EXAMINATION HALL ALLOCATION SYSTEM

Submitted by

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1U17CS016

in partial fulfillment of the requirements for the award of the Degree of

Bachelor of Computer Science from Bharathiar University, Coimbatore.

Under the supervision of

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December 2019 - March 2020.

RATHNAVEL SUBRAMANIAM COLLEGE OF ARTS AND SCIENCE

(Autonomous and Affiliated to Bharathiar University)

NAAC Re Accredited with 'A'

Sulur, Coimbatore-641 402.

SCHOOL OF COMPUTER STUDIES

Register Number- 1U17CS016

Bonafide Certificate

This is to certify that the project work entitled **"EXAMINATION HALL ALLOCATION SYSTEM"** done by **DEEPAN M,** during the period December 2019 to March 2020 in partial fulfillment of the degree of B.Sc., Computer Science is submitted for the Project evaluation and Viva voce held at the School of Computer Studies, Rathnavel Subramaniam College of Arts and Science, Sulur, Coimbatore on_____

Internal Supervisor **HoD-B.Sc.CS**

Examiners:

Internal Examiner : _____

External Examiner: _____

CERTIFICATE

Certificate

This is to certify that the project entitled **EXAMINATION HALL ALLOCATION SYSTEM**, submitted to the School of Computer Studies, B.Sc. Computer Science, Rathnavel Subramaniam College of Arts and Science in partial fulfillment of the requirements for the award of the Degree of B.Sc., Computer Science is a record of original project work done by **DEEPAN M** with register number **1U17CS016** during the period December 2019 to March 2020 under my internal supervision and the project has not formed the basis for the award of any Degree/Diploma/Associate ship/Fellowship or other similar title to any candidate of any University.

Internal Supervisor

DECLARATION

Declaration

I, **DEEPAN M** hereby declare that the project, entitled **EXAMINATION HALL ALLOCATION SYSTEM**, submitted to the School of Computer Studies, B.Sc. Computer Science, Rathnavel Subramaniam College of Arts and Science in partial fulfillment of the requirements for the award of the Degree of B.Sc. Computer Science is a record of original work done by me during the period December 2019 to March 2020 under the internal supervision of

Mr.G.Sathish, Corporate Trainer-Technical, Rathnavel Subramaniam College of Arts and Science it has not formed the basis for the award of any Degree/Diploma/Associate ship/Fellowship or other similar title to any candidate of any University.

Signature of the Candidate

ACKNOWLEDGEMENT

Acknowledgement

If words are considered as symbols of approval and tokens of acknowledgement, then the words play the heralding role of expressing my gratitude to all who have helped me directly or indirectly during my project work.

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DEEPAN M

ABSTRACT

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Abstract— This paper presents a high-end system to bridge the gap between the board of examination and the student in need for details about allocation of hall. Application for Examination Hall Allocation System act as a intermediate between board of examination and students with the help of Internet. It is a Web Application through which students can check their examination hall details by entering their registration number.

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CONTENTS

CHAPTER 1

1 .INTRODUCTION

Examination Hall Allocation is a website based on PHP. The purpose of this project was to reduce the time consumption for board of examination in the allocation of hall. It also reduce the time consumption of students in searching their hall details .This project includes five modules i.e. login,admin,hall,department and report module

1.1 SYSTEM CONFIGURATION

• Front end: HTML, CSS, Bootstrap

HTML: HTML is used to create and save web documents.
CSS : (Cascading Style Sheets) Create attractive Layout
Bootstrap : responsive design mobile friendly site

•Back end: PHP, MySQL

PHP: Hypertext Preprocessor (PHP) is a technology that allows software developers to create dynamically generated web pages, in HTML or other document types, as per client request. PHP is open source software.

MySQL: MySQL is a database, widely used for accessing querying, and managing data in databases.

1.2 HARDWARE CONFIGURATION

Processor	:Intel
RAM	:4 GB
Keyboard	:84 keys
Monitor	:Digital colour
Display Type	:Normal

1.3 SOFTWARE CONFIGURATION

Operating system	:Linux
Web browser	:Lampp, Local host server
Designing Tool	:HTML, CSS, Bootstrap
Backend	:PHP, MySQL

CHAPTER 2

2 SYSTEM STUDY

2.1 EXISTING SYSTEM

There is no existing system for allocation of hall. Still the allocation is done manually. It makes more tedious time consumption and cost consumption. Students get nervous in searching hall details in notice board during examination

2.2 PROPOSED SYSTEM

This website has a page for admin to allocate hall with the help of student and hall details. It will reduce the time consumption compared to manual method. At the same time students can search their hall details with the help of the Internet.

2.3 MODULE DESCRIPTION

- **Module 1 : Login Module**

In this module Admin can enter into the Admin module through username and password.

It also helps students enter into the result module through their register number.

- **Module 2 : Admin Module**

In this module admin can view the details about students and hall. It also displays the blocks in college. By clicking the specific block, admin can enter into the hall module.

- **Module 3 : Hall Module**

In this module will display the hall details based on the block which was selected by Admin.

It helps admin to create new hall and delete the existing hall. Using '**add**' option, admin can select the department for allocation. It will enter into department module

- **Module 4: Department Module**

It will display the student details based on department. Admin can create a result page using these details and also delete the records in the result page. Using '**update**' option, the admin can update the table in the back-end by uploading the CSV file.

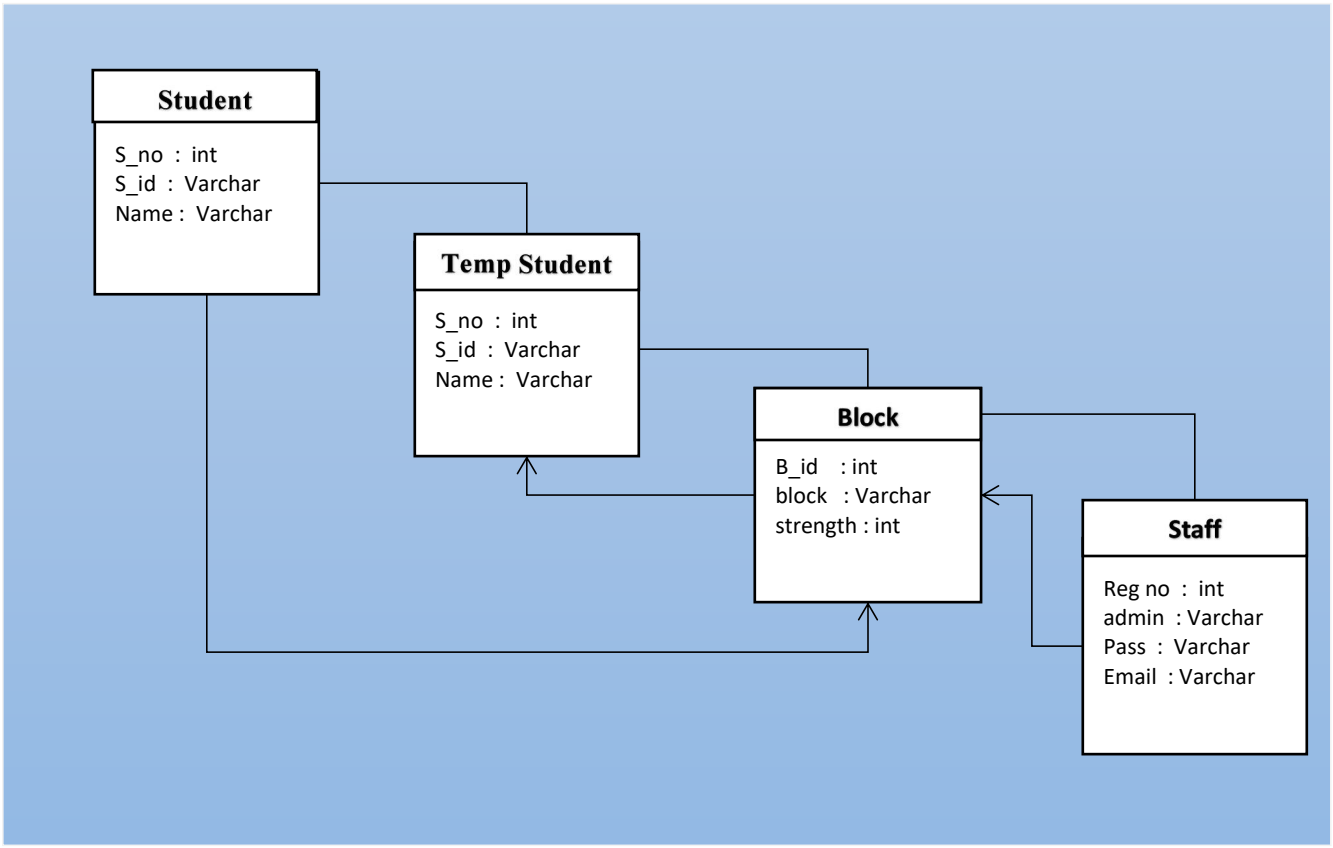
- **Module 5: Report Module**

This module will display the hall details for students based on their register number

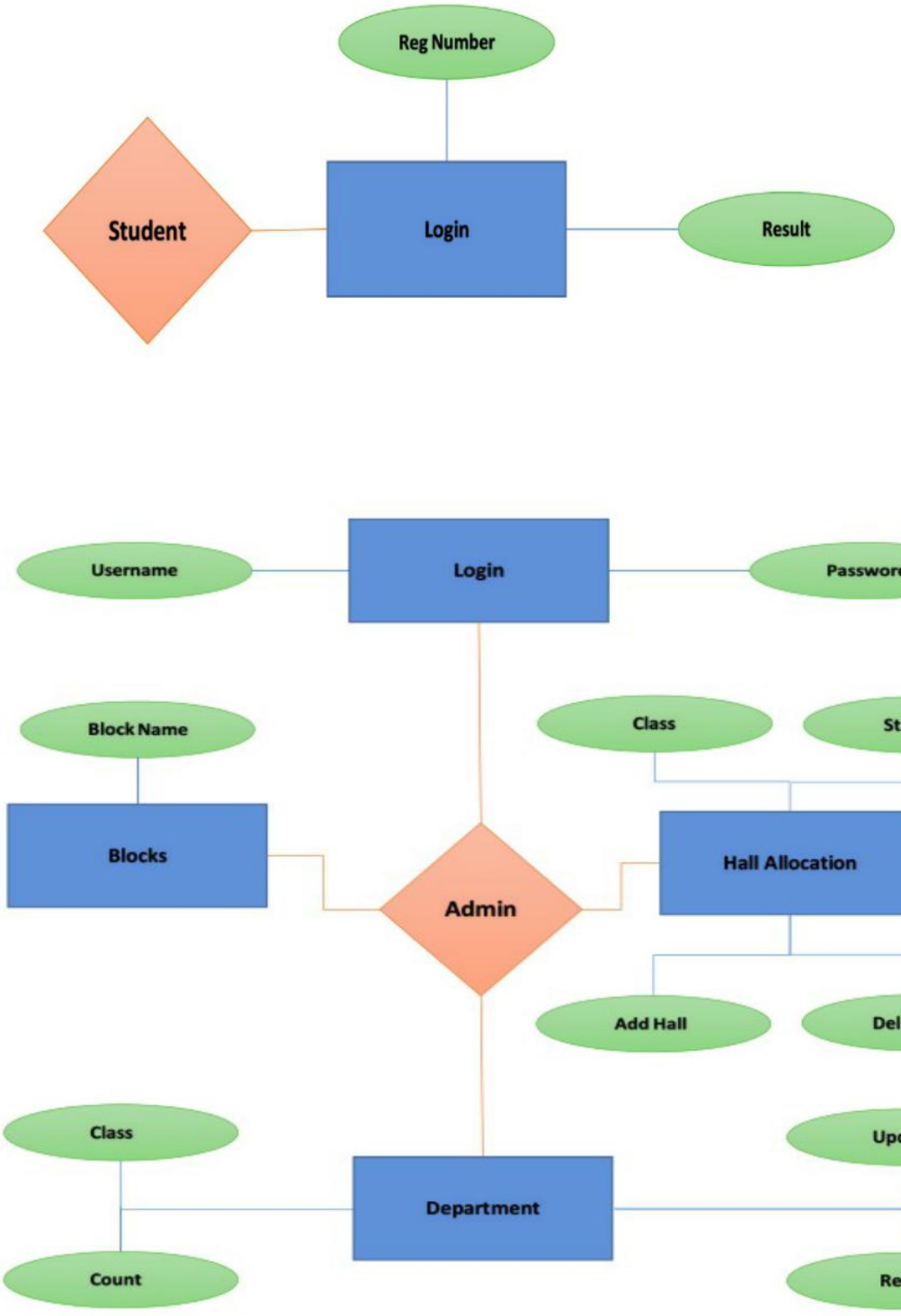
CHAPTER 3

3 SYSTEM DESIGN & DEVELOPMENT

3.1 CLASS DIAGRAM



3.2 E-R DIAGRAM



The entity-relationship data model is based on a perception of a real world that consists of a collection of basic objects called entities and of relationships among these objects. An entity is an “object” in the real world that is distinguishable from other objects..

For e.g. Each student can be considered to be entities. Entities are described by a set of attributes.

For.e.g. The attributes Hall. and Number seat type describes a particular Hall. The set of all entities of the same type and the set of all relationships of the same type are termed as an entity set and relationship set respectively.

The logical structure of a database can be expressed graphically by an E- R diagram consists of the following major components:

3.2.1 ENTITY

An entity is an “object” in the real world that is distinguishable from all other objects.
An entity set is a set of entities of the same type that share the same attributes.

3.2.2 WEAK ENTITY

An entity set that may not have sufficient attributes to form a primary key is termed as a weak Entity set.

3.2.3 ATTRIBUTE

Attributes are descriptive properties possessed by each student of an entity set.

3.2.4 KEY ATTRIBUTE

A key attribute is the unique, distinguishing characteristic of the entity. For example, Admin key attribute.

3.2.5 MULTI VALUED ATTRIBUTE

In an instance where an attribute has a set of values for a specific entity is called a multi value attribute.

3.2.6 DERIVED ATTRIBUTE

In these attributes the value can be derived from the values of other related attributes.

3.2.7 RELATIONSHIPS

A relationship an association among several entities.

RELATIONSHIP

For e.g., we can define a relationship that associates student Reg no with

Admin .This relationship specifies that Student is a Client with Admin Hall AH-101.

3.2.8 RECURSIVE RELATIONSHIP

In some cases, entities can be self-linked. For example, Admin can add or delete files and student databases.

DATA FLOW DIAGRAM

3.3.1 INTRODUCTION OF DFD

A DFD, in simple words, is a hierarchical graphical model of a system that shows the different processing activities or functions that the system performs and the data interchange among these functions. In the DFD terminology, it is useful to consider each function as a process that consumes some input data and produces some output data.

The DFD (also known as the bubble chart) is a simple graphical formalism that can be used to represent a system in terms of the input data to the system, various processing carried out on these data, and the output data generated by the system) The main reason why the DFD technique is so popular is probably because of the fact that DFD is a very simple formalism- it is simple to understand and use. A DFD model uses a very limited number of primitive symbols to represent the function performed by a system and the data flow among these functions. Starting with a set of functions. In fact , any hierarchical model is simple to understand . A human might is such that it can easily understand any hierarchical model of a system-because in a hierarchical model, starting with a very simple and abstract model of a system; different details of the system can be slowly introduced through different hierarchies.

3.3.2 CONTEXT DIAGRAM

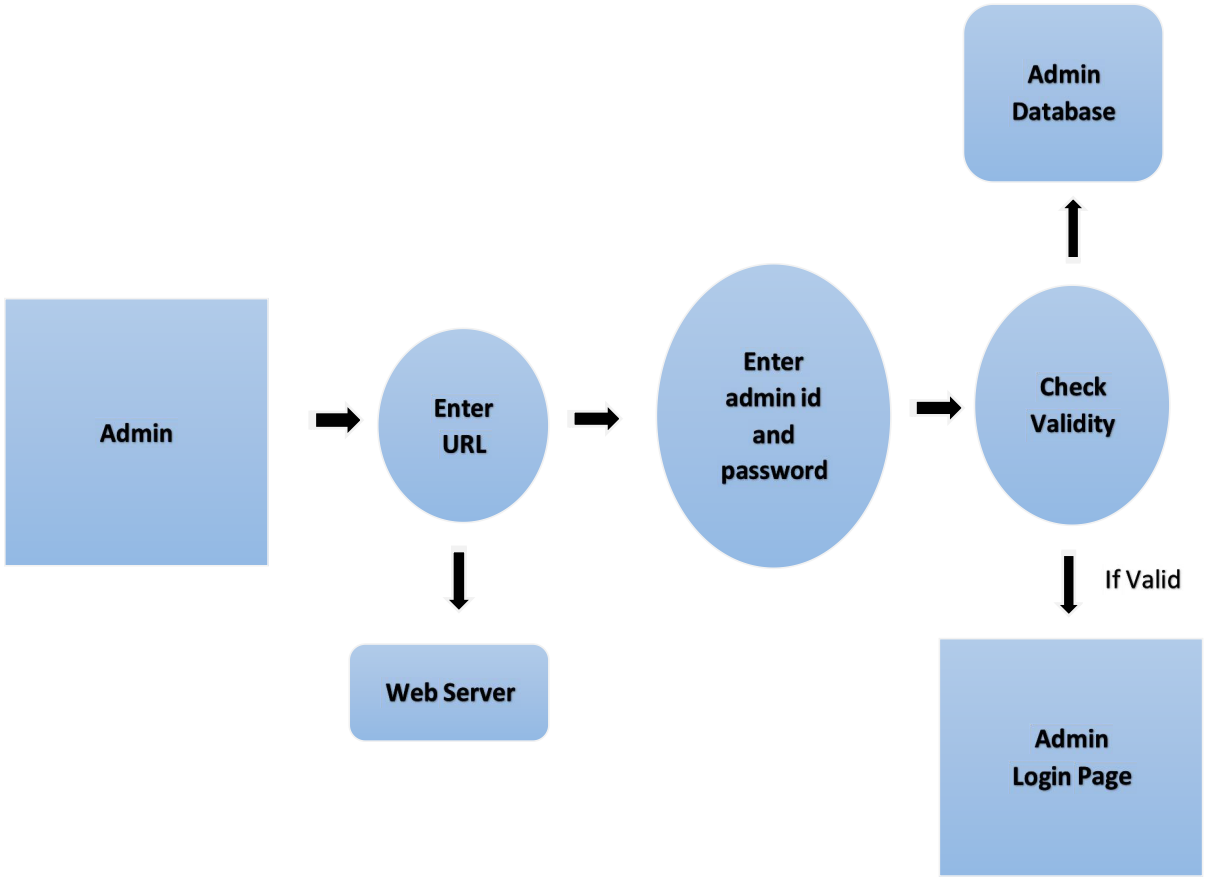
A special data flow diagram(DFD) known as context diagram that represents an entire system as a single process and highlights the interfaces between the system and the outside entities.

3.3.3 NEED OF DFD

DFD aims to capture the transformation that takes place within a system to the input data so that eventually output is produced. It makes it easier for users to understand the flow of data.

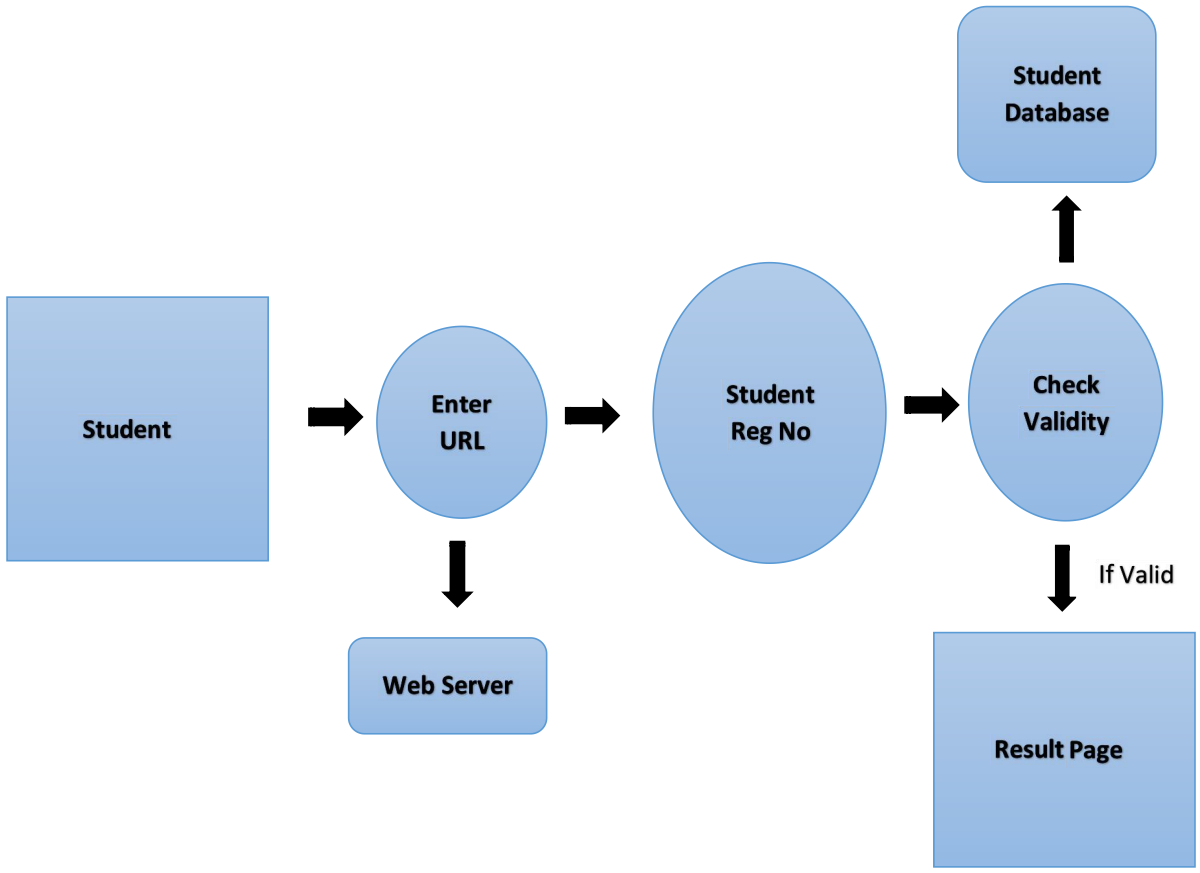
3.3.4 DFD FOR ADMIN LOGIN

After entering the homepage of the website, admin can choose the ADMIN LOGIN option where they are asked to enter username & password , and if he/she is a valid user then admin login page will be displayed.

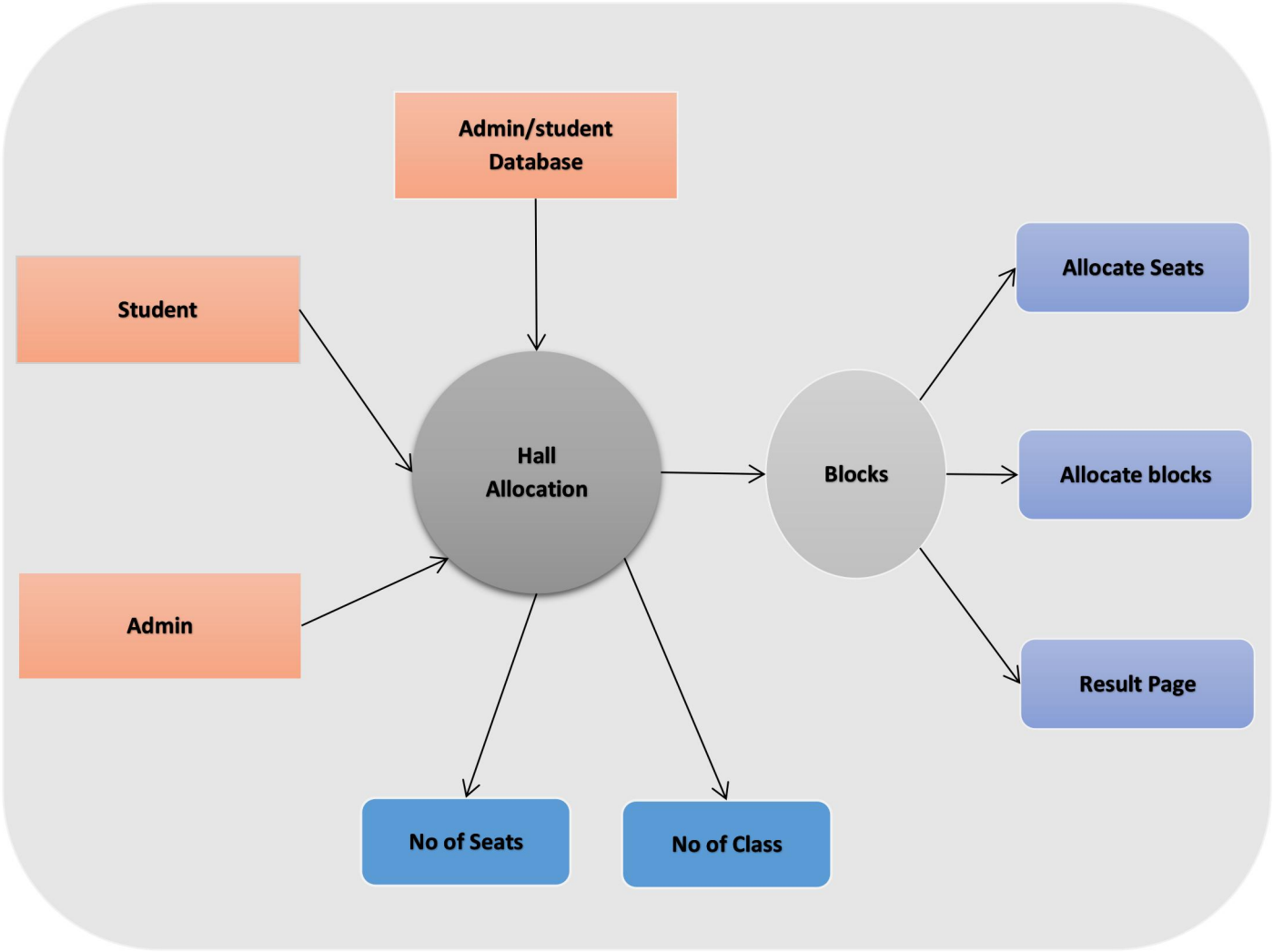


DFD FOR USER LOGIN

After entering the homepage of the website, students can choose the USER LOGIN option where they are asked to enter Reg no, and if he/she is a valid Reg no then a student result page will be displayed.



DATA FLOW DIAGRAM



3.4 INPUT DESIGN

Input design is a part of overall system design, which requires very careful attention. The main objectives of input design are:

To produce a cost-effective method of input. To achieve the highest possible level of accuracy.

To ensure that the input is acceptable to and understood by the user staff.

In this system input screens are designed very carefully so that no inaccurate data will enter the database. The data is made as easy as possible. For simplifying the data entry many facilities are given.

Each and every screen in this system is facilitated by many push buttons so that the user can easily work with this system.

3.5 OUTPUT DESIGN

Outputs from computer systems are required primarily to communicate the results of processing to users. They are also to provide a permanent hard copy of these results for later consultation.

The various types of outputs required by this system are given there. External outputs, whose destination is outside the concern and which require special attention because they project the image of the concern. Internal outputs, whose destination is within the concern and which require careful design because they are the user's main interface within the computer. Operation outputs, whose use is purely within the computer department, E.g., program listings, usage statistics etc, Interactive outputs, which involves the user in communicating directly with the computer.

3.6 TABLES

Student Table

Description:

Used to collect student database from external sources and login a web page. It is used to define a hall allocation. Finally got a result page. Every student details attach with the following fields.

Field name	Field type	Field length
s_no	int	10
s_id	varchar	20
s_name	varchar	20

Temporary Student Table

Description:

Used to Temp table, If you want to add or remove data in the website. The table does not affect the entire database so we use the temporary table like swap method.

Field name	Field type	Field length
s_no	int	10
s_id	varchar	20
s_name	varchar	20

Staff Table

Description:

It is used to manage the entire website for a staff like admin. The admin allocates the classes, block and seats. The admin can add the new student database, modify, add and remove.

Field name	Field type	Field length
reg_no	varchar	10
admin_name	varchar	20
admin_pass	varchar	20

Block Table

Description:

It is used to number of class and number of seats available also count the both class and seats. It is based on Number of student, Number of class decide to calculate the seating arrangement. Allocate classes hide the block table.

Field name	Field type	Field length
b_id	varchar	10
block	varchar	20
strength	int	10

CHAPTER 4

4 SYSTEM TESTING

4.1 SOFTWARE TESTING

Testing is the process of executing programs with the intention of finding out errors. During the process, the project is executed with a set of tests and the output of the website is evaluated to determine if the project is performing as expected. Testing makes a logical assumption that if all the parts of the module are correct then the goal will be successfully achieved. Testing includes after the completion of the coding phase. The project was tested from the very beginning and also at each step by entering different types of data. In the testing phase some mistakes were found,which did not come to knowledge at the time of coding the project. Then changes were made in the project coding so that it may take all the relevant data and gives the required result. All the forms were tested one by one and made all the required changes.

Testing is vital to the success of the system. Testing makes a logical assumption that if all the arts of the system are correct, the goal will be successfully achieved. A small system error can conceivably explode into a much larger problem. Effective testing early in the process translates directly into long-term cost savings from a reduced number of errors. For the verification and validation of data various-nesting tasks are performed. Testing is itself capable of finding the syntactic mistakes in the system but users need to test the system for logical checking.

4.2 LEVELS OF TESTING

The aim of the testing process is to identify all the defects in the website. It is not practical to test the website with respect to each value that the input request data may assume. Testing provides a practical way of reducing defects in the website and increasing the user's confidence in a developed system. Testing consists of subjecting the website to a set of test inputs and observing if the program behaves as expected. If the program fails to Testing behave as expected the conditions under which failure occurs are noted for later debugging and correction. The Following things are associated with testing:

Failure is a manifestation of an error. But the mere presence of an error may not necessarily lead to a failure. A test case is the triplet [I, S, O] where I am data input to the system. S is the state of the state of the system at which the data is input, O is the expected output of the system A test suite is the set of all test cases with which a given software product is to be tested.

4.3 FUNCTIONAL TESTING

Here the system is a black box whose behavior is determined by studying its inputs and related outputs. The key problem is to select the inputs that have a huge probability of being members of a set in many cases; the selection of these test cases is based on the previous studies.

4.4 STRUCTURAL TESTING

A great deal can be learnt about the strength and the limitation of the application by examine the manner in which the system breaks. This type of testing has two limitations. It tests failure behavior of the system circumstances may arise through an unexpected combination of events where the node placed on the system exceeds the maximum anticipated load. The structure of each module was checked at every step. Some structures were firstly wrong,which came to notice at the time of the connectivity.

4.5 UNIT TESTING

In unit testing the entire individual functions and modules were tested independently. By following this strategy all the error in coding were identified and corrected. This method was applied in combination with the white and black box testing techniques to find the errors in each module. Unit testing is normally considered an adjunct to the coding step. Unit test case design was started after source level code had been developed, reviewed, and verified for correct syntax. A Review of design information provides guidance for establishing test cases that were likely to uncover errors in each of the categories discussed above. Each test case was coupled with a set of expected results.

4.5.1 TESTING LOGIN FORM

This form is used for login of administrators and students. In this page we enter the username of admin then it will ask for a password. If both are correct the administration page will open. We can also enter the username of the student, it will ask again for confirmation then it will display the result page. Otherwise, if any of the data is wrong it will get redirected back to the login page and again ask for username.

TEST FOR ADMIN MODULE:

Session is used for this page. username and password is correct, session set as admin. Before we enter into this page we check the session is set or not. If it is set as an admin it will allow to load this page. Otherwise it will get redirected back to the login page and again ask for username.

This page will display block names as buttons for allocation. Each and every button will get data based on the Block ID. This function will display the data in Hall module

TEST FOR HALL MODULE:

In this section admin can view the hall details about Block ID which was already selected in

previous page. Admin can add more hall to database and delete hall from database. Total available seats will change after adding/deleting the hall. Using add button to select the particular department for hall allocation. This button will get data based on department. This function will display the Department module.

TEST FOR DEPARTMENT MODULE:

In this page will display the details about the department which was already selected in the previous page. Enter the count in count form to allocate the number of students in a particular hall. Reset button will reset the temp_table from the backup table. Upload button will get the CSV file from computer and update the backup table. Using error handling method, we identify the error. If the count form is empty ,upload file is empty or file is not a CSV file then it will display the new page and display the error message based on the error.

TEST FOR REPORT MODULE:

Students can view the name,hall no and student ID based on username which was entered in login form.

4.6 INTEGRITY TESTING

Integrity phases the entire module using the bottom-up approach and tests them. Integrity Testing is a systematic technique for constructing the program structure while at the same time conducting tests to uncover errors associated with interfacing. The objective was to take unit tested modules and build a program structure that has been dictated by design. The testing strategy has two different approaches namely the top-down approach in which the integration is carried out from the top-level module to the bottom and the bottom-up approach in which the integration is carried out from the low-level module to the top. The modules were tested using the bottom-up approach by introducing stubs for the top level functions. This test was used to identify the errors in the interfaces, the errors in passing the parameters between the functions and to correct them.

4.6.1 THERE ARE TWO TYPES OF TESTING AVAILABLE

4.6.1.1 BLACK BOX TESTING

In black box testing the structure of the program is not considered. Test cases are decided solely on the basis of the requirements or specifications of the program or module, and the consideration for selection of test classes. In this section, we will present some techniques for generating test cases for black-box testing. In black-box testing, the testing only knows the inputs that can be given to the system and what output the system can give. In other words the basis for deciding test case in functional testing is the requirement or specification of the system module. This form of testing is obvious functional or behaviour testing.

The most obvious functional testing procedure is exhaustive testing, which as we have stated, is empirical. One criterion for generating test causes is to strategy has little chance of resulting in a set of test causes that is close to optimal(i.e. that detects the maximum errors with minimum test cases). Hence we need some other criterion or rule for selecting test cases. There are no formal rules for designing test cases for functional testing. In fact there are no precise criteria for selecting test cases however, they have been found to be very successful in detecting errors.

4.6.1.2 WHITE BOX TESTING

In the previous section we discussed testing, which is concerned with the function that the tested program is proposed to program and does not deal with the internal structure of the program responsible for actually implementing that function. Those black-box testing is concerned with functionality rather than implementation of the program. On the other hand, white-box testing is concerned with testing implementation of the program. The intent of this testing is not to exercise all the different input or output conditions(although that may be to buy products) but to exercise the different programming structures and data structures used in the program. White-box testing is also called structure testing and we will use the two terms interchangeably to test the structures of a program, structural testing aims to achieve test cases that force the desired coverage of different structures various criteria have been proposed for this. Unlike the criteria for functional testing which are frequently imprecise, the criteria for structural testing are generally quite precise as they are based on program structures, which are formal and precise.

CHAPTER 5

5 SYSTEM IMPLEMENTATION AND MAINTENANCE

During the software-testing phase each module of software is thoroughly tested for bugs and for accuracy of output. The system developed is very user-friendly and the detailed documentation is also given to the user as online help wherever necessary. The implementation phase normally ends with the formal test involving all the components.

The entire system was developed using the HTML, CSS, bootstrap and PHP, MySQL as back end. The HTML is used to design the web page. CSS is Create an attractive Layout. Bootstrap is responsive design mobile friendly site.
PHP is Hypertext Preprocessor (PHP) is a technology that allows software developers to create dynamically generated web pages, in HTML or other document types, as per client request. PHP is open source software. MySQL is a database, widely used for accessing querying, and managing data in databases.

Most of the colleges uses manual methods for allocation of the examination hall. We convert this manual method to digital method with the help of my examination hall allocation system. It will reduce the burden of board of examination. Already the admin have username and password for accessing and manipulating the details of students and halls.

Admin can easily allocate the halls. Every year students details will change so admin can easily upload the CSV file to change the student details in back-end. Every student have a unique id. They can use their id to check the hall details. The hall details will be displayed to the students, only if the admin allocate the hall for them.

CHAPTER 6

6 CONCLUSION

6.1 SCOPE FOR FUTURE PROSPECTS

EXAMINATION HALL ALLOCATION SYSTEM is a web application built in such a way that it should suit for hall allocation in future. In this digital era everyone uses the internet so they can get their details as soon as possible. In future it will help students to get their details in their smartphones also. Because this application is responsive to mobile friendly sites.

6.2 BIBLIOGRAPHY AND WEB REFERENCES

www.php.net/

https://www.google.com

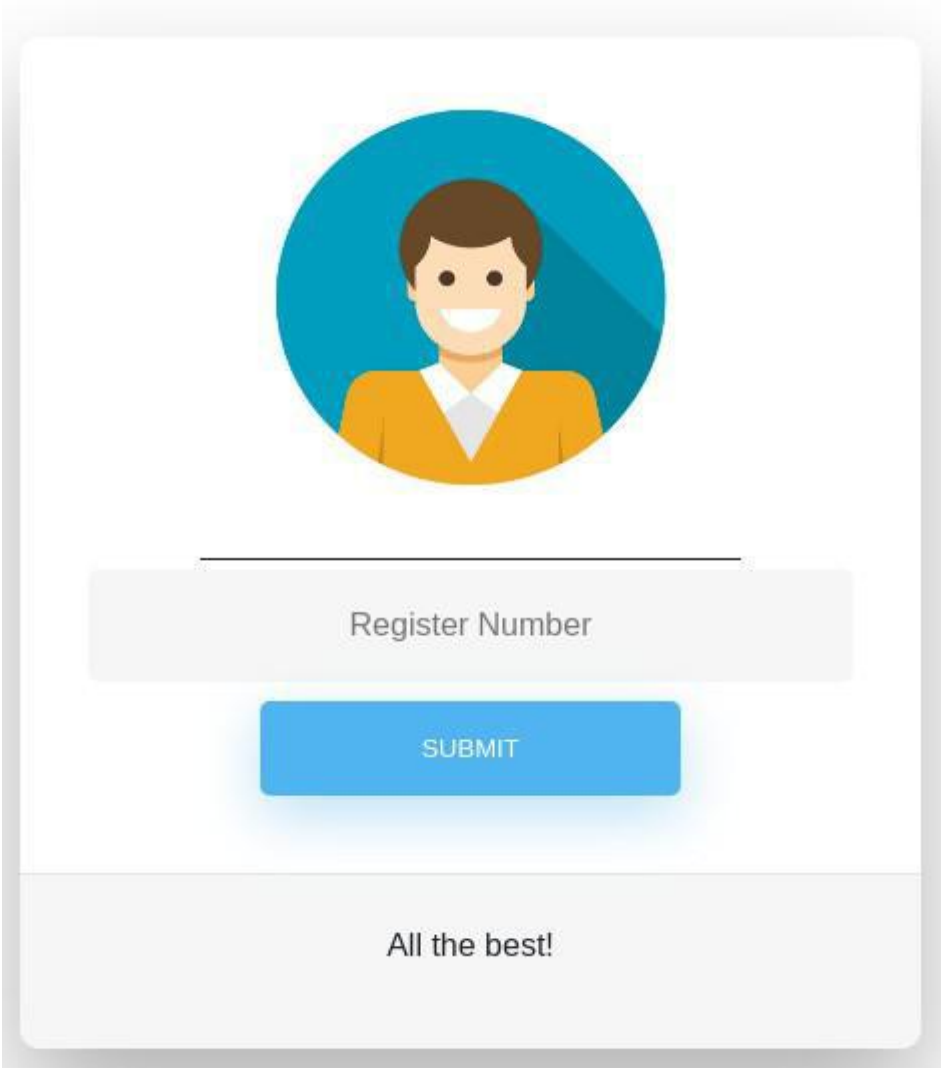
http://www.w3schools.com

APPENDICES

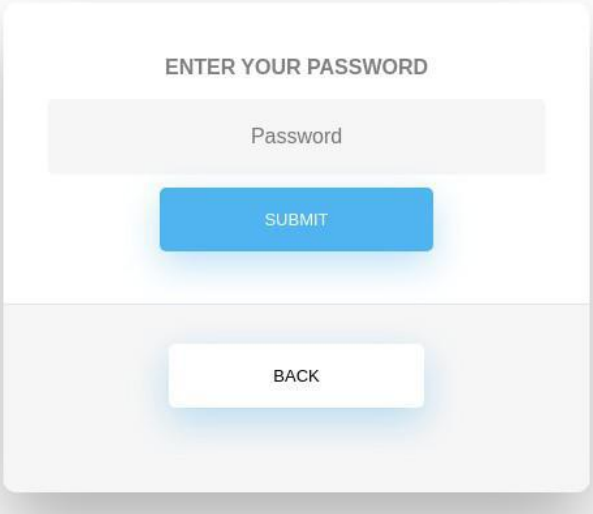
LOGIN

ADMIN

The page requires a username to start the application. This page will confirm the username of admin to load into the new page.

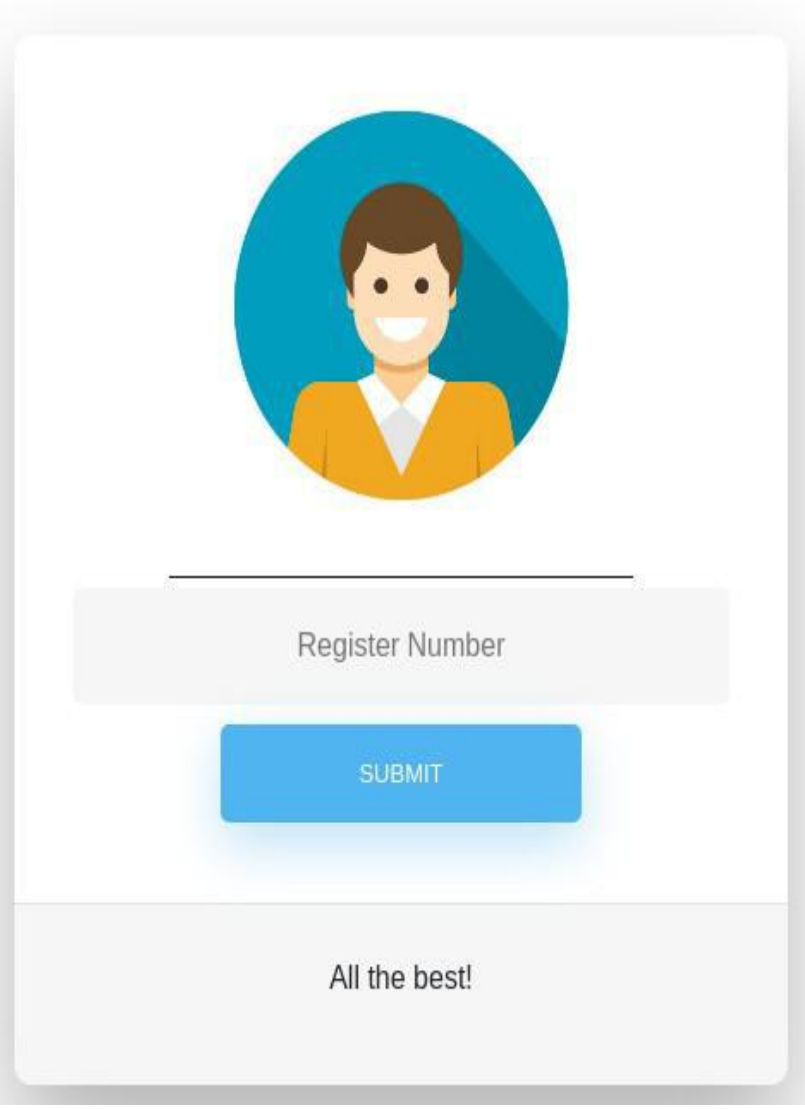


Password of admin will be asked in the new page. Login is a process by which individual access to a computer system is controlled by identifying and authenticating the user through the cardinalities presented by the user. Admin can add, update or delete the student, hall,department etc.

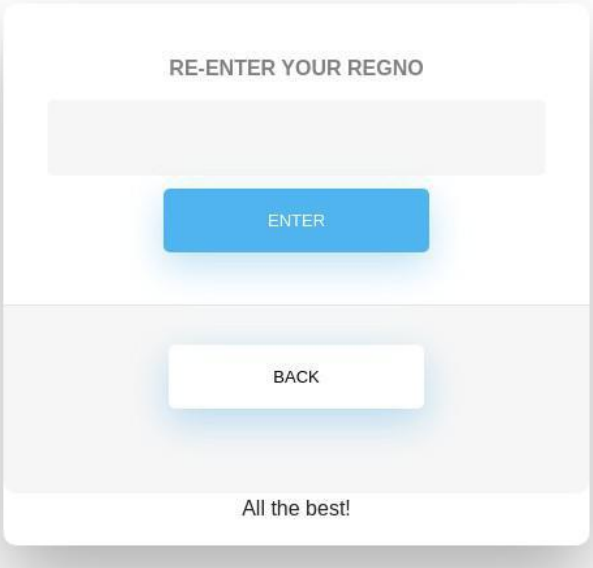


STUDENT

The page requires a username to start the application. This page will confirm the username of the student to load into the new page.



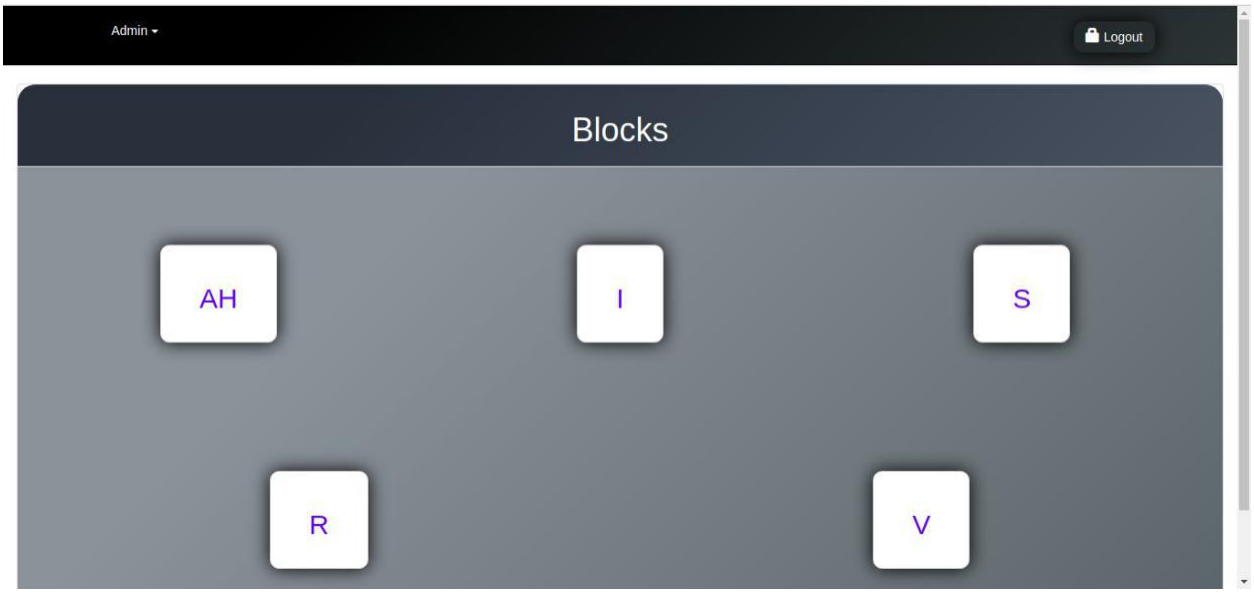
This page will ask the username for confirmation. Student can only view the hall details.



ADMIN MODULE:

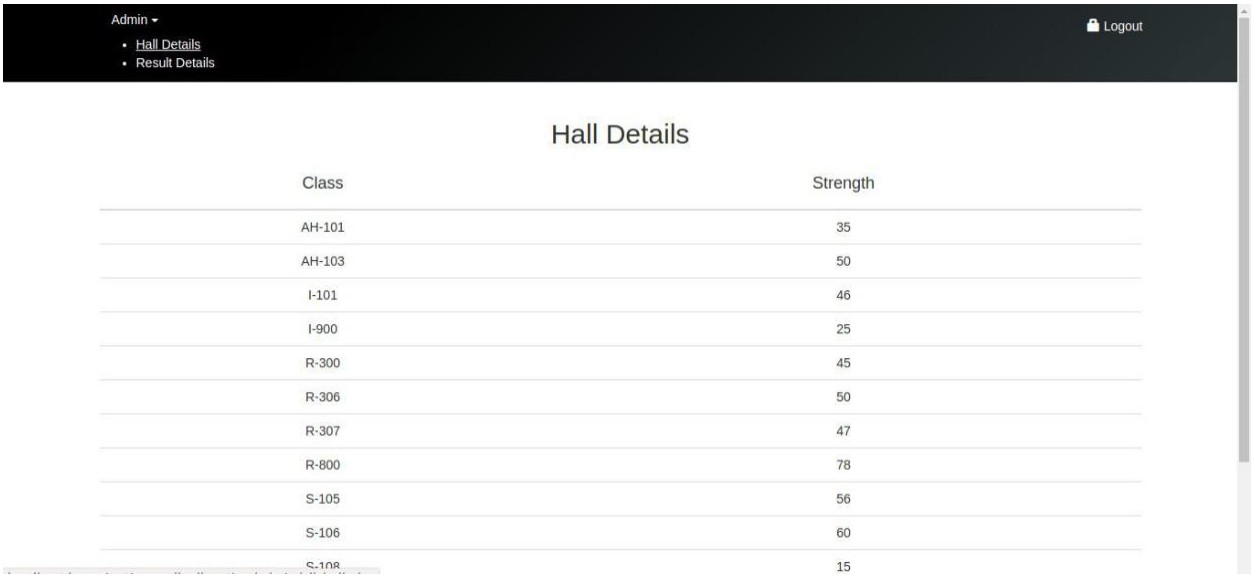
MAIN PAGE

This page will display the blocks in college. By clicking the specific block, admin can enter into hall module.



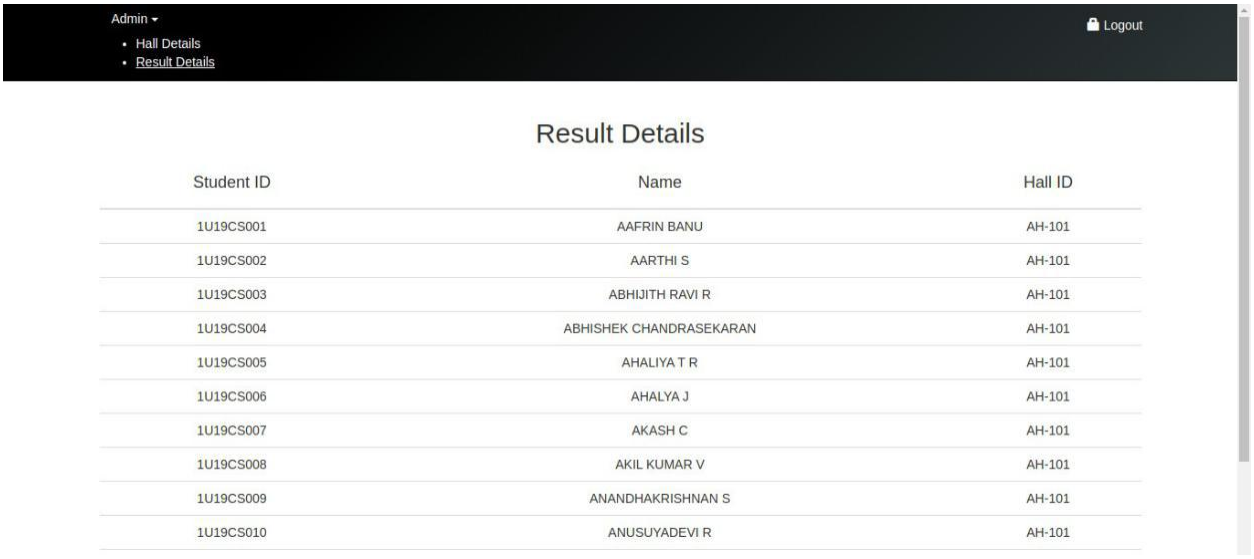
HALL DETAILS PAGE:

Hall details page includes the information of hall name and available seats. This page will just display the hall details. Admin can easily view the details of the hall.



RESULT DETAILS PAGE:

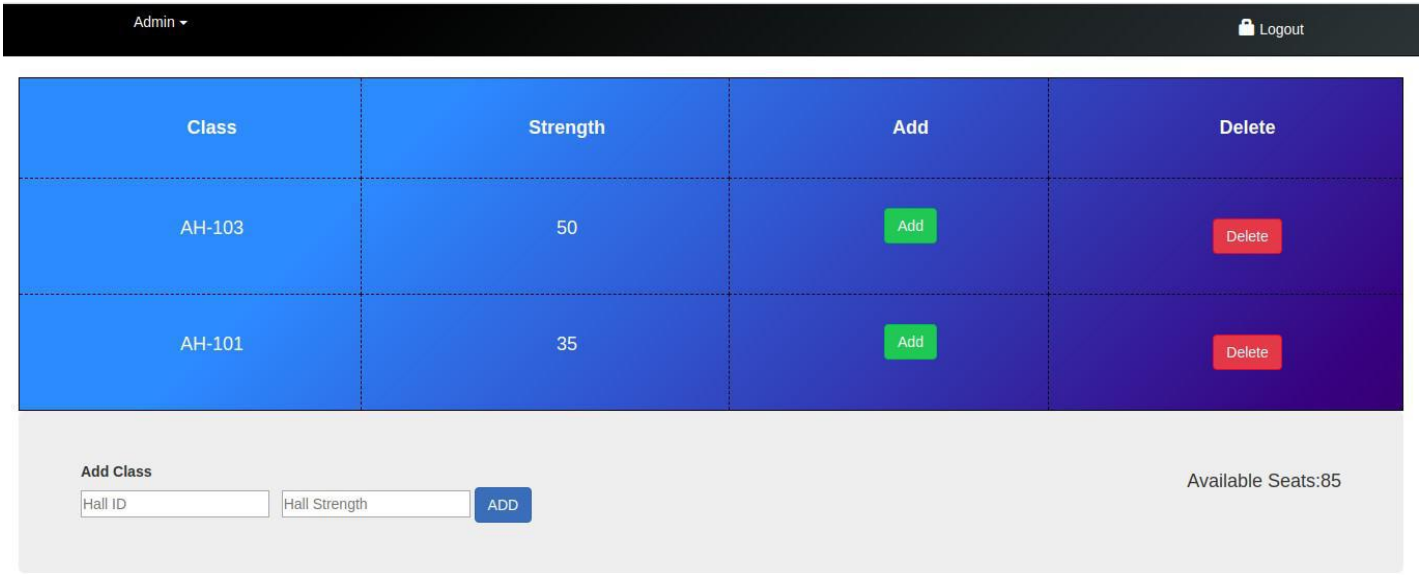
This page will display the result after the allocation of hall. This page also only allows the admin to view the details of hall allocation.



HALL MODULE:

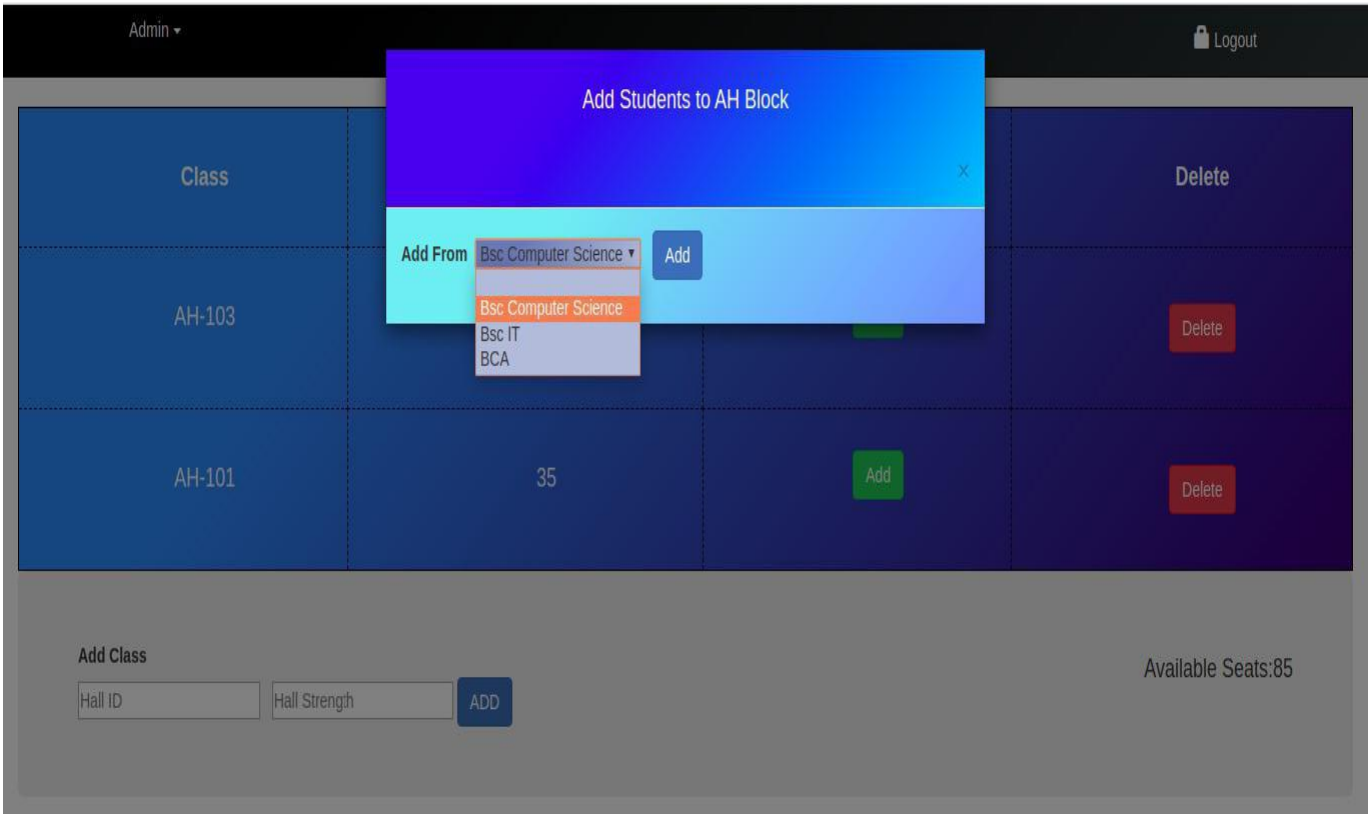
MAIN PAGE

This page will display the details of hall name and available seats. At the same time it will display the total number of available seats. Admin can add/delete the hall details.



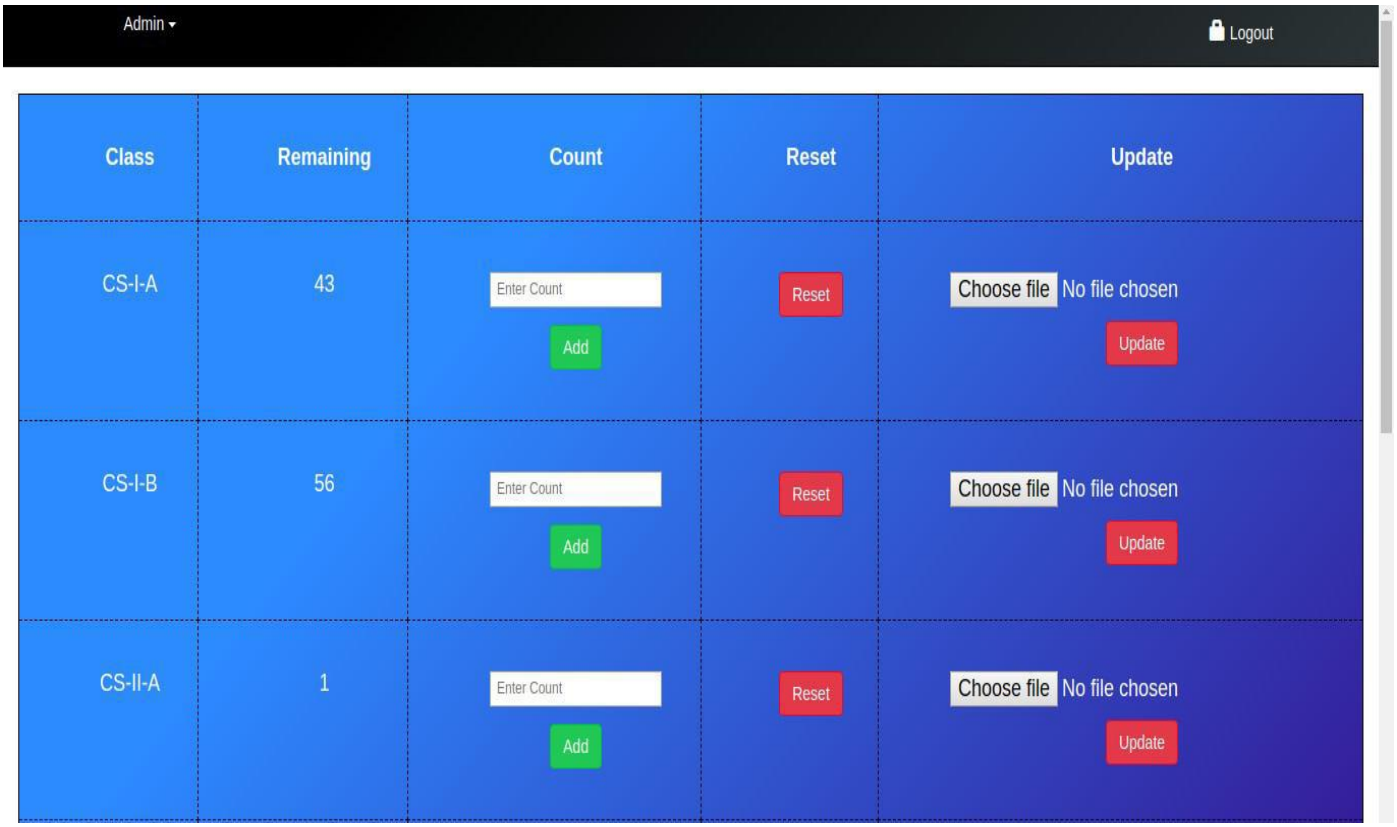
ADD DEPARTMENT

In this page the add button will display the popup menu option. Admin can select the department from the dropdown list for allocation.



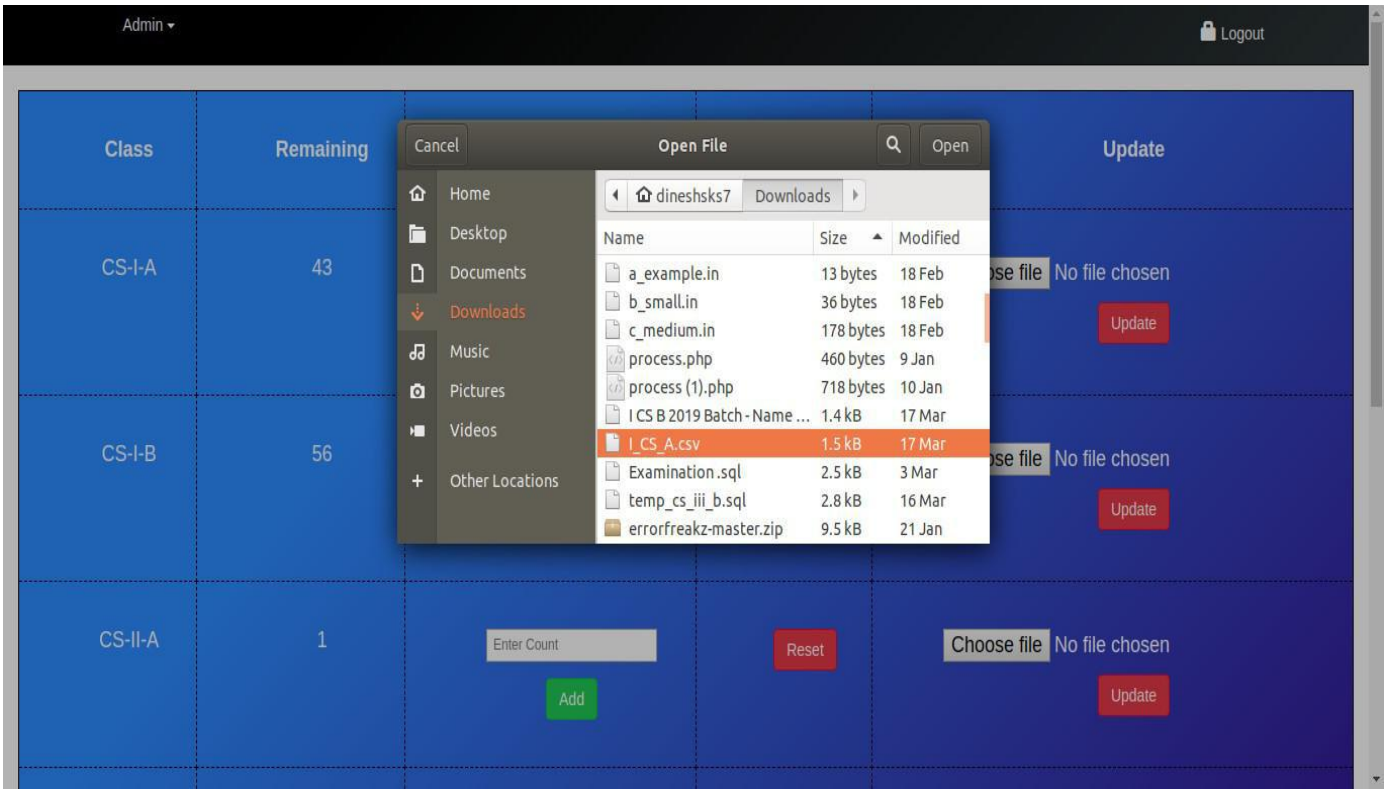
DEPARTMENT MODULE:

In this page will display the details about the department which was already selected in the previous page. Enter the count in count form to allocate the number of students in a particular hall. Reset button will reset the temp_table from the backup table.



UPDATING THE TABLE:

Using the choose file option , select the CSV file from computer. Then click the update button to change the backup table in the database .



CONSTRAINT FOR CSV FILE:

CSV file must contain only three columns. They are,

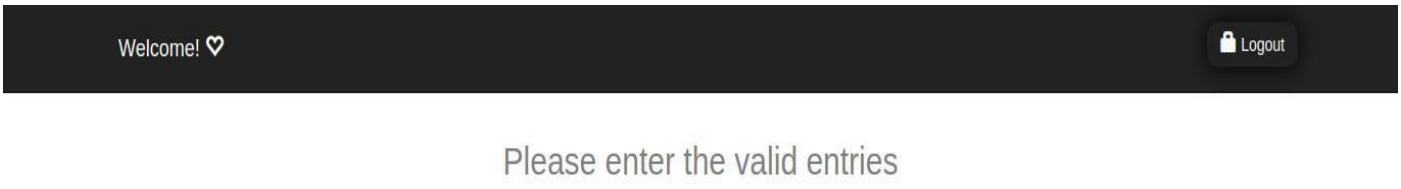
1. S_NO
2. S_ID(It must be capital)
3. S_NAME

EXAMPLE:

S_NO	S_ID	S_NAME
1	1U17CS001	ASHOK
2	1U17CS002	DEEPAN
3	1U17CS003	DINESH
4	1U17CS004	KALEES

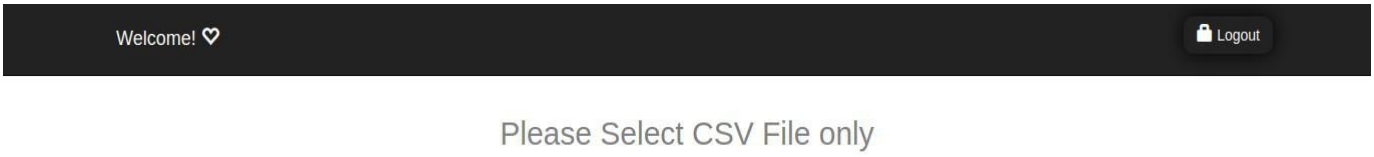
ERROR PAGE:

This page is used for error handling. Error message will display in this page based on the error. If a user entered the wrong datatype in form or submit the form with empty input then it will display this error message.



Please enter the valid entries

If the admin adds a non-csv file then it will display this error. Because only the CSV file will change the backup table.



Please Select CSV File only

REPORT MODULE:

This module developed especially for students. the result will be displayed in this page based on their register number.