

Project Report

Professional Intershalā

Submitted by:

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In the fulfillment of the requirement for the degree of

Bachelor of Technology

in

Information Technology



**INDUS INSTITUTE OF TECHNOLOGY & ENGINEERING,
AHMEDABAD, GUJARAT
MAY 2023**

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Bachelor of Technology in **Information Technology**

Prepared by:

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Candidate's Declaration

I declare that the final semester report entitled “**Professional Intershala**” is our own work conducted under the supervision of the guides **Ms. Parinita Hajra** and **Ms. Parita Vyas**

I further declare that to the best of my knowledge, the report for B.Tech final semester does not contain part of the work which has been submitted for the award of B.Tech Degree either in this university or any other university without proper citation.

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Company Completion Certificate



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Certificate

This is to certify that **Dhruvi Kakadia** (IU1941220021) student of **B.TECH IT** 8th Semester, **Indus University, Ahmadabad**, Gujarat has successfully completed his final year project work at our organization. The project work was carried out as a part of university syllabus for **B.TECH IT**. She has taken Internship in our organization during **Jan 2023 to April 2023**.

She has successfully completed the project work on “**Professional Intershala**” – **Python with Django**

Her work and conduct during project work was found good. During her Internship at organization she was found sincere and hardworking. We wish her very best in all her future endeavors.

Warm regards,

For, Virtual Height IT Services Pvt. Ltd.

Kalpesh Darji

(Business Head)



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This is to certify that **Hetanshi Darbar** (IU1941220008) student of **B.TECH IT** 8th Semester, **Indus University, Ahmadabad**, Gujarat has successfully completed his final year project work at our organization. The project work was carried out as a part of university syllabus for **B.TECH IT**. She has taken Internship in our organization during **Jan 2023 to April 2023**.

She has successfully completed the project work on “**Professional Intershala**” – **Python with Django**,

Her work and conduct during project work was found good. During her Internship at organization she was found sincere and hardworking. We wish her very best in all her future endeavors.

Warm regards,
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CERTIFICATE

Date: ____/____/____

This is to certify that the project work entitled “PROFESSIONAL INTERSHALA” has been carried out by Dhruvi Kakadia, Hetanshi Darbar under my guidance in partial fulfillment of degree of Bachelor of Technology in INFORMATION TECHNOLOGY (Final Year) of Indus University, Ahmedabad.

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ACKNOWLEDGEMENT

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ABSTRACT

Professional Internshala deals with all kinds of student details, academic related reports, college details, course details, curriculum, batch details and other resource related details too. It tracks all the details of a student from the day one to the end of his course which can be used for all reporting purpose, tracking of attendance, progress in the course, completed semesters years, coming semester year curriculum details, exam details, project or any other assignment details, library management system ,final exam result, query solving session through group discussion; and all these will be available for future references too .

Our program will have the databases of Courses offered by the college under all levels of graduation or main streams, teacher or faculty details, batch execution details, students' details in all aspects .This program can facilitate us explore all the activities happening in the college, even we can get to know which teacher / faculty is assigned to which batch, the current status of a batch, attendance percentage of a batch and upcoming requirements of a batch. Different reports and Queries can be generated based on vast options related to students, batch, course, teacher / faculty, exams, semesters, certification and even for the entire college.



COMPANY PROFILE

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About Us:

VHITS is a vibrant and dynamic corporate IT group headquartered in the heart of Ahmedabad, Gujarat.. It has good experience in web and mobile apps development along with other IT Services like Training, Marketing and Placement, with a global presence. The organization is into rapid growth each year since inception in 2010 .VHITS has a very strong and rich think-tank of renowned experienced professionals who remain at the core of their innovative and rich skills.

Vision:

To enable our customers to react faster and a lot more without effort to changing market dynamics, by supplying smooth services that include rapid worth to their company - such that they take pride in possession of Digital Elevation products, ensuring VHITS becomes their recommended selection. We thrive to communicate the vision of our clients through our deliverables for any of their IT requirements.

ABBREVIATION

Abbreviations used throughout this whole document are:

HOD	Head Of Department
MVT	Model View Template
URL	Uniform Resource Locator
HTML	HyperText Markup Language
CSS	Cascading Style Sheets
SQL	Structured Query Language

Table 1 Abbreviations

1. INTRODUCTION

- 1.1 Purpose
- 1.2 Scope
- 1.3 Intended Audience
- 1.4 Technology

Chapter 1: Introduction

1.INTRODUCTION

This project is concerned with developing a college management system that will be used by four different users which are Admin, HODs, Faculties, Students in college or university. It is a software application designed to manage and streamline the various administrative and academic activities of a college or university. This web system is designed for assisting students of the institute regarding information on the courses, subjects, classes, assignments, grades, timetable, practical, fees stricter, notice board etc.

The main purpose of this system is to simplify the complex and time-consuming tasks, allowing faculty, HODs and students to focus on more important academic activities. The system provides a centralized database that stores all the information related to students, faculty, and HODs making it easy to retrieve and manage the data.

Overall, this system is a valuable tool for colleges and universities, enabling them to improve efficiency, productivity, and overall performance.

1.1 PURPOSE

The purpose of this web system is to efficiently and effectively manage the administrative and academic activities of a college or university. The primary objective of this system is to reduce the workload of staff, improve the accuracy of data, enhance communication and collaboration among students, faculty, and staff, and provide better services to students. Hence, it creates a well-organized and efficient system that enhances the academic experience for students, enables faculty to focus on teaching and research, and improves the overall performance of the institution.

1.2 SCOPE

The scope of this web system is comprehensive, covering all the essential administrative and academic activities required to manage a college or university effectively. The system encompasses different modules that automate and streamline the various tasks involved in running a college.

1.3 INTENDED AUDIENCE

This system is designed to serve the needs of all stakeholders involved in running a college or university, from students and faculty to admin and HODs. It is also useful for parents, alumni, and other stakeholders who may be interested in accessing information related to the college or university.

1.4 TECHNOLOGY

Below are the technologies used in project:

1. Python

Python is a high-level, interpreted programming language known for its simplicity, readability, and ease of use. Python's syntax is simple and easy to read, making it a great choice for beginners and experienced programmers alike. Its design philosophy emphasizes code readability, which means that it is easy to understand and maintain. Python has a large standard library, which includes a wide range of modules and functions that can be used to accomplish various programming tasks.

2.Django

Django is a high-level Python web framework that follows the MTV architectural pattern. Django provides developers with a robust toolkit for building web applications, including a powerful ORM system, automatic admin interface, URL routing, and template engine. Django is a popular choice for building complex and scalable web applications, including content

management systems, social networks, e-commerce platforms, and more. Its robust feature set and ease of use make it a popular choice for developers of all levels of experience.

3.HTML

HTML is the standard markup language used to create web pages and web applications. HTML uses a set of tags and attributes to define the structure and content of a web page. A tag is a keyword enclosed in angle brackets, which tells the web browser how to display the content. Attributes provide additional information about the element, such as its size, color, or position. HTML is typically used in combination with other web technologies such as CSS and JavaScript to create dynamic and interactive web pages

4.SQLite

SQLite is a popular lightweight, file-based relational database management system that is used in many applications, including web browsers, mobile devices, and desktop applications. It is open-source software that is easy to use and requires minimal setup. SQLite stores data in a single file, which makes it easy to transport and manage. It supports a wide range of data types, including text, integer, real, and blob. It also supports standard SQL commands, making it compatible with many existing SQL-based applications

2. LITERATURE SURVEY

2.1 Literature review

Chapter 2: Literature Survey

2.LITERATURE REVIEW

This section defines the various research work as well as the literature review conducted by the various authors to identify the problems associated with the college management and how to resolve the challenges by applying appropriate techniques.

These studies suggest that college management systems have had a positive impact on higher education institutions by improving administrative efficiency, communication, and student support. Furthermore, incorporating data analytics and cloud-based technologies into these systems may further enhance their effectiveness and usefulness.

A study published in the International Journal of Scientific Research and Reviews (IJSRR) investigated the use of college management systems in higher education institutions in India. The study found that these systems have improved the efficiency and effectiveness of administrative tasks, such as student registration, course management, and attendance tracking.

In a paper published in the Journal of Engineering and Applied Sciences, researchers proposed a college management system that incorporates data analytics and machine learning techniques to predict student performance and identify at-risk students. The system was found to be effective in identifying students who may need additional support.

A study published in the International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE) analyzed the use of college management systems in Nigerian universities. The study found that these systems have improved communication between students, faculty, and staff, and have also increased the accuracy and speed of administrative tasks.

In a paper published in the International Journal of Computer Science and Information Security (IJCSIS), researchers proposed a cloud-based college management system that allows for easy access to data and resources from anywhere with an internet connection. The system was found to be effective in reducing the cost and complexity of managing a college's administrative tasks.

3. SPECIFIC REQUIREMENT

3.1 Functionality

3.2 Usability

3.3 Reliability

3.4 Supportability

Chapter 3: Specific Requirement

3.1 FUNCTIONALITY

Now-a-days, the education system is expanding on a large scale. So, college management is required to manage services and their data. This system helps them to improve efficiency, productivity, and overall performance.

3.2 USABILITY

Anyone familiar with using any common operating systems can operate the system since it has a user friendly user interface which has the instruction menus how to use it which self-directive application then can be used the system without ambiguity.

3.3 RELIABILITY

This system is available based on the user needs, can work properly, and does work efficiently including safe data management. For invalid and malfunctioned operation, the system will restart in order to prevent data loss as well as safe operation within 5 seconds. This system will be able to handle large amounts of data, maintain accurate records, and perform its tasks in a timely and efficient manner. Here the developer can control the system by logging into the system. Any user can't use the system. As a result, the data is protected and controlled by only the administrator.

3.3.1 Availability

The model is available 24*7.

3.3.2 Access Reliability

The model will provide 100% access reliability.

3.4 SUPPORTABILITY

3.4.1 Internet Protocols

The model complies fully with the TCP/IP protocol standards.

3.4.2 Maintenance

The model maintenance simply includes updates such as beautification, more user- friendly interface and new functionality as per user requirements and needs.

3.4.3 Standards

The model will work reasonably well across all browsers and all systems completing the basic hardware requirements.

4. SYSTEM REQUIREMENT

4.1 Functional Requirement

4.2 Non Functional Requirement

4.3 Hardware & Software
Requirement

Chapter 4: System Requirement

4.1 FUNCTIONAL REQUIREMENT

The basic service that automation for management system include:

- Entry of new student into the system
- Entry of new faculty into the system
- Entry of new HODs into the system
- Entry of the attendance information
- Workload
- System shall provide for password protected administrator access to add,update and delete the basic services provided to the system

4.2 NON FUNCTIONAL REQUIREMENT

In software engineering, a non-functional requirement is a requirement that specifies criteria which can be used to infer the operation of a system, rather than specific behaviors

.

A non-functional requirement defines the performance attribute of a software system. Types of Non-functional requirements are Scalability Capacity, Availability, Reliability, Recoverability, Data Integrity, etc.

- Internet Connections
- Availability
- Reliability
- Data Integrity

4.3 HARDWARE & SOFTWARE REQUIREMENT

Hardware and Software Requirements are used to describe the minimum hardware and software requirements to run the Software. These requirements are described below.

4.3.1 Hardware Requirement

Processor : Core2 duo Processor (Recommended 1.4GHz & more)
RAM : Minimum 256MB*RAM
Hard Disk : 5GB*Storage Space(40GB HDD)
User Interfacing Devices : Keyboard, Mouse

4.3.2 Software Requirement

Operating System : Windows XP, Windows 7 or above
Programming Tools: Back-End (Database)-SQLite
Front-End-HTML, CSS PHP
Browser : Any Latest Web Browser

5. FEASIBILITY STUDY

5.1 Operational Feasibility

5.2 Technical Feasibility

5.3 Economical Feasibility

Chapter 5: Feasibility Study

The first introduction of any system development life cycle is preliminary investigation. The practicableness study may be a major part of this section. In life however helpful or sensible the data is, the main aim of the event of any data system to the organization is the practicableness study of the data system. The practicableness of the event software package is often studied in terms of the subsequent aspects: one, Operational practicable-ness two, Technical practicable-ness and three, Economic practicable-ness.

5.1 OPERATIONAL FEASIBILITY

The application can scale back the time consumed to take care of manual records and isn't dull and cumbersome to take care of the records. Therefore, operational practicable ness is assured.

5.2 TECHNICAL FEASIBILITY

Technical feasibility centers on the existing computer system i.e., Hardware, Software etc. Technical feasibility equipment, software technology, and available personal technical feasibility is concerned with specifying equipment and software that will satisfy the user requirement. This project is feasible on technical remarks also, the proposed system is more beneficiary in terms of having second proof system with new technical components installed on the system

5.3 ECONOMICAL FEASIBILITY

Economic Feasibility is the most frequently used method for evaluating the effectiveness of candidate systems. More commonly known as Cost/Benefit analysis, the procedure is to determine the benefits and savings that are expected from the candidate system and compare them with costs. If the benefits outweigh costs, then the decision is made to design and implement the system.

6. PROJECT PLANNING

6.1 Project development
approach

6.2 Project Planning

6.3 Timeline Chart

Chapter 6: Project Planning

6.1 PROJECT DEVELOPMENT APPROACH

Our system uses an Incremental model for software development. Following figure shows the figure of our system's process model:

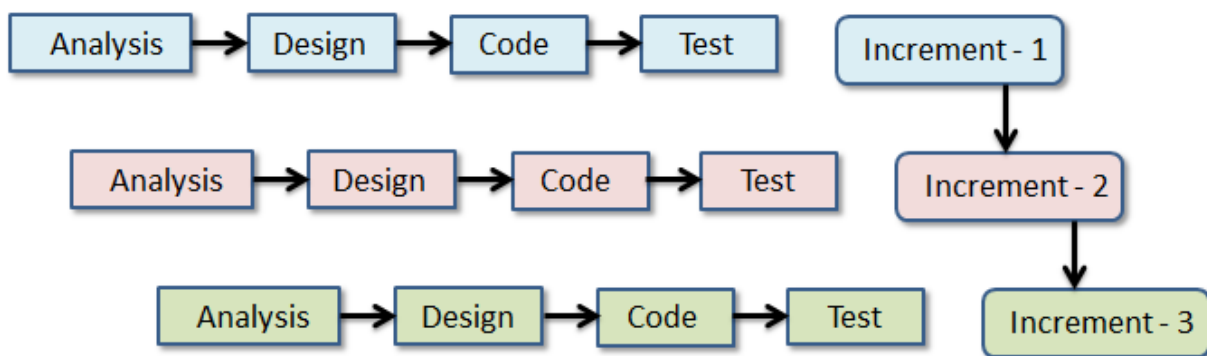


Fig 6.1 Project Development Approach

The process that deals with technical and management issues of software development is called software process.

In a Project model the first phase is requirement gathering. In this phase you gather all the related requirements of the system that you are going to develop.

Second phase is System analysis. The system analysis is “What is done, and How it is done” This is the most important and critical state of a project or system. In this phase the basic requirements of the software must be understood by an Analyst.

- All the requirements are then well documented and discussed further with the client or end-user, for reviewing.
- After the analysis of the system you will get the actual or real time problem of the system.

Third phase is system design. This phase is between the analysis and implementation stages. In the design phase you will design the project. It has some attributes such as:

- Data Structure
- Software architecture
- Interface representation
- Algorithm details

The all requirements are translated into some easy to represent from which coding can be done effectively and efficiently. The design needs to be documented for further use.

Fourth phase is implementation. It is a step in which design is translated into machine readable form. If design is done in sufficient detail then coding can be done effectively. Programs are created in this phase. The coding is done with the help of some programming language. In our system we are using Python as an implementation language.

- Fifth phase is testing. It begins when coding is done. While performing testing the major focus is on logical internals of the software. It also ensures execution of all the paths, functional behaviors. If any error in your system occurs, it will detect that error and the fix the error and meet the customer requirements. There are many criteria for testing, like white box testing, black box testing, etc.
- Sixth and the last phase is maintenance. This is a huge phase of this model. It maintains the system after deploying it on the particular space like any computer system.

6.2 PROJECT PLANNING

A project plan defines project goals and objectives, specifies tasks and how goals will be achieved, identifies what resources will be needed and associated budgets and timelines for completion. A project plan defines all work in a project and identifies who will do it. The organizational structure has a major influence on the execution of the project. The organizational

structure decides the resources, communication methods and other aspects of project management. A typical project plan consists of a timeline chart.

6.3 TIMELINE CHART

Module↓	Month→	January		
		2nd week	3rd week	4th week
Analysis & Required Gathering				
Design				
Implementation				
Testing				
Documentation				
Final Presentation				

↓

Module↓	Month→	February			
		1st week	2nd week	3rd week	4th week
Analysis & Required Gathering					
Design					
Implementation					
Testing					
Documentation					
Final Presentation					

↓

Module↓	Month→	March			
		1st week	2nd week	3rd week	4th week
Analysis & Required Gathering					
Design					
Implementation					
Testing					
Documentation					
Final Presentation					

Fig.1 TimeLine Chart

7. SOCIAL BENEFITS

7.1 Social Benefits

Chapter 7: Social Benefits

7.1 SOCIAL BENEFITS

This system can provide several social benefits, including:

Improved Communication: This system can improve communication between students, faculty, and administration. This can help to reduce misunderstandings and promote transparency, creating a more cohesive and collaborative campus community.

Increased Accessibility: This systems can provide greater accessibility to information, resources, and services for students, staff, and faculty. This can help to ensure that everyone has access to the same opportunities and support, regardless of their location or schedule.

Enhanced Efficiency: By automating administrative tasks and streamlining processes, this system can help to increase efficiency and reduce errors. This can free up time for staff and faculty to focus on more important tasks, such as teaching and research.

Better Student Outcomes: By providing access to resources, support, and feedback, this system can help to improve student outcomes and success rates. This can lead to a more engaged and motivated student body, as well as higher graduation rates and job placement.

8. SYSTEM DESIGN

8.1 Flowchart

8.2 Class Diagram

8.3 Use Case Diagram

8.4 Data Flow Diagram

8.5 Data Dictionary

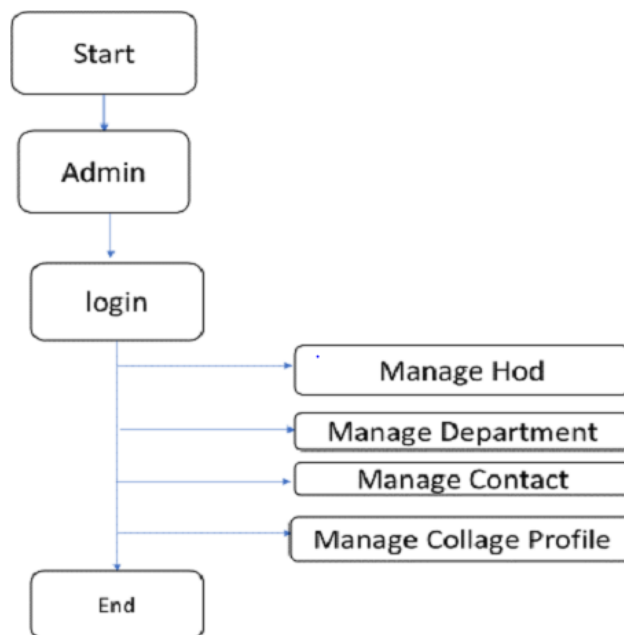
Chapter 8: System Design

System Design is a process of planning a new business system or replacing an existing system by defining its components or modules to satisfy the specific requirements. It is the phase that bridges the gap between the problem domain and the existing system in a manageable way. In this phase, the complex activity of system development is divided into several smaller sub-activities, which coordinate with each other to achieve the main objective of system development.

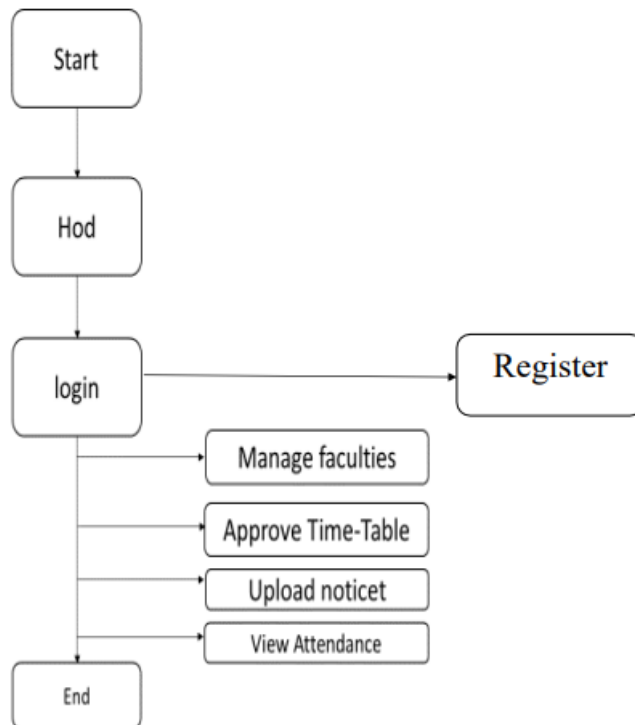
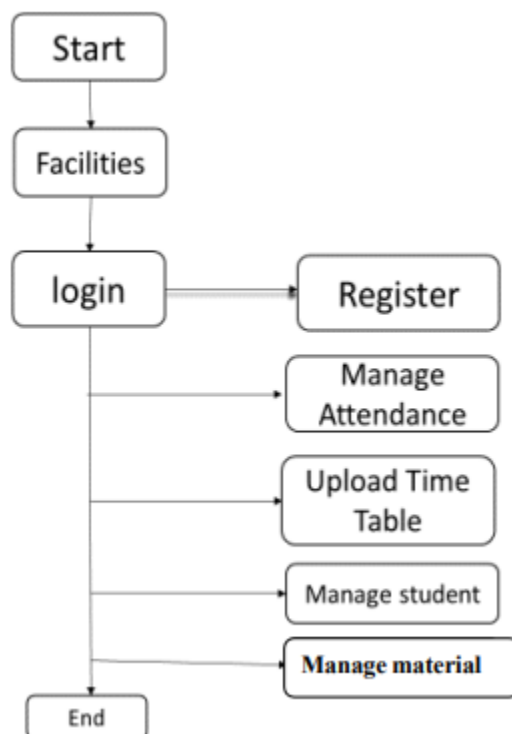
The purpose of the System Design process is to provide sufficient detailed data and information about the system and its system elements to enable the implementation consistent with architectural entities as defined in models and views of the system architecture. It basically provides the developing team with a graphical view of the application, which in turn, is easier to understand.

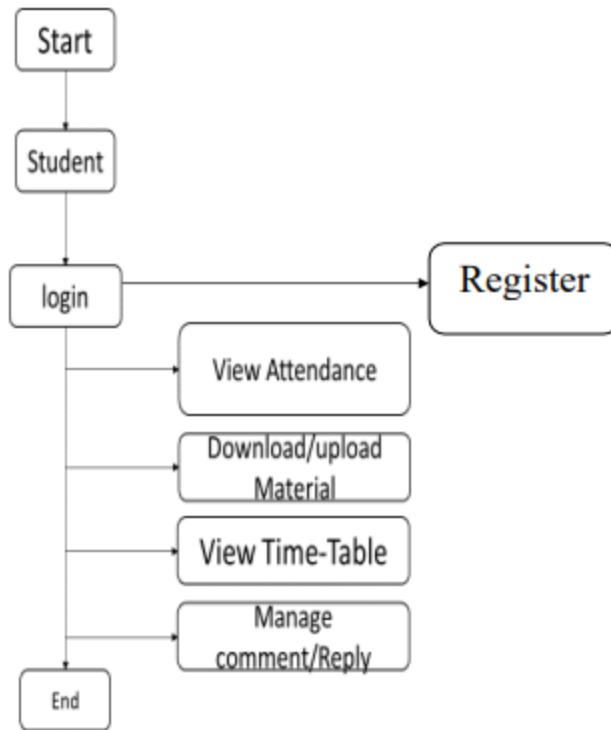
8.1 FLOWCHART

A flowchart is simply a graphical representation of steps. It shows steps in sequential order and is widely used in presenting the flow of algorithms, workflow or processes. Typically, a flowchart shows the steps as boxes of various kinds, and their order by connecting them with arrows.



8.1.1 Admin Flowchart

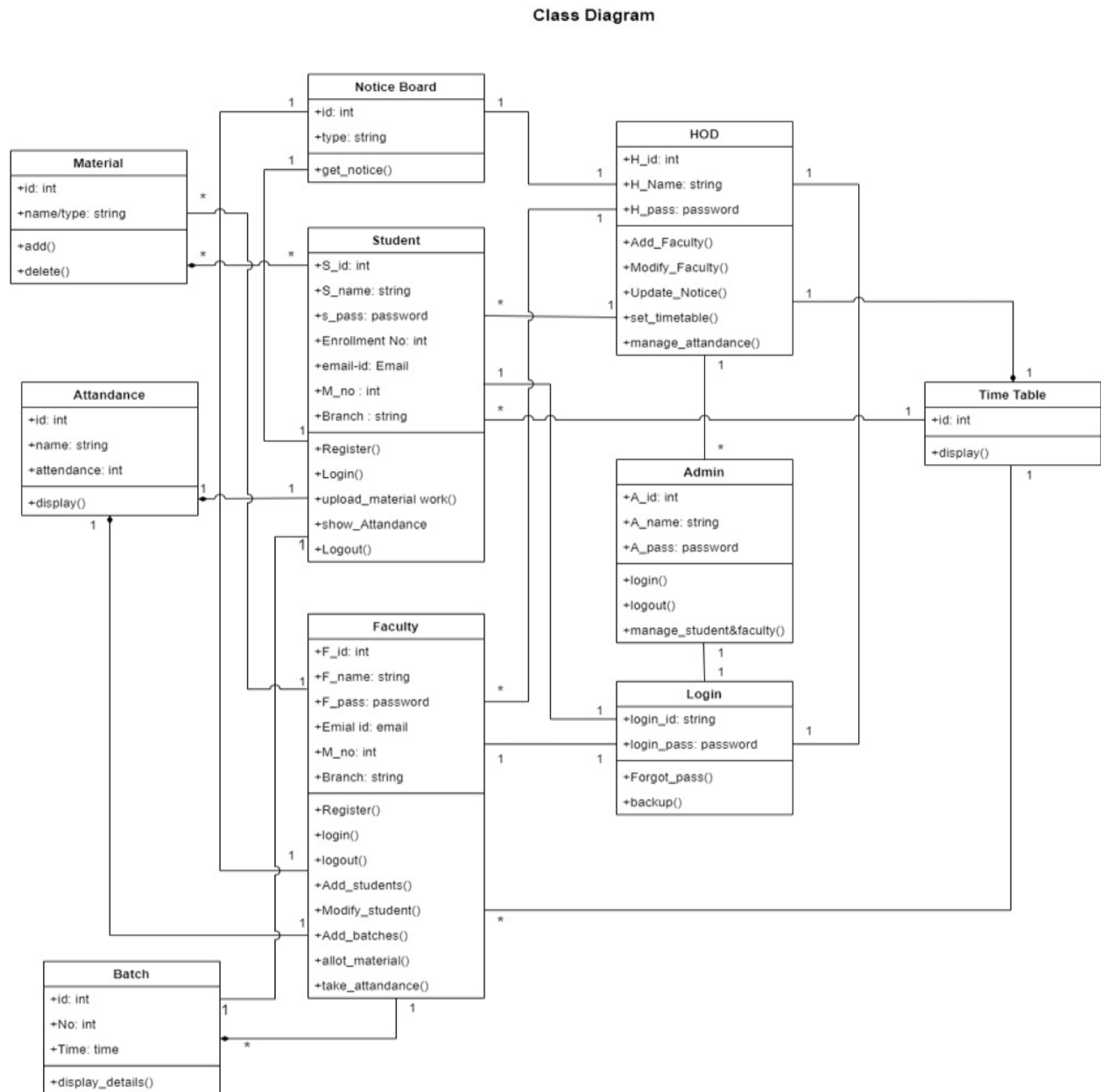
**8.1.2 HOD Flowchart****8.1.3 Faculties Flowchart**



8.1.4 Student Flowchart

8.2 CLASS DIAGRAM

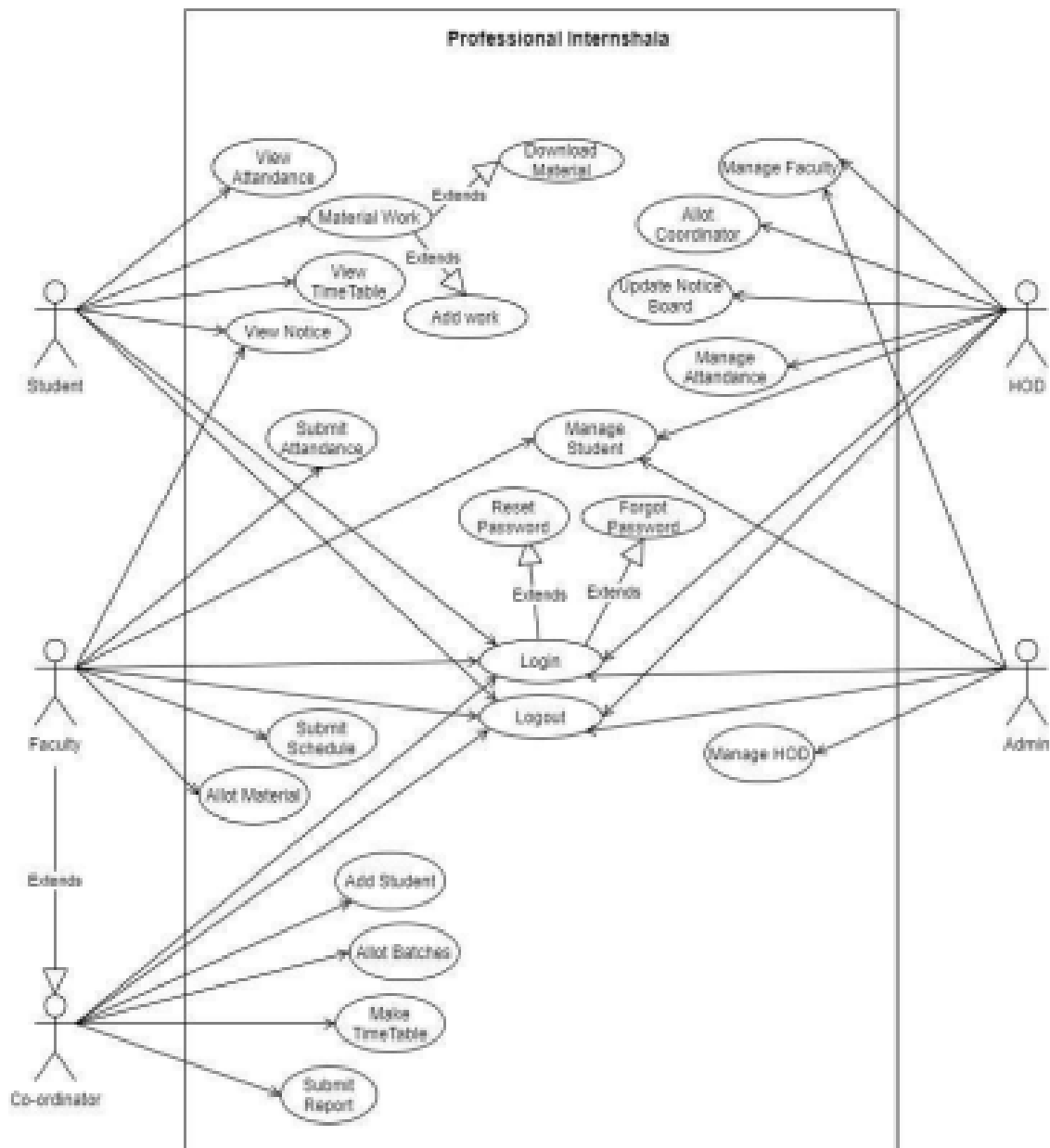
Class diagram describes the attributes and operations of a class and also the constraints imposed on the system. The class diagrams are widely used in the modeling of object- oriented systems because they are the only UML diagrams, which can be mapped directly with object-oriented languages.



8.2.1 Class Diagram

8.3 USE CASE DIAGRAM

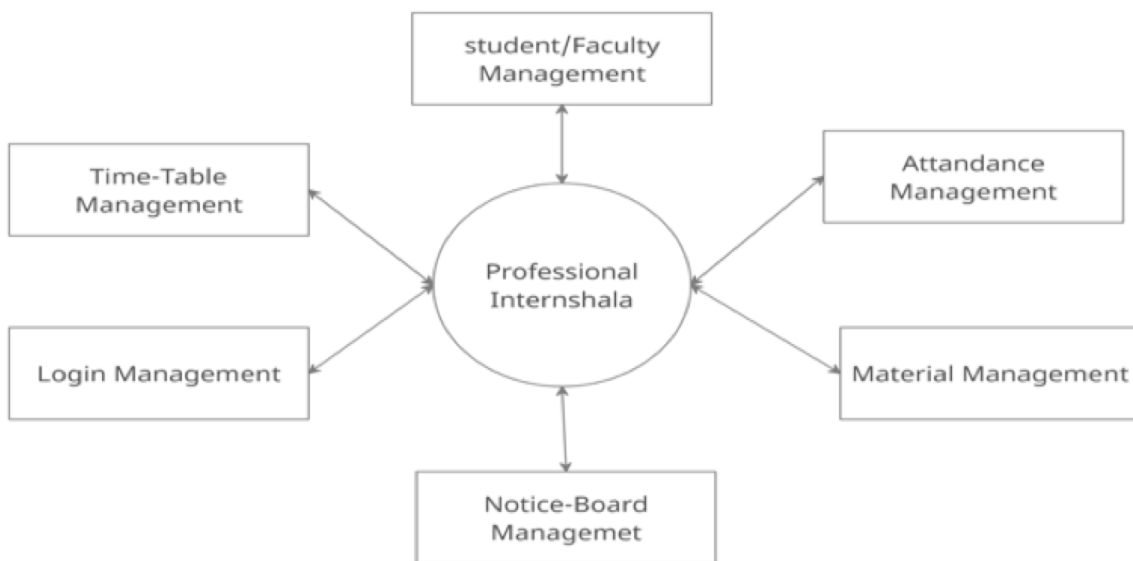
As shown above, a use-case diagram graphically describes the functions or interactions that a user can perform while remaining inside the system boundary. This eases the task of a new user that tries to operate the system.



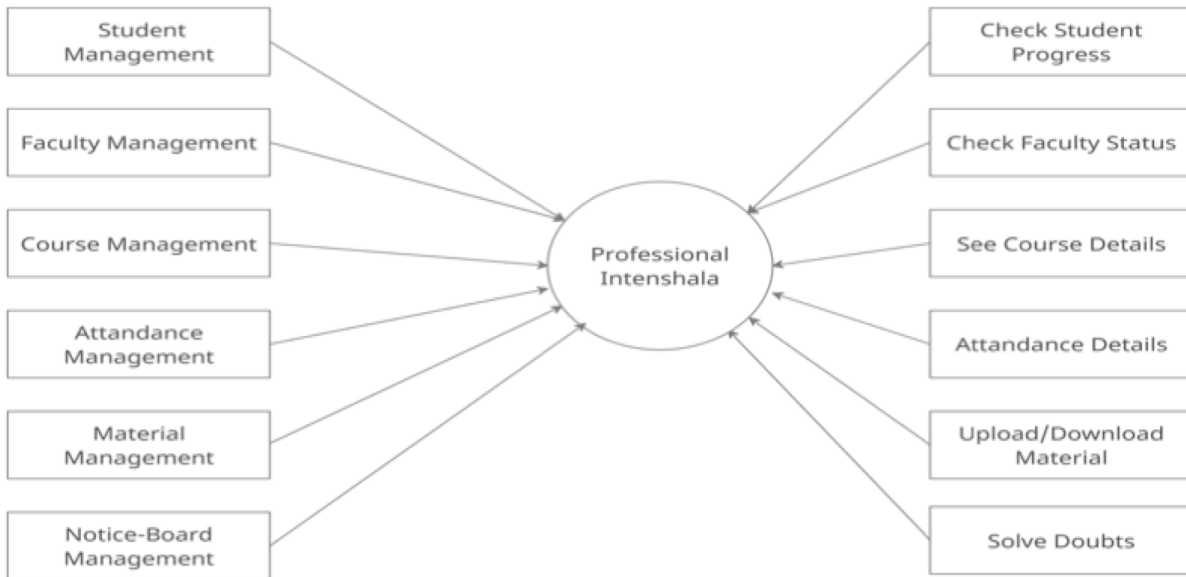
8.3.1 Use Case Diagram

8.4 DATA FLOW DIAGRAM

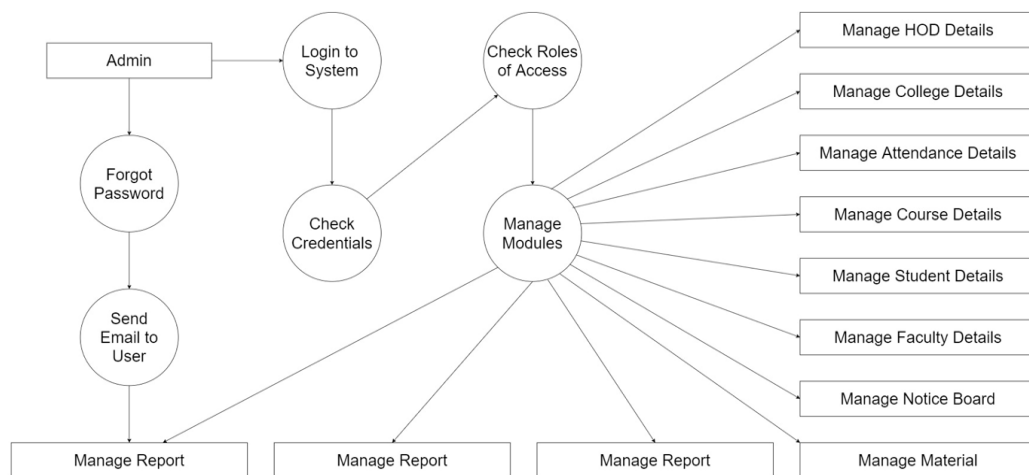
Data flow diagrams are used to graphically represent the flow of data in a system. It includes data inputs and outputs, data stores, and the various sub-processes the data moves through.



Zero level DFD - Professional Internshala



First level DFD - Professional Internshala



Second Level DFD - Professional Internshala

8.4 DATA DICTIONARY

Table:2 Admin

Field Name	Data Type	Size	Constrain
ID	Integer	11	Primary
First Name	Varchar	50	Not Null
Last Name	Varchar	50	Not Null
Gender	Varchar	10	Not Null
Email	Varchar	50	Not Null
Experience	Integer	10	Not Null
Mobile Number	Integer	13	Foreign
Date of Birth	Date	10	Not Null

Table:3 HOD

Field Name	Data Type	Size	Constrain
ID	Integer	11	Primary
First Name	Varchar	50	Not Null
Last Name	Varchar	50	Not Null
Gender	Varchar	10	Not Null
Email	Varchar	50	Not Null
Experience	Integer	10	Not Null
Mobile Number	Integer	13	Not Null
Date of Birth	Date	10	Not Null
Address	Varchar	100	Not Null
City	Varchar	50	Not Null
State	Varchar	50	Not Null

Qualification	Varchar	13	Not Null
Department	Varchar	30	Not Null
Joining Date	Date	11	Not Null
Username	Varchar	50	Foreign
Password	Integer	50	Not Null
Status	Varchar	50	Not Null

Table:4 Faculty

Field Name	Data Type	Size	Constrain
ID	Integer	11	Primary
First Name	Varchar	50	Not Null
Last Name	Varchar	50	Not Null
Gender	Varchar	10	Not Null
Email	Varchar	50	Not Null
Experience	Integer	10	Not Null
Mobile Number	Integer	13	Not Null
Date of Birth	Date	10	Not Null
Address	Varchar	100	Not Null
City	Varchar	50	Not Null
State	Varchar	50	Not Null
Qualification	Varchar	13	Not Null
Department	Varchar	30	Not Null
Joining Date	Date	11	Not Null
Username	Varchar	50	Foreign
Password	Integer	50	Not Null
Status	Varchar	50	Not Null

Table:5 Student

Field Name	Data Type	Size	Constrain
ID	Integer	11	Primary
First Name	Varchar	50	Not Null
Last Name	Varchar	50	Not Null
Gender	Varchar	10	Not Null
Email	Varchar	50	Not Null
Experience	Integer	10	Not Null
Mobile Number	Integer	13	Not Null
Date of Birth	Date	10	Not Null
Address	Varchar	100	Not Null
City	Varchar	50	Not Null
State	Varchar	50	Not Null
Qualification	Varchar	13	Not Null
Department	Varchar	30	Not Null
Joining Date	Date	11	Not Null
Username	Varchar	50	Foreign
Password	Integer	50	Not Null
Status	Varchar	50	Not Null

9. DETAILED DESCRIPTION

9.1 Description with actual
screenshot

Chapter 9: Detailed Description

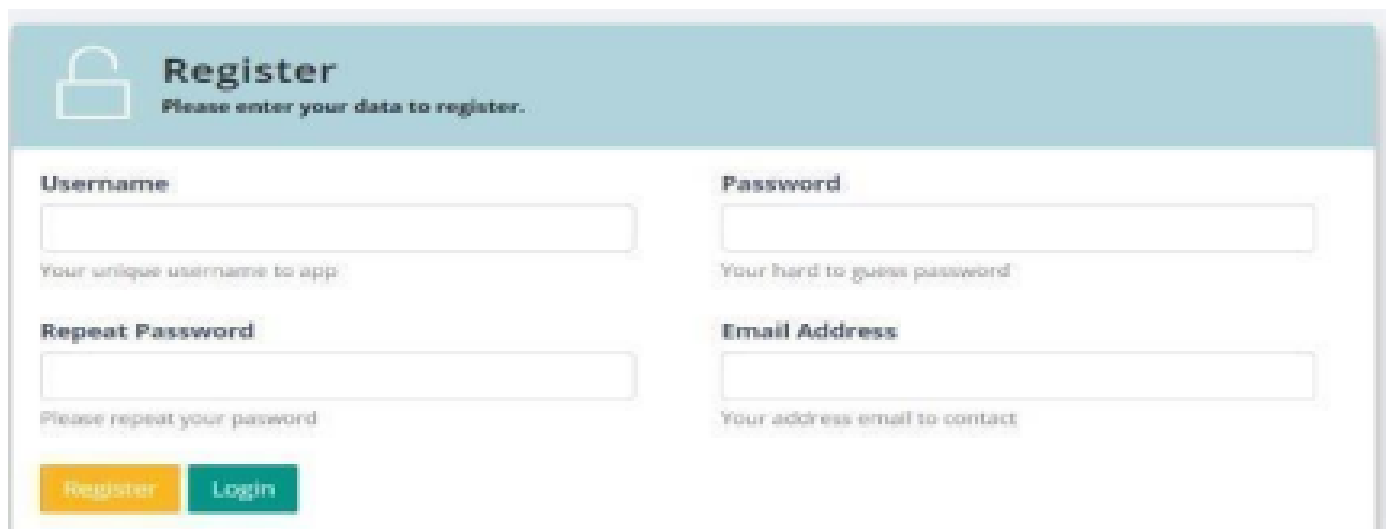
9.1 DESCRIPTION WITH ACTUAL SCREENSHOTS

9.1 Admin's Module



The screenshot shows the Admin Login page. It has a light blue header with a lock icon and the title "Login". Below the header, there is a text input field for "Username" containing "example@gmail.com" and a text input field for "Password" containing "*****". Below the password field, there are two buttons: "Login" (green) and "Register" (yellow).

Fig 9.1.1 Admin Login Page

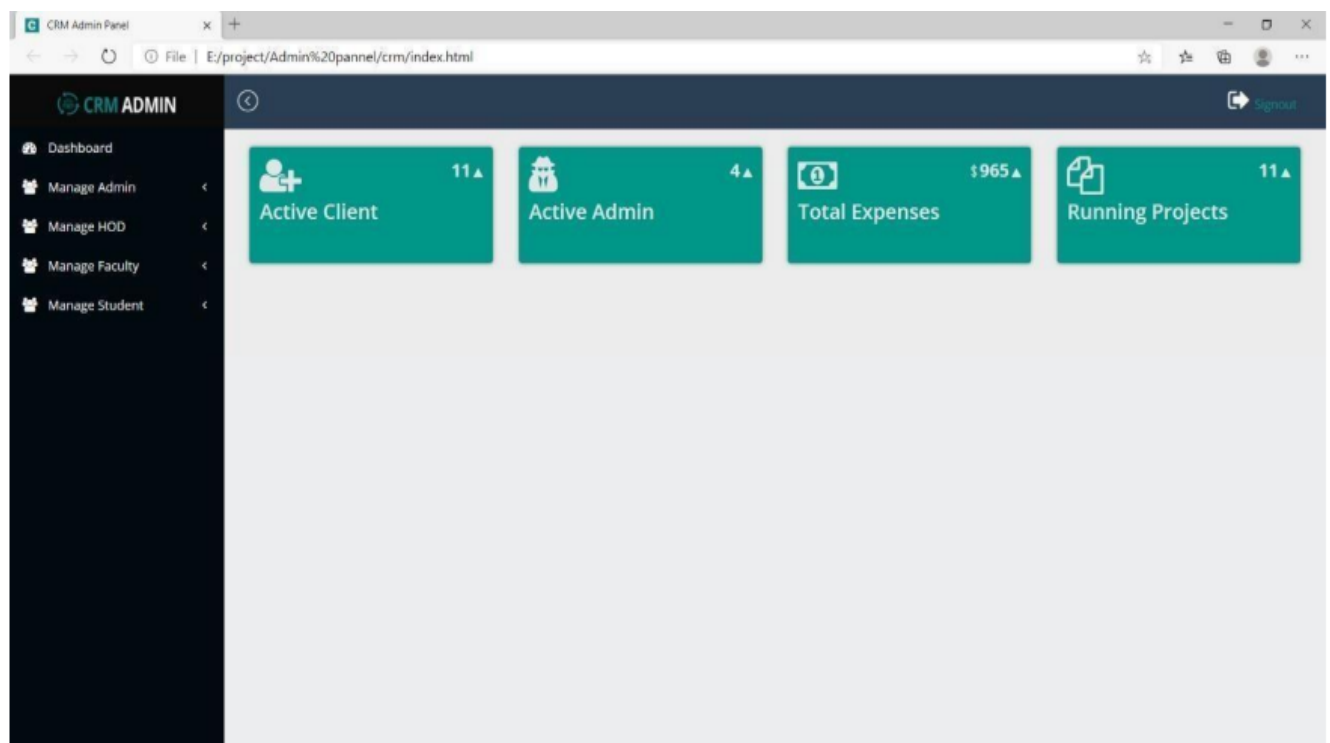


The screenshot shows the Admin Registration page. It has a light blue header with a lock icon and the title "Register". Below the header, there is a text input field for "Username" and a text input field for "Password". Below the password field, there is a text input field for "Repeat Password" and a text input field for "Email Address". Below the email address field, there are two buttons: "Register" (yellow) and "Login" (green).

Fig 9.1.2 Admin Registration Page



The image shows a 'Password Reset' form. At the top, there is a circular arrow icon and the title 'Password Reset'. Below the title, it says 'Please fill the form to recover your password'. The main instruction is 'Fill with your mail to receive instructions on how to reset your password.' There is an 'Email' label followed by a text input field containing 'example@gmail.com'. Below the input field, it says 'Your registered email address'. At the bottom, there is a large green button labeled 'Reset password'.

Fig 9.1.3 Reset Password**Fig 9.1.4 Admin's Dashboard**

CRM ADMIN

Add Admin
Admin list

Add Admin

First Name
Enter First Name

Last Name
Enter last Name

Email
Enter Email

Experience
Enter year

Mobile
Enter Mobile

Date of Birth
Enter Date...

Sex
☒ Male
 ☐ Female

Submit

Fig 9.1.5 Add Admin

CRM ADMIN

View Admin
View Admin List

View Admin

First Name	Last Name	Email	Experience	Mobile no.	Date of birth	Address
Ayushi	Suthar		10 years	+9648655310	22th may,2000	6 kitiyark society, Modasa
Khushbu	Soni		10 years	+9425786154	15th december,1999	6 Shyamnagar society,Kapadvanj
Parita	Vyas		10 years	+8901245873	9th september,1999	14 Vrajbhumi Society,Sector 28,Gandhinagar
Dhruvi	Shah		10 years	+9645230178	27th April,2000	98 Green Rd, Godhara

Fig 9.1.6 View Admins

9.2 HOD's Module

The screenshot shows the 'Add HOD' form in the CRM Admin Panel. The form is titled 'Add HOD' and 'HOD List'. It contains the following fields:

- First Name: Enter First Name
- Last Name: Enter Last Name
- Email: Enter Email
- Department: Enter Department
- Qualification: Enter Qualification
- Experience: Enter year
- Mobile: Enter Mobile
- Date of Birth: Enter Date
- Address: Enter Address
- Sex: ☒ Male ☐ Female

Fig 9.2.1 Add HOD

The screenshot shows the 'View Head Of Department' table in the CRM Admin Panel. The table is titled 'View HOD' and 'View HOD List'. It contains the following data:

First Name	Last Name	Email	Mobile no.	Department	Qualifications	Experience	Date of birth	Address
Darshan	Chaudhari		+8801245785	Information Technology	B.E.M.E	14 year	27th April,1979	ahmedabad
Heena	Shah		+9425786154	Computer Engineering	B.E.M.E	9 year	18th June,1986	6 Shyamnagar society,Ahmedabad
Pankaj	Maheta		+8901245873	Electrical Technology	B.E.M.E	12 year	9th September,1976	14 Vrajbhumi Society,Sector 28,Gandhinagar
Rakesh	Modi		+9645230178	Civil Engineering	B.E.M.E	7 year	27th April,2017	98 Green Rd, Dhaka 1215, Bangladesh

Fig 9.2.2 View HOD

9.3 Faculty Module

CRM Admin Panel

Add Faculty
Faculty list

Add Faculty

First Name
Enter First Name

Last Name
Enter last Name

Email
Enter Email

Department
Enter Department

Qualification
Enter Qualification

Experience
Enter year

Mobile
Enter Mobile

Date of Birth
Enter Date...

Address

Sex
☒ Male
 ☐ Female

Submit

Fig 9.3.1 Add Faculty

CRM Admin Panel

View Faculties
View Faculty List

View Faculty

First Name	Last Name	Email	Mobile no.	Department	Qualifications	Experience	Date of birth	Address
Hardik	Ptel		+8801245785	Information Technology	B.E.M.E	7 year	27th April,1979	98 Green Rd, Dhaka 1215, Bangladesh
Manisha	Rathod		+9425786154	Information Technology	B.E.M.E	4 year	18th June,1986	6 Shyamnagar society,Ahmedabad
Jayesh	Prajapati		+8901245873	Information Technology	B.E.M.E	12 year	9th september,1976	14 Vrajbhumi Society,Sector 28,Gandhinagar
Abhishek	Patel		+9645230178	Information Technology	B.E.M.E	7 year	27th April,2017	98 Green Rd, Dhaka 1215, Bangladesh

Fig 9.3.2 View Faculties

9.4 Student Module

CRM ADMIN

Add Student
Student List

Add Student Details

First Name
Enter First Name

Last Name
Enter last Name

Email
Enter Email

Department
Enter Department

Semester
Enter Semester

Mobile
Enter Mobile

Date of Birth
Enter Date...

Address

Sex
☒ Male ☐ Female

Submit

Fig 9.4.1 Add Students

CRM ADMIN

View Students
View Students List

View Students

First Name	Last Name	Email	Department	Semester	Mobile no.	Date of birth	Address
Ayushi	Suthar		Information Technology	7th	+9648655310	22th may,2000	6 kitiyark society, Modasa
Khushbu	Soni		Information Technology	7th	+9425786154	15th december,1999	6 Shyamnagar society,Kapadvanj
Parita	Vyas		Information Technology	7th	+8901245873	9th september,1999	14 Vrajbhumi Society,Sector 28,Gandhinagar
Dhruvi	Shah		Information Technology	7th	+9645230178	27th April,2000	98 Green Rd, Godhara

Fig 9.4.2 View Students

10. TESTING

10.1 Introduction

10.2 White Box Testing

10.3 Black Box Testing

10.4 Test Cases

Chapter 10: Testing

10.1 INTRODUCTION

Testing is the process of evaluating a system or its component(s) with the intent to find whether it satisfies the specified requirements or not.

Testing is executing a system in order to identify any gaps, errors, or missing requirements in contrary to the actual requirements

10.2 WHITE BOX TESTING

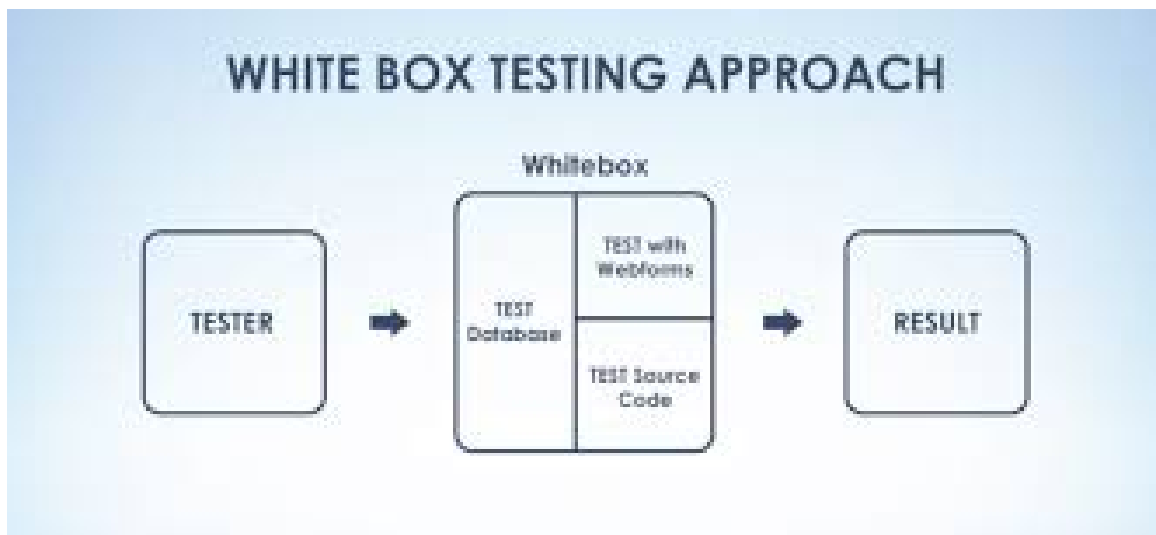


Fig 10.2.1 White Box Testing

White-box testing is the detailed investigation of internal logic and structure of the code. White-box testing is also called glass testing or open-box testing. In order to perform white-box testing on an application, a tester needs to know the internal workings of the code. The tester needs to have a look inside the source code and find out which unit/chunk of the code is

behaving inappropriately. As the tester has knowledge of the source code, it becomes very easy to find out which type of data can help in testing the application effectively. It helps in optimizing the code. Extra lines of code can be removed which can bring in hidden defects. Due to the tester's knowledge about the code, maximum coverage is attained during test scenario writing.

In this project we have developed & performed necessary coding in order to get our data check whether it is correct or not as well as it properly transmitted & received. That coding includes feature engineering and outlier removal. We have also used a

POSTMAN application to check whether the server we get after building a python flask server for our model is performing correctly or not.

10.3 BLACK BOX TESTING

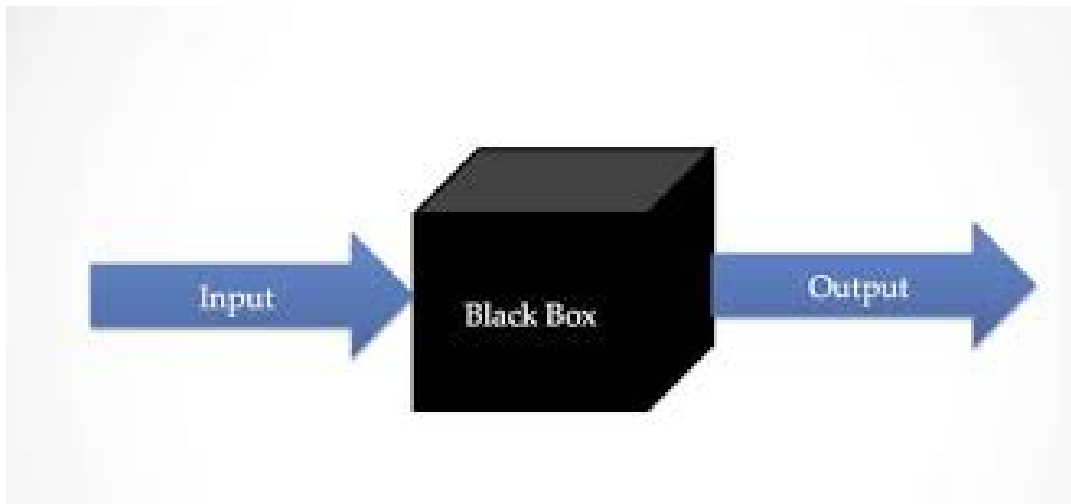


Fig 10.2.1 Black Box Testing

The technique of testing without having any knowledge of the interior workings of the application is called black-box testing. The tester is oblivious to the system architecture and does not have access to the source code. Typically, while performing a black-box test, a tester will

interact with the system's user interface by providing inputs and examining outputs without knowing how and where the inputs are worked upon. It is well suited and efficient for large code segments and code access is not required. It clearly separates the user's perspective from the developer's perspective through visibly defined roles. Large numbers of moderately skilled testers can test the application with no knowledge of implementation, programming language, or operating systems.

Black Box Testing Techniques for Machine Learning Models :

1. Model performance
2. Metamorphic testing
3. Dual coding

1. Model Performance

Testing model performance is about testing the models with the test data sets and comparing the model performance in terms of parameters such as accuracy/recall etc., to that of predetermined accuracy with the model already built and moved into production. This is the most trivial of different techniques which could be used for Blackbox testing. In this project we have used different models & compared their performance based on the accuracy. According to whichever model has the highest accuracy we have used it.

2. Metamorphic Testing

In metamorphic testing, one or more products are identified that represent the metamorphic relationship between manufacture-sell pairs. In this project we have predicted the value of multiple factors such as number of products, type of products and size.

3. Dual Coding

With dual coding techniques, the idea is to build different models based on different algorithms and compare the prediction from each of these models given a particular input data set. In our project we have compared prediction models such as linear regression , lasso regression as well

as decision tree .The best accuracy we got is of linear regression. This results in the selection of linear regression

10.4 TEST CASES

A test case is a document, which has a set of test data, preconditions, expected results and post conditions, developed for a particular test scenario in order to verify compliance against a specific requirement.

Test Case acts as the starting point for the test execution, and after applying a set of input values; the application has a definitive outcome and leaves the system at some end point or also known as execution post condition.

Sr. No.	Test Case	Status
1	Test for database connection if the data gets correctly entered or not	Pass
2	Test of different API calls	Pass
3	Test for form Validation	Pass

Table:6 Test Case

11. FUTURE ENHANCEMENT

11.1 Future Enhancement

Chapter 11: Future Enhancement

11.1 FUTURE ENHANCEMENT

As technology continues to evolve, there are several future enhancements that can be made to college management system software to improve its functionality and user experience. Some potential enhancements include:

- **Artificial Intelligence (AI) integration:** Implementing AI algorithms can help automate administrative tasks such as student enrollment, fee collection, and scheduling. It can also provide personalized recommendations for students based on their academic performance.
- **Virtual Reality (VR) and Augmented Reality (AR):** Integrating VR and AR technology can provide students with immersive learning experiences, such as virtual field trips or interactive simulations.
- **Blockchain Technology:** Incorporating blockchain technology can help secure student records and transcripts, as well as reduce the possibility of fraudulent activities such as degree forgery.
- **Cloud-based Systems:** Cloud-based systems can improve data accessibility, reduce costs associated with infrastructure maintenance, and increase the scalability of the system.

These enhancements can help colleges and universities to become more efficient and effective, ultimately enhancing the overall learning experience for students.

12. CONCLUSION

12.1 Conclusion

Chapter 12: Conclusion

12.1 CONCLUSION

In this modern time, most people are using mobile phones with internet functionality. It is high time for a developing nation like India to introduce to its people a source like Professional Internshala websites that can fulfill the demands of its education system as there is no such platform available till now.

Thus this website provides the ease to get the services instantly at any College management. Also, it'll enable a lot of information for the parents and students about college and university. It also encourages missions made in India by the Indian government.

13. REFERENCES

13.1 Reference

Chapter 13: References

13.1 REFERENCES

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