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# Campus Management System Using Web Application

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**ABSTRACT:** Attendance plays a major role in every education system. Taking attendance of students manually can be a great burden for teachers. It may cause many problems like loss of time, repetition, incorrect markings, and difficulties in marking them. To avoid this, there is a need to design an automatic system that overcomes the issues with the traditional attendance system. There are many automatic methods available for this purpose like fingerprint systems, RFID systems, face recognition systems and iris recognition systems.

This project improving administrative efficiency, one of the primary objectives of a campus management system is to improve administrative efficiency by automating manual processes, reducing paper work and streamlining communication. The system can be used for tasks such as face recognition of students and staff, tracking attendance, monitoring campus security.

**KEYWORDS:** python, php, mysql, html, css.

## I. INTRODUCTION

A web application is a software application that runs on a web server and can be accessed through a web browser. Unlike desktop applications that run locally on a user's computer, web applications are designed to be accessible from any device with an internet connection and a web browser.

The range from simple applications such as email clients to complex systems such as online banking and e-commerce platforms. They can be designed for various purposes such as entertainment, communication, education, business, and more. Web applications are typically built using web technologies such as HTML, CSS, and JavaScript for the frontend, and server-side languages such as PHP, Python, or Ruby for the backend. They can be deployed on various platforms such as cloud-based services, dedicated servers, or shared hosting. The several advantages over traditional desktop applications. They can be easily updated, maintained, and deployed without requiring users to install new software on their devices.

They can also provide real-time access to data and resources, allowing users to collaborate and share information in real-time. Web applications are usually coded in browser-supported language such as JavaScript and HTML as these languages rely on the browser to render the program executable. Some applications are dynamic, requiring server-side processing. Others are completely static with no processing required at the server. The web application requires a web server to manage requests from the client, an application server to perform the tasks requested, and, sometimes, a database to store the information. Application server technology ranges from ASP.NET, ASP and ColdFusion, to PHP and JSP.

User triggers a request to the web server over the internet, either through a web browser or the application's user interface. Web server forwards this request to the appropriate web application server. Web application server performs the requested task such as querying the database or processing the data then generates the results of the requested data. Web application server sends results to the web server with the requested information or processed data. Web server responds back to the client with the requested information that then appears on the user's display. Any typical

web application can run or accessible on any operating system such as the Windows, Mac, Linux as long as the browser is compatible.

## II. LITERATURE SURVEY

**1.TITLE:**Video surveillance systems current status and future trends

**AUTHOR:** Vassilios Tsakanikas, Tasos Dagiuklas

**YEAR:**2019

**DESCRIPTION:** Within this survey an attempt is made to document the present status of video surveillance systems. The main components of a surveillance system are presented and studied thoroughly. Algorithms for image enhancement, object detection, object tracking, object recognition and item re-identification are presented. The most common modalities utilized by surveillance systems are discussed, putting emphasis on video, in terms of available resolutions and new imaging approaches, like High Dynamic Range video. The most important features and analytics are presented, along with the most common approaches for image / video quality enhancement. Distributed computational infrastructures are discussed (Cloud, Fog and Edge Computing), describing the advantages and disadvantages of each approach. The most important deep learning algorithms are presented, along with the smart analytics that they utilize.

**2.TITLE:** automatic attendance management system using face detection

**AUTHOR:**E.Varadharajan,R.Dharani, S.Jeevitha, B.Kavinmathi, S.Hemalatha

**YEAR:**2019

**DESCRIPTION:** Attendance marking in a classroom during a lecture is not only a onerous task but also a time consuming one at that. Due to an unusually high number of students present during the lecture there will always be a probability of proxy attendance(s). Attendance marking with conventional methods has been an area of challenge. The growing need of efficient and automatic techniques of marking attendance is a growing challenge in the area of face recognition. In recent years, the problem of automatic attendance marking has been widely addressed through the use of standard biometrics like fingerprint and Radio frequency Identification tags. However, these techniques lack the element of reliability.

**3.TITLE:** Automated Attendance Management and Reporting System using Face Recognition

**AUTHOR:** S. Aravindh, R. Athira, M. J. Jeevitha

**YEAR:**2020

**DESCRIPTION:**The attendance maintaining system is difficult process if it's done manually. The smart and automatic attendance system for managing the attendance are often implemented using the varied ways of biometrics. Face recognition is one among them. By using this technique, the difficulty of faux attendance and proxies are often solved. Within the previous face recognition-based attendance system, there have been some disadvantages like intensity of sunshine problem and head pose problem.

## III. EXISTING SYSTEM

The use of image processing in attendance systems has led to various automatic attendance systems based on thumbprint scanning, iris scan, and face detection. Fingerprint scan based attendance systems were the first biometric attendance system.

### Disadvantages

- Less accuracy
- Less sensitivity
- It extract the reduced number of features Time consuming.

## IV. PROPOSED SYSTEM

The proposed system would be built as a web application, making it accessible to college administrators, staff, and students from any location and any device with an internet connection. The system would be modular in design, allowing campus to customize it to meet their unique requirements. The core functionality of the system would include student management, academic management, attendance tracking, resource management, and event management.

### Advantage

1.To track student attendance in classrooms or to monitor entry and exit points of campus buildings. This can help in ensuring that only authorized individuals are accessing certain areas of the campus.

2.The identifying logos, text, or objects in images. This can be useful in tasks such as identifying lost and found items or analysing campus security camera footage.

3.CNNs can be trained to recognize specific patterns or information in documents, such as student transcripts or financial aid applications. This can help in streamlining administrative tasks and reducing errors in data entry.

### Software Requirement

#### Hardware System Configuration

- processor – INTEL
- RAM - 4 GB (min)
- Hard Disk - 20 GB

#### Software System Configuration

- Operating System : Windows 7 or 8
- Software : Python Idle
- Frond End : PHP
- Back End : Mysql

### Python Technology

Python is an interpreted, high-level, general-purpose programming language. It supports multiple programming paradigms, including procedural, object-oriented, and functional programming.

Python is often described as a "batteries included" language due to its comprehensive standard library.

Python uses dynamic typing and a combination of reference counting and a cycle-detecting garbage collector for memory management. It also features dynamic name resolution (late binding), which binds method and variable names during program execution.

Python is meant to be an easily readable language. Its formatting is visually uncluttered, and it often uses English keywords where other languages use punctuation. Unlike many other languages, it does not use curly brackets to delimit blocks, and semicolons after statements are optional. It has fewer syntactic exceptions and special cases than C or Pascal.

### Implementation

#### Module Description

**Login:** The purpose of this module is to provide entry to the system or website. Based on the type of login, the user is provided with various facilities and functionalities. The main function of this module is to allow the user. This module provides two types of login Admin login and Student login.

**Student Attendance Management:** The system can use CNN-based facial recognition technology to take attendance automatically without requiring manual entry.

The system can capture an image of the classroom and detect the faces of students present in the classroom, and mark their attendance accordingly.

**Staff Attendance Management:** The system can use CNN-based facial recognition technology to take attendance automatically without requiring manual entry. The system can capture an image of the staffroom and detect the faces of staff present in the staffroom, and mark their attendance accordingly.

**Staff monitoring:** The system can use CCTV cameras equipped with CNN-based object detection to monitor the movement of staff within the college campus. This can help in ensuring staff safety and security and reducing the risk of unauthorized entry.

**Library Management:** The system can use CNN-based object detection to track the location of books in the library. The system can capture images of the bookshelves and detect the presence of books, making it easier to locate and manage books within the library.

**Exam Management:** The system can use CNN-based image classification to automate the process of grading multiple choice questions (MCQs) in exams. The system can recognize the correct answers to the MCQs and grade the exams accordingly, saving time and reducing errors.

**Hostel Management:** The system can use CCTV cameras equipped with CNN-based facial recognition to monitor the movement of students within the hostel. The system can detect the faces of students entering and leaving the hostel, making it easier to track their movements and ensure their safety

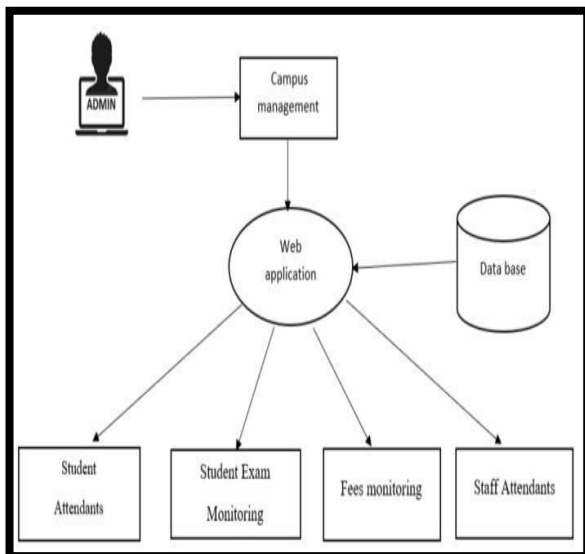
### Unsupported Implementations

Other just-in-time Python compilers have been developed, but are now unsupported:

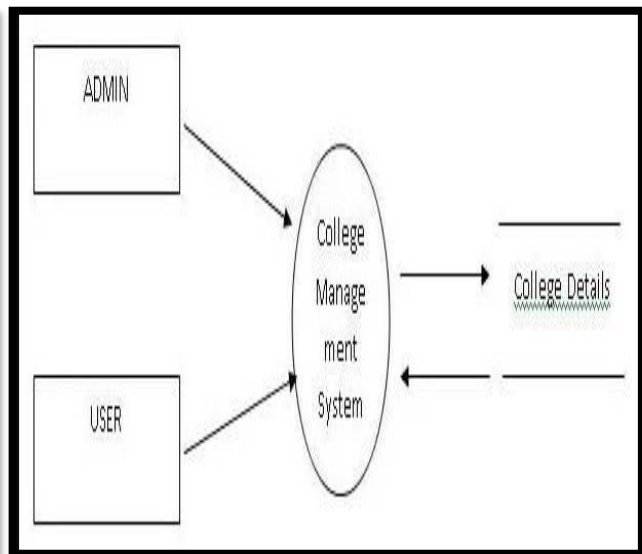
Google began a project named Unladen Swallow in 2009, with the aim of speeding up the Python interpreter five-fold by using the LLVM, and of improving its multithreading ability to scale to thousands of cores, while ordinary implementations suffer from the global interpreter lock.

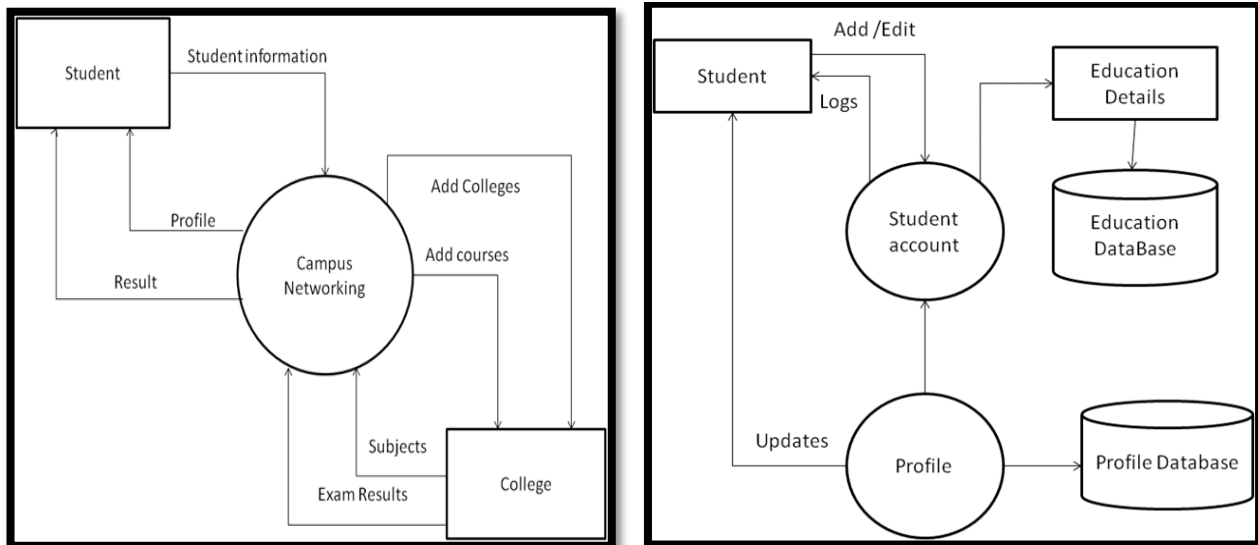
In 2005, Nokia released a Python interpreter for the Series 60 mobile phones named PyS60. It includes many of the modules from the CPython implementations and some additional modules to integrate with the Symbian operating system. The project has been kept up-to-date to run on all variants of the S60 platform, and several third-party modules are available.

System Design



level 0





### System Study Unit Testing

Unit testing is a software development process in which the smallest testable parts of an application, called units, are individually and independently scrutinized for proper operation. This testing methodology is done during the development process by the software developers and sometimes QA staff. Unit testing is a software development process in which the smallest testable parts of an application, called units, are individually and independently scrutinized for proper operation. This testing methodology is done during the development process by the software developers and sometimes QA staff.

### Integration Testing

Integration testing is the second level of the software testing process comes after unit testing. In this testing, units or individual components of the software are tested in a group. The focus of the integration testing level is to expose defects at the time of interaction between integrated components or units.

### Regression Testing

Regression testing is a black box testing techniques. It is used to authenticate a code change in the software does not impact the existing functionality of the product. Regression testing is making sure that the product works fine with new functionality, bug fixes, or any change in the existing feature.

Regression testing is a type of software testing. Test cases are re-executed to check the previous functionality of the application is working fine, and the new changes have not produced any bugs.

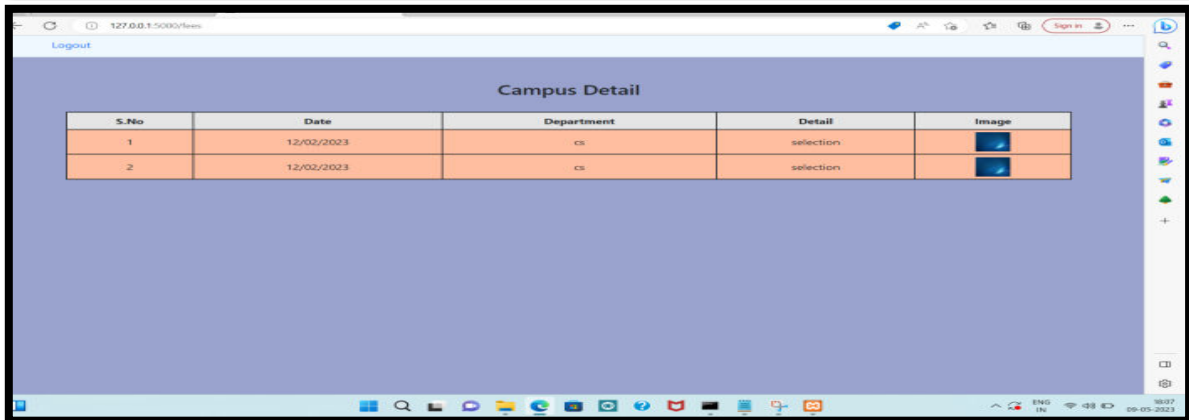
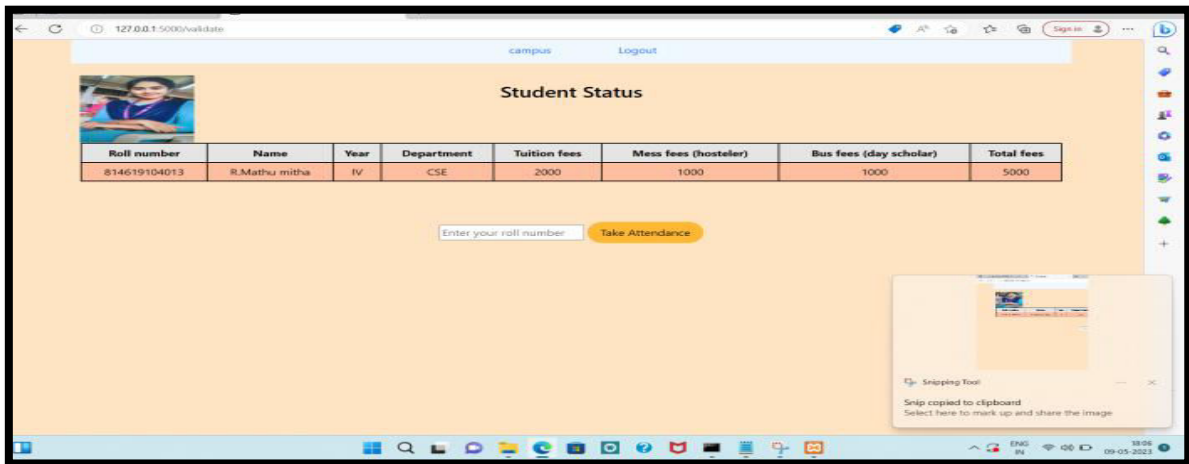
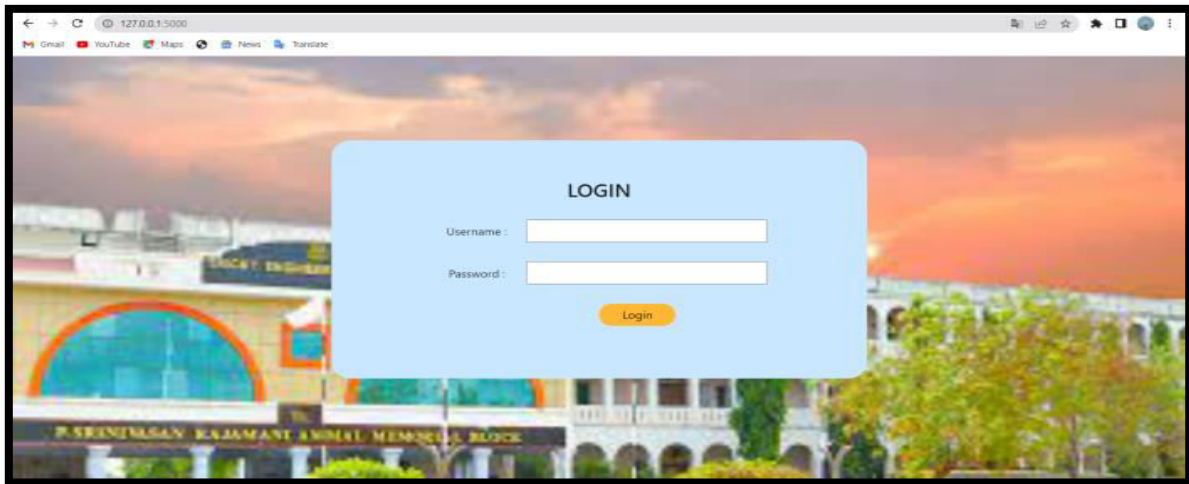
Regression testing can be performed on a new build when there is a significant change in the original functionality. It ensures that the code still works even when the changes are occurring. Regression means Re-test those parts of the application, which are unchanged.

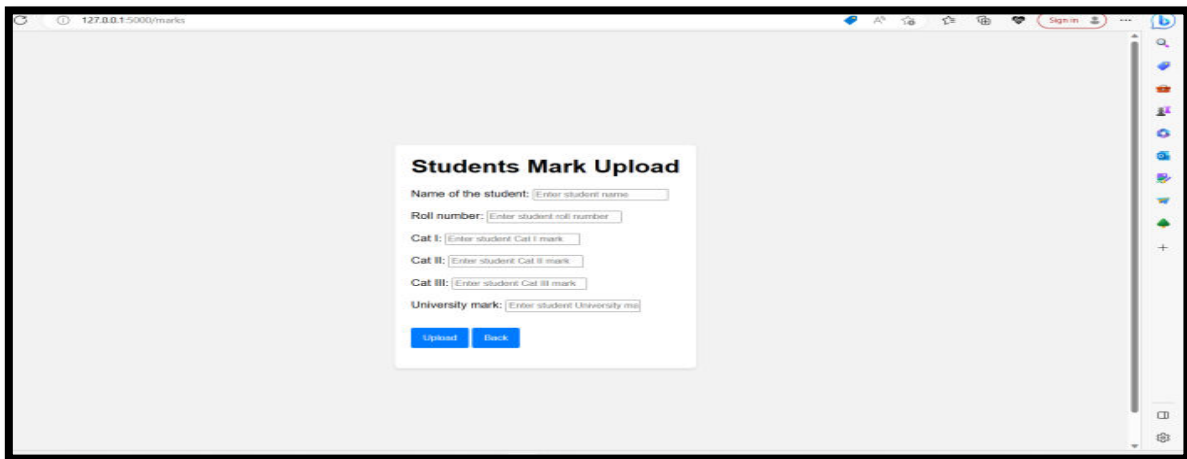
### Acceptance Testing

Acceptance testing is formal testing based on user requirements and function processing. It determines whether the software is conforming specified requirements and user requirements or not.

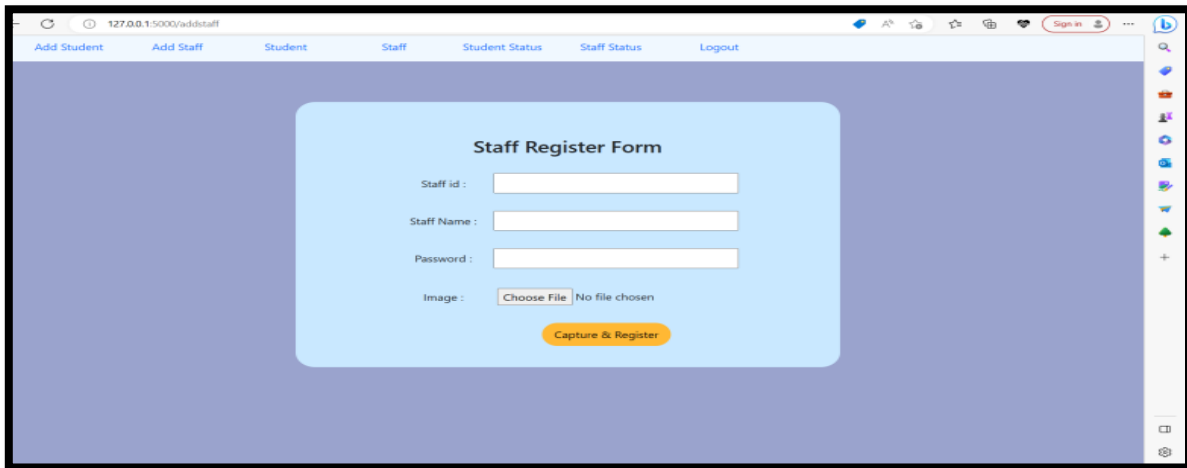
It is conducted as a kind of Black Box testing where the number of required users involved testing the acceptance level of the system. It is the fourth and last level of software testing.

### V. RESULTS

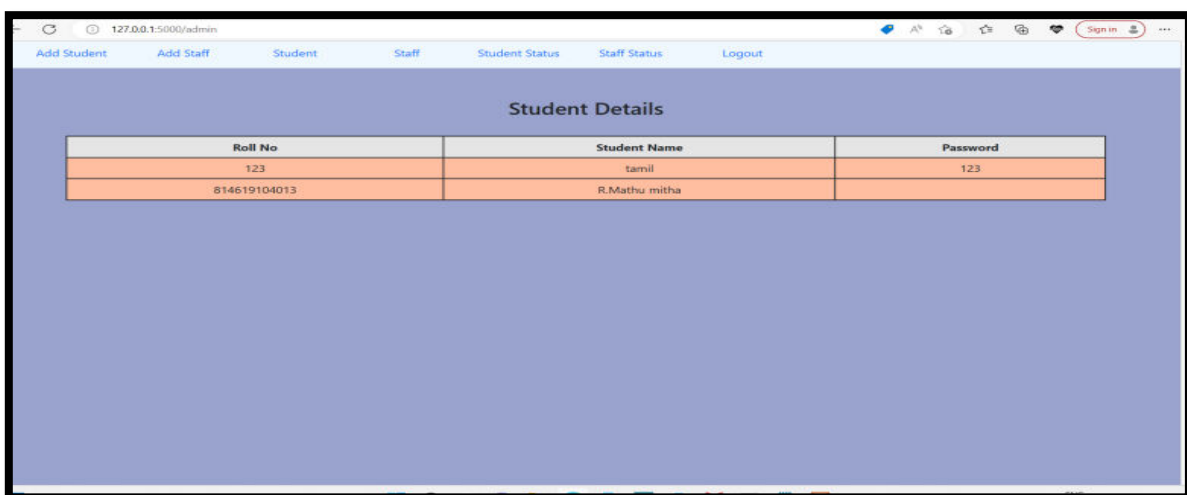




A screenshot of a web browser displaying a form titled "Students Mark Upload". The form contains the following fields: "Name of the student:" with a placeholder "Enter student name", "Roll number:" with a placeholder "Enter student roll number", "Cat I:" with a placeholder "Enter student Cat I mark", "Cat II:" with a placeholder "Enter student Cat II mark", "Cat III:" with a placeholder "Enter student Cat III mark", and "University mark:" with a placeholder "Enter student University mark". At the bottom of the form are two buttons: "Upload" and "Back".



A screenshot of a web browser displaying a form titled "Staff Register Form". The form contains the following fields: "Staff id:" with a text input field, "Staff Name:" with a text input field, "Password:" with a text input field, and "Image:" with a "Choose File" button and the text "No file chosen". At the bottom of the form is a yellow button labeled "Capture & Register".



A screenshot of a web browser displaying a table titled "Student Details". The table has three columns: "Roll No", "Student Name", and "Password". The data rows are as follows:

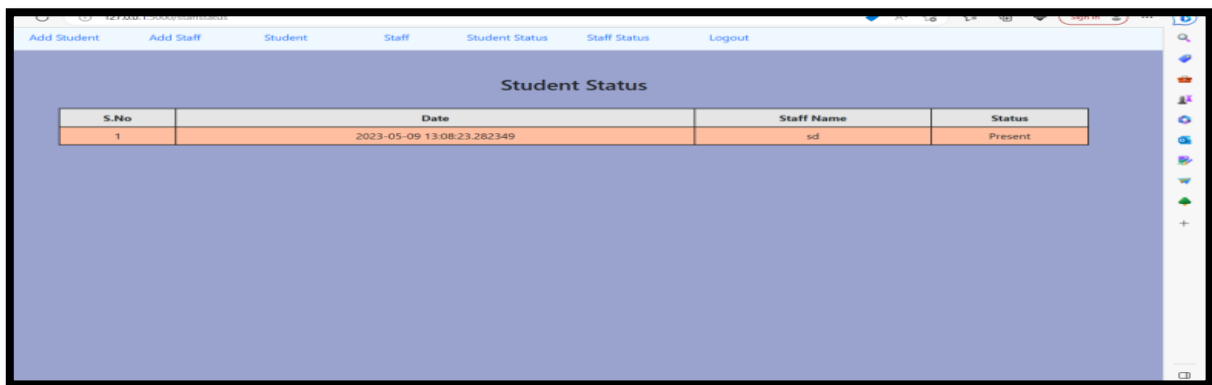
Roll No	Student Name	Password
123	tamil	123
814619104013	R.Mathu mitha	





The screenshot shows a web application interface with a navigation bar at the top containing 'Add Student', 'Add Staff', 'Student', 'Staff', 'Student Status', 'Staff Status', and 'Logout'. The main content area is titled 'Staff Details' and contains a table with the following data:

S.No	Staff id	Staff Name	Password
1	245	sd	123



The screenshot shows a web application interface with a navigation bar at the top containing 'Add Student', 'Add Staff', 'Student', 'Staff', 'Student Status', 'Staff Status', and 'Logout'. The main content area is titled 'Student Status' and contains a table with the following data:

S.No	Date	Staff Name	Status
1	2023-05-09 13:08:23.282349	sd	Present

## VI. CONCLUSION

The project entitled as Campus Management System is the system that deals with the issues related to a particular institution. This project is successfully implemented with all the features like Student Attendance, staff Attendance, campus interview, exam mark, fees details. The application provides appropriate information to users according to the chosen service. The project is designed keeping in view the day-to-day problems faced by a college. Deployment of our application will certainly help the college to reduce unnecessary wastage of time in personally going to each department for some information. Awareness and right information about any college is essential for both the development of student as well as faculty. So this serves the right purpose in achieving the desired requirements of both the communities.

## FUTURE ENHANCEMENT

- The staff can upload the lectures videos on this site and students who had missed those classes can view those videos.
- The staff can upload the study material on this site.

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