USER -FACULTY INSTITUTE WORKSPACE

Java Web-App

Whose app

This web app is created for an offline to institute increasing the reach.

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User-Faculty Institute Workspace

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INTRODUCTION

Institute Management System

Institute Management System is the software made for the user and faculty to find, manage, and perform a maximum of specific institute related functions. Many modules are included in the software to perform full operation like, For user '**student'**: - searching courses, getting full details about the respective course, getting enrolled in the respective course, find details about the institute, get different mean details to connect with the institute in different ways, For user '**faculty'**: - they can see no. of students in the institute in a list and details of a student with their specific enrollment number, list of faculties in the institute and their detail, with all these only the owner will be able to add and delete new faculty in the list of the institute having real-time all data visible to him/her.

At very first when a user will open the institute site, the site will open its home page which will contain a nice image with a logo and inspiring line at the center nothing else, but on scrolling it will show other content like achievements, few courses, hyperlink to all the courses page, about the institute and few location contactable details with a hyperlink containing full contact page which will have a form for user or guardian to contact online through an online form, mail, and mobile numbers to contact in the institute to clear all the query.

OBJECTIVE OF THE PROJECT

As the title of the project suggests, the objective of this software (web application) is to automate all the works (excluding teaching) of the Institute related to the management of admission getting details etc. Some of the features of this software would be: -

- Creating a system to automate the services offered by the Institute, it would be more flexible than human to human contact as of today's corona situation.
- It allows a user search for their loved and required course within the institute and get enrolled in it without coming in contact with other humans, and reduce the spread of COVID-19.
- It keeps track of the students enrolled to date and faculty in the institute.

TOOLS, PLATFORM, HARDWARE, AND SOFTWARE REQUIREMENT SPECIFICATION

Tools/Platform

Project is developed using **Eclipse & MySQL 2017 command line** for storing data.

→Use of Technologies/Tools

It is going to be a java web application.

1. Unconditionally java
2. JSP
3. CSS
4. JavaScript
5. MySQL
6. Hibernate

→Project type

Java-based web application, created using maven.

→Use of IDE

Eclipse

→Use of Browser

Google Chrome, and

Microsoft Edge

Hardware requirement Specification

Altogether a Personal Computer with following components**:**

To use Browser on Windows®, you'll need:

- Windows 7, Windows 8, Windows 8.1, Windows 10 or later
- An Intel Pentium 4 processor or later that's SSE3 capable (as we need only a browser)
- 2.7 GHz or faster processor
- 2 GB Memory (RAM)
- Hard Disk 125 GB
- Color Monitor
- Keyboard
- Mouse
- Colored screen

Software requirement Specification

The software which was required for using the software is a new advanced **web browser** like Google Chrome, Microsoft Edge, Opera, mac Safari.

Project Plan

S. No	Task Name	Planned Start Date	Planned Finish Date	Actual Start Date	Person Responsible
1	Analyze the project requirement	03/04/2021	03/04/2021	03/04/2021	Ujjwal Pandey
2	Planning	04/04/2021	*On every moment of project coding*	03/04/2021	Ujjwal Pandey
3	Execution	07/04/2021	23/04/2021	07/04/2021	Ujjwal Pandey

*Little changes are done on day to day basic not mentioned project plan date chart.

CONTEXT LEVEL DFD

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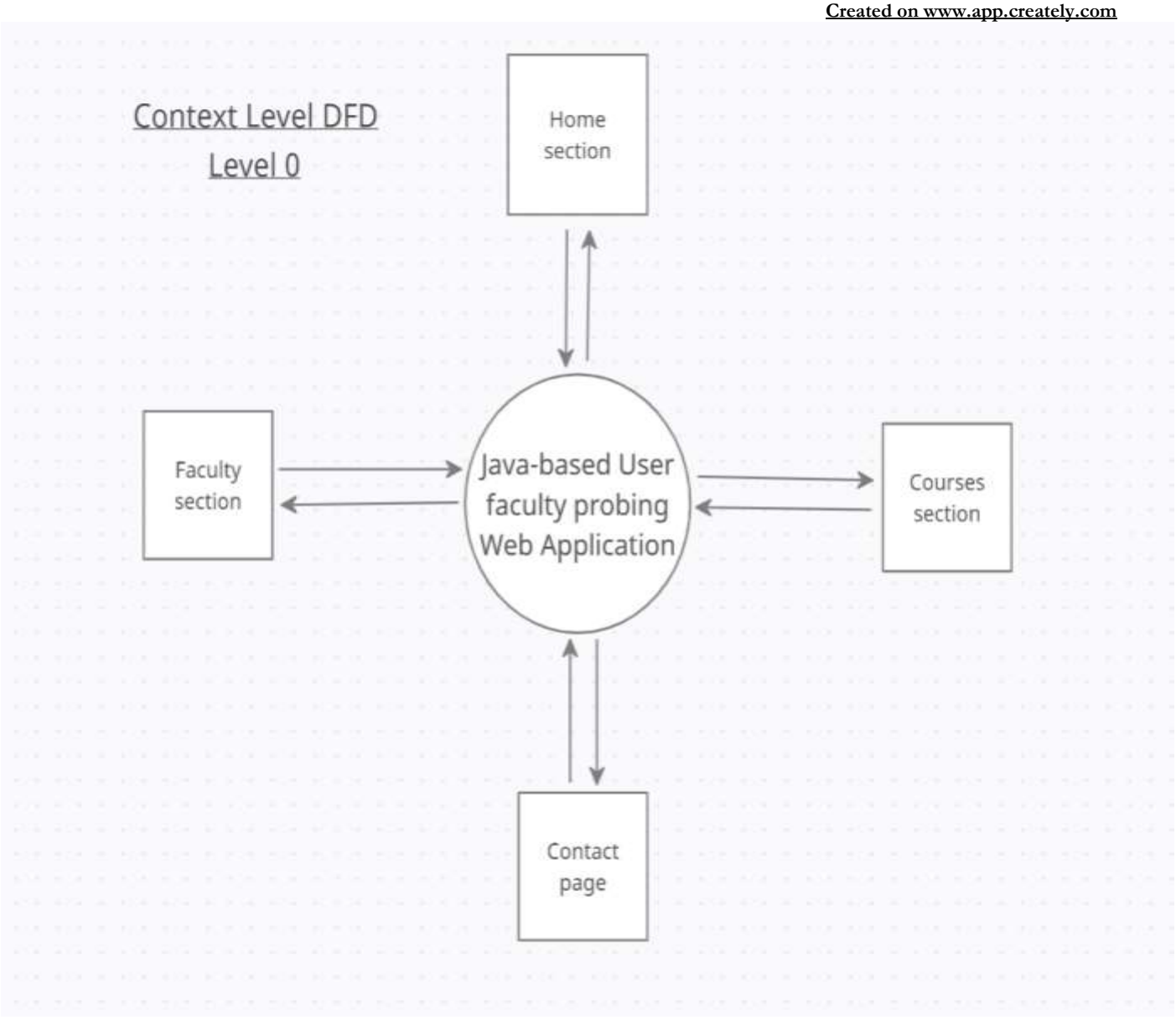

DFD level 0

CONTEXT LEVEL DFD

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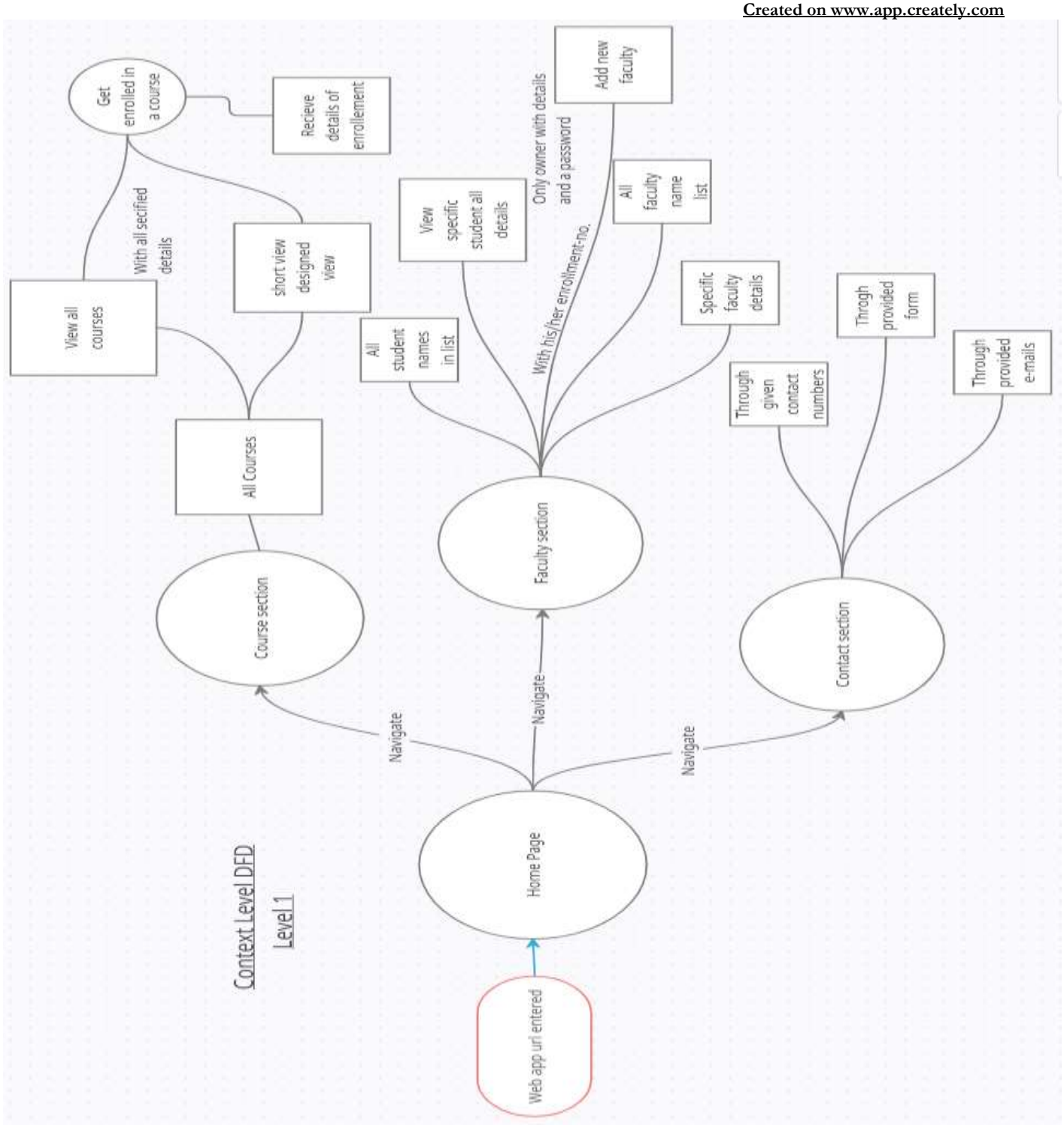

DFD level 1

CONTEXT LEVEL DFD

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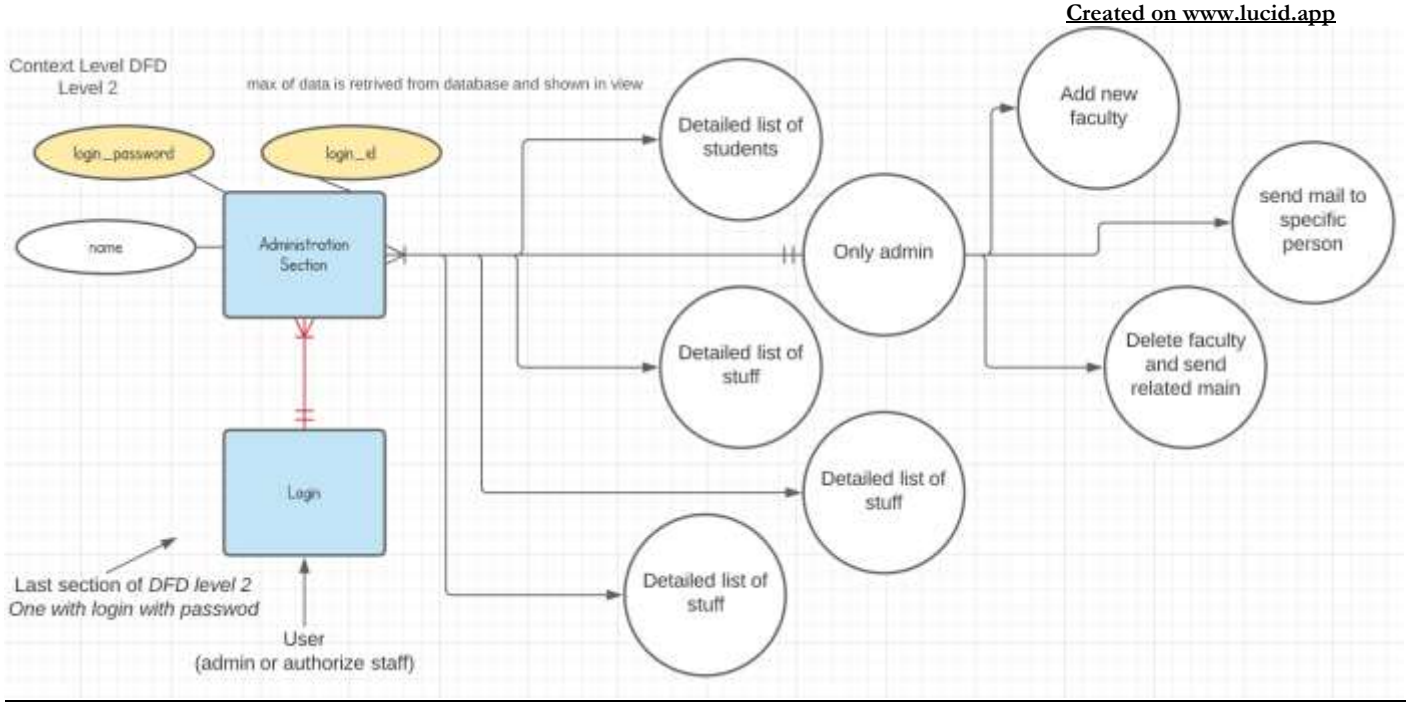

DFD level-2

ER-Diagram

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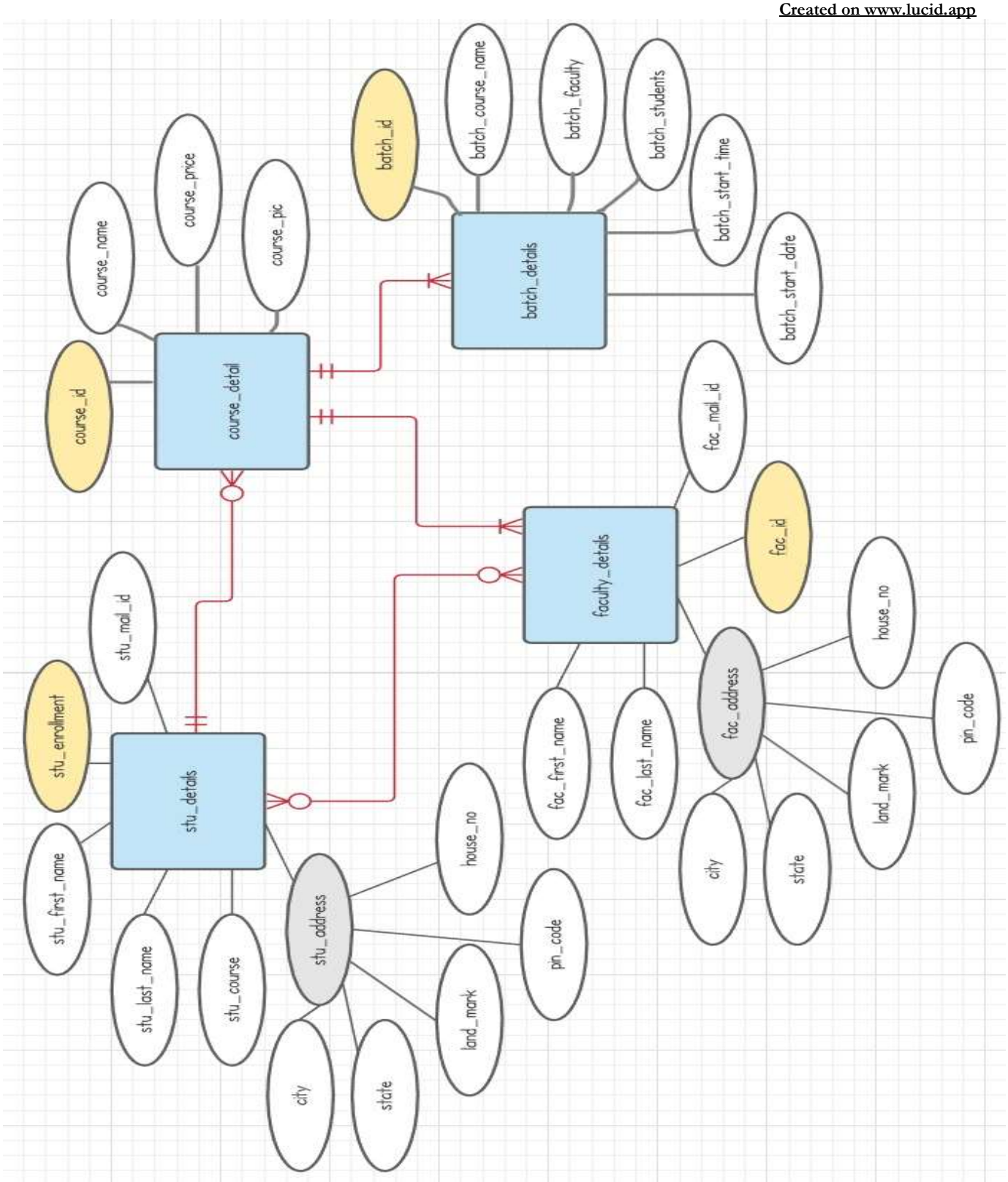


DATA-STRUCTURES

→ Tables are subject to be increased or decreased while code development.

Table Name: userdetails

Column Name	Data Type	Constraints	Description
Email	VARCHAR (255)	primary key NOT NULL	unique identity of each user
city	VARCHAR (35)		City where user lives
contactNumber	VARCHAR (15)		User contact number
firstName	VARCHAR (20)		User's first name
houseNo	VARCHAR (15)		House number of the user
landMark	VARCHAR (255)		Landmark of use address
lastName	VARCHAR (20)		User's last name
password	VARCHAR (255)		User's password
pinCode	VARCHAR (255)		Pin code
registrationDate	VARCHAR (255)		Date when user registered
state	VARCHAR (255)		User's address state
userType	VARCHAR (255)		What type of user is Admin/Student/Faculty

Table Name: queryfromform

Column Name	Data Type	Constraint	Description
qSoNo	Int	PRIMARY KEY NOT NULL	Unique id of query
qContact	VARCHAR (255)		Contact details given by person submitting query
qEmail	VARCHAR (255)		Email id provided by the person querying
qName	VARCHAR (255)		Name of querier
qQueryExplained	VARCHAR (255)		Brief of what they want to know
qQueryHead	VARCHAR (255)		Title of the query

Table Name: hibernate_sequence

Column Name	Data Type	Constraints	Description
next_val	bigint	Not null	Used to number other tables unique id automatically

Table Name: courselist

Column Name	Data Type	Constraints	Description
courseId	INT	Primary key	Unique identity of the course
courseAddedDate	DATE		Course added date
courseImage	VARCHAR (255)		Path of image
courseName	VARCHAR (255)		Title of course
coursePrice	INT		Course price
courseDescription	VARCHAR (1000)		Detail to show on same card of course detail

Table Name: boughtcourses

Column Name	Data Type	Constraints	Description
buyingID	INT	Primary key NOT NULL	Unique identity of the course bought
courseID	int	NOT NULL	Unique identity no of the course
courseImage	VARCHAR (255)		Path of image
courseName	VARCHAR (255)		Title of course
coursePrice	Int		At what price it was bought
courseDescription	VARCHAR (255)		Detail of particular course
userEmail	VARCHAR (255)		Who bought the course

Summarizing tables Relationship

User Details table: It's contains all the basic details of all 3 types of users, its most important details are email, password and user-Type.

QueryFromForm Table: It contains the query asked by any user related to any suspicion curiosity, etc. they got while surfing site, finding course, login, logout, batch detail, faculty detail, if they want to post some suggestion, problem related to anything, etc.

This table's form is accessible to all the users and table can only be seen and edited by the admin.

hibernate_sequence: This is auto access table which is accessed by the other table sequence columns on every new entry, and all this is done by hibernate automatically. This table is related to all other tables.

courselist: This table is used to store the data related to the courses and accessed by the jsp pages and course buying servlet to fetch and store data in the table of *'bought courses table',* this table works on some of the conditional based codes also in jsp. This table relation with bought courses is dependent on time – mean the data at that time is save for the particular user and if changed will not affect the user saved data.

Boughtcourses: This table is used by faculty and student these two users get their bought courses from this table and shows in the jsp respective pages.

NUMBER OF MODULES AND THEIR DESCRIPTION

01. List of courses with details
02. Admission
03. Any user view list of teachers with their respective subjects
04. List of batches
05. Viewing basic student and students' details
06. Viewing the basic details of teacher and teachers
07. Viewing batch details
08. Secure Login
09. Viewing advanced detail of student and all students
10. Viewing advanced detail of teacher and all faculties
11. Adding more faculty with administration login
12. Deleting resigned faculty and sending mail to them by admin
13. Update staff and student data

PROCESS LOGIC OF EACH MODULE

The project will be based on a Multi-User approach, which means that multiple users can use the application simultaneously. Each user will be assigned a specific role and will have limited permissions to operate the web application. User details are as below: –

Administrator – He will have full privilege to operate the entire system as per the requirements of the system. Only he/she will have permission to add new Login IDs (staffs) to the system, change passwords, change connection settings, and perform any other administrative functions which will be provided by the application.

Staff – He/she can view any details with few limitations desired by them regarding students or teacher (other staff) details. They don't have any power to change any data.

Secure Login

This module of this Project will authorize users and block any unauthorized users after checking. With this, we can maintain only authorized login. This will help to maintain the security of the system and institute data.

List of courses with details

This module's business logic takes data from the model and shows it on view on a specified JSP page. It comprises of query language of MySQL with java (used hibernate framework which makes work easier with HQL).

Admission

This module consists of a form on the view page through which the user will interact and fill in all the given details and submit it online with just a single click. Then details will be added to the database is provided to the admission-taking student.

Any user view list of teachers with their respective subjects

This module is interactable through a single button and the data will be visible on the screen with the help of java, hibernate extracting data from database and showing on the JSP page.

List of batches

This module is as simple as other view lists the same process but the query used and data extracted is changed. The most visible change is in their way of presentation.

Viewing basic student and students' details

This module consists of extracting and presenting on the page. It does not have the authority to show all the details of a student like a fee, address, etc.

Viewing basic teacher and teachers' details

This module consists of extracting and presenting on the page. It does not have the authority to show all the details of a faculty like a salary, date of joining, address, etc.

Secure Login

This module is used while login in by authorities and is properly secure, all the data used to check login details are fetched from the database which can't be changed by any unauthorized person. Only the admin or owner of the institute can do so.

Viewing advanced detail of student and all students

This is used by only the owner/admin of the institute. It is different from all other list presenting modules as it fetches all the student detail available in the database without hiding anything from the owner.

Viewing advanced detail of teacher and all faculties

This is used by only the owner/admin of the institute. It is different from all other list presenting modules as it fetches all the student detail available in the database without hiding anything from the owner.

Adding more faculty with administration login

This is used by the owner only. He/she can add new faculty after confirming they're joining in institute. When he/she adds their details in the database, a mail is sent to them as congratulation.

Deleting resigned or left faculty and sending mail to them

Same as adding the only difference is that it gives a warning before deleting the data and then on confirmation it deletes the data with a mail to left faculty. The mail received by the leaving faculty contains ‘Thanks for being with us’

Updating staff and student data

This module performs more than one work. First, it takes the enrollment id or any unique id filled in the section and then fetches their data from the database which after successful fetching presents on the screen, and gets an update after editing by the owner.

LIMITATION OF THE PROJECT

- Needs internet connection
- Needs advanced browser which supports new functions added after 2005

FUTURE SCOPE OF THE PROJECT

This project is designed and developed in such a manner that it provides maximum efficiency & speed and has a vast scope for further development. A number of modules can be added without any modifications in the database and with a minimum modification in its code. It is armed with a powerful query support system and is capable of supporting advanced and complex queries for much more advanced processes and reports.

This application fits into the current scenario, which is the Coronavirus and information age. This application with some modifications can be used by other institutes to automate their services, increase their efficiency, and to make their presence felt in the present fast online world.

In the future, I have decided to add more features like a login system for students too, online classes, live chat with teachers, performance, progress, and so on.

All the present and addable features will definitely help the world to run faster and give a better of teaching with data saving.

Main Functions my project have:

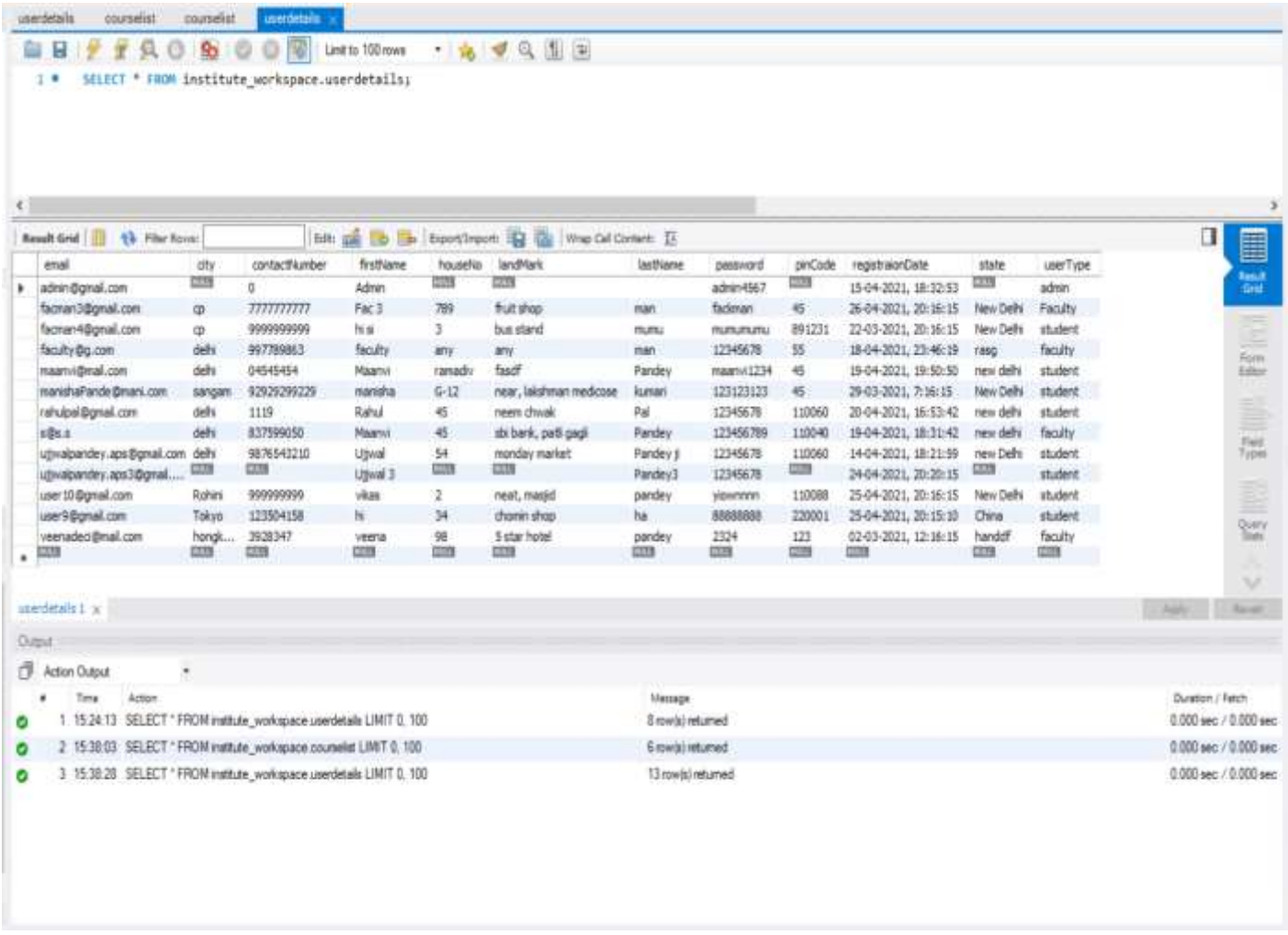
1. Login, Register Separate Page and forget password
2. Home page
    a. Introduction to the site, login and register button
    b. Top rankers
    c. Achievements
    d. Hyperlink for new courses
    e. Register and login button on top right corner
3. Admin home page
    a. Add new faculty
    b. View all User details,
    c. View all student details,
    d. View all faculty,
       Update data of any user
    e. Deleting any type of user details
4. Course page (explore and buy course of your likened)
    a. List of courses *(in card view)*
    b. With click on more detail button it will transfer the user to the new jsp page
        i. With full detail page of course, we can take it.
5. Admission page
    a. User gets his/her admission in the online courses for free while creatin an account on the site.
6. Check your courses
    a. In the home page of student (loads automatic on page load)
    b. Also, in the home page of faculty.
7. Faculty page
    a. Check student details *(can't edit any detail*)
    b. Check faculty details *(can't edit any detail)*
    c. *Update own detail*

Basic Structure of my project

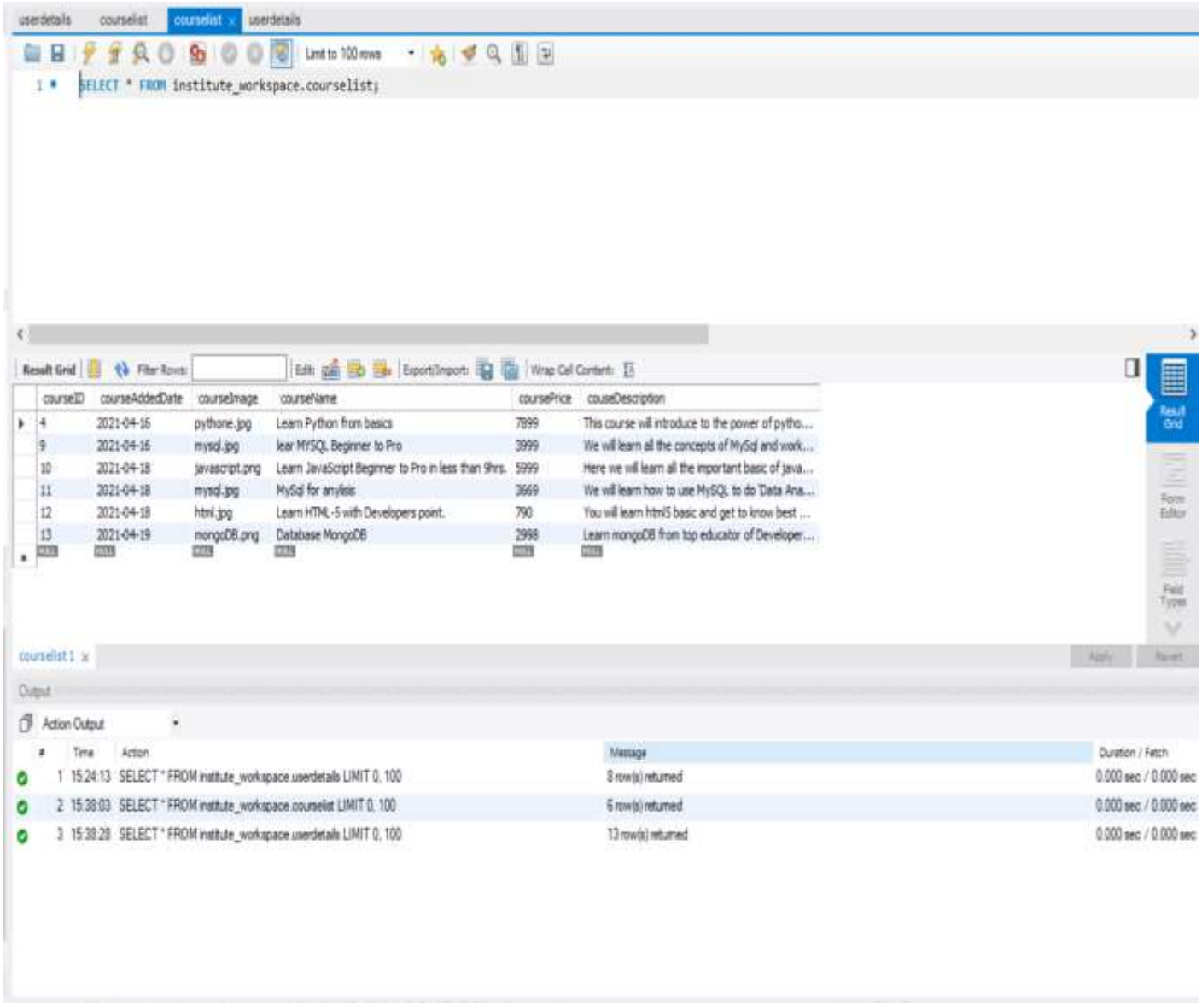
*Few Page can be added before project submission.

1. Tables used (Screenshots of real table)

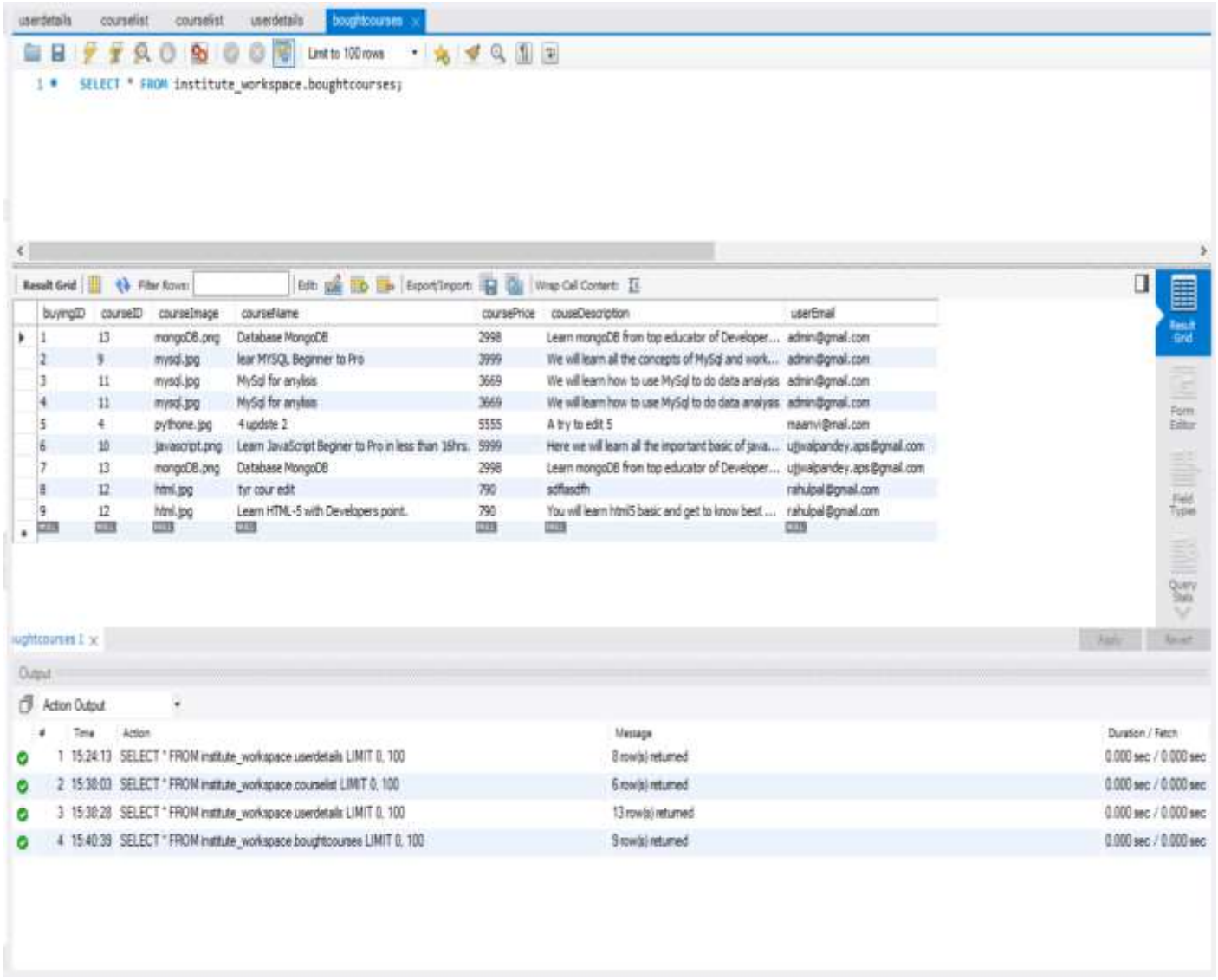
UserDetails



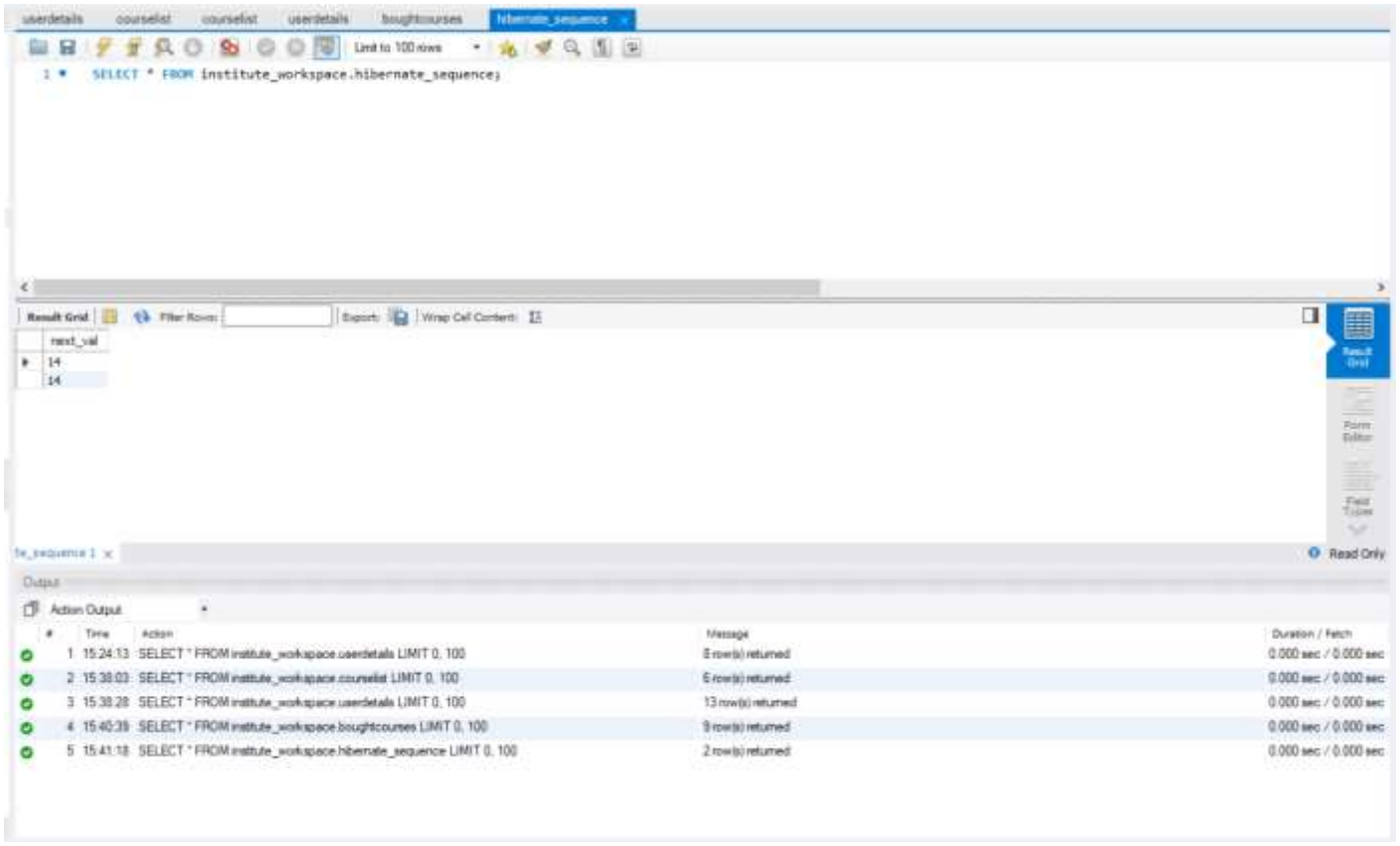
Courselist


userdetails
courselist
courselist
userdetails
Limit to 100 rows
1 • SELECT * FROM institute_workspace.courselist;
Result Grid
Filter Rows:
Edit:
Export/Import:
Wrap Cell Content:
courseID | courseAddedDate | courseImage | courseName | coursePrice | couseDescription
4 | 2021-04-16 | pythone.jpg | Learn Python from basics | 7899 | This course will introduce to the power of pytho...
9 | 2021-04-16 | mysql.jpg | lear MYSQL Beginner to Pro | 3999 | We will learn all the concepts of MySql and work...
10 | 2021-04-18 | javascript.png | Learn JavaScript Beginner to Pro in less than 9hrs. | 5999 | Here we will learn all the important basic of java...
11 | 2021-04-18 | mysql.jpg | MySql for anylsis | 3669 | We will learn how to use MySQL to do 'Data Ana...
12 | 2021-04-18 | html.jpg | Learn HTML-5 with Developers point. | 790 | You will learn html5 basic and get to know best ...
13 | 2021-04-19 | mongoDB.png | Database MongoDB | 2998 | Learn mongoDB from top educator of Developer...
courselist 1
Output
Action Output
| Time | Action | Message | Duration / Fetch
1 | 15:24:13 | SELECT * FROM institute_workspace.userdetails LIMIT 0, 100 | 8 row(s) returned | 0.000 sec / 0.000 sec
2 | 15:38:03 | SELECT * FROM institute_workspace.courselist LIMIT 0, 100 | 6 row(s) returned | 0.000 sec / 0.000 sec
3 | 15:38:28 | SELECT * FROM institute_workspace.userdetails LIMIT 0, 100 | 13 row(s) returned | 0.000 sec / 0.000 sec

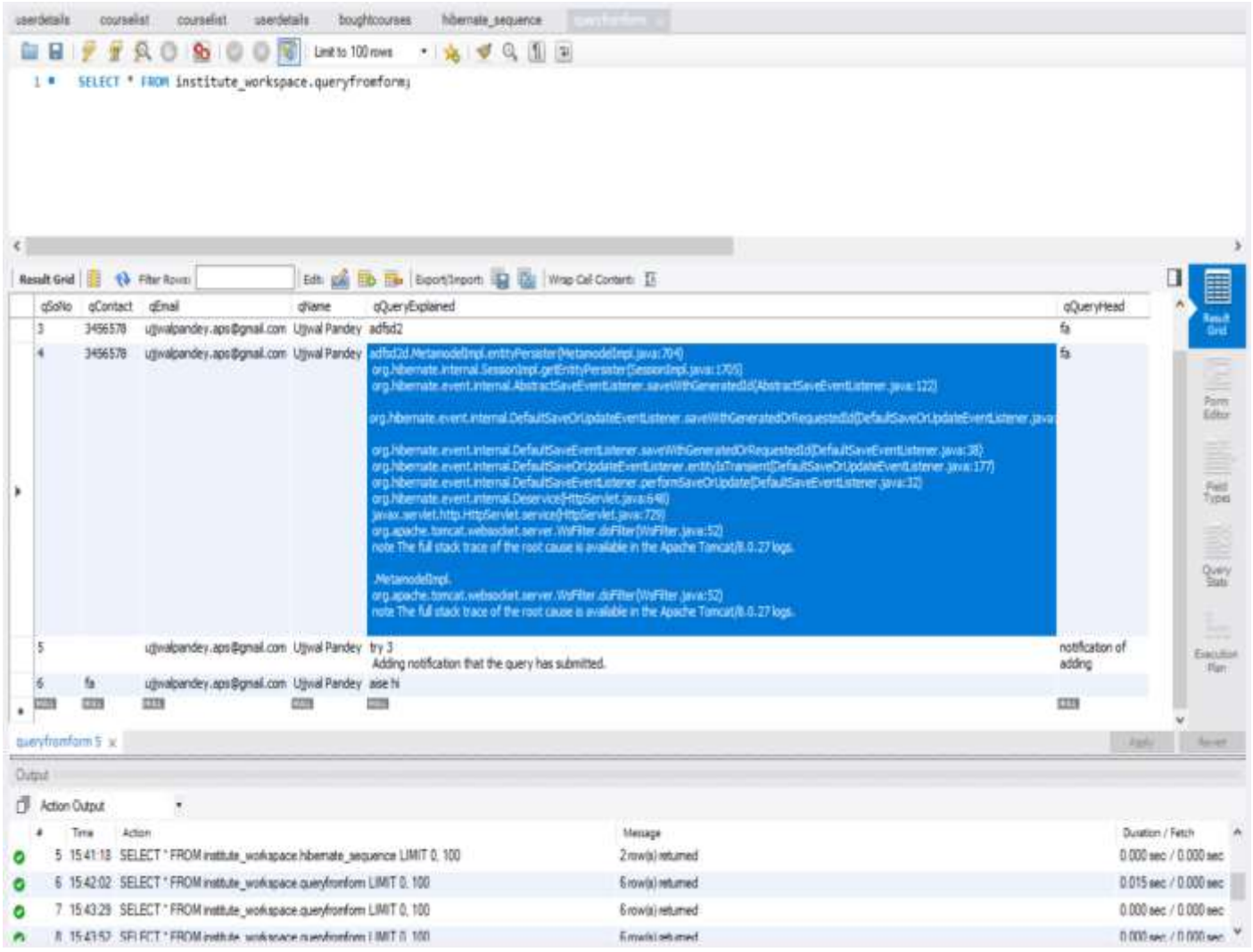
boughtcourses



hibernate_sequence



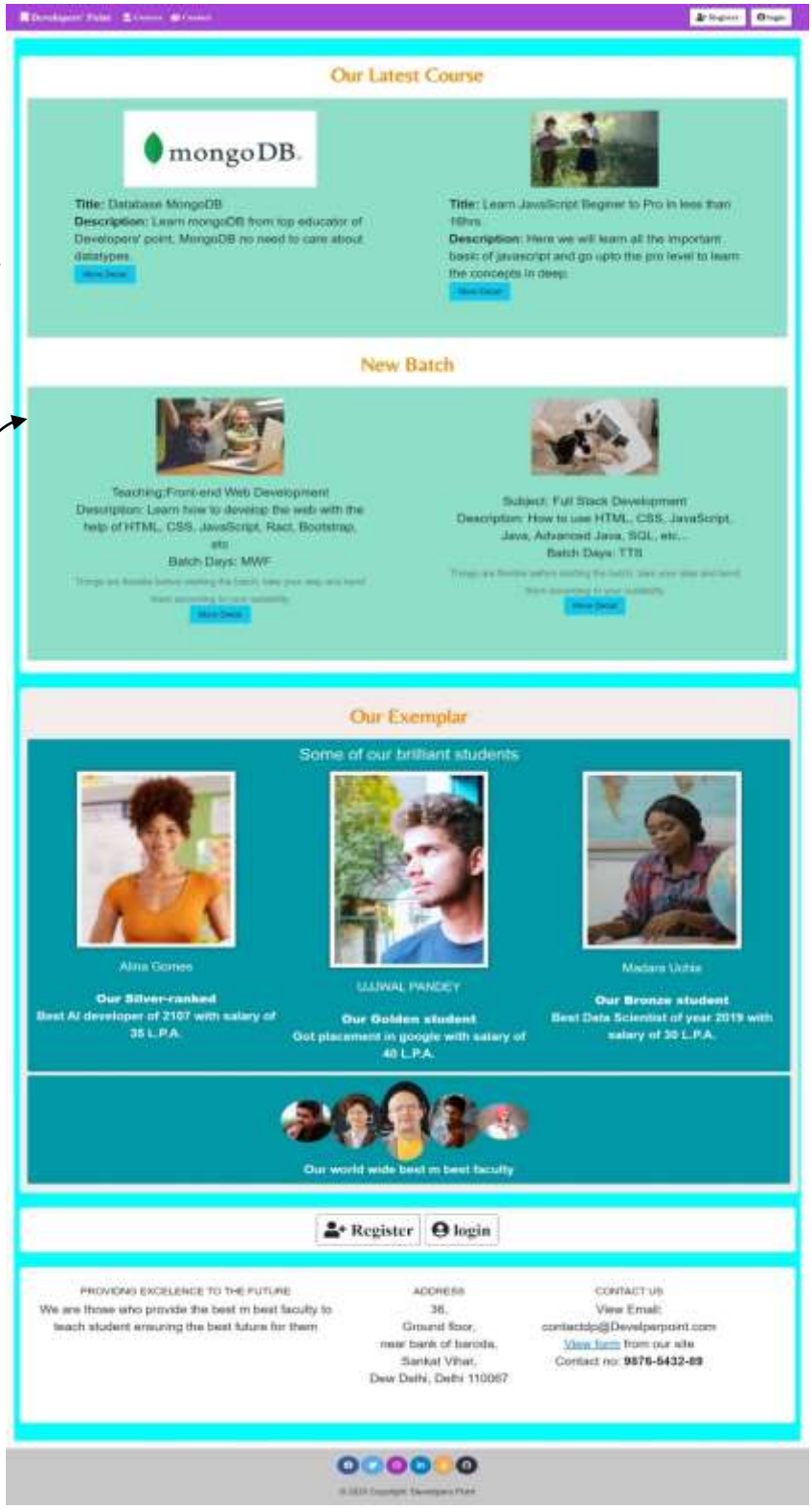
queryfromform

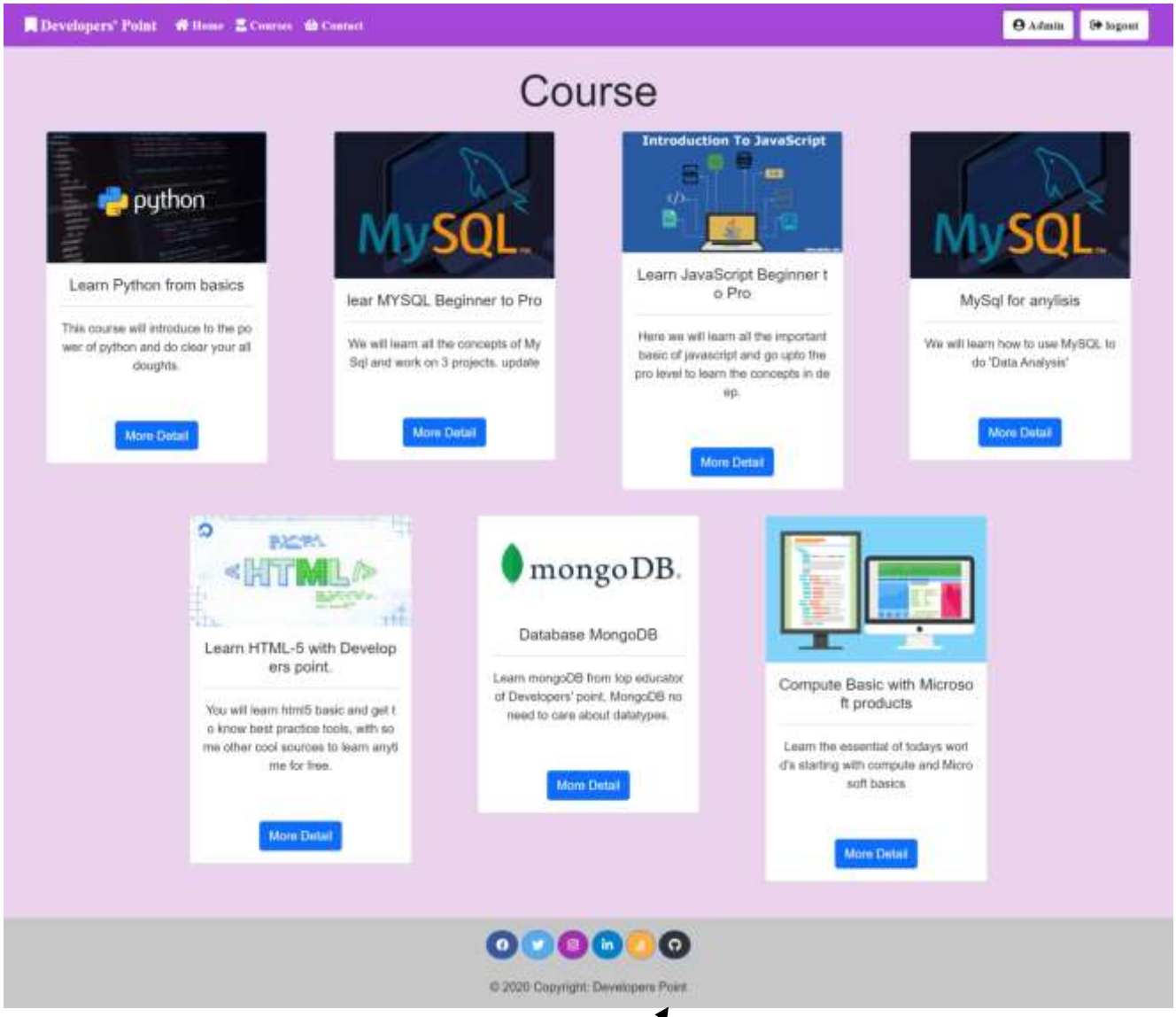


2.Outputs

Index page
anyone can visit (No login required)

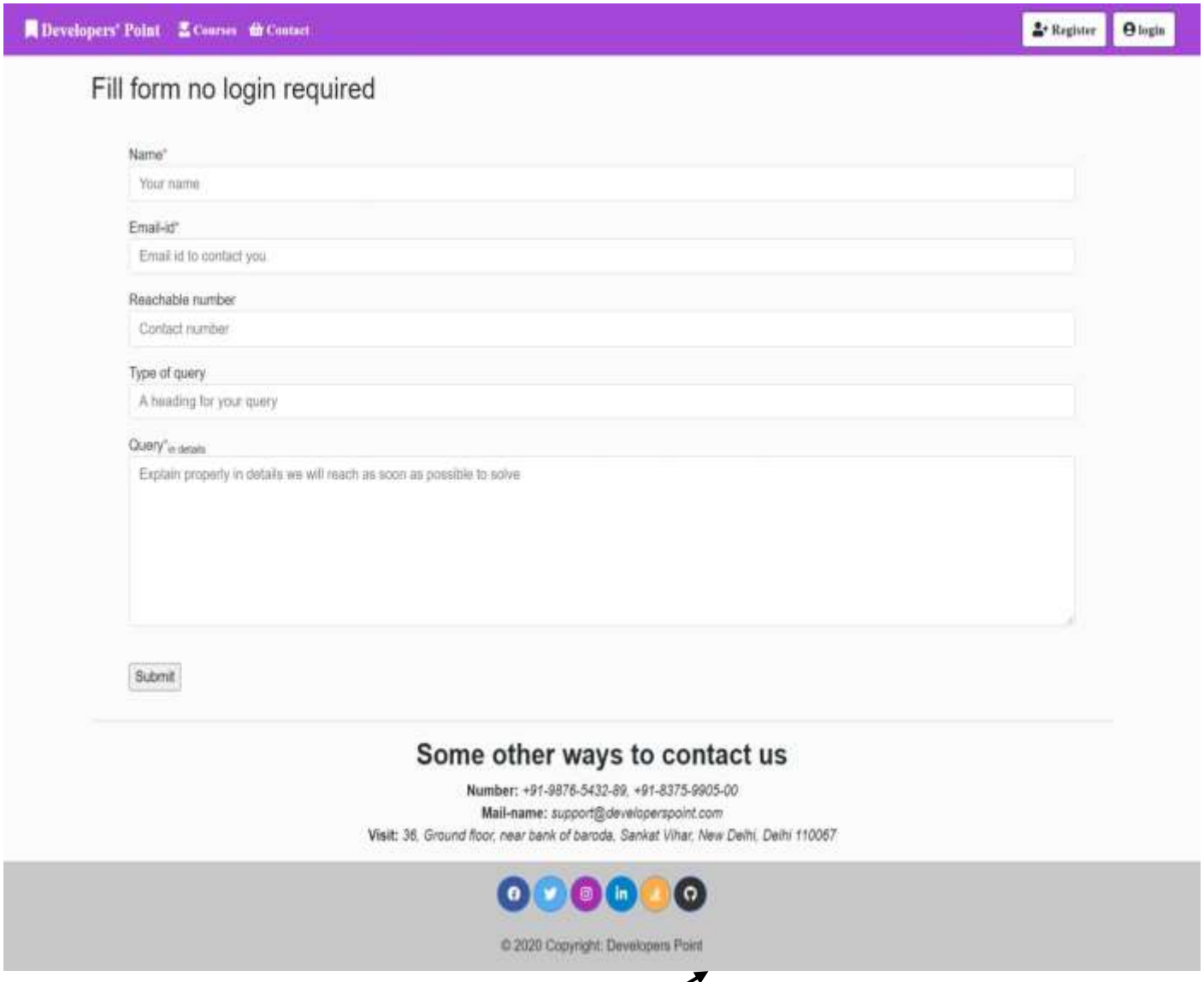
Our latest course section is dynamic it shows latest added course.



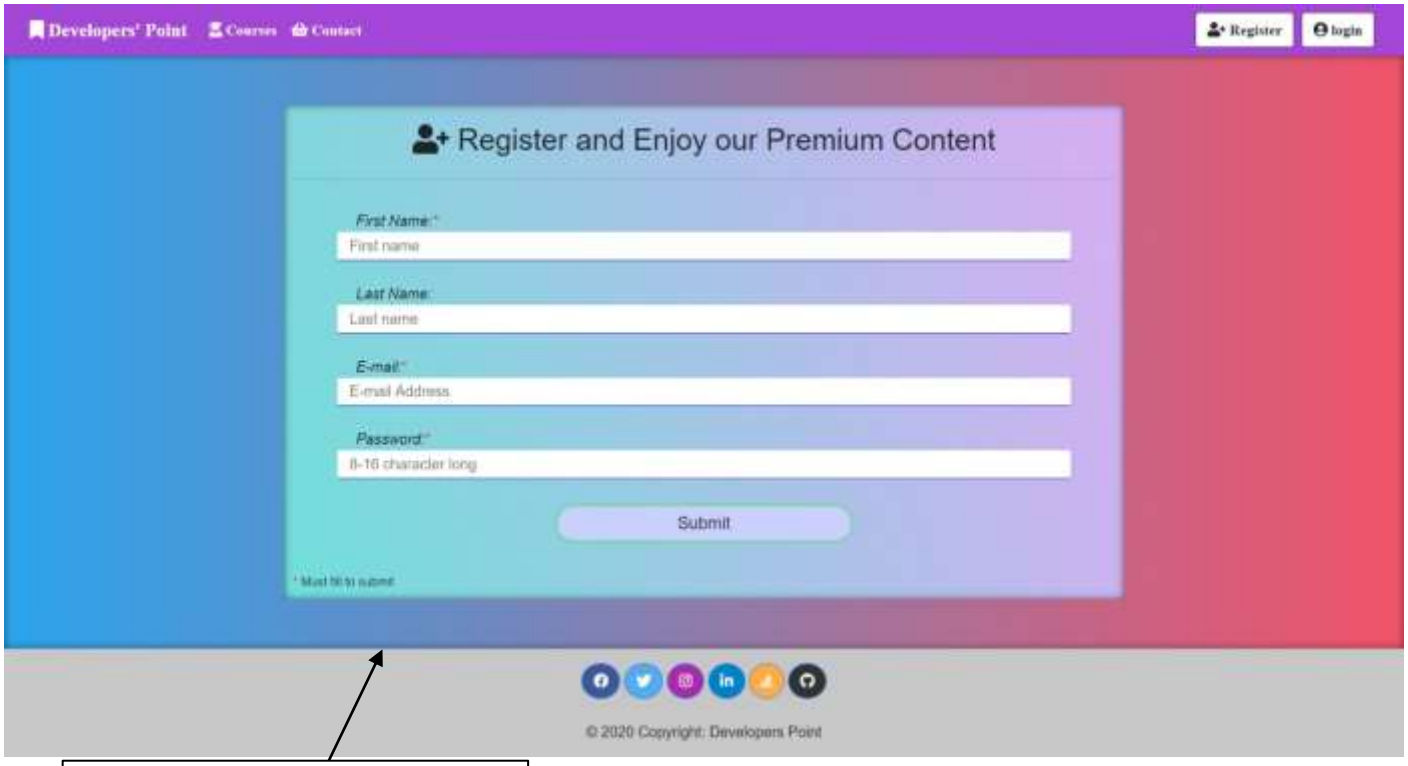


Courses Page

Anyone can come and search for courses

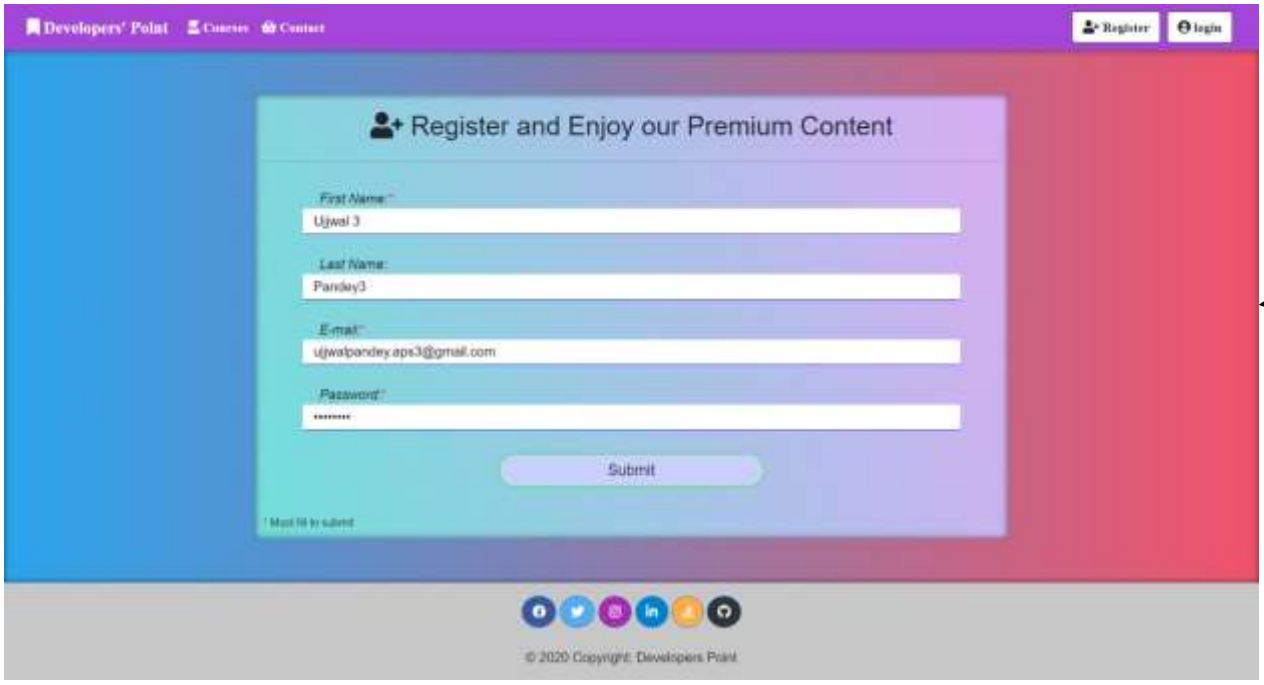


Contact Page
Anyone can come and contact institute on any query

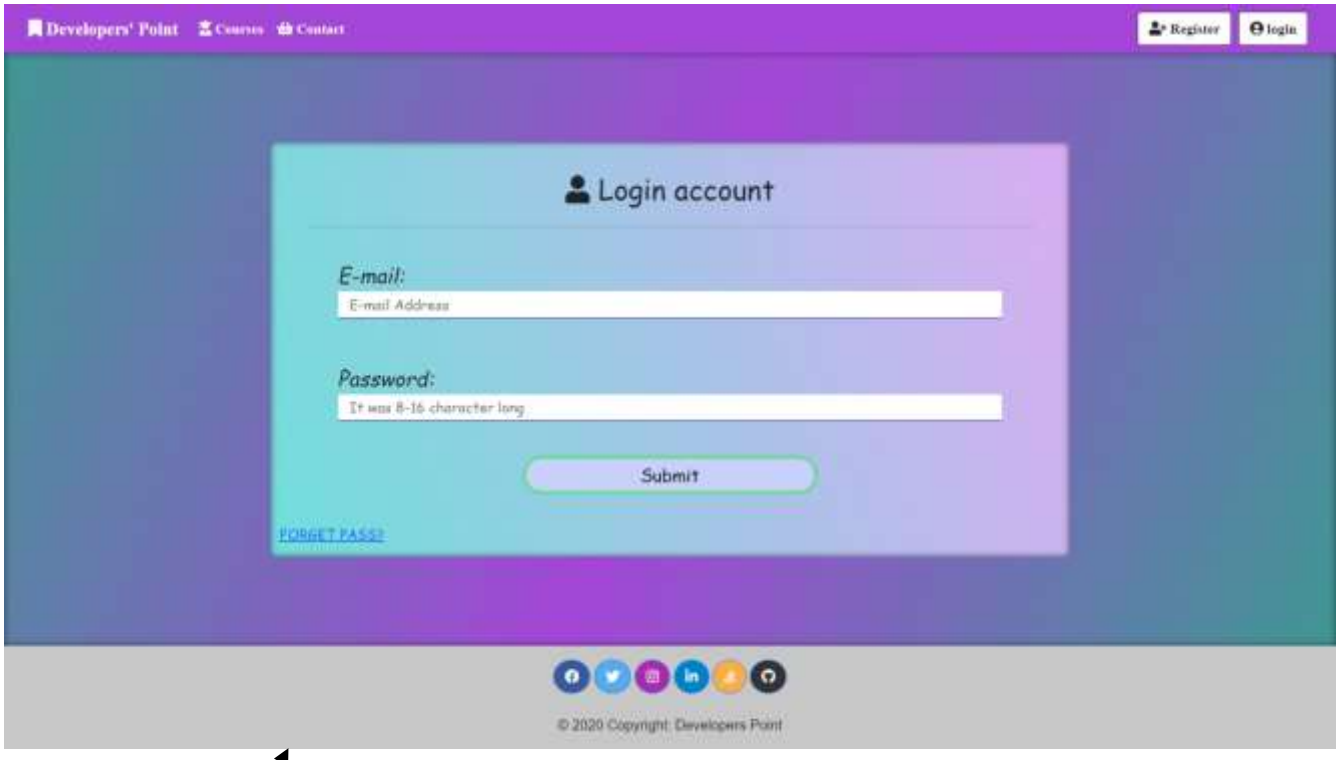


Registration Page/Form
To access main features a person should register once

Registration Page/Form demo
Registering myself
On registration user gets a welcome mail, with initial details

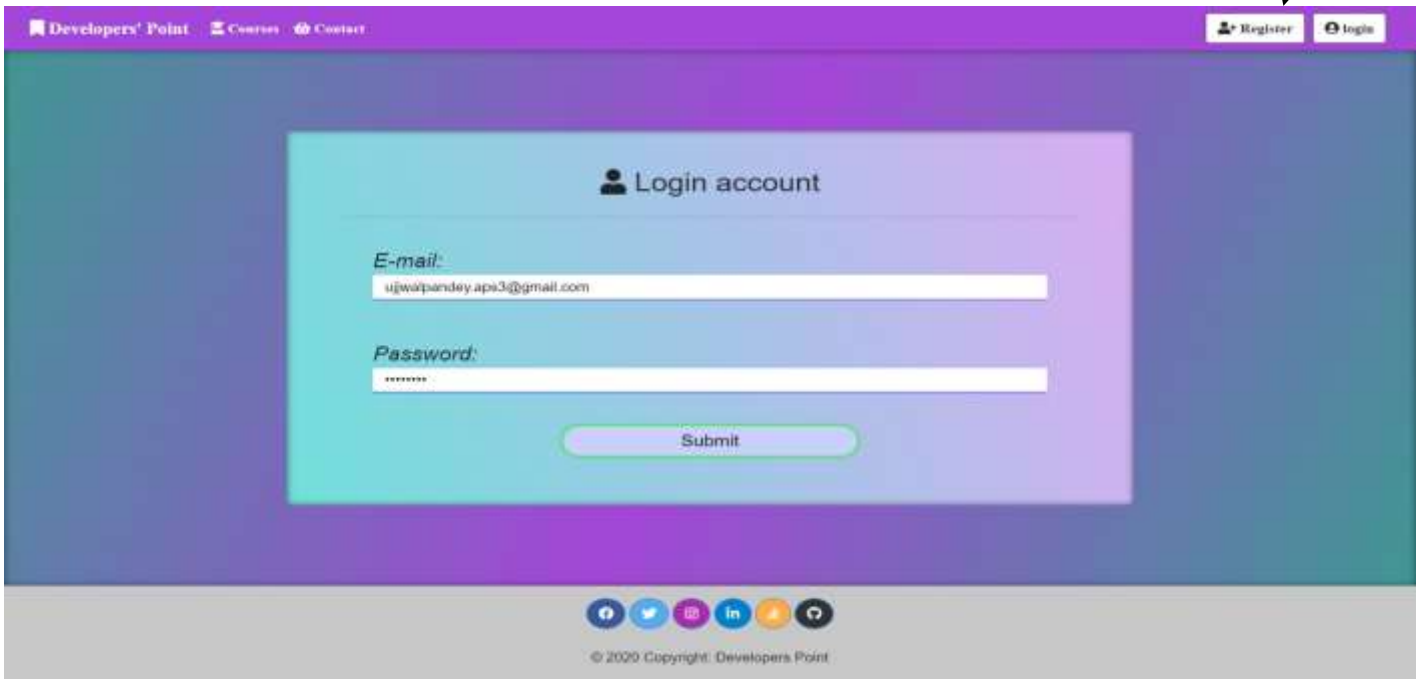


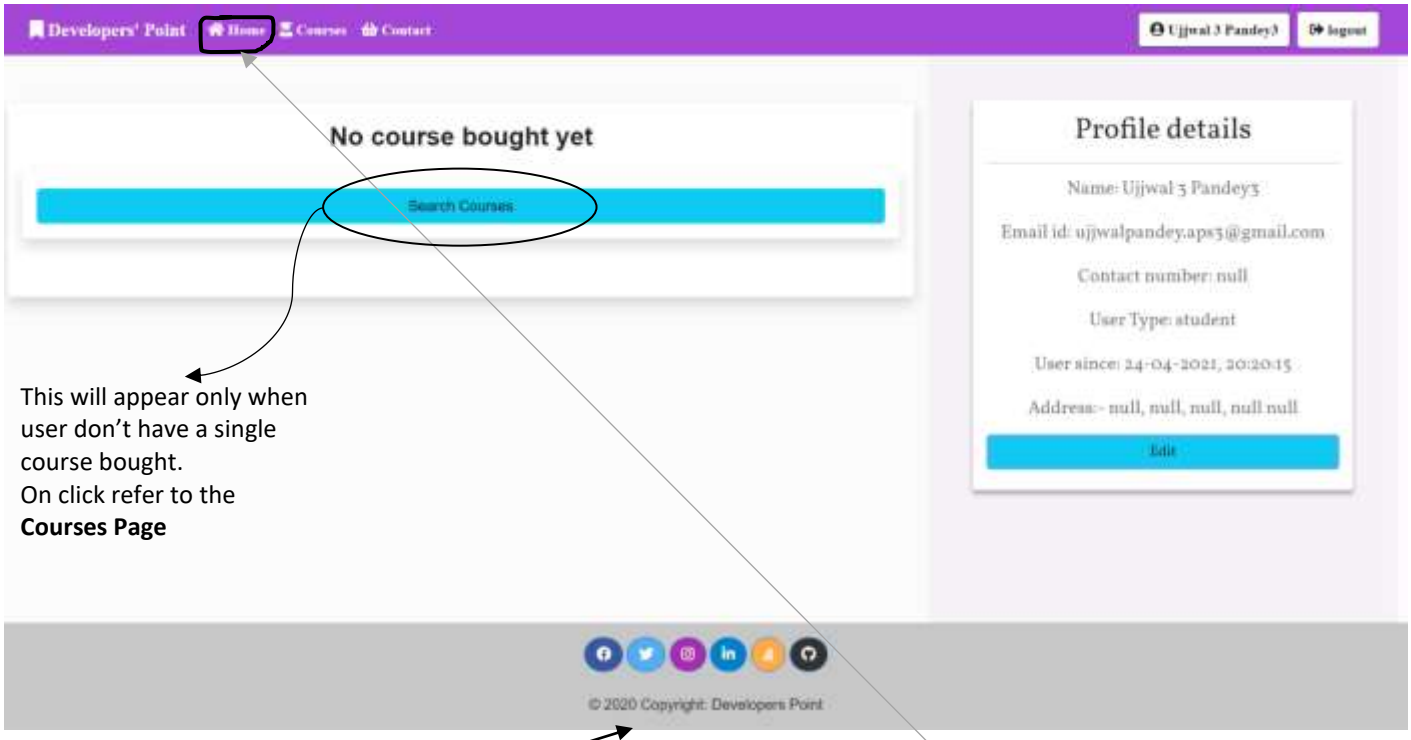
On successful registration user gets a mail.



Login Page/Form
To access main features a person should login.
Everyone (Student, faculty and admin)

Login Page/Form demo
Logging as a student

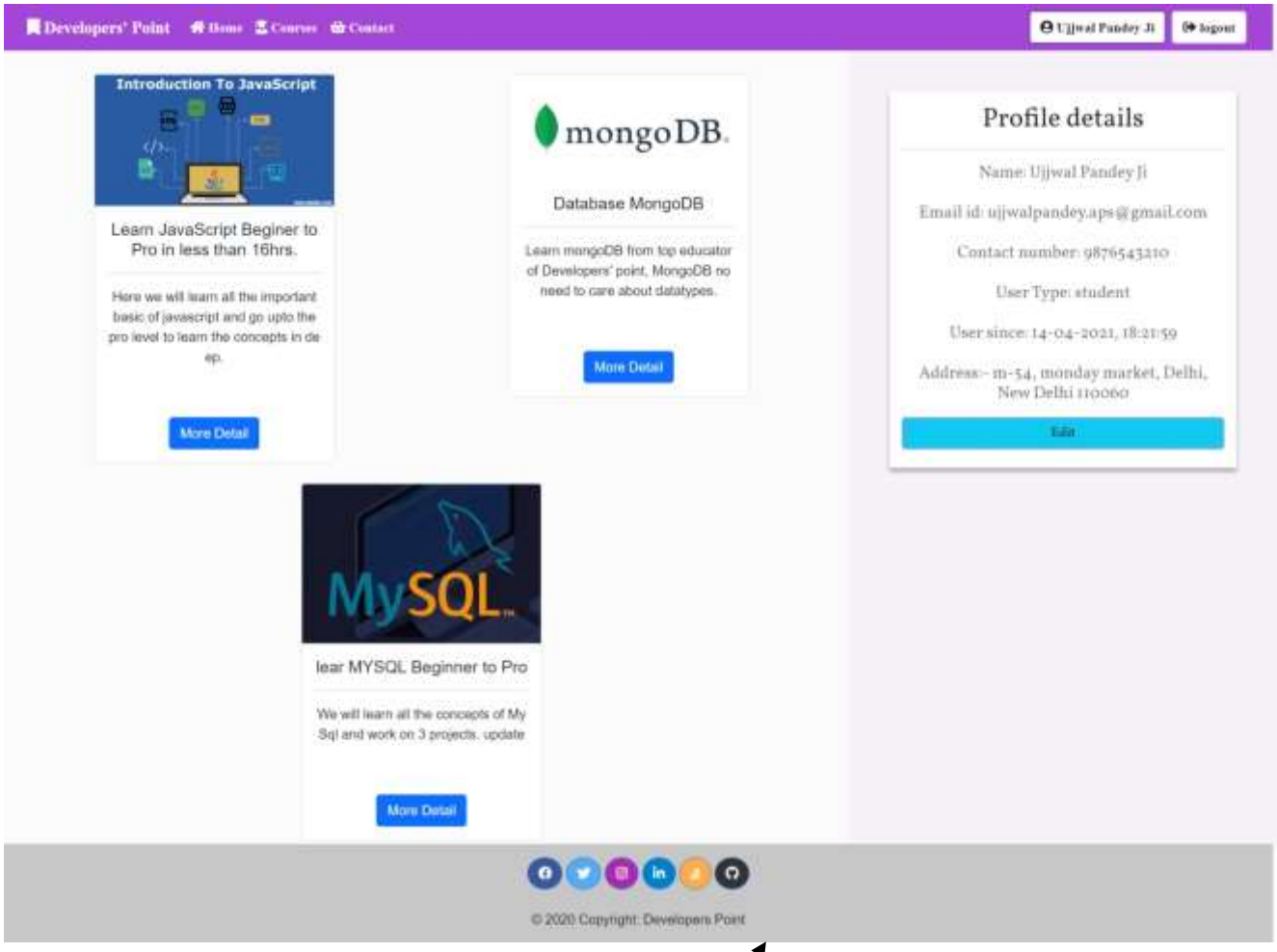




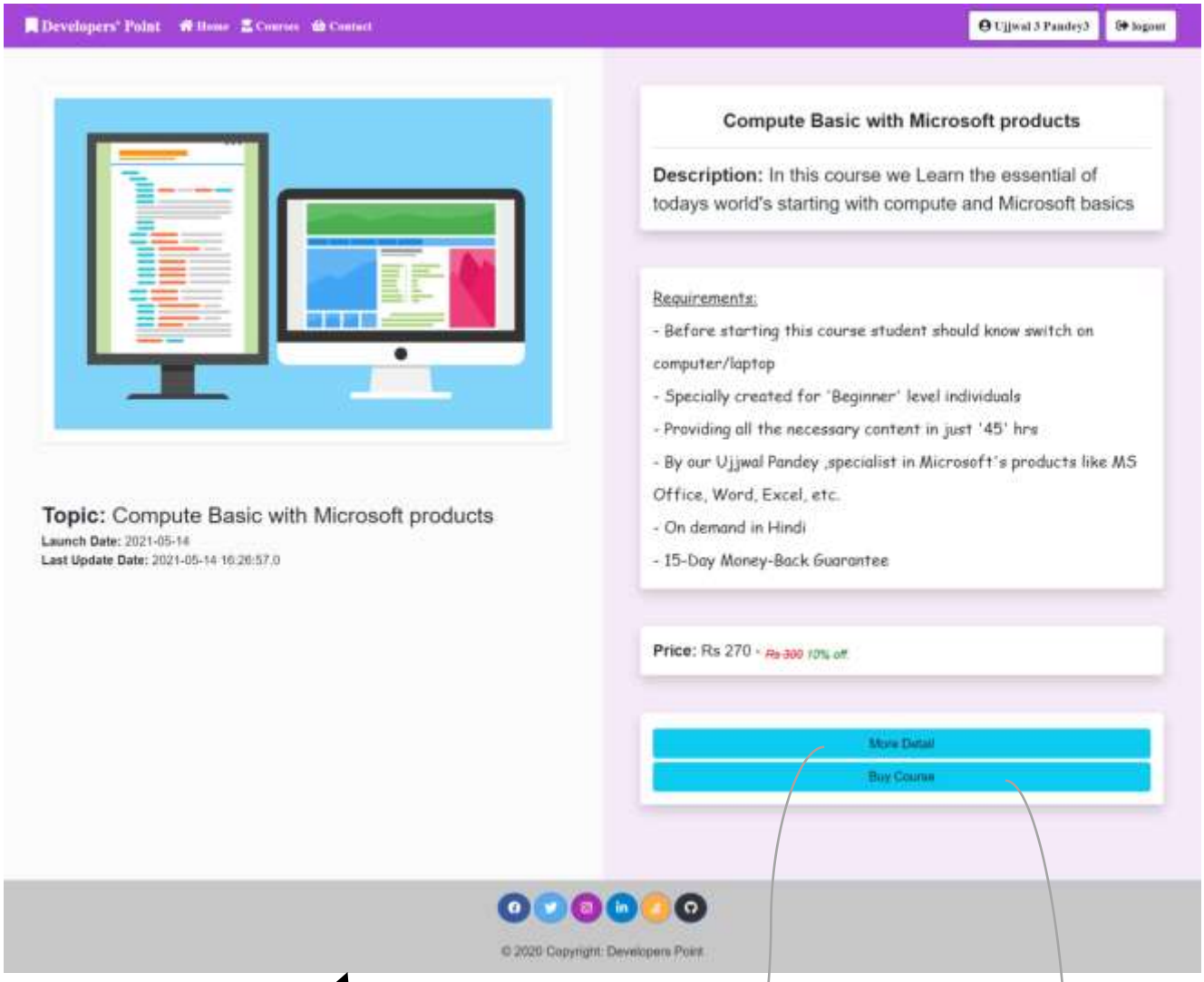
This will appear only when user don't have a single course bought.
On click refer to the **Courses Page**

'Home Page' of 'Student'
Logged in as student
When they haven't bought ay course

When logged in this button appears



The page after the user (student/faculty) has bought at-least one course

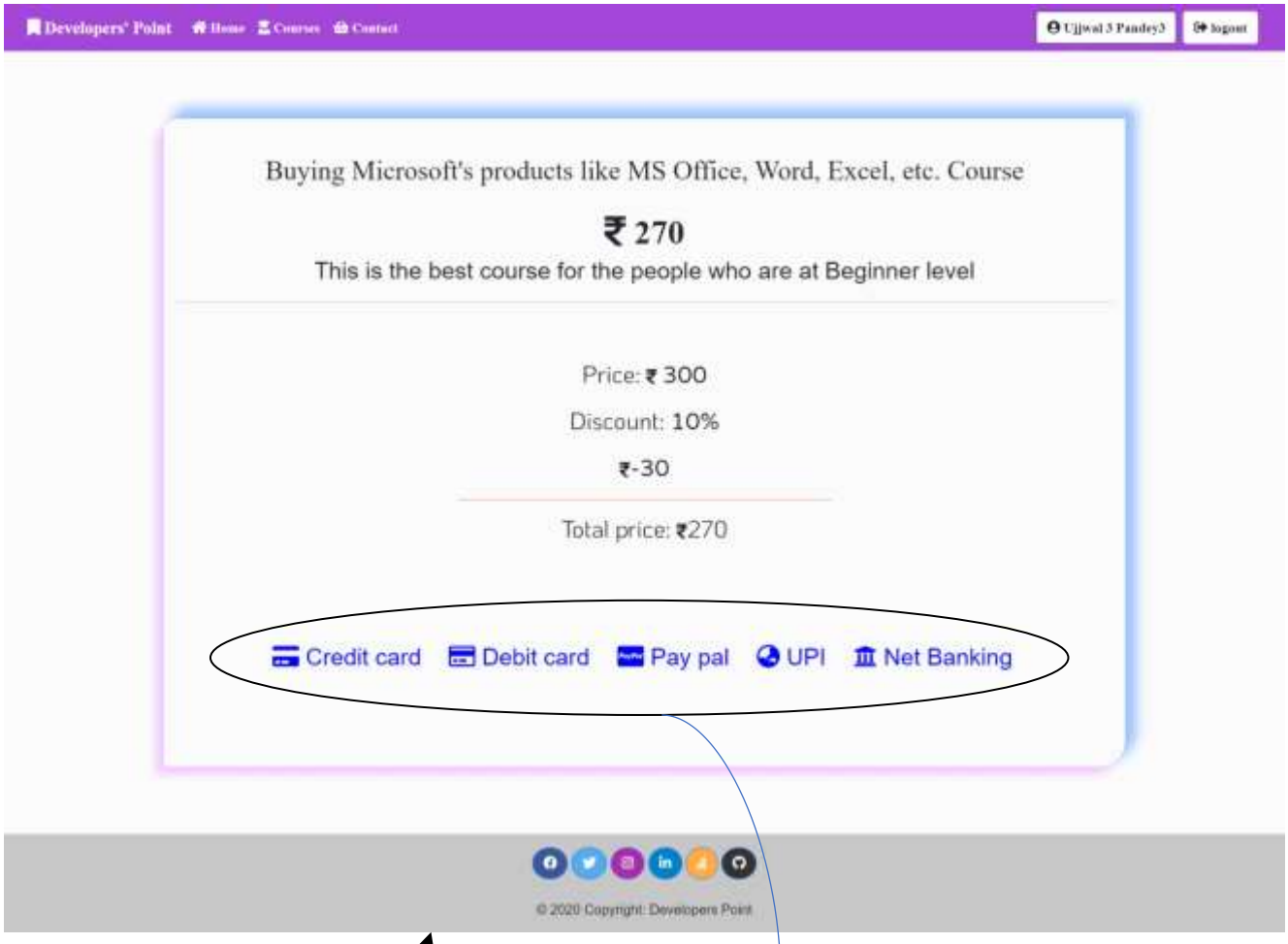


This button will take you to contact form. From where you can ask for any required detail and institute management team will refer you back

Course Details

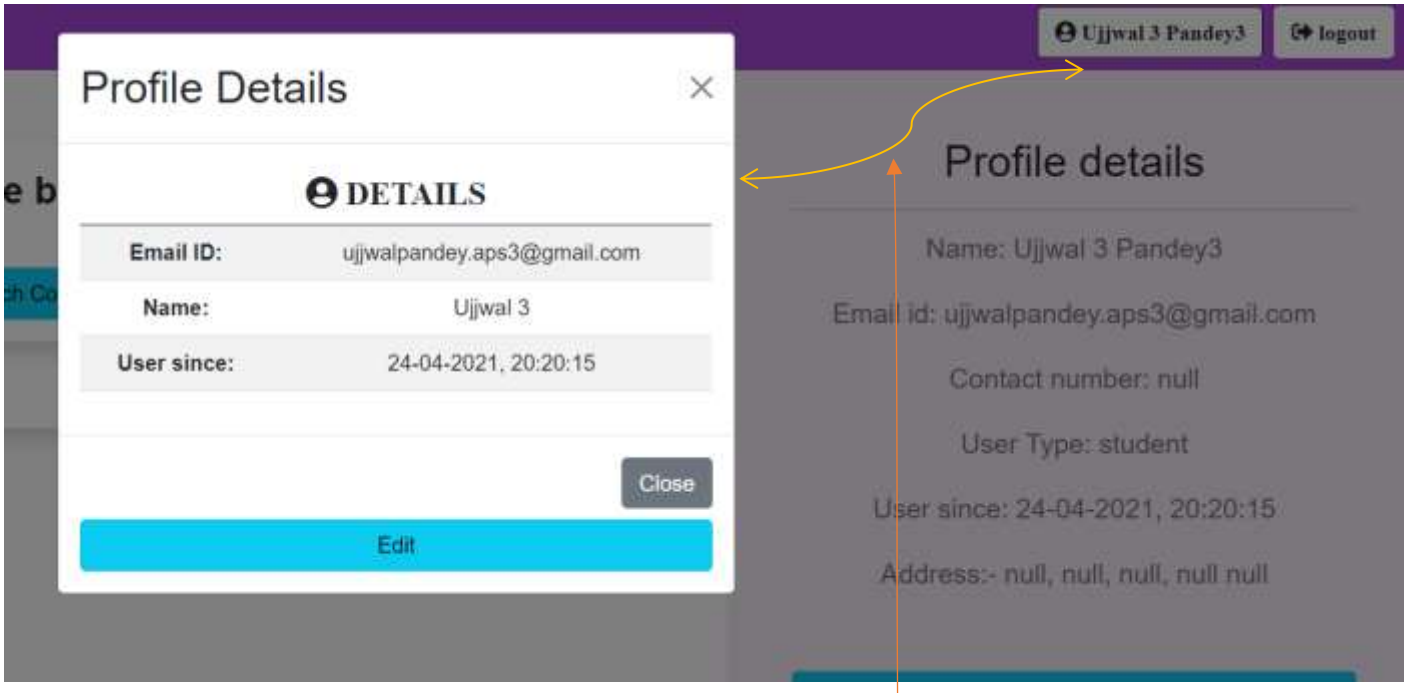
This page appears when a user clicks on view more details button of a courses card from all courses page

With this button you can buy the course by redirecting to payment gateway and pay they're with different means

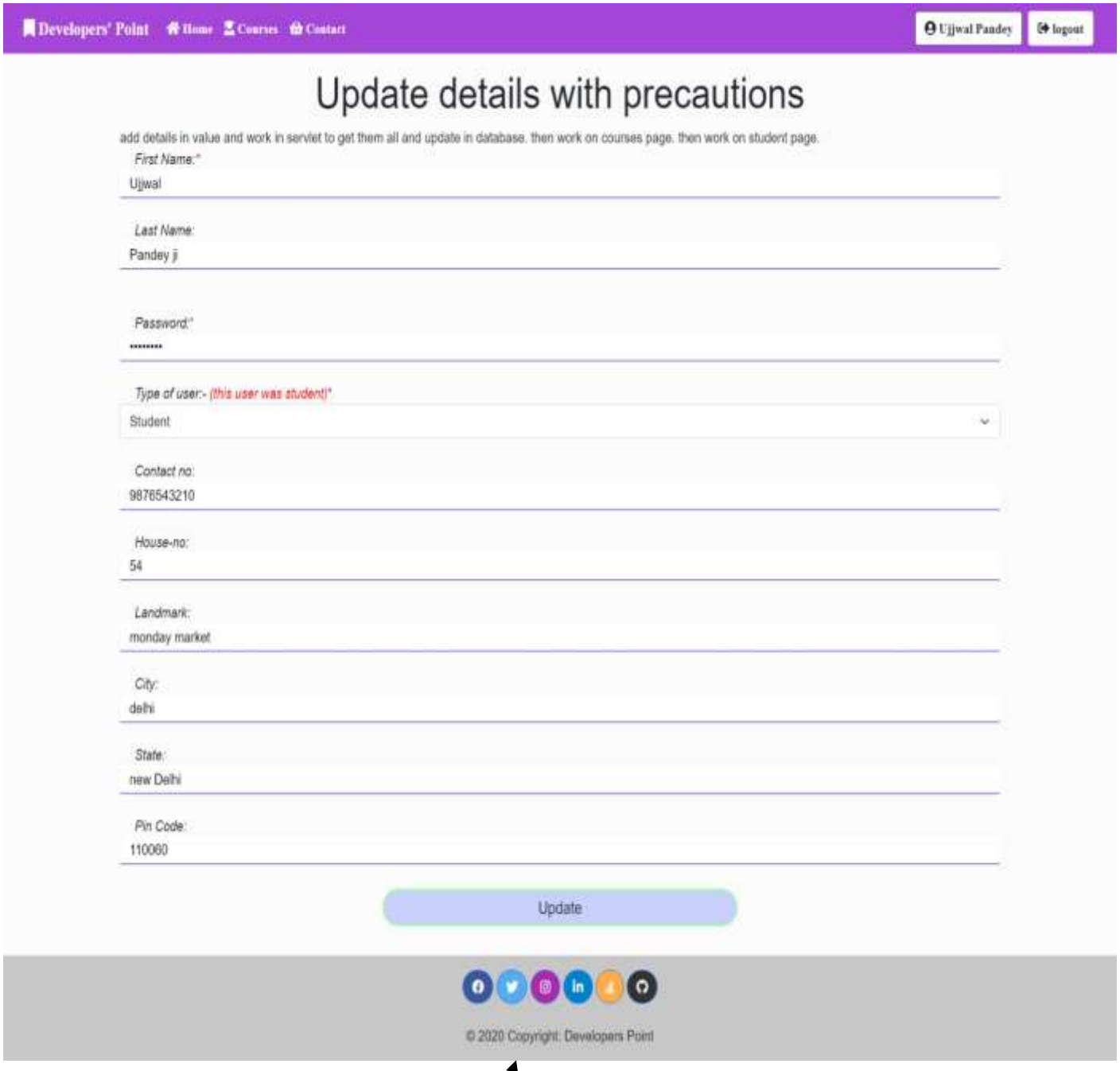


Payment Gateway
This page is designed to show you the details a buyer wants to see without any interference. This page have-five means of payment

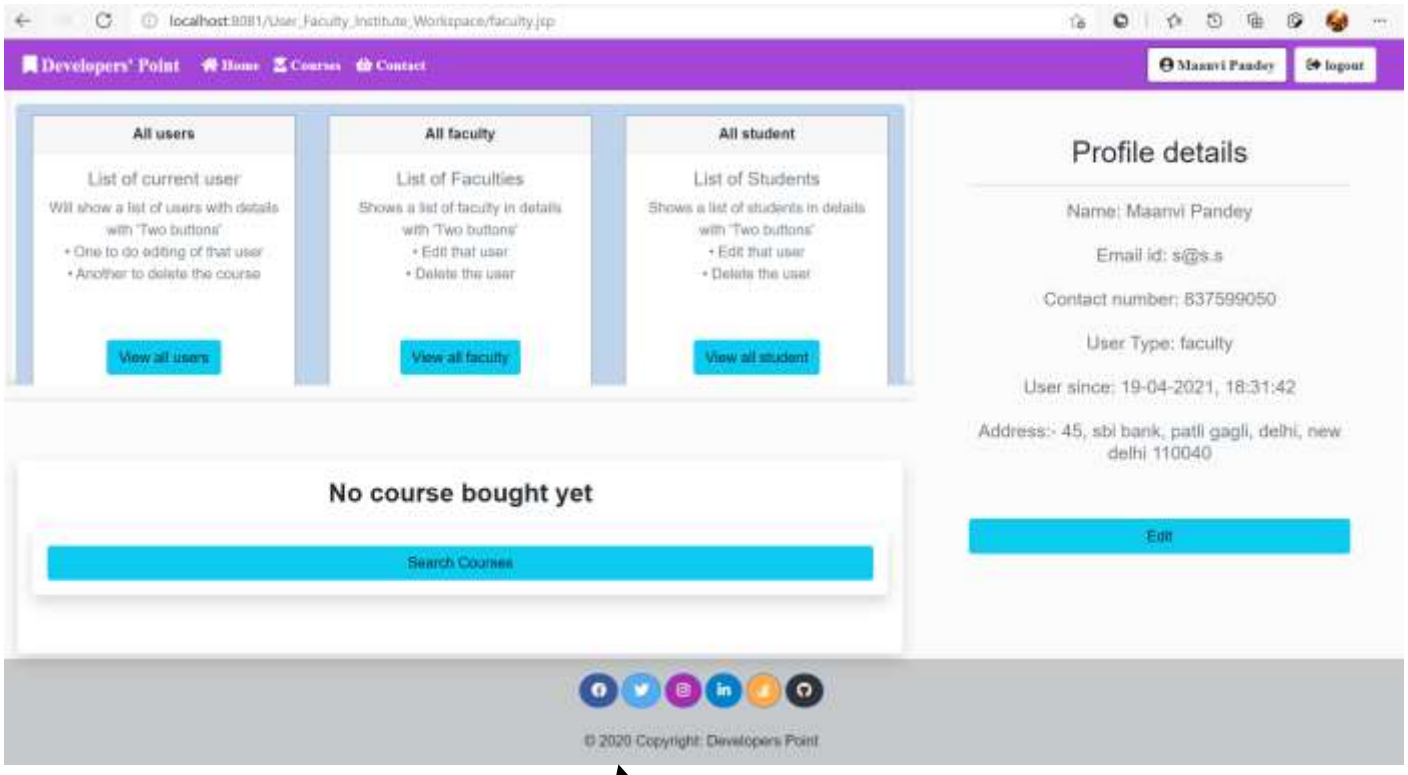
Payment Ways
All the payments proceeding are done in the same page, they opens' separate modals showing area to fill details



With this button on top-right corner,
On click it will open a model showing basic detail of a user and giving a button to update the profile details
Like the detail which is showing null fill it with real data

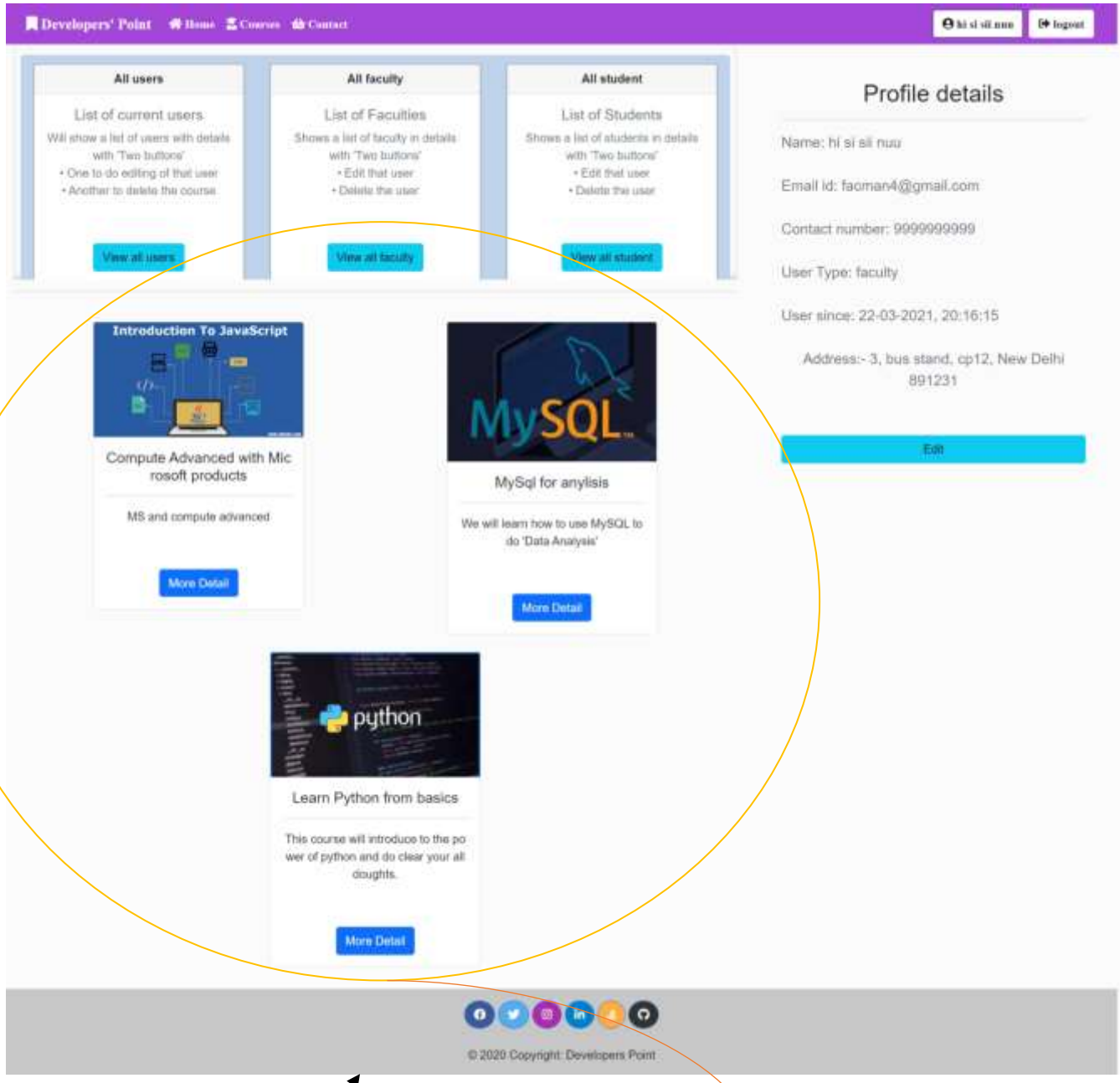


Updating profile page
(Dynamic page)
User can update its own profile here
It is an example too



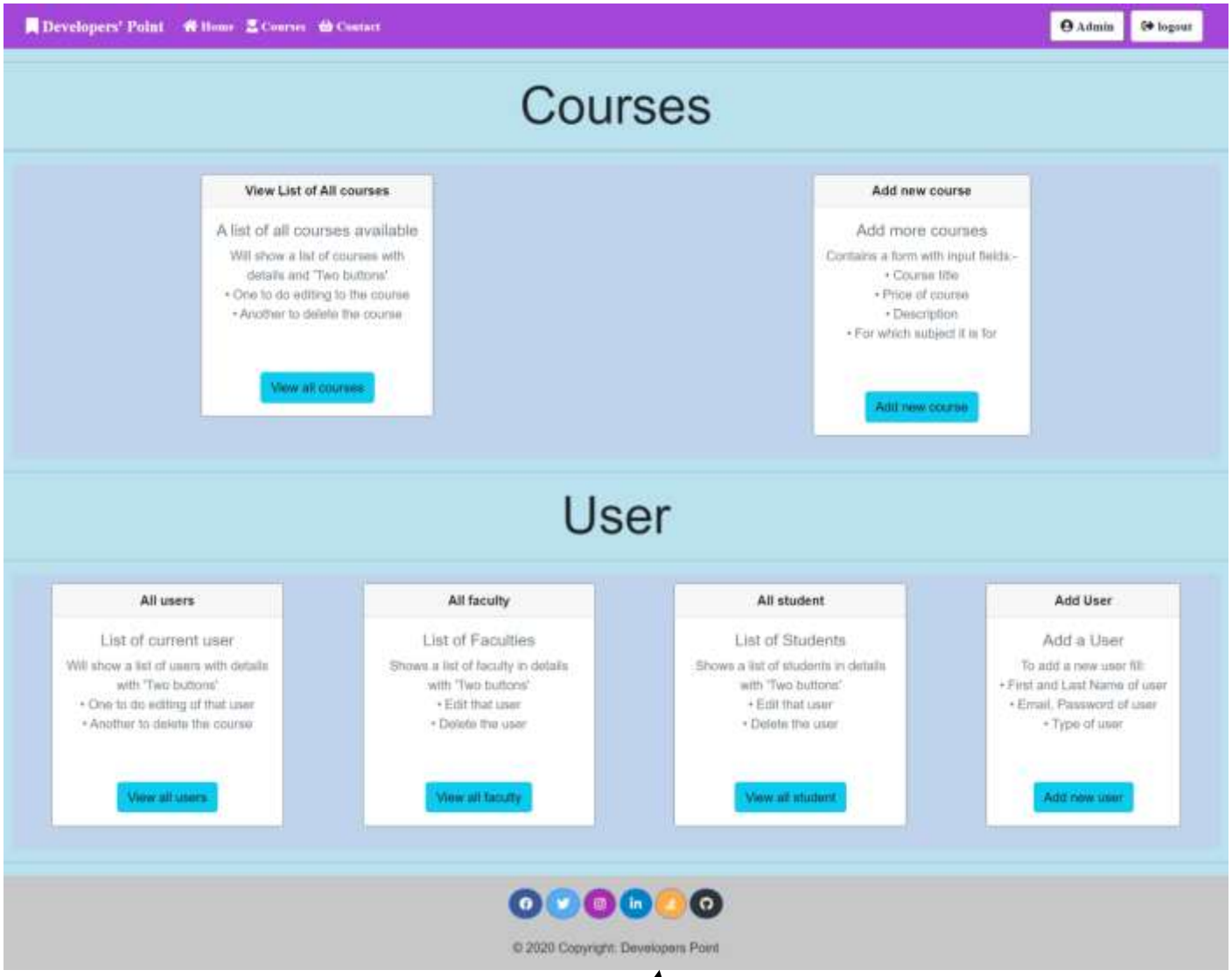
Faculty Home page
Logged in as Maanvi pandey

It is same as student page with extra **scrollable frame** of view others details.



Faculty Home page after courses has been bought

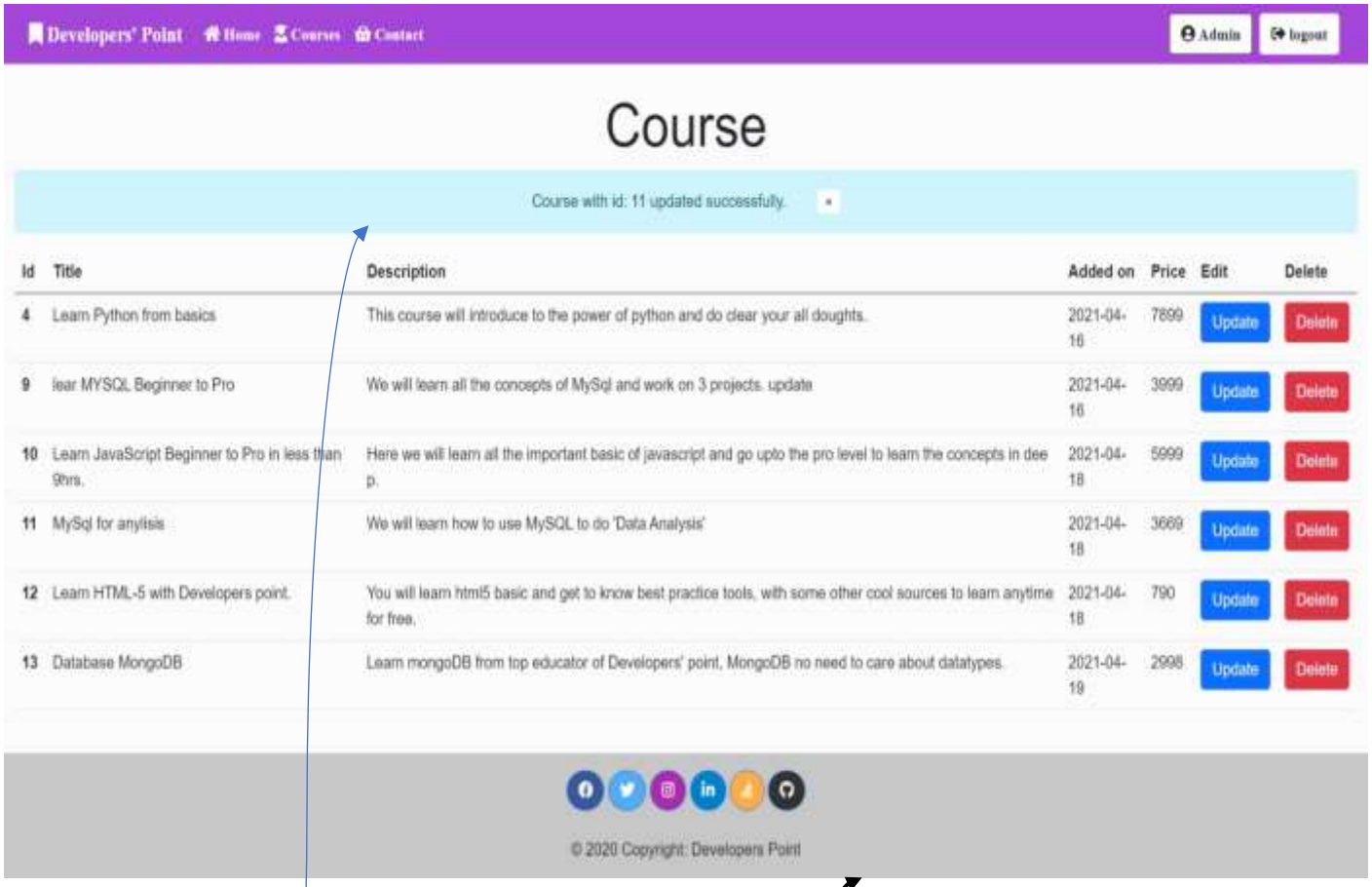
List of bought courses



An admin can do all the things specified in synopsis

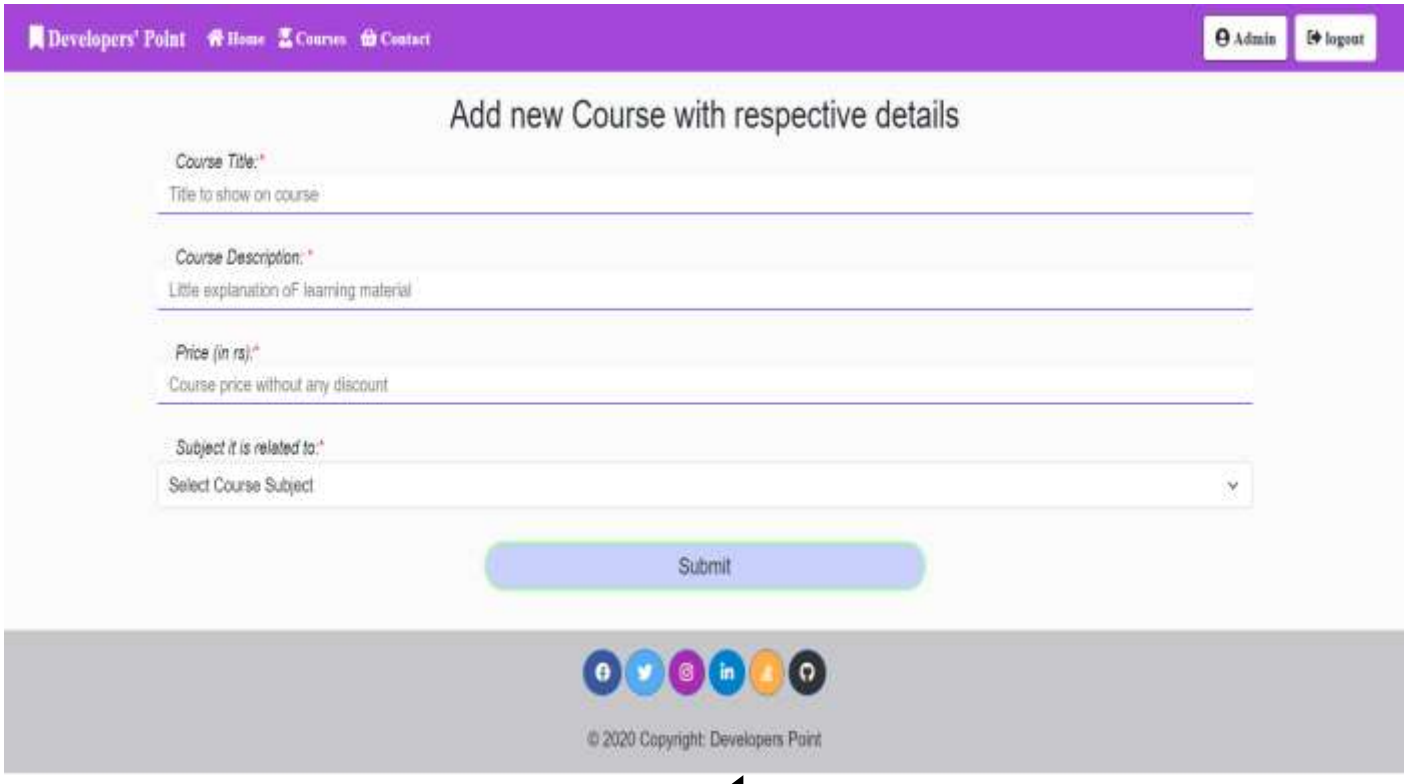
Admin Home page
Logged in as Admin

Completely different than students and faculties

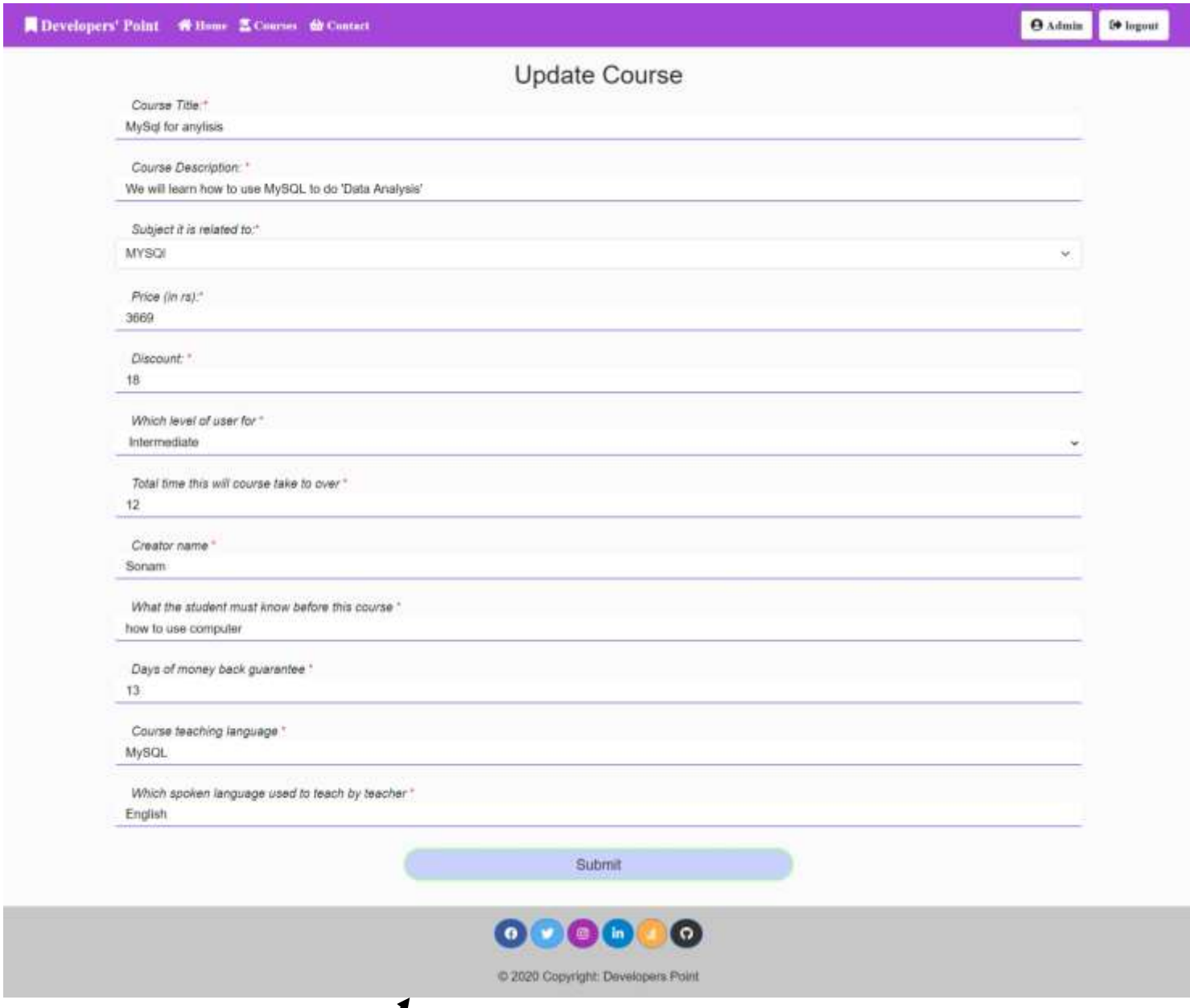


View all Courses Page
Admin can View the list of all the courses.
Admin can 'delete' and 'update' them also.

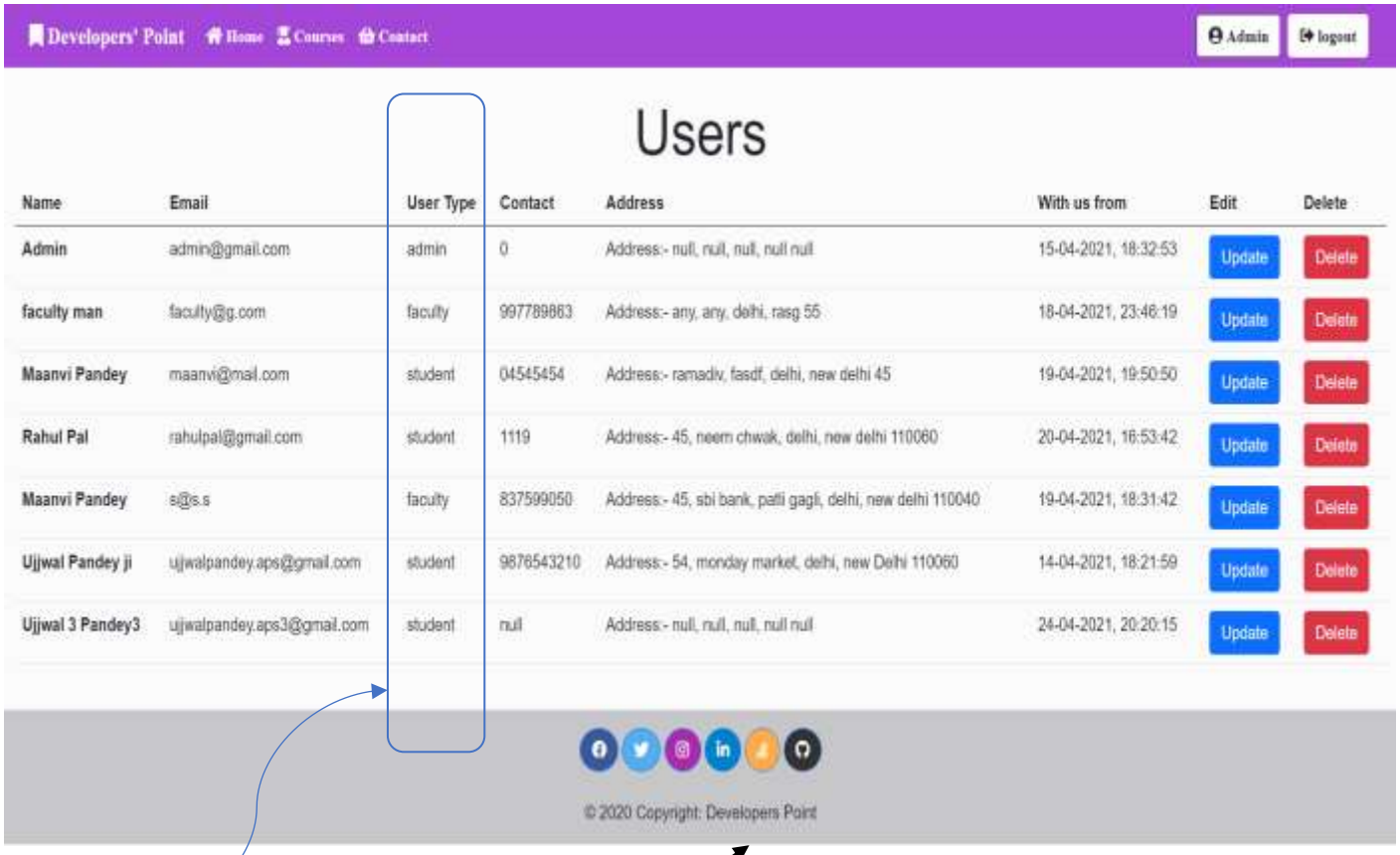
Blue line under word course will appear when admin has updated any course
Disappear after one time show



Add new Course Page
This page will allow admin to add new course at a time

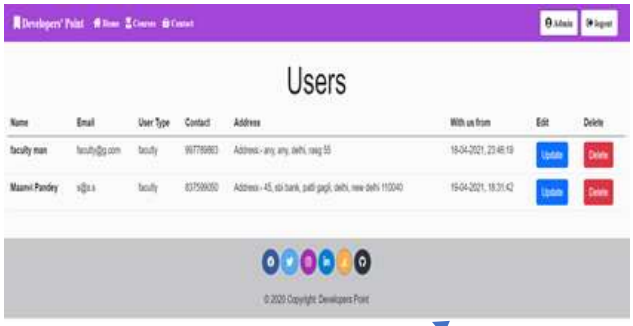


Update Course Details Page
This page will allow admin to View, edit any Course details

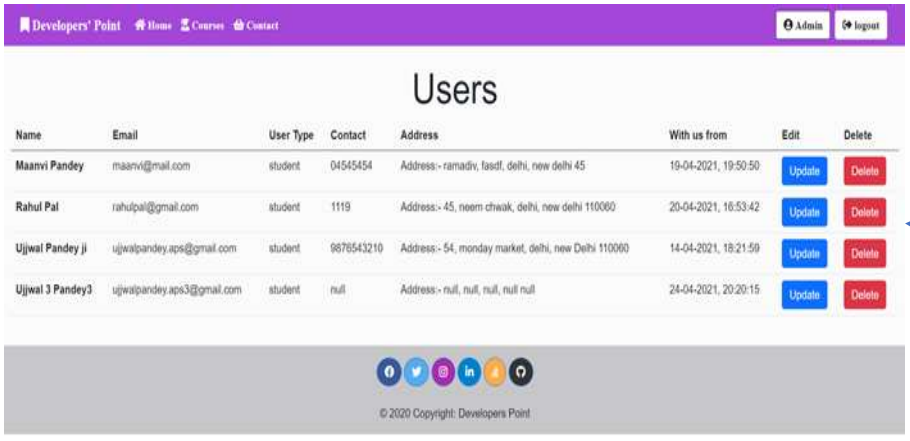


All type of users

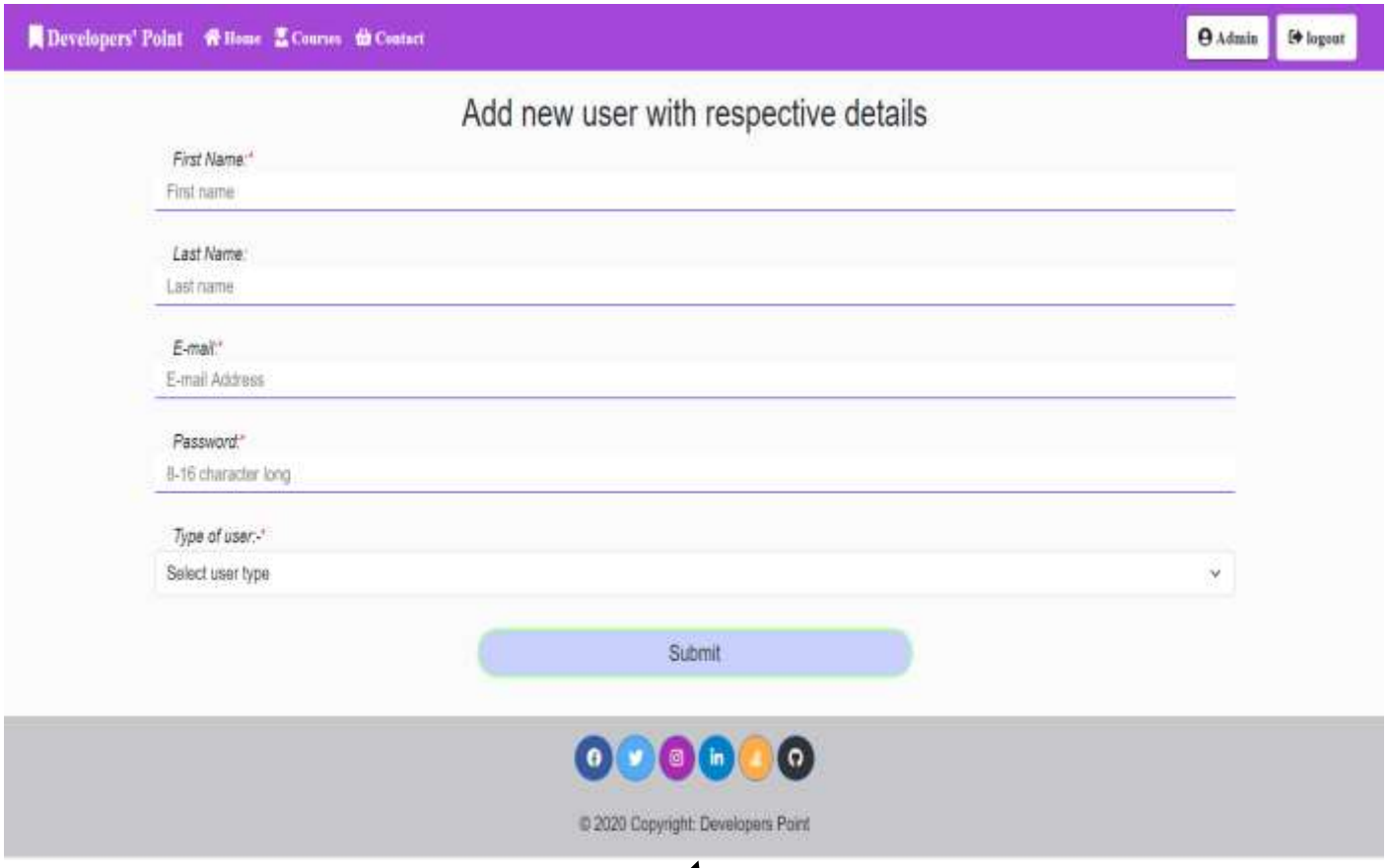
View all Users Page
This page will allow admin to View, edit and delete any user dynamically



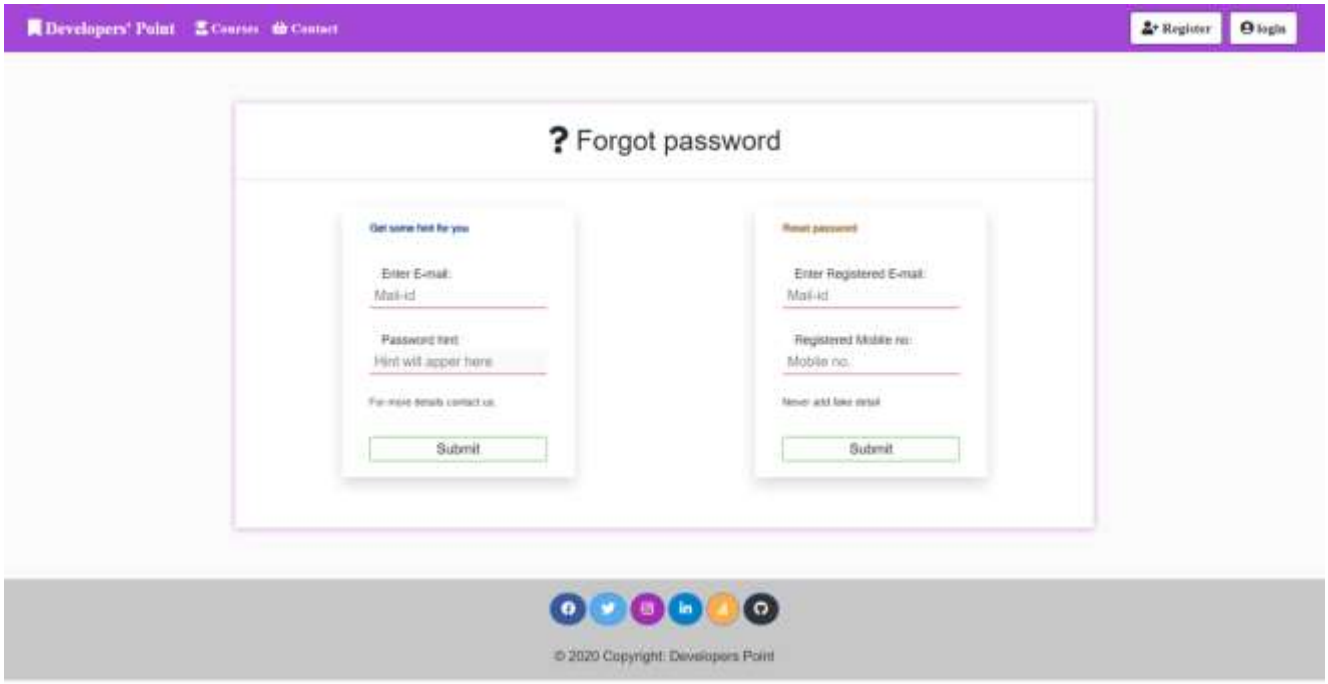
Only faculty



Only students



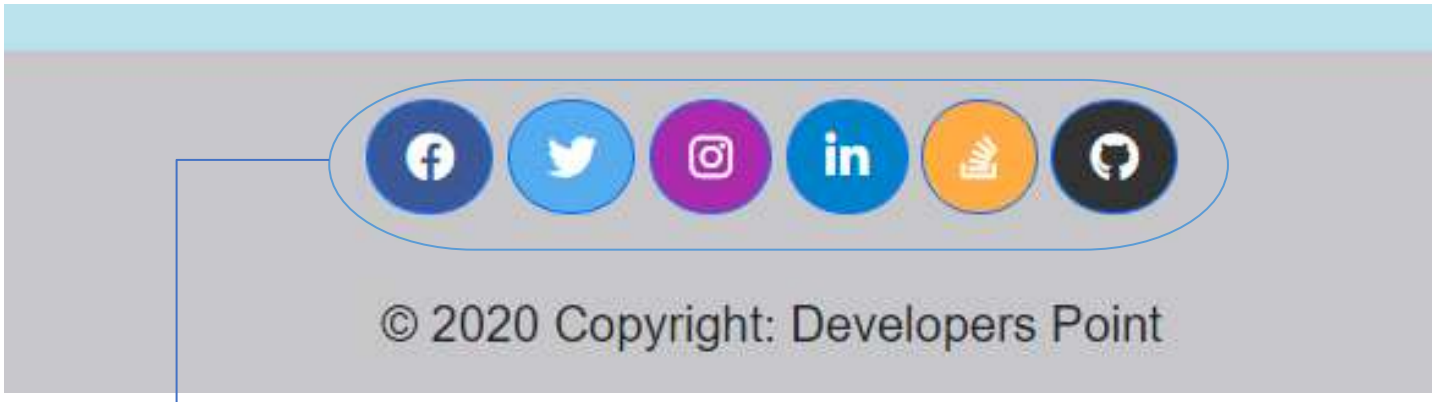
Add new User (by Admin) Page
This page will allow admin add new user and assign their role of student, admin or faculty



Forget Password page

This page has 2 finicalities,

1. Get some hint about password,
2. Receive a mail with the details



In Footer
In footer (available on each and every page) all these icons visible are not only icons they are click and referred to actual my profiles

BIBLIOGRAPHY

WEBSITEs **used to get help while creating projects –**

1. www.google.com
2. http://www.microsoft.com/en-in/download/
3. https://www.javatpoint.com/mysql-tutorial
4. https://app.creately.com/diagram/IZYu0470DJu/edit
5. https://lucid.app/lucidchart/9e136d93-4545-4cd1-b26f-8bb69ac6484d/edit?beaconFlowId=E7D9D2D1265439AA&page=0_0#
6. Many channels and videos from youtube.

Referenced Books

1. All books of NIIT (I am a student of NIIT). They taught me:
    a. Core java
    b. Advanced java
    c. RWD
    d. RDBMS
    e. MYSQL
    f. JSP
    g. HIBERNATE
2. IGNOU Blocks

referenced books (SQL Server 2005)–

1. Leonard Lobal, *Andrew J. Brust, Stephen Forte, Programming Microsoft SQL Server 2005 (Pro Developer),* 29 Oct 2008
2. Robert Vieira, *Professional Microsoft SQL Server 2005 Programming,* 23 Aug 2009
3. IGNOU Blocks