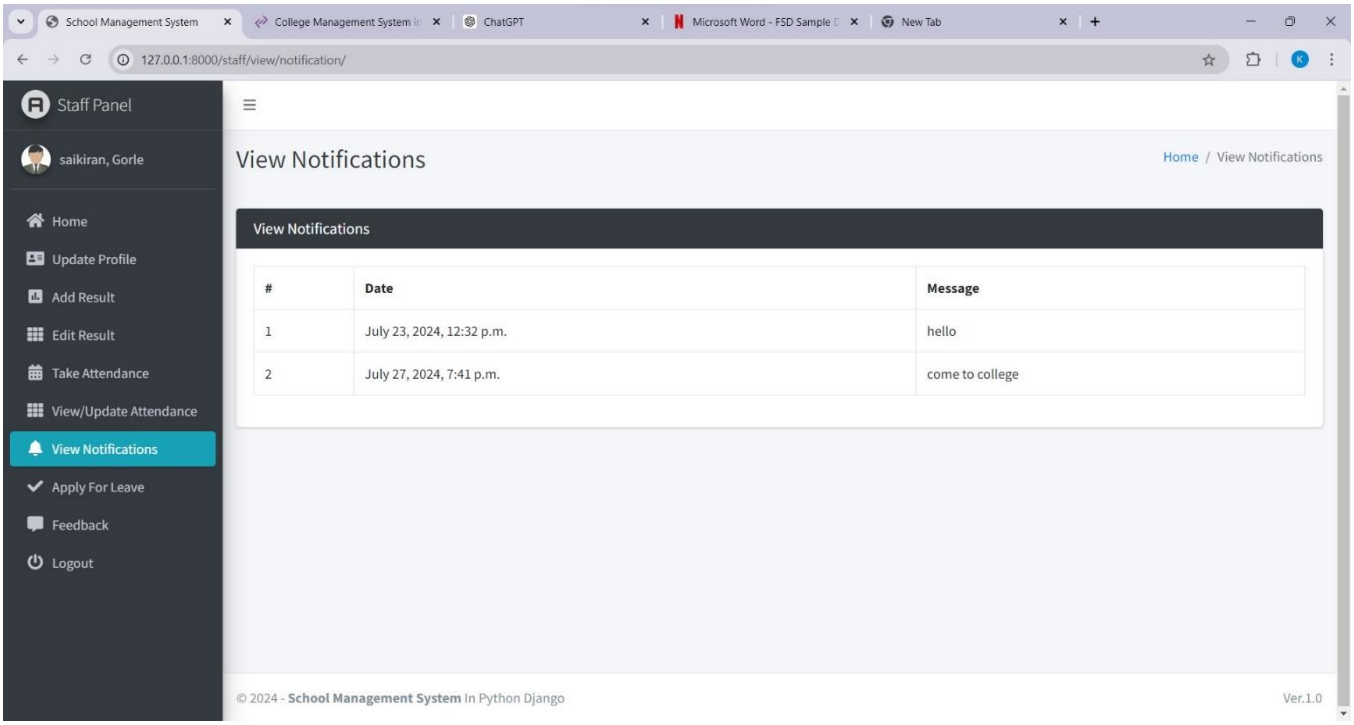


Fig 15: View Notifications



Conclusion:

The Django School Management System represents a significant advancement in the realm of educational administration. By consolidating various administrative and academic functions into a single, unified platform, it offers a comprehensive solution that addresses the needs of educational institutions. The system's design ensures that it enhances administrative efficiency by automating routine tasks, streamlining student and staff management, and facilitating effective communication between all stakeholders. The integration of modules for student information, attendance management, grading, and scheduling ensures that every aspect of school management is handled efficiently and accurately.

Furthermore, the system contributes to a more organized and creative educational environment by providing tools that support both educators and students. Teachers can manage their classes, track student progress, and communicate with parents through an intuitive interface, while students benefit from features that allow them to view their grades, track their attendance, and apply for leave with ease. The inclusion of graphical representations and data visualization tools also aids in

better understanding and analyzing academic performance and administrative metrics, enabling data-driven decision-making.

In essence, the Django School Management System not only simplifies the complex processes involved in managing an educational institution but also fosters a more engaging and productive learning environment. Its modular approach and user-friendly design make it an ideal solution for schools aiming to modernize their operations and improve overall efficiency. By integrating advanced technology with practical features, this system sets a new standard for school management software, paving the way for more innovative and effective educational practices.