1. INTRODUCTION

A Hostel Gatepass Management System is a digital solution designed to streamline and automate the process of managing gatepasses for students or residents in a hostel. This system aims to simplify the traditional manual methods of tracking and approving gatepasses, making the process more efficient, transparent, and organized.In a hostel environment, residents often need to leave the premises for various reasons such as attending classes, going home for the weekend, or participating in extracurricular activities. Typically, hostel authorities issue gatepasses to track these movements, ensuring that students' whereabouts are known for safety and administrative purposes. However, manual systems can be prone to errors, inefficiency, and delays.

The Hostel Gatepass Management System eliminates these challenges by digitizing the entire process, offering features like online requests, automated approvals, real-time tracking, and notifications. It provides an easy interface for students to apply for gatepasses, while hostel management can quickly review, approve, or deny requests based on established rules. The system also records gatepass history for each student, which can be referred to whenever necessary.

The system enhances security by keeping an accurate log of who is entering and exiting the hostel premises. Additionally, it helps hostel authorities manage resources better, ensuring that students leave and return within designated times, preventing overcrowding or any potential security threats. Ultimately, the Hostel Gatepass Management System fosters a safer, more organized, and efficient environment for both hostel residents and the management team.

By leveraging technology, the system also saves time for both students and administrators, providing a seamless and hassle-free experience for all involved parties. The system is customizable, adapting to various hostel policies, and can be integrated with other management tools or software used by educational institutions.

2. SYSTEM SPECIFICATION

2.1 HARDWARE SPECIFICATION

This section gives the details and specification of the hardware on which the system is expected to work.

Processor	:	Intel I3
RAM	:	8 GB DDR RAM
Monitor	:	17” Color
Hard disk	:	1 TB
Keyboard	:	Standard102 keys
Mouse	:	Optical Scroll

2.2 SOFTWARE SPECIFICATION

This section gives the details of the software that are used for the development.

Front-End	:	HTML, CSS
Coding Language	:	PHP 5.4
Back-End	:	My-SQL 5.6
Operating System	:	Windows 10

3. SYSTEM ANALYSIS

3.1 EXISTING SYSTEM

The existing system is to maintain all the gate pass activities manually. There is lot of difficulties available in the existing system. It is so hard to maintain a large amount of data. It is also hard to produce report for entry details. So there rise the need for a proposed system to rectify the drawbacks of the existing system and so it is computerized.

In the existing system, the student needs to go and visit the staffs at the department in person to get the gate pass details by filling and submit the gate pass request slip. After that, the staff approves and signs in that pass, then only the students may leave from the college campus. This is the manual and time taken process.

DRAWBACKS OF EXISTING SYSTEM

The existing system has following disadvantages.

- The traditional approach requires manual report generation.
- More clerical work required to maintain records
- Time consumption is more for conducting auctions.
- More number of hard copies is to be maintained to prevent data loss.
- All transaction process is not accuracy.
- Maintaining records safely become difficult.

3.2 PROPOSED SYSTEM

The proposed system is computerized the management activities. The new approach helps in efficient gate pass records management. The proposed system is maintaining data through software. The proposed system helps in faster data processing and report generation. Proposed system rectifies the drawbacks of the existing system and so it is computerized. The mode of operation is web application.

In the proposed system, all the activities regarding the gate pass process is done through systematic manner. The students fill the request form through this application and submit with this project. After submitting the gate pass requisition form, the staffs view and

process it and approve it. Then the student can use this approval while they leaving from the college campus. And also it can be used by the students to get into the college.

ADVANTAGE OF PROPOSED SYSTEM

- The proposed system has following advantages,
- Report generation is easier
- Less Time Consuming in data entry since manual calculation is avoided.
- User Interface is efficiently designed for minimum input.
- Data Backup Management is easier than ever.
- Soft copies can be easily maintained to prevent data loss.

FEASIBILITY STUDY

The feasibility study deals with all the analysis that takes up in developing the project. Each structure has to be thought of in the developing of the project, as it has to serve the end user in a user-friendly manner. One must know the type of information to be gathered and the system analysis consist of collecting, Organizing and evaluating facts about a system and its environment.

Three considerations involved in feasibility analysis are

- ECONOMICAL FEASIBILITY
- OPERATIONAL FEASIBILITY
- TECHNICAL FEASIBILITY

ECONOMIC FEASIBILITY

The organization has to buy a personal computer with a keyboard and a mouse, this is a direct cost. There are many direct benefits of covering the manual system to computerized system. The user can be given responses on asking questions, justification of any capital outlay is that it will reduce expenditure or improve the quality of service to the user. The users who have basic knowledge about Microsoft technologies can use this service by accessing the service provided in the web site.

OPERATIONAL FEASIBILITY

The Proposed system accessing process to solves problems what occurred in existing system. The current day-to-day operations of the organization can be fit into this system.

Mainly operational feasibility should include on analysis of how the proposed system will affects the organizational structures and procedures. The proposed system requires less human interaction and anybody who has the basic computer devices can access these services and operate on their needed part of the services to get the services that are needed by the user.

TECHNICAL FEASIBILITY

The cost and benefit analysis may be concluded that computerized system is favorable in today's fast moving world. The assessment of technical feasibility must be based on an outline design of the system requirements in terms of input, output, files, programs and procedure.

The project aims to provide the faster information sharing using the web application and to reduce the difficulties involved in request handling that are given by users of the website. The current system aims to overcome the problems of the existing system. The current system is to reduce the technical skill requirements so that more number of users can access the applications.

4. SYSTEM DESIGN

4.1 INPUT DESIGN

Input design is the process of converting user-originated inputs to a computer understandable format. Input design is one of the most expensive phases of the operation of computerized system and is often the major problem of a system. A large number of problems with a system can usually be tracked backs to fault input design and method. Every moment of input design should be analyzed and designed with utmost care.

The design of the input should be made the input as the over to the numerous networks in the reliable area that should be passed as the installation in the remote network. It has the following constraints in the input database.

- All the files from the disk should be acquired by data.
- It is suitable to more available data clearance and made available.
- The menu of design should be understandable and it is in the right format.

The system takes input from the users, processes it and produces an output. Input design is link that ties the information system into the world of its users. The system should be user-friendly to gain appropriate information to the user. The decisions made during the input design are the project gives the low time consumption to make the sensitive application made simple. When applying the project it provides the low man-power attrition with the reasonable output.

In the project, the forms are designed with easy to use options such as selecting the master records through dropdown list in transaction forms.

4.2 OUTPUT DESIGN

Output design generally refers to the results and information that are generated by the system for many end-users; it should be understandable with the enhanced format.

The Output of the software is used to make the remote installation of the new software in the system and, it is awake the immediate alert to the system that should be enhanced it as the input to the system. Output is the main reason for developing the system and the basis on which they evaluate the usefulness of the application.

Computer output is the most important direct source of information to the user output design deals with form design efficient output design should improve the interfacing with user.The term output applies to any information produced by an information system in terms of displayed. When analyst design system output, they Identify the specific output that is needed to meet the requirements of end user. Previewing the output reports by the user is extremely important because the user is the ultimate judge of the quality of the output and, in turn, the success of the system

When designing output, system analysis accomplishes more things like, to determine what applications, websites or documents whether blocked or allowed. Allowing should be in various options. The output is designed in such a way that it is attractive, convenient and informative.

Forms are designed in PHP with various features, which make the console output more pleasing. As the outputs are the most important sources of information to the users, better design should improve the system's relationships with user and also will help in decision-making. Form design elaborates the way output is presented and the layout available for capturing information.

5. SYSTEM DEVELEPMENT

5.1 DESCRPTION OF MODULES

The project contains following modules,

5.1.1 ADMIN MODULE

- ADMIN LOGIN
- STAFF ENTRY
- STUDENT ENTRY
- STAFF LIST
- STUDENT LIST
- GATE PASS REQUESTS LIST

5.1.2 STAFF MODULE

- LOGIN
- VIEW STAFFS
- VIEW STUDENTS
- VIEW GATE PASS REQUESTS/APPROVAL

5.1.3 STUDENT MODULE

- LOGIN
- VIEW STAFFS
- ADD GATE PASS REQUESTS
- VIEW GATE PASS REQUESTS STATUS

ADMIN MODULE

ADMIN LOGIN

In this module, the admin user enters username and password. These details are checked against the ‘admin’ table and if matched login is made. Otherwise invalid username message will be displayed.

STAFF ENTRY

This module is used for storing the staff information. The details such as staff id, name, department, contact no, email id and password are stored in the table. These details are stored in the staff table with the help of sql.

STUDENT ENTRY

This module is used for storing the student information. The details such as register no., name, department, gender, address, contact no, email id, aadhaar no. year of join and password are stored in the table. These details are stored in the student table with the help of sql.

STAFF LIST

This module is used to view the staff information. The details such as staff id, name, department, contact no, email id and password are viewed from staff table.

STUDENT LIST

This module is used to view the student information. The details such as register no., name, department, gender, address, contact no, email id, aadhaar no. year of join and password are viewed from students table.

GATE PASS REQUESTS LIST

This module is used to view the gate pass information. The details such as register no., name, staff id, department, entry date, on date, duration and reason are viewed from gate pass table.

STAFF MODULE

STAFF LOGIN

In this module, the staff user enters staff id and password. These details are checked against the ‘staff’ table and if matched login is made. Otherwise invalid staff id message will be displayed.

STAFF LIST

This module is used to view the staff information. The details such as staff id, name, department, contact no, email id and password are viewed from staff table.

STUDENT LIST

This module is used to view the student information. The details such as register no., name, department, gender, address, contact no, email id, aadhaar no. year of join and password are viewed from students table.

GATE PASS REQUESTS LIST

This module is used to view the gate pass information. The details such as register no., name, staff id, department, entry date, on date, duration and reason are viewed from gate pass table. Then approval or rejected can be made.

STUDENT MODULE

STUDENT LOGIN

In this module, the student user enters register no. and password. These details are checked against the ‘student’ table and if matched login is made. Otherwise invalid register no. message will be displayed.

STAFF LIST

This module is used to view the staff information. The details such as staff id, name, department, contact no, email id and password are viewed from staff table.

STUDENT LIST

This module is used to view the student information. The details such as register no., name, department, gender, address, contact no, email id, aadhaar no. year of join and password are viewed from students table.

ADD GATE PASS REQUESTS

This module is used to add the gate pass information. The details such as register no., name, staff id, department, entry date, on date, duration and reason are added to gate pass table. Then approval or rejected can be made after viewed by staff.

GATE PASS REQUESTS LIST

This module is used to view the gate pass information. The details such as register no., name, staff id, department, entry date, on date, duration and reason are viewed from gate pass table along with approval or rejected status.

6. TESTING AND IMPLEMENTATION

After the source code has been completed, documented as related data structures. Completed the project has to undergo testing and validation where there is subtitle and definite attempt to get errors. The project developer treads lightly, designing and execution test that will demonstrates that the program works rather than uncovering errors, unfortunately errors will be present and if the project developer doesn't find them, the user will find out.

The project developer is always responsible for testing the individual units i.e. modules of the program. In many cases developer also conducts integration testing i.e. the testing step that leads to the construction of the complete program structure.

This project has undergone the following testing procedures to ensure its correctness.

- Unit testing
- User Acceptance Testing

UNIT TESTING

In unit testing, we have to test the programs making up the system. For this reason, Unit testing sometimes called as Program testing. The software units in a system are the modules and routines that are assembled and integrated to perform a specific function, Unit testing first on the modules independently of one another, to locate errors. This enables, to detect errors in coding and logic that are contained with the module alone. The testing was carried out during programming stage itself.

USER ACCEPTANCE TESTING

In these testing procedures the project is given to the customer to test whether all requirements have been fulfilled and after the user is fully satisfied. The project is perfectly ready. If the user makes request for any change and if they found any errors those all errors has to be taken into consideration and to be correct it to make a project a perfect project.

INTEGRATION TESTING

Integration testing is done to test if the individual modules work together as one single unit. In integration testing, the individual modules that are to be integrated are available for testing. Thus the manual test data that used to test the interfaces replaced by that which in

generated automatically from the various modules. It can be used for testing how the modules would actually interact with the proposed system. The modules are integrated and tested to reveal the problem interfaces.

When the initial design was done for the system, the client was consulted for the acceptance of the design so that further proceedings of the system development can be carried on. After the development of the system a demonstration was given to them about the working of the system. The aim of the system illustration was to identify any malfunction of the system.

After the management of the system was approved the system implemented in the concern, initially the system was run parallel with existing manual system. The system has been tested with live data and has proved to be error free and user friendly.

Implementation is the process of converting a new or revised system design into an operational one when the initial design was done by the system; a demonstration was given to the end user about the working system.

This process is uses to verify and identify any logical mess working of the system by feeding various combinations of test data. After the approval of the system by both end user and management the system was implemented. System implementation is made up of many activities. The six major activities are as follows.

CODING

Coding is the process of whereby the physical design specifications created by the analysis team turned into working computer code by the programming team.

TESTING

Once the coding process is begin and proceed in parallel, as each program module can be tested.

INSTALLATION

Installation is the process during which the current system is replaced by the new system. This includes conversion of existing data, software, and documentation and work procedures to those consistent with the new system.

DOCUMENTATION

It is result from the installation process, user guides provide the information of how the use the system and its flow.

TRAINING AND SUPPORT

Training plan is a strategy for training user so they quickly learn to the new system. The development of the training plan probably began earlier in the project.

PROBLEM DEFINITION

In previous version manual work is needed more. The student users could not view the status of the gate pass immediately when requesting the department HOD. The student users may not be come to know full details about the approval status requested by them.

Report generation work is manually generated. It takes more time to generate reports. It is so hard to maintain a large amount of data. It is also hard make deliver the bedspreads products needed by the user. More numbers of hard copies need to maintain to prevent data loss. Transaction process is not accurate. So there rise the need for a proposed system to rectify the drawbacks of this previous system and so it is computerized.

The proposed system should help the staff/student to process requests and approval for gate pass effectively. The staff should use website for communication and notifying alerts about request details to allow the students. The interested student should make request for the gate pass through online.

7. CONCLUSION

This project is easy to implement and it is technically flexible to adapt to new environment. This project is designed in such an extensible fashion to increase the future adaptability and it is flexible, where the modification could be done whenever necessary.This project made the entry work easier to make the entry details secured by providing the appropriate authorization. In this process administrator is provided separate username and password so that no one can access the data that are entered in the database. By using this project clerical work in mostly reduced and all process are carried out digitally so that the data are ported easily. The corresponding department HOD is approving or rejecting the gate pass request made by students. It is developed in a user-friendly manner. The system is very fast and any transactions can be viewed or retaken at any level. The work burden is reduced and solves the problem of time consuming. The end users are required to have less working experience to run this project. The application is tested well and end users satisfaction is found to be more. The user can easily understand the details available from the report. This software will support for the future development.

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8. Learn PHP & MySQL – Zero to Hero Programming Crash Course – by **Paul Madoff**
9. Murach's PHP & MySQL – by **Joel Murach & Ray Harris**

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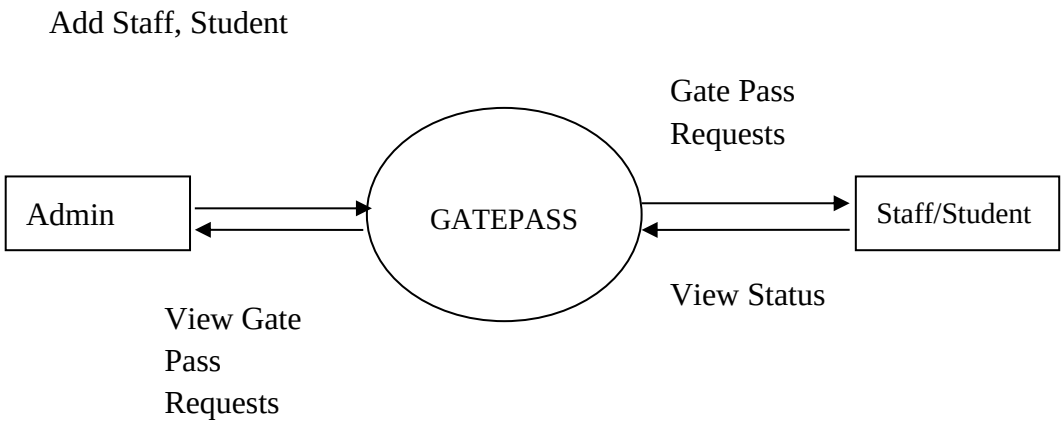
2. http://www.webreference.com
3. www.phptherightway.com
4. https://www.w3schools.com/php/
5. zetcode.com/lang/php/functions

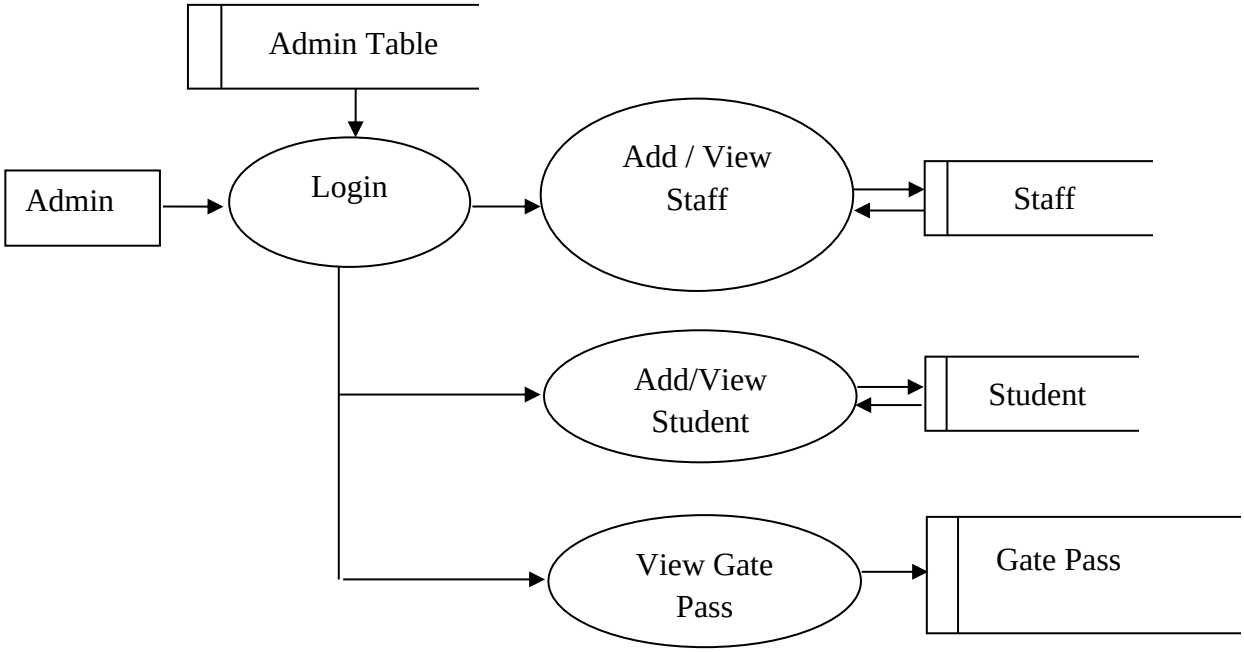
9. APPENDICES

A. DATA FLOW DIAGRAM

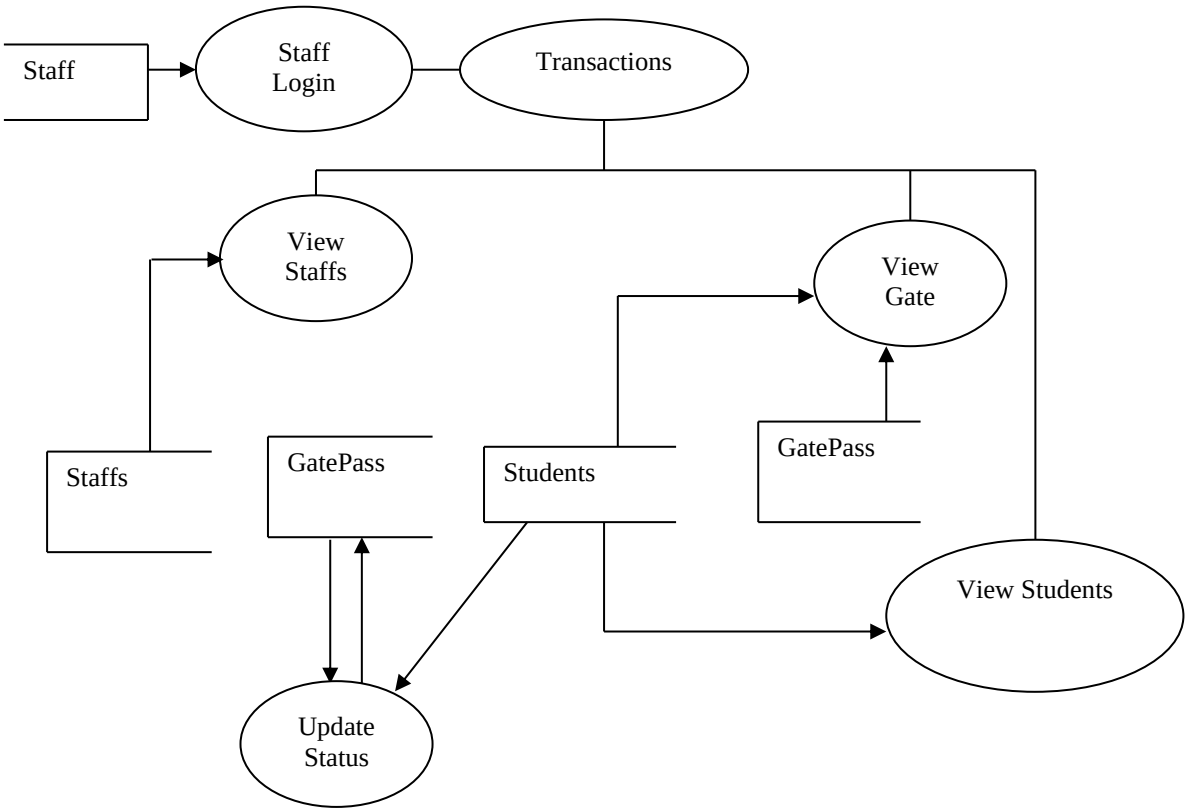
LEVEL 0



DATA FLOW DIAGRAM (ADMIN)



DATA FLOW DIAGRAM (STAFFS)



DATA FLOW DIAGRAM (STUDENTS)

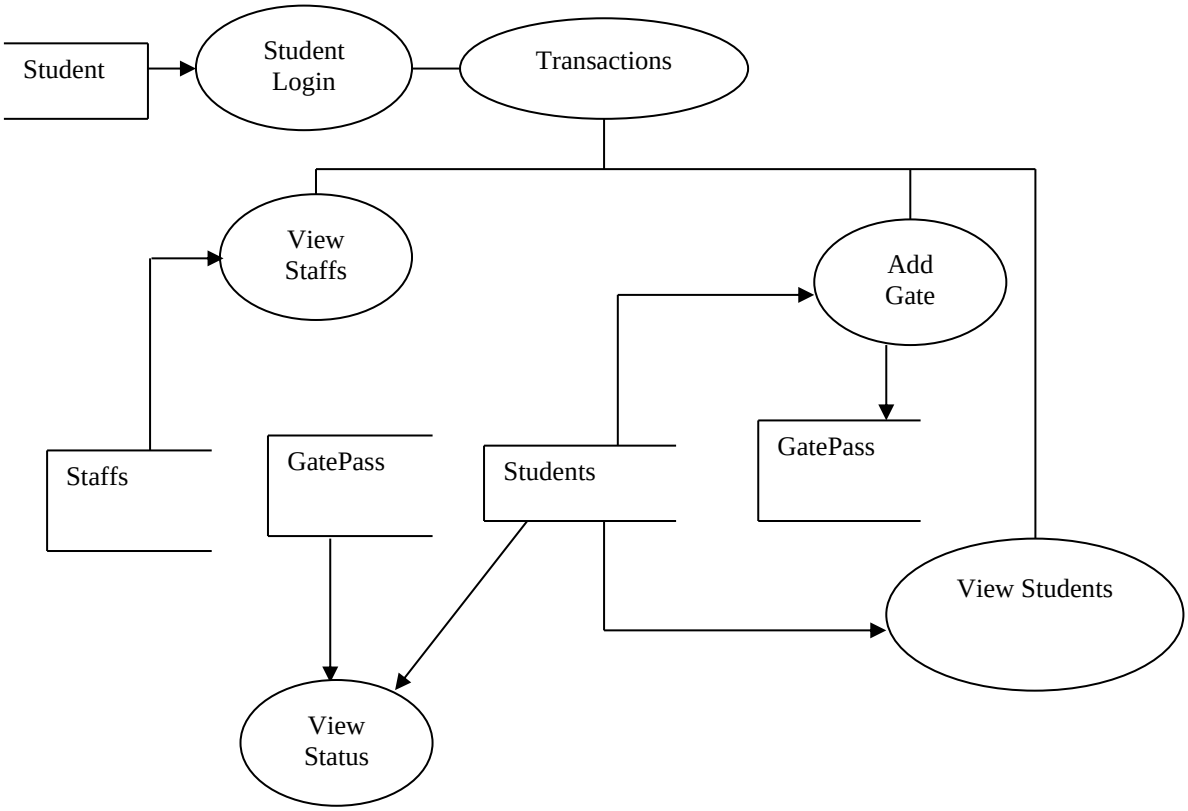


TABLE STRUCTURE

Table Name : Admin Table

Description : This table is used to maintain admin login details.

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS
Username	Varchar	15	Primary key
Password	Varchar	15	Not Null

Table Name : Staff Table

Description : This table is used to maintain staff details.

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS
StaffId	Varchar	10	Primary key
StaffName	Varchar	20	Not Null
Department	Varchar	50	Not Null
ContactNo	Varchar	10	Not Null
EmailId	Varchar	20	Not Null
Password	Varchar	20	Not Null
StaffType	Varchar	10	Not Null

Table Name : StudentTable

Description : This table is used to maintain student details.

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS
Regno	Varchar	10	Primary key
StudentName	Varchar	50	Not Null
Gender	Varchar	50	Not Null
Address	Varchar	200	Not Null
Department	Varchar	20	Not Null
ContactNo	Varchar	20	Not Null
ParentContactNo	Varchar	20	Not Null
DOB	Varchar	8	Not Null
EmailId	Varchar	50	Not Null
AadhaarNo	Varchar	20	Not Null
YearOfJoin	Varchar	10	Not Null
Scholarship	Varchar	20	Not Null
FirstGraduate	Varchar	20	Not Null
SSLCRollNo	Varchar	20	Not Null
SSLCMark	Varchar	20	Not Null
SSLCPercentage	Varchar	20	Not Null
HSCRollNo	Varchar	20	Not Null
HSCMark	Varchar	20	Not Null
HSCPercentage	Varchar	20	Not Null
School	Varchar	20	Not Null
Hosteller	Varchar	20	Not Null
Password	Varchar	15	Not Null

Table Name : gatepass Table

Description : This table is used to maintain customer details.

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS
Sno	INT	11	Primary key
StaffId	Varchar	50	Foreign key
Regno	Varchar	50	Foreign key
Department	Varchar	500	Not Null
Entrydate	DATE		Not Null
Ondate	DATE		Not Null
Reason	Varchar	12	Not Null
Duration	Varchar	12	Not Null
Status	Varchar	50	Not Null

B. SAMPLE CODING

STAFF REGISTRATION PAGE

```
<?php
include('HeaderAdmin.php');
include('Db.php');
?>
<br/>
<div style="width:100%; text-align: center;">
<h4>STAFF REGISTRATION</h4>
<form action="RegStaffCode.php" method="post" >
<center>
<table style="text-align:center ;width:40%;">
<tr>
<td>
```

```
Staff ID.:

<td>

<input type="text" name="txtId" style="width:150px;" Required/>

</td>

</tr>

<tr>

<td>

Staff Name:

</td>

<td>

<input type="text" name="txtName" style="width:200px;"Required/>

</td>

</tr>

<tr>

 <td>

Department:

</td>

 <td>

<select  name="ddDept" style="width:200px;" Required>

<option value="">Select</option>

<option value="CS">CS</option>

<option value="MCA">MCA</option>

<option value="MBA">MBA</option>

</select>

</td>
```

```
</tr>
<tr>
<td>
Staff Type:
 </td>
<td>
<select  name="ddType" style="width:200px;" Required>
<option value="">Select</option>
<option value="HOD">HOD</option>
<option value="Others">Others</option>
</select>
</td>
</tr>
<tr>
<td>Contact No:
</td>
<td>
<input type="text" style="width:200px;" name="txtContactNo" Required pattern='[0-9]{10}'/></td></tr>
<tr>
<td>Email ID:</td>
<td><input type="email" style="width:200px;" name="txtEMailId" Required/></td>
</tr>
<tr>
<td>Password:</td>
```

<td><input type="password" style="width:200px;" name="txtPass" Required/></td>

</tr>

<tr>

<td colspan="2">

<input type="submit" name="btnSubmit" value="Submit" class="btn_submit" style="width:500px;" />

</td>

</tr>

</table>

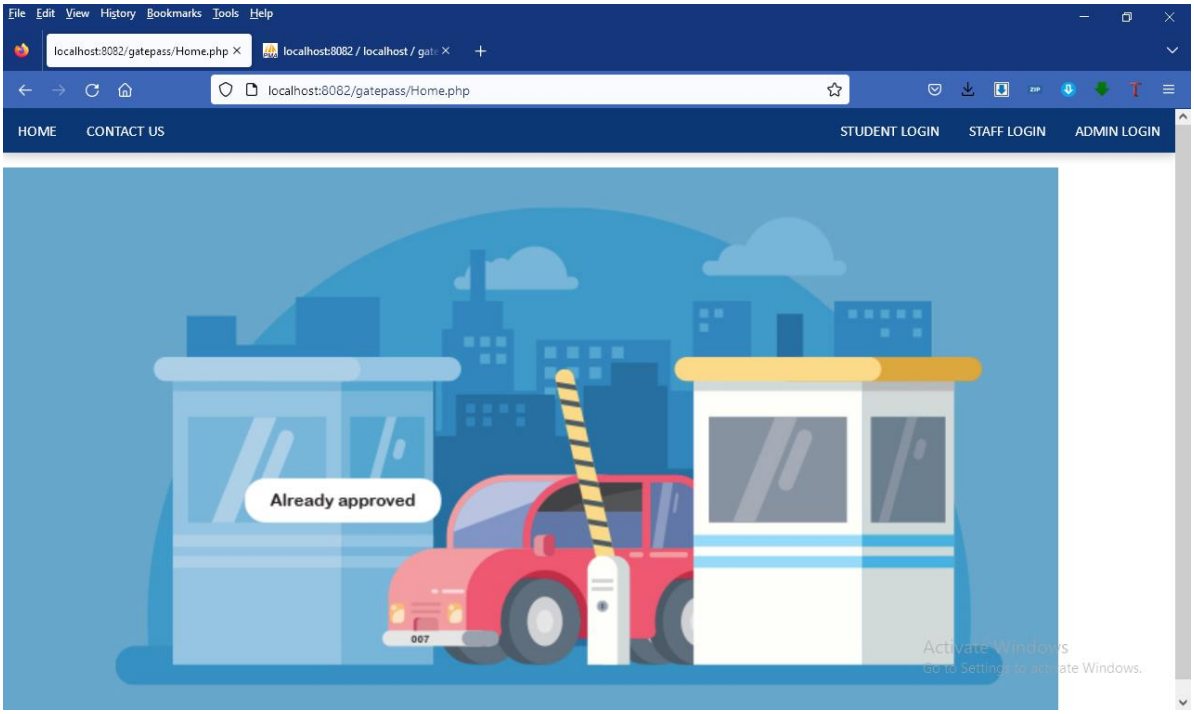
</form>

</body>

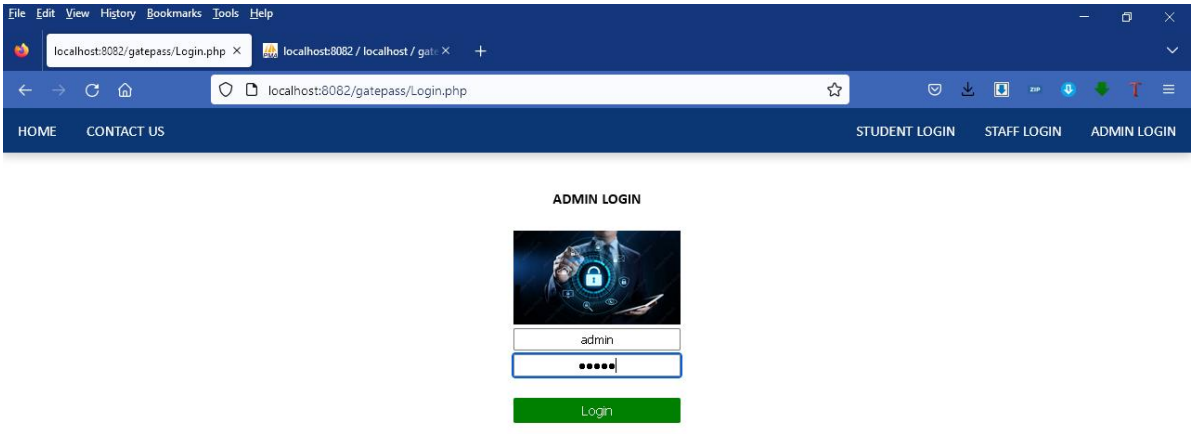
</html>

C. SAMPLE OUTPUT

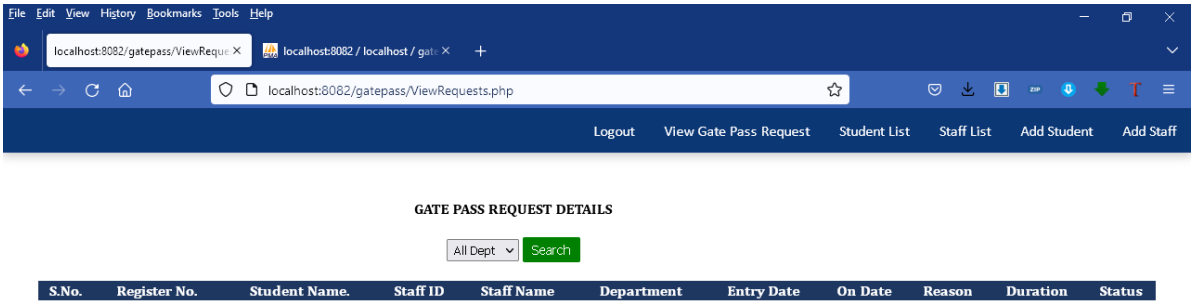
HOME PAGE



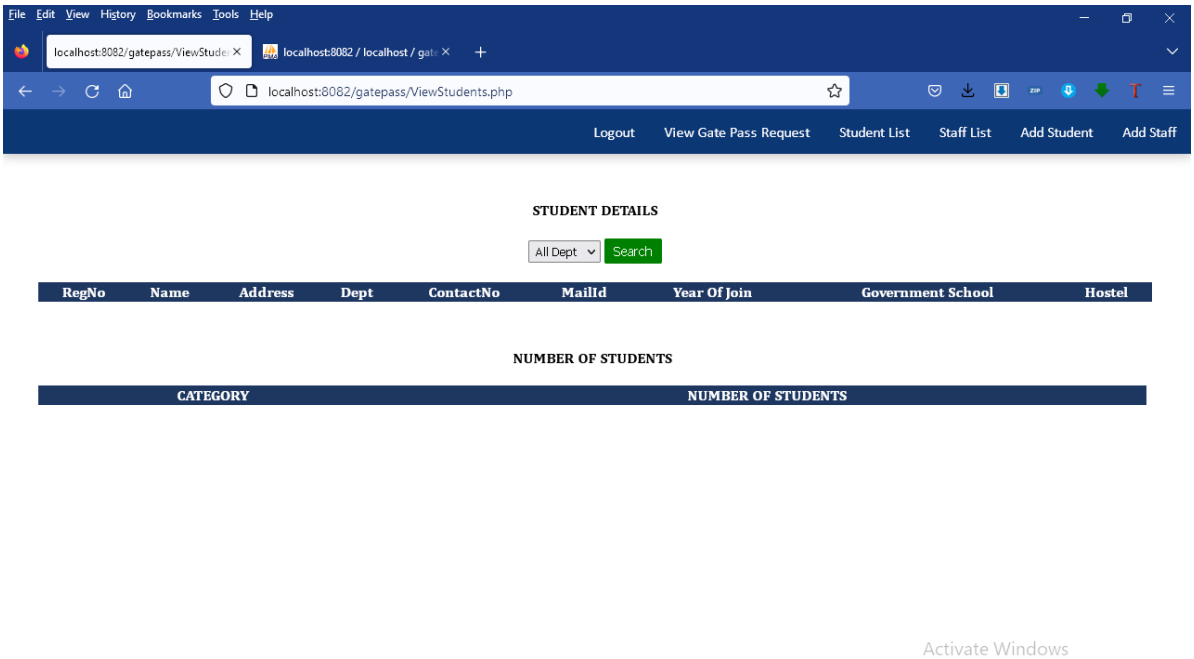
ADMIN LOGIN



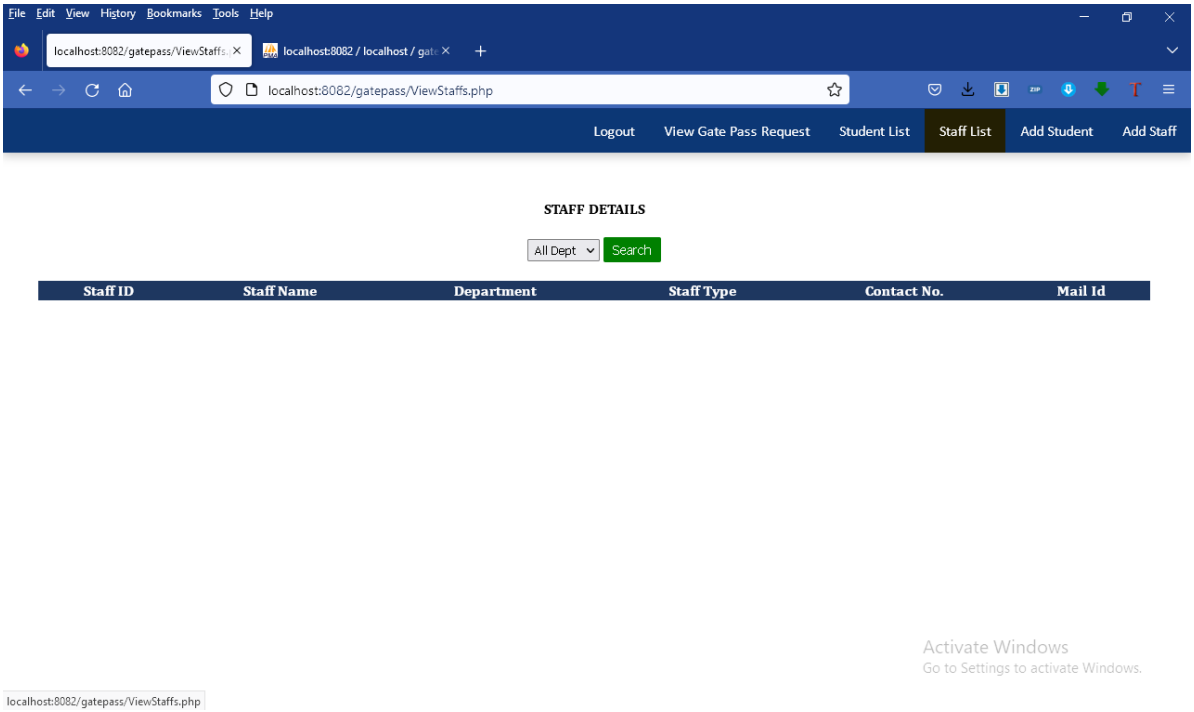
VIEW GATEPASS REQUET



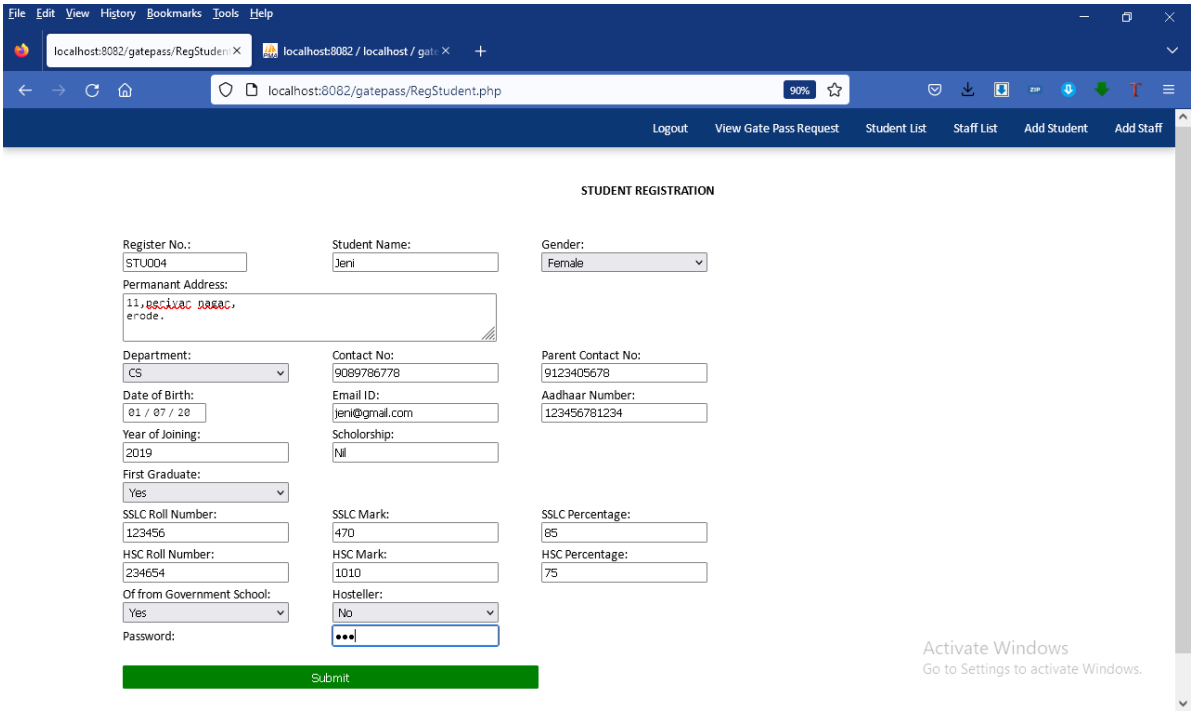
STUDENT LIST



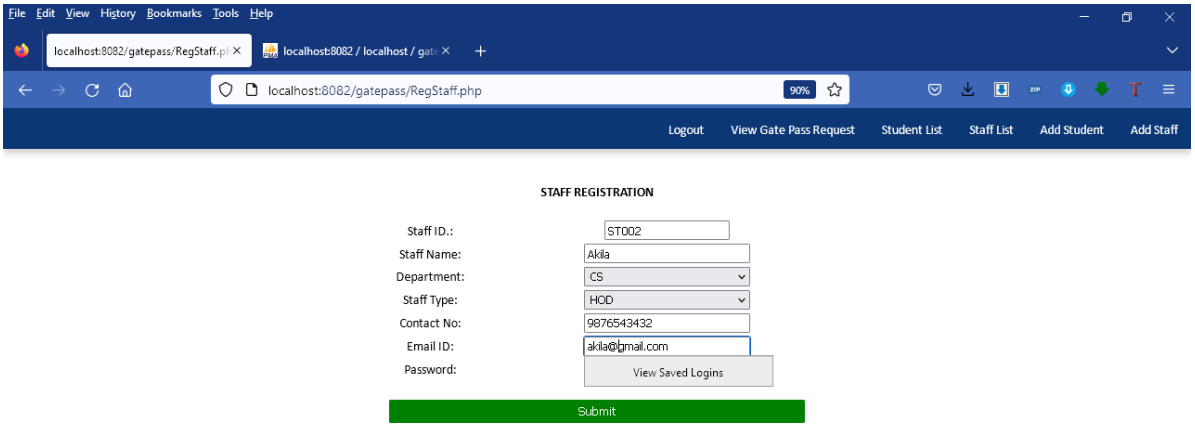
STAFF LIST



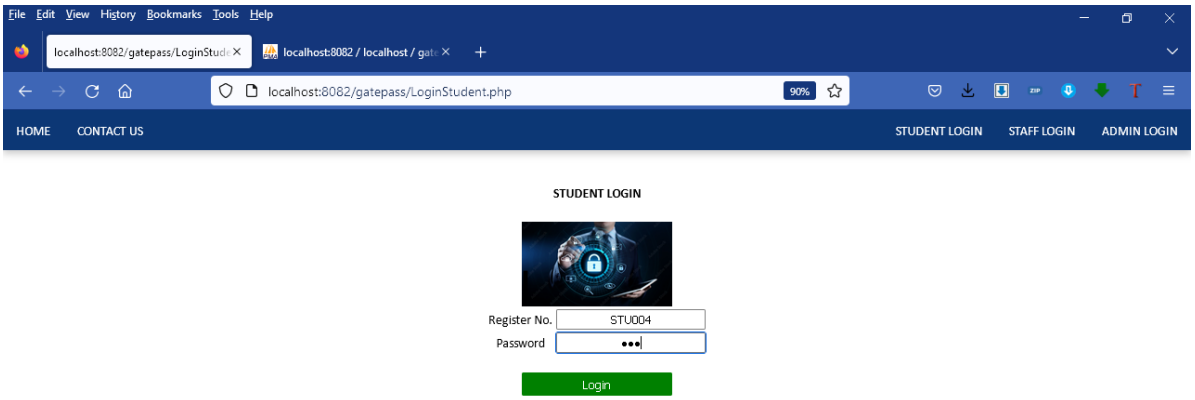
ADD STUDENT



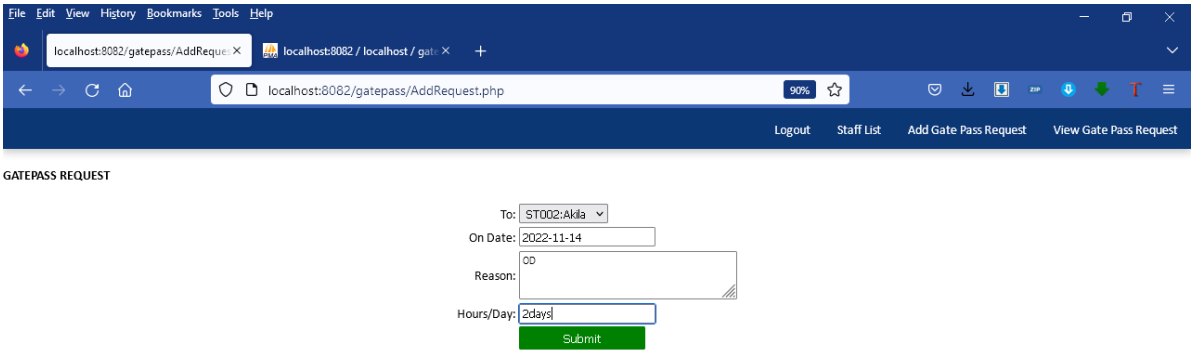
ADD STAFF



STUDENT LOGIN



ADD GATE PASS REQUEST



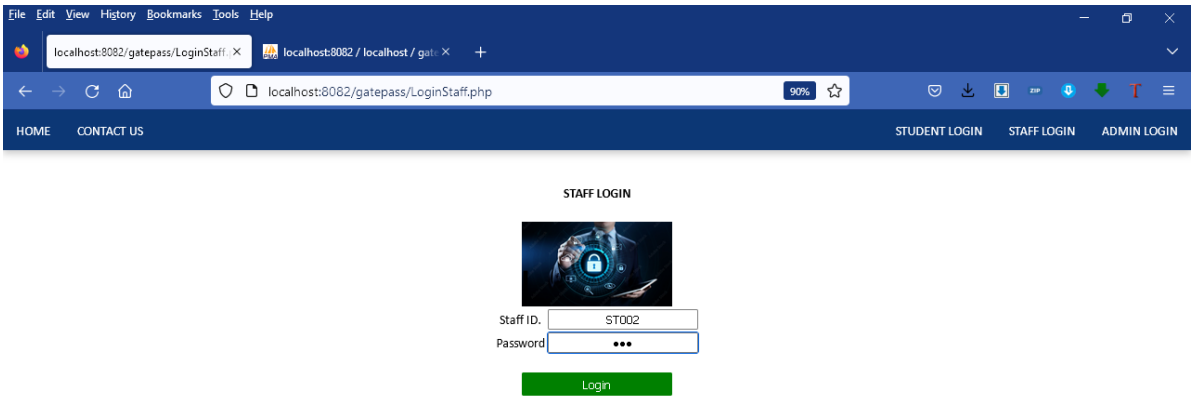
VIEW GATE PASS REQUEST

GATE PASS REQUEST DETAILS

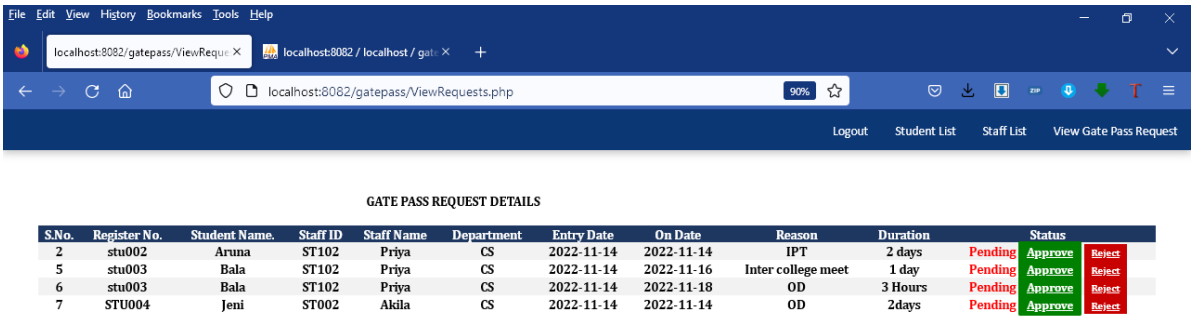
S.No.	Register No.	Student Name.	Staff ID	Staff Name	Department	Entry Date	On Date	Reason	Duration	Status
2	stu002	Aruna	ST102	Priya	CS	2022-11-14	2022-11-14	IPT	2 days	Pending
5	stu003	Bala	ST102	Priya	CS	2022-11-14	2022-11-16	Inter college meet	1 day	Pending
6	stu003	Bala	ST102	Priya	CS	2022-11-14	2022-11-18	OD	3 Hours	Pending
7	STU004	Jeni	ST002	Akila	CS	2022-11-14	2022-11-14	OD	2days	Pending

localhost:8082/gatepass/ViewRequests.php

STAFF LOGIN



VIEW GATE PASS REQUEST DETAILS



S.No.	Register No.	Student Name.	Staff ID	Staff Name	Department	Entry Date	On Date	Reason	Duration	Status		
2	stu002	Aruna	ST102	Priya	CS	2022-11-14	2022-11-14	IPT	2 days	Pending	Approve	Reject
5	stu003	Bala	ST102	Priya	CS	2022-11-14	2022-11-16	Inter college meet	1 day	Pending	Approve	Reject
6	stu003	Bala	ST102	Priya	CS	2022-11-14	2022-11-18	OD	3 Hours	Pending	Approve	Reject
7	STU004	Jeni	ST002	Akila	CS	2022-11-14	2022-11-14	OD	2days	Pending	Approve	Reject