



INSTITUTE FOR ADVANCED COMPUTING ANDSOFTWARE DEVELOPMENT (IACSD), AKURDI, PUNE

Documentation On

STUDENT PORTAL APP

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Submitted By:

Group No: 26

Roll No. Name:

233121 Abhay Aigal

233084 Karan Keshwani

Mrs. Megha Mane

Mr. Rohit Puranik

Project Guide

Centre Coordinator

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Abhay Aigal (233121)

Karan Keshwani (223084)

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INTRODUCTION

Our Project "STUDENT PORTAL APP" aims to deliver a web-based portal that manages all the students admitted in the PG Diploma courses of IACSD Pune where Course- Coordinator is the Admin.

Students can update their profile, get schedule, join lectures and their respective labs, write module-wise MCQ tests, get the results and also give their feedback for each faculty.

Admins can generate PRN for registered students, upload exam papers, set results, get feedback list, etc. They also can upload links for lectures and labs as well as set notice.

1.1 PROJECT OBJECTIVE

Our project, "STUDENT PORTAL APP", is a web-based online student management portal which aims to provide admin with functionalities to manage students in PG Diploma courses of IACSD Pune, efficiently.

1.2 PROJECT OVERVIEW

"STUDENT PORTAL APP" aims to deliver a web-based portal that manages all the students admitted in the PG Diploma courses of IACSD Pune where Course- Coordinator is the Admin. Students can update their profile, get schedule, join lectures and their respective labs, write module-wise MCQ tests, get the results and also give their feedback for each faculty. Admins can generate PRN for registered students, upload exam papers, set results, get feedback list, etc. They also can upload links for lectures and labs as well as set notice.

We are assuming that the organization that implements it will be using third-party platform where lectures are conducted. Also, an API which can easily be integrated in our application can be created in future if needed. STUDENT PORTAL APP is a portal for both students (for course related activities) and admins (for managing students).

1.3 PROJECT SCOPE

"STUDENT PORTAL APP" aims to deliver a web-based portal that manages all the students admitted in the PG Diploma courses of IACSD Pune where Course- Coordinator is the Admin. Students can update their profile, get schedule, join lectures and their respective labs, write module-wise MCQ tests, get the results and also give their feedback for each faculty. Admins can generate PRN for registered students, upload exam papers, set results, get feedback list, etc. They also can upload links for lectures and labs as well as set notice.

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1.4 STUDY OF THE SYSTEM

1.4.1 MODULES:

The Web-Application after careful analysis has been identified to be presented with the following modules and roles.

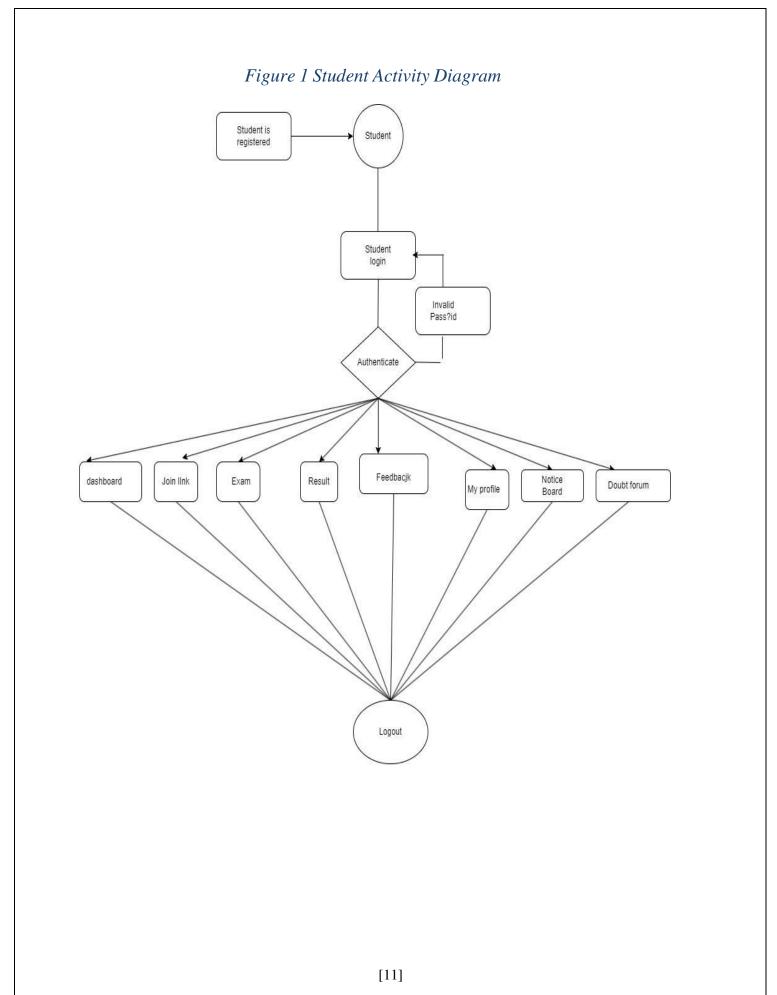
The modules involved are:

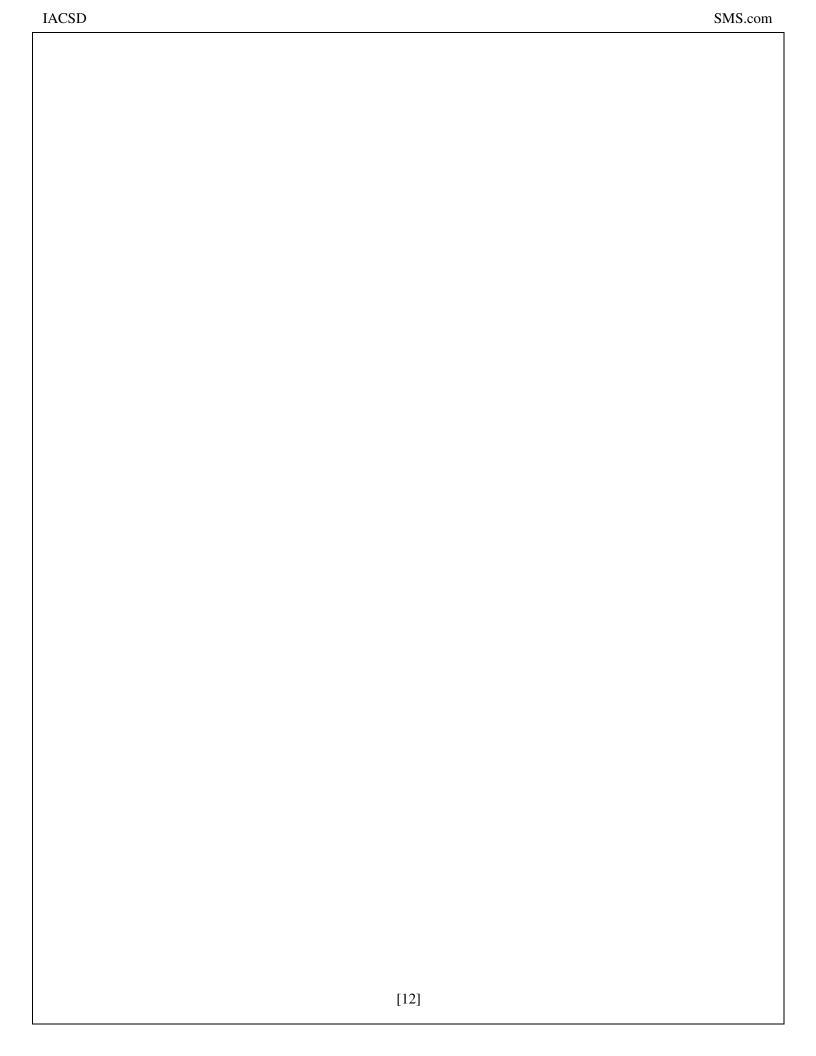
- > Student
- ➤ Admin

1.4.1.1 Students:

i. FOR STUDENTS

- a. Register Students can register themselves if they have appeared for CCAT entrance exam for PG Diploma courses and have valid CCAT number.
- b. Login Successfully registered candidates receive confirmation Email from IACSD and are now eligible to Login. They receive PRN to Login into the portal. For first time login, username and default password both are PRN.
- c. View and Update Profile After successful login, students can view and update their profile and password.
- d. Join Link Students can join lectures and labs using the links provided under the Join Link dropdown in navigation bar.
- e. Exam Students can give module-wise MCQ exam on the portal itself.
- f. Result Students get the result of MCQ test module-wise.
- g. Give Feedback Students can give feedback for faculties based on provided criteria.
- h. Logout After utilizing the portal, students can Logout of the portal..





i. FOR ADMINS

- a. Login & Logout Similar to students, admins can login & logout to access their account.
- b. Generate PRN For successfully registered students, admin generates PRN which student will carry till the course end as their identities. This PRN is students' username and default password.
- c. Upload Attendance Admin will upload students' attendance.
- d. Upload Question Paper Admin will upload Question Paper for MCQ testfor students.
- e. Set Result Admin will set result for students which students can accessthrough the portal when they login.
- f. Feedback List Admin will receive the list of feedbacks provided bystudents.
- g. Upload Link Lecture and Lab Links are uploaded in the given section in the navigation bar.
- h. Upload and Update Notice Admin will be able to upload and updatenotice on floating notice board.

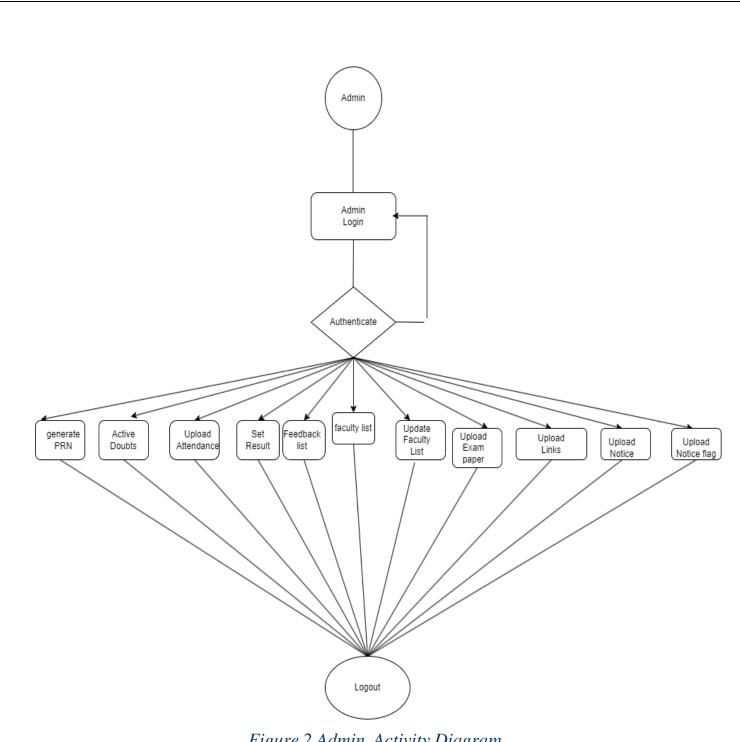
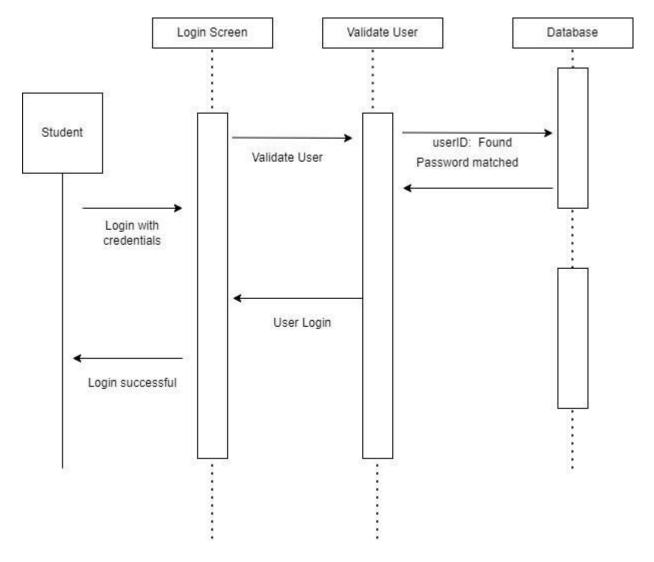


Figure 2 Admin Activity Diagram





SYSTEM ANALYSIS

System analysis is the process of gathering and interpreting facts, diagnosing problems, and using the information to recommend improvements on the system. System analysis is a problem-solving activity that requires intensive communication between the system users and system developers.

System analysis or study is an important phase of any system development process. The system is viewed as a whole, the inputs are identified, and the system is subjected to close study to identify the problem areas. The solutions are given as a proposal. The proposal is reviewed on user request and suitable changes are made. This loop ends as soon as the user is satisfied with the proposal.

2.1 EXISTING SYSTEM

The current system for society management is maintain pen and paper data to add new owner of the flat or tenant or workstaff. To circulate the notice secretary has to personally visit the flat owners or write it on the board of the society.

- ✓ It is less user-friendly.
- ✓ Secretary has to meet each member of the flat and give notice or maintenance bill.
- ✓ It is difficult to gather each member of society at one place.
- ✓ Secretary has to maintain the whole paper work describing the details flats and their owners.
- ✓ It is a time-consuming process
- ✓ Not in reach of distant users.

2.2 PROPOSED SYSTEM

The proposed system provides friendly user interface to every member of the society. The various other functionalities about Cross browsing, various languages suitable for different caste, etc. This application will help all sectors of people which will provide them visibility and smooth functioning. This will be beneficial to all the members who travel abroad and who cannot be a part of each and every notice of the society. This application will travel worldwide and any members will have an access to it. Understanding the needs of the society members and to overcome the manual work of the documentation and make it online which will be feasible and flexible and try to make it user friendly. Web-platform means that the system will be available for access 24/7 except when there is a temporary server issue which is expected to be minimal.

2.3 SYSTEM REQUIREMENT SPECIFICATION

2.3.1 GENERAL DESCRIPTION

Product Description:

The Student Portal App allows students to login with their own verified credentials and get updated with daily academic updates. Student Portal App is the website portal to provide notification on daily basis to the students on their modules.

Problem Statement:

Major manual efforts in overall modus operandi of the different courses at IACSD, Pune and no single platform for the students to fulfill their day to day demands for a overall smooth learning experience.

2.3.2 SYSTEM OBJECTIVES

A web application for every student joining IACSD, Pune as a portal to facilitate all the day to day Activities and reducing major manual effort of the Course Coordinators by introducing automation at various levels

2.3.3 SYSTEM REQUIREMENTS

2.3.3.1 NON-FUNCTIONAL REQUIREMENTS

i. EFFICIENCY REQUIREMENT

When student or admin visits system it should access in an efficient manner.

ii. RELIABILITY REQUIREMENT

The system should provide a reliable environment to student and admin. All data should be store on server.

iii. USABILITY REQUIREMENT

The Web application is designed for user friendly environment and ease of use.

iv. IMPLEMENTATION REQUIREMENT

Implementation of the system using HTML,CSS,Bootstrap,JavaScript,Ajax and JQuery in front end with Spring Boot as back end and it will beused for database connectivity. And the database part is developed by MySQL. Responsive web designing is used for making the website compatible for any type of screen.

v. DELIVERY REQUIREMENT

The whole system is expected to be delivered in four months of time with a weekly Evaluation by the project guide.

2.3.3.2 FUNCTIONAL REQUIREMENTS

Following are the functional requirements fulfilled by our project:

- Students can register themselves if they have appeared for CCAT entranceexam for PG Diploma courses and have valid CCAT number.
- Further, they are asked to fill in their personal details and address details.
- Once all students are registered, they get a confirmation Email from IACSD for successful registration.
- Admin generates PRNs for successfully registered students.
- Students can login for the first time with username and default password astheir own PRN.
- Students now can edit their profile, change password and use all the functionalities effectively.
- Admins can update Notice Board, Schedule, Exam papers, etc.
 Admins can get the results and faculty feedbacks from students, too

SYSTEM DESIGN

System design is the solution for the creation of a new system. This phase focuses on the detailed implementation of the feasible system. Its emphasis on translating design. Specifications to performance specification. System design has two phases of development.

- Logical Design
- Physical Design

During logical design phase the analyst describes inputs (sources), outputs(destinations), databases (data sores) and procedures (data flows) all in a format that meets the user requirements. The analyst also specifies the needs of the user at a level that virtually determines the information flow in and out of the system and the data resources. Here the logical design is done through data flow diagrams and database design. The physical design is followed by physical design or coding. Physical design produces the working system by defining the design specifications, which specify exactly what the candidate system must do. The programmers write the necessary programs that accept input from the user, perform necessary processing on accepted data and produce the required report on a hard copy or display it on the screen.

3.1 INPUT AND OUTPUT DESIGN

3.1.1 INPUT DESIGN:

Input design is the link that ties the information system into the world of its users. The input design involves determining the inputs, validating the data, minimizing the data entry and provides a multi-user facility. Inaccurate inputs are the most common cause of errors in data processing. Errors entered by the data entry operators can be controlled by input design. The user-originated inputs are converted to a computer-based format in the input design. Input data are collected and organized into groups of similar data. Once identified, the appropriate input media are selected for processing. All the input data are validated and if any data violates any conditions, the user is warned by a message. If the data satisfies all the conditions, it is transferred to the appropriate tables in the database. In this project the student details are to be entered at the time of registration. A page is designed for this purpose which is user friendly and easy to use. The design is done such that users get appropriate messages when exceptions occur.

3.1.2 OUTPUT DESIGN:

Computer output is the most important and direct source of information to the user. Output design

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DATABASE DESIGN

3.2 DATABASE

Databases are the storehouses of data used in the software systems. The data is stored in tables inside the database. Several tables are created for the manipulation of the data for the system. Two essential settings for a database are

- Primary key the field that is unique for all the record occurrences
- Foreign key the field used to set relation between tables

Normalization is a technique to avoid redundancy in the tables.

3.3 SYSTEM TOOLS

The various system tools that have been used in developing both the front end and the back end of the project are being discussed in this chapter.

3.3.1 FRONT END:

JQuery and Ajax are powerful tools for enhancing the front end functionality of a website or web application. JQuery is a popular JavaScript library that simplifies DOM manipulation, event handling and animation. It provides a convenient way to select and manipulate HTML elements on a web page.

Ajax enables the exchange of data between a web server and a web page without requiring a full page reload. This asynchronous communication enhances user experience by providing real-time updates and reducing page load times.

3.3.2 BACKEND:

The back end is implemented using spring-boot and spring MVC.

MySQL:

MySQL is the world's second most widely used open-source relational database management system (RDBMS). The SQL phrase stands for Structured Query Language.

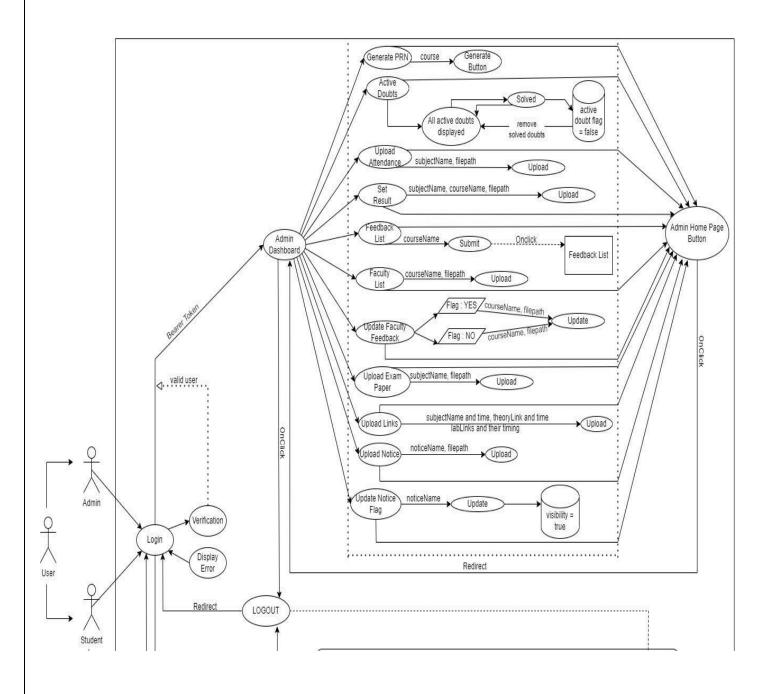
Spring-Boot:

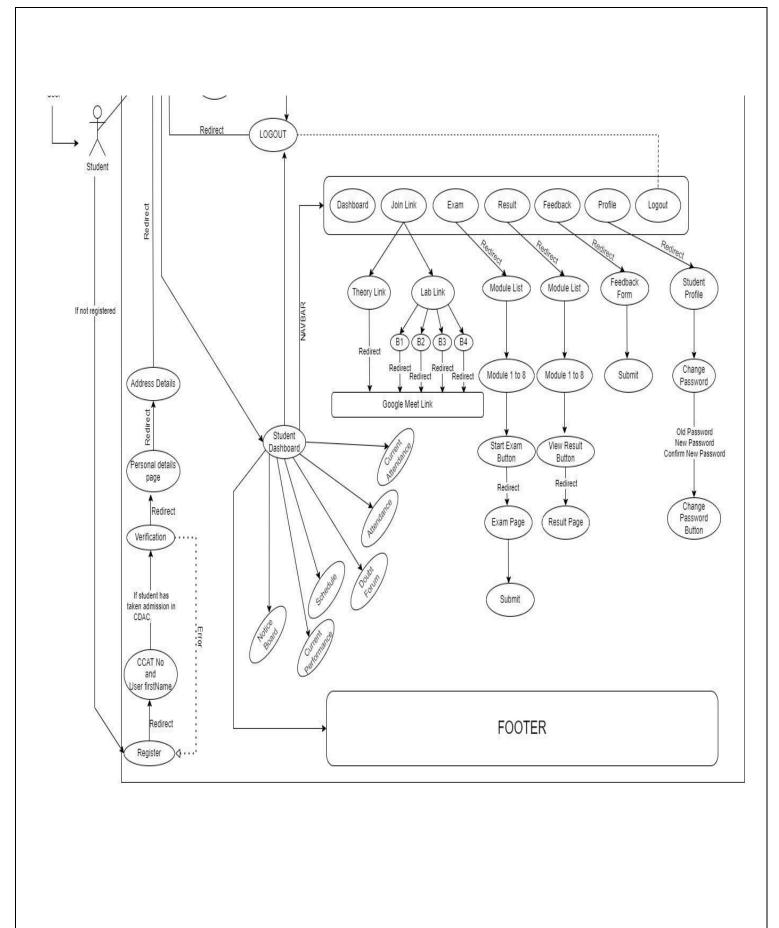
IACSD

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This is used to connect MYSQL and fetch data from database and store the data in database. The Spring Framework is an application framework and inversion of control container for the Java platform. The framework's core features can be used by any Java application, but there are extensions for building web applications on top of the Java EE (Enterprise Edition) platform. Although the framework does not impose any specific programming model, it has become popular in the Java community as an addition to the Enterprise JavaBeans (EJB) model. The Spring Framework is Open-source Framework.

UCL DIAGRAM





0 Level DFD

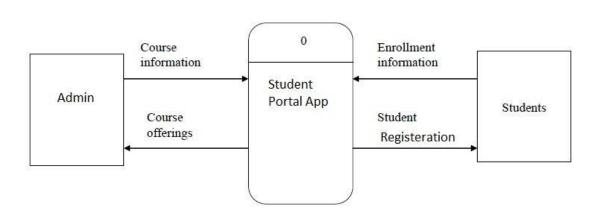


Figure 4 0 Level DFD

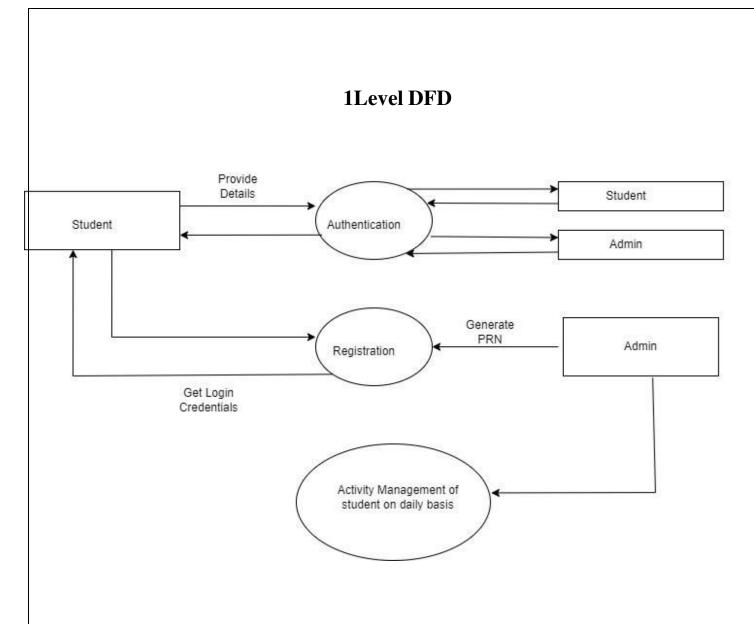


Figure 5 1 Level DFD

2 Level DFD

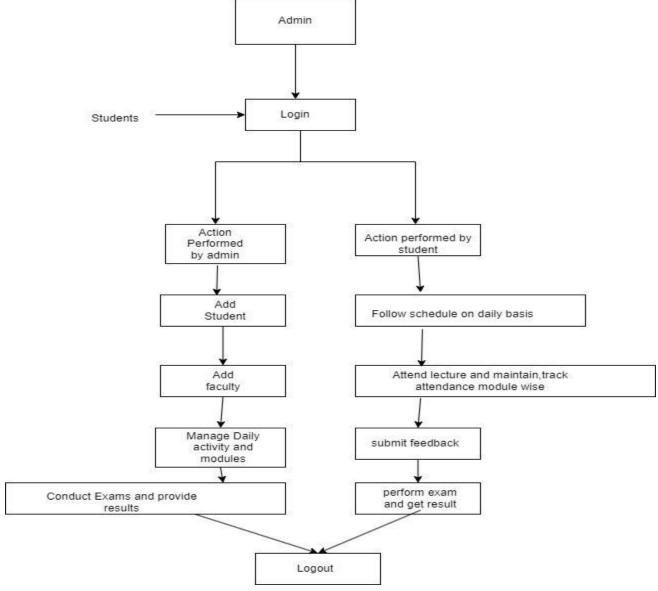
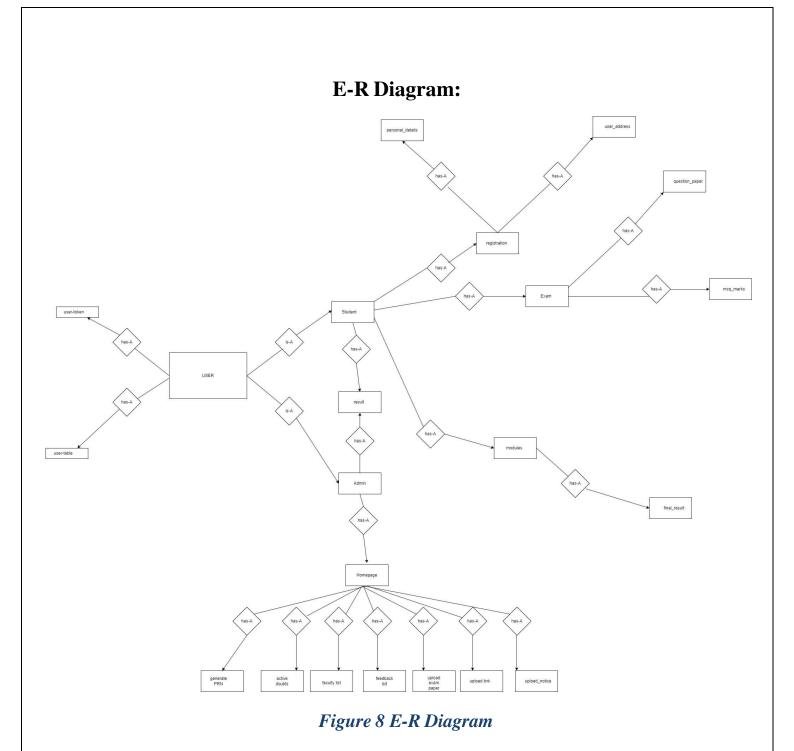


Figure 6 1 Level DFD for Flat Owner



Class Diagram

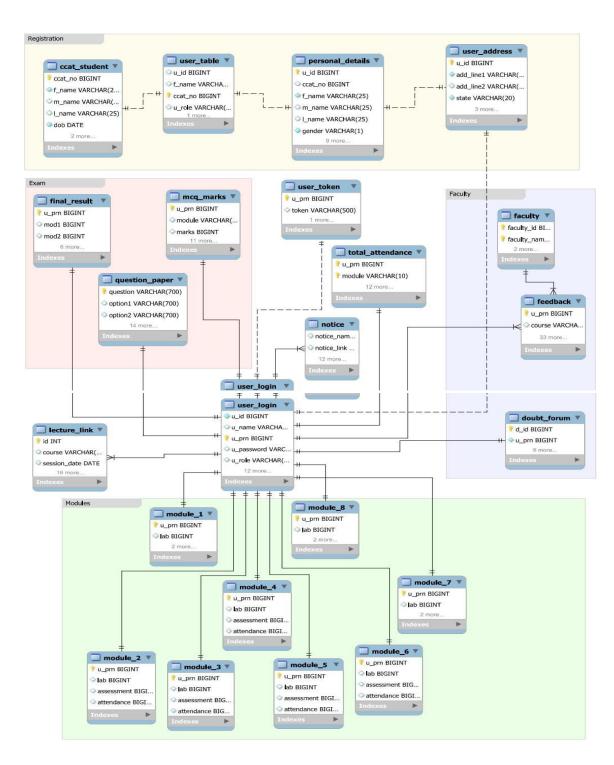


Figure 9 Class Diagram

TABLE STRUCTURE:

4.1. DATA MODEL

The following tables depict the database design used for "STUDENT PORTAL APP" application:

A. Tables for Registration and Login

a. CCAT Table and User Table

mysql> desc ccat_student;								
Field	Туре	Null	Key	Default	Extra			
ccat_no f_name m_name l_name dob course	bigint varchar(25) varchar(25) varchar(25) date varchar(10)	NO NO YES YES NO NO	PRI	NULL NULL NULL NULL NULL				
	set (0.03 sec)							
Field	Туре	Null	Key	Default	Extra			
u_id f_name ccat_no u_role	bigint varchar(25) bigint varchar(10)	YES YES NO YES	PRI	NULL NULL NULL NULL				
4 rows in s	4 rows in set (0.00 sec)							

b. Personal Details Table and User Address

mysql> desc p	ersonal_deta	ails;				++
Field	Type	ĺ	Null	Key	Default	Extra
u_id ccat_no f_name m_name l_name dob email phone qualificati photo course guardian_na guardian_ph +	varcha varcha varcha date varcha bigint on varcha longte varcha ame varcha sone bigint		NO YES NO YES NO NO NO NO NO NO YES NO YES YES YES	PRI	NULL NULL NULL NULL NULL NULL NULL NULL	
+ Field	Type	+	-+ Key	+	+ ault Ext	+ :ra
u_id u_id add_line1 add_line2 state city pincode	bigint varchar(30) varchar(20) varchar(20) int	YES NO	PRI	NULI NULI NULI NULI NULI NULI	.	+
6 rows in set	(0.00 sec)					

c. User Login Table

mysql> desc us	ser_login; +	+	+		++
Field	Туре	Null	Key	Default	Extra
u_id u_name u_prn u_password u_role course	bigint varchar(50) bigint varchar(500) varchar(10) varchar(10)	NO YES NO YES YES YES	 PRI 	NULL NULL NULL NULL NULL	
+ 6 rows in set	(0.02 sec)	+	+		H+

B. Tables after Student Login

a. Modules Table and Module 1 Table

mysql> des	sc modules;				
Field	Туре	Null	Key	Default	Extra
	varchar(20) varchar(10) varchar(10) varchar(10) varchar(10) varchar(10) varchar(10) varchar(10) varchar(10) varchar(10)	NO	PRI	NULL NULL NULL NULL NULL NULL NULL NULL	
+ Field	Type	Null	Key	Default	Extra
u_prn bigint lab bigint assessment bigint attendance bigint		NO YES YES YES	PRI	NULL NULL NULL NULL	
4 rows in	set (0.00 sec)			

b. Lecture Link Table and Faculty Table

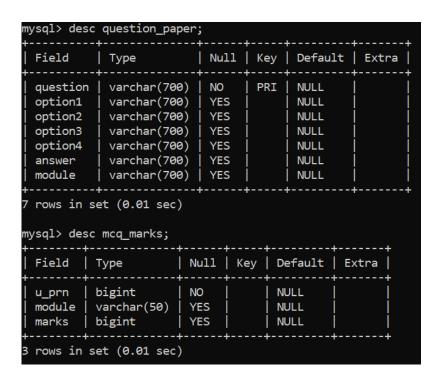
mysql> desc lecture link;							
+			+	-+			-+
Field	Туре	Null	Key	/ De	efault	Extra	į
id course session_date lect_link b1_link b2_link b3_link b4_link	course varchar(10) session_date date lect_link varchar(500) b1_link varchar(500) b2_link varchar(500) b3_link varchar(500)			NU NU NU NU NU	JLL JLL JLL JLL JLL JLL JLL JLL		
8 rows in set (6			+	-+			-+
Field	Type	Nu	11	Key	Defaul	.t Ex1	tra
faculty_id bigint faculty_name varchar(100 visibility_flag varchar(1) course varchar(10)		YE	s s	PRI	NULL NULL NULL NULL		
4 rows in set (6	0.00 sec)	+	+-			+	+

c. Doubt Forum Table and Total Attendance Table

mysql> desc doubt_forum;								
Field	Type	Null	Key	Default	Extra			
d_id								
Field	Type	Null	L Key	/ Default	Extra			
u_prn module attended_lectur total_lecture +	NO NO NO NO	PRI						

C. Tables Related to Exam:

a. Question Paper Table, MCQ Marks Table



b. Final Result Table

nysql> desc final_result;							
Field	Туре	Null	Key	Default	Extra		
u_prn	bigint	NO	PRI	NULL			
mod1	bigint	YES		NULL			
mod2	bigint	YES		NULL			
mod3	bigint	YES		NULL			
mod4	bigint	YES		NULL			
mod5	bigint	YES		NULL			
mod6	bigint	YES		NULL			
mod7	bigint	YES		NULL			
mod8	bigint	YES		NULL			
++							
rows ir	n set (0.0	31 sec)					

D. Feedback Table:

Field	Type	Null	Key	Default	Extra
u_prn	bigint	NO	PRI	NULL	
course	varchar(10)	YES		NULL	
faculty	varchar(100)	YES		NULL	
module	varchar(50)	YES		NULL	
parameter_1	int	YES		NULL	
parameter_2	int	YES		NULL	
parameter_3	int	YES		NULL	
parameter_4	int	YES		NULL	
parameter_5	int	YES		NULL	
parameter_total	int	YES		NULL	
suggestion	varchar(300)	YES		NULL	

IACSD

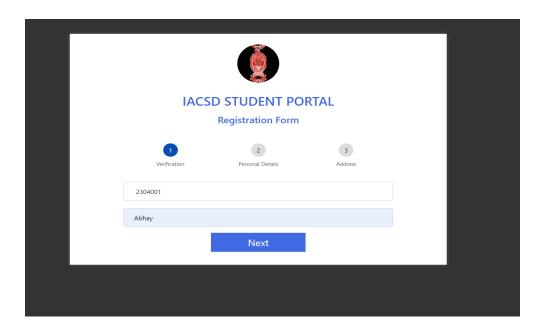
SMS.com

E. User Token Table and Notice Table:

mysql> desc user_token;									
Field	Туре	Null	Key	Defa	ault	Extr	a		
u_prn token u_role	bigint varchar(500 varchar(10)	NO YES	PRI 	NULI NULI	- j				
+++++++									
Field	Type		Null	Key	Defa	ult	Extra		
notice_na notice_li visibilit	ink varcha	r(100)	YES YES YES		NULL NULL NULL				
3 rows in s	+								

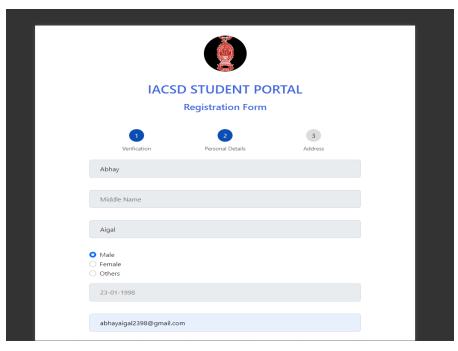
5.1. STUDENT

Register

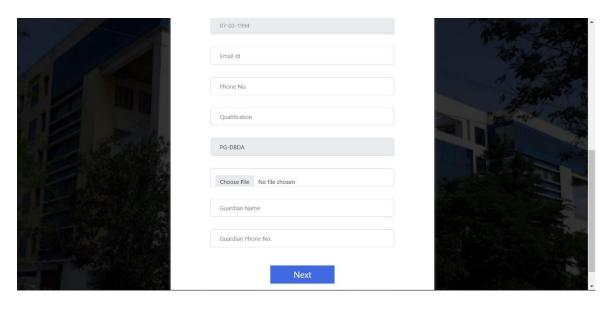


- Only those users are allowed to register further who have valid CCAT No and First Name
- Now they are asked to fill their personal details

Personal Details



Personal Details



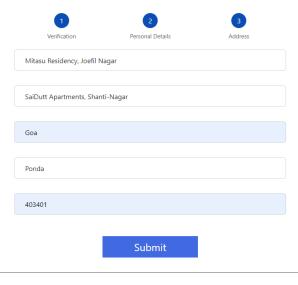
- After filling personal details, next page is for filling Address Details

Address Details

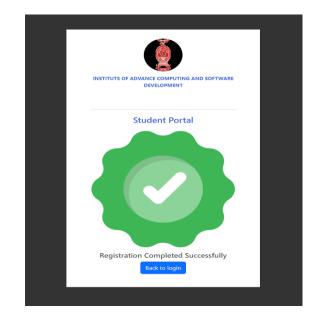


IACSD STUDENT PORTAL

Registration Form

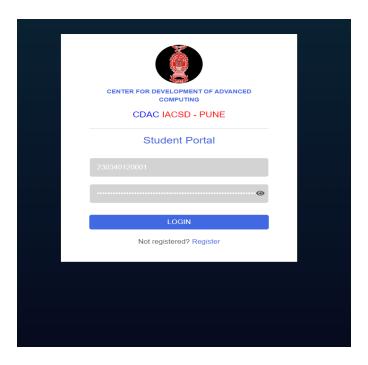


- After successful registration, students will receive an email from IACSD



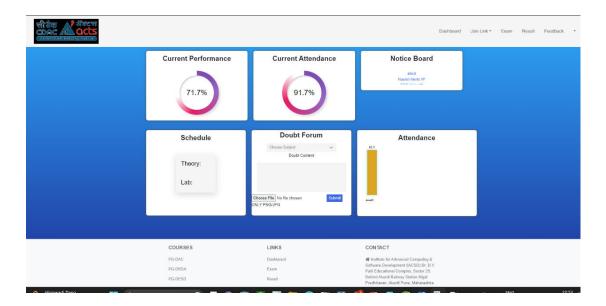
- Once all students are registered successfully, their PRNs are generated.
- Now, users can Login into their portal using PRN as the username and default password.

Login

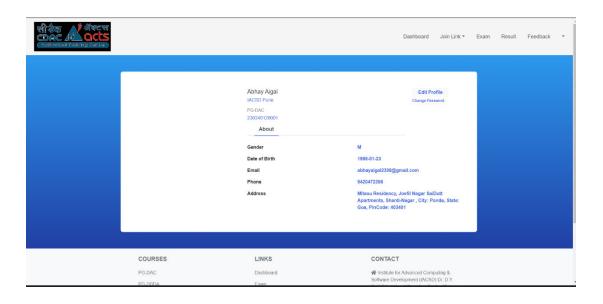


- On successful login, student enters into Dashboard
- There are separate home screens after login for Student and Admin
- Let us first see how Student Portal looks like

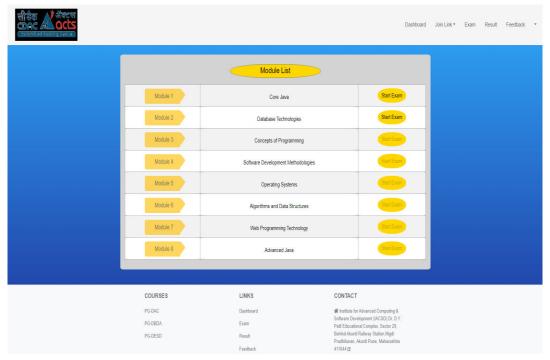
Student Dashboard



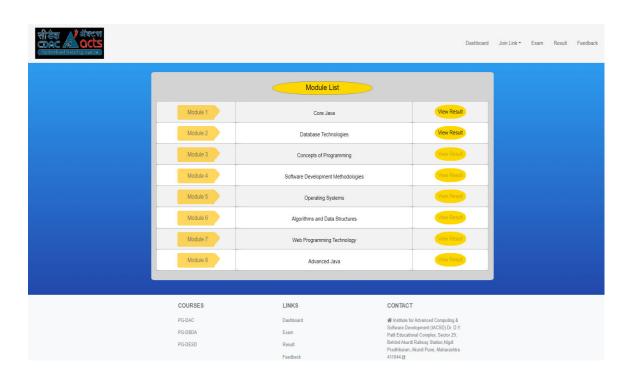
My Profile



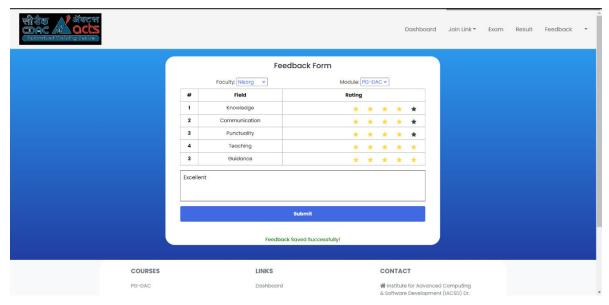
Exam Page



Result Page



Feedback Form

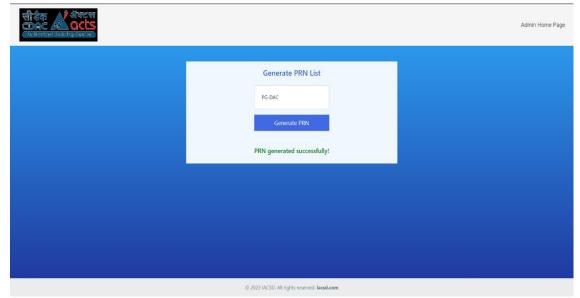


Admin Dashboard

5.2. ADMIN

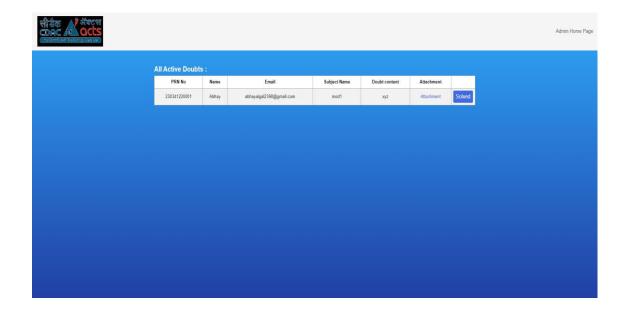


Generate PRN

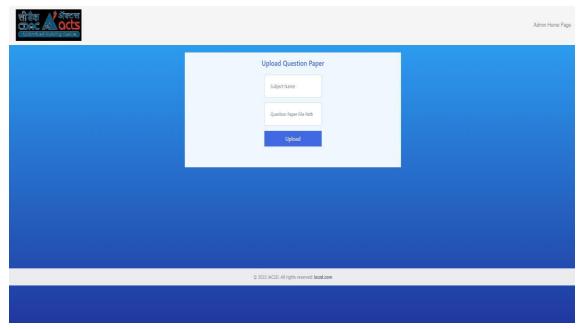


All Active

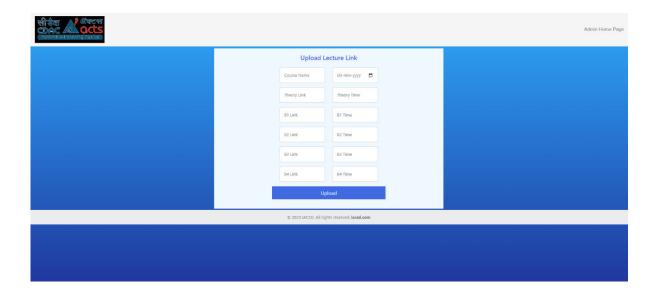
Doubts



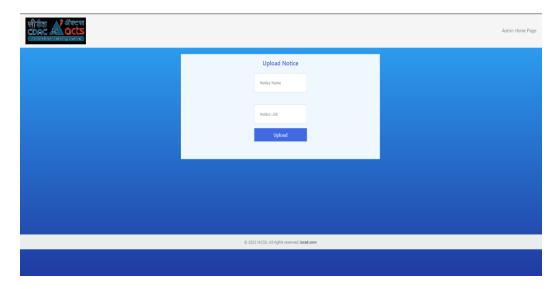
Upload Question Paper



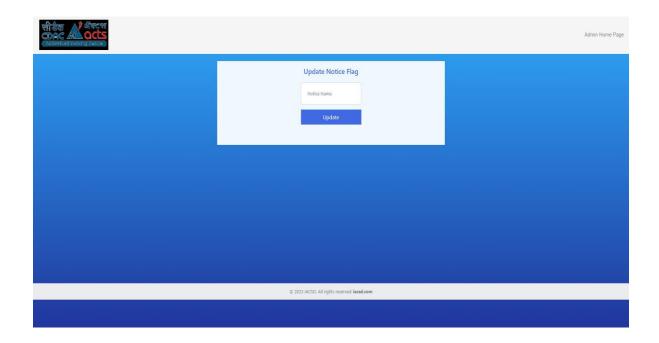
Upload Lecture Link



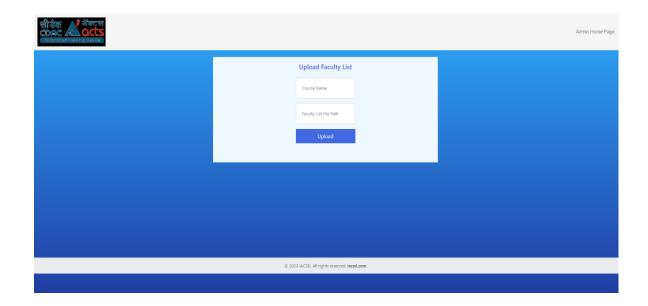
Upload Notice



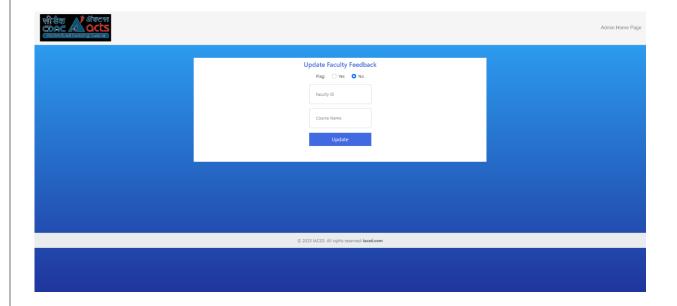
Update Notice Flag



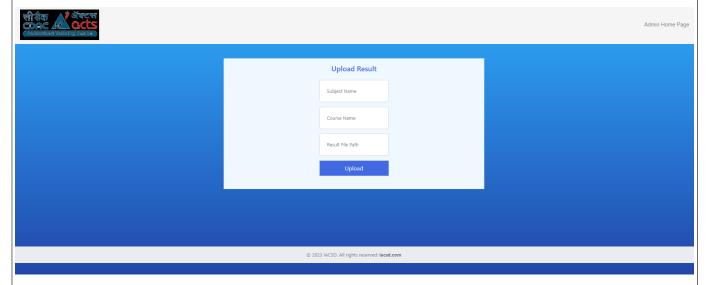
Upload Faculty List



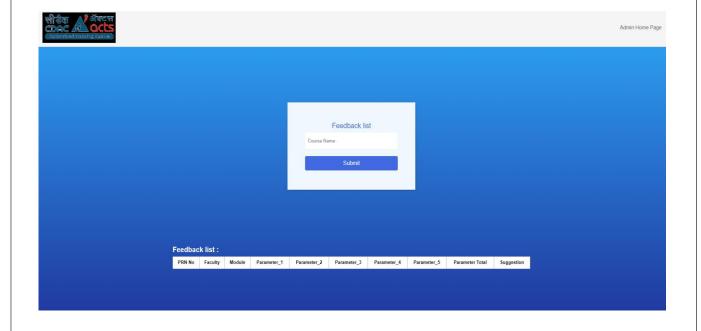
Update Faculty Feedback



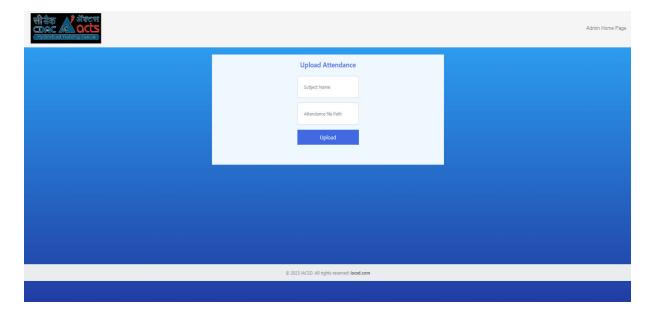




Feedback List



Upload Attendance



CONCLUSION

"STUDENT PORTAL APP", an online student management portal, was developed by our project team to provide a platform for PG Diploma courses of IACSD Pune students and to simplify the admin's work. We tried using the latest technologies that are cross-platform and robust. Each and every software we used was open-source in nature, which keeps the cost of production at a minimum.

We were also meticulous about the user experience aspect of our application so that navigating our website is an easy and seamless experience.

In conclusion, "STUDENT PORTAL APP" as a portal would definitely be beneficial for IACSD Pune for managing their PG Diploma students efficiently. We are confident that the numerous features and visually appealing look of the portal willdefinitely make this portal effective for all the students and admins. This portal canbe scaled on higher side to add more features to it.

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