INSTITUTE FOR ADVANCED COMPUTING AND SOFTWARE DEVELOPMENT AKURDI, PUNE

Documentation On

"GuruFinder" – A tutor finding application

PG-DAC SEPT 2022

Submitted By:

Group No: 24

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Project Guide

Mr. Rohit Puranik
Centre Coordinator

ABSTRACT

GuruFinder is a platform that connects students with tutors for one-on-one or group tutoring sessions.

This application typically allows students to search for tutors based on subject matter, availability and price. Students can also view tutor profiles that include information about the tutor's experience, education. The application has a user-friendly interface that allows students to easily browse and compare different tutors.

This platform also allows tutors to create profiles and showcase their qualifications, experience, and teaching style. Tutors can set their own fees and availability.

Overall, this application provides a convenient and reliable way for students to find qualified and experienced tutors who can help them achieve their academic and personal goals.

ACKNOWLEDGEMENT

We would like to express our sincere gratitude to everyone who has contributed to the completion of our project.

First and foremost, We would like to thank our project guide **Mrs. Megha Mane** for their constant guidance and support throughout the project. We extend our sincere thanks to our respected Centre Co-Ordinator **Mr. Rohit Puranik**, for allowing us to use the facilities available.

We would also like to express our appreciation to the faculty members of our department for their constructive feedback and encouragement. Their insights and suggestions have helped us to refine our ideas and enhance the quality of our work.

Furthermore, we would like to thank our families and friends for their unwavering support and encouragement throughout our academic journey. Their love and support have been a constant source of motivation and inspiration for us.

Thank you all for your valuable contributions to our project.

Runesh Gazane (229031)

Saurav Patil (229086)

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INTRODUCTION

GuruFinder is a modern web-based platform designed to connect students with qualified tutors who can help them improve their academic performance. In today's competitive academic environment, many students need extra help to succeed in their studies, and finding the right tutor can be a challenging task. The Tutor Finding Application aims to make this process easier by providing a user-friendly interface that allows students to search for tutors based on their stream, subject and level.

This application is designed to cater to a wide range of students, from elementary school to postgraduate level, across various disciplines. It offers a comprehensive platform for both students and tutors to create profiles. The application provides tutors with the opportunity to showcase their qualifications, experience, and teaching style, while students can choose the tutor who best meets their learning needs.

This application is a one-stop solution that simplifies the process of finding the right tutor. It is designed to provide a seamless and efficient experience for both students and tutors, helping them to achieve their academic goals. With this application, students can easily access the support they need to succeed in their studies, and tutors can reach out to a wider audience to offer their services.

Features: -

1. Secure Sign-in and Sign-up (JWT)
2. Encrypted Password
3. Captcha while login
4. Search courses by keyword (stream, subject or level)
5. Tutor verification done by admin after complete tutor registration
6. Date and time of course enrollment will be notified by the system
7. The admin can verify or delete tutor

1.1 PROJECT OBJECTIVE

GuruFinder aims to provide a seamless and efficient way for students to find the best tutors to enhance their academic performance while also offering tutors an opportunity to reach out to   wider audience to offer their services.

1.2 PROJECT SCOPE

GuruFinder will allow students to outlook and subscribe to various courses. Tutors will be able to offer several courses according to their proficiency. Admin will be able to manage students and tutors and to approve registration of new tutors.

1.3 STUDY OF THE SYSTEM

1.3.1 MODULES:

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

The modules involved are:

- Administrator
- Tutor
- Student

2.1 SYSTEM REQUIREMENT SPECIFICATION

2.1.1 TITLE :

System Requirement Specification for GuruFinder

2.1.2 OBJECTIVE (PURPOSE) :

GuruFinder aims to provide a seamless and efficient way for students to find the best tutors to enhance their academic performance while also offering tutors an opportunity to reach out to a wider audience to offer their services.

2.1.3 SCOPE :

GuruFinder will allow students to outlook and subscribe to various courses. Tutors will be able to offer several courses according to their proficiency. Admin will be able to manage students and tutors and to approve registration of new tutors.

2.1.4 SYSTEM REQUIREMENTS

2.1.4.1 FUNCTIONAL REQUIREMENTS

i. Admin:

- Login: Admin can login with usage of designated credentials.
- Manage Tutor: Admin can delete/approve the records of tutors
- Dashboard: Admin will be able to view live statistics of tutors, students and courses enrolled.

ii. Parents/Students:

- Registration: Students can register and obtain credentials.
- Login: Students can login with usage of designated credentials.
- View/Subscribe: Students can view or subscribe for courses.
- View Enrolled courses: Student can view the courses forn which he/she enrolled.

iii. Tutors:

- Registration: Tutor can register and obtain credentials.
- Login: Tutor can login with usage of designated credentials.
- Add Courses: Tutor will be able to add courses respective to specific domain.
- View/Access Courses: Tutor will be able to view/update/remove posted courses.
- View Enrolled Students: Tutor will be able to view all enrolled students

2.1.4.2 NON-FUNCTIONAL REQUIREMENTS

- **Security**

Each user will be able to access system through authentication process. System will provide access to the content , operations using role based security (Authorization). Sensitive data will be always encrypted across communication.

- **Reliability**

The system will backup business data on regular basis and recover in short time duration to keep system operational. Continuous updates are maintained , continuous administration is done to keep system operational.

- **Availability**

uptime: 24* 7 available 99.999%

- **Portability**

PDA: Portable Device Application System will provide portable User Interface (HTML, CSS, JS) through users will be able to access GuruFinder. System can be deployed to single server, multi server, to any OS

- **Accessibility**

Only registered students will be able to opt a tutor after authentication.

- **Efficiency**

At the starting of new academic year, maximum number of students/parents can search for tutors with same response time. System will be able to manage all sessions with isolation.

- **Modularity**

System will designed and developed using reusable, independent or dependent business scenarios in the form of modules. These modules will be loosely coupled and highly cohesive.

- **Scalability**

System will be able to provide consistent user experience to stake holder as well as visitors irrespective of load.

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 is a very important phase since the output needs to be in an efficient manner. Efficient and intelligible output design improves the system relationship with the user and helps in decision making. Allowing the user to view the sample screen is important because the user is the ultimate judge of the quality of output. The output module of this system is the selected notifications.

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:

React is a library which is developed by Facebook are utilized to implement the frontend. React (also known as React.js or ReactJS) is a free and open-source front-end JavaScript library for building user interfaces or UI components. It is maintained by Facebook and a community of individual developers and companies. React can be used as a base in the development of single page or mobile applications. However, React is only concerned with state management and rendering that state to the DOM, so creating React applications usually requires the use of additional libraries for routing, as well as certain client-side functionality.

3.3.2 BACKEND:

Spring-Boot:

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.

3.3.3 Database:

MySQL is used to design databases.

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.

UML Diagrams:

E-R Diagram

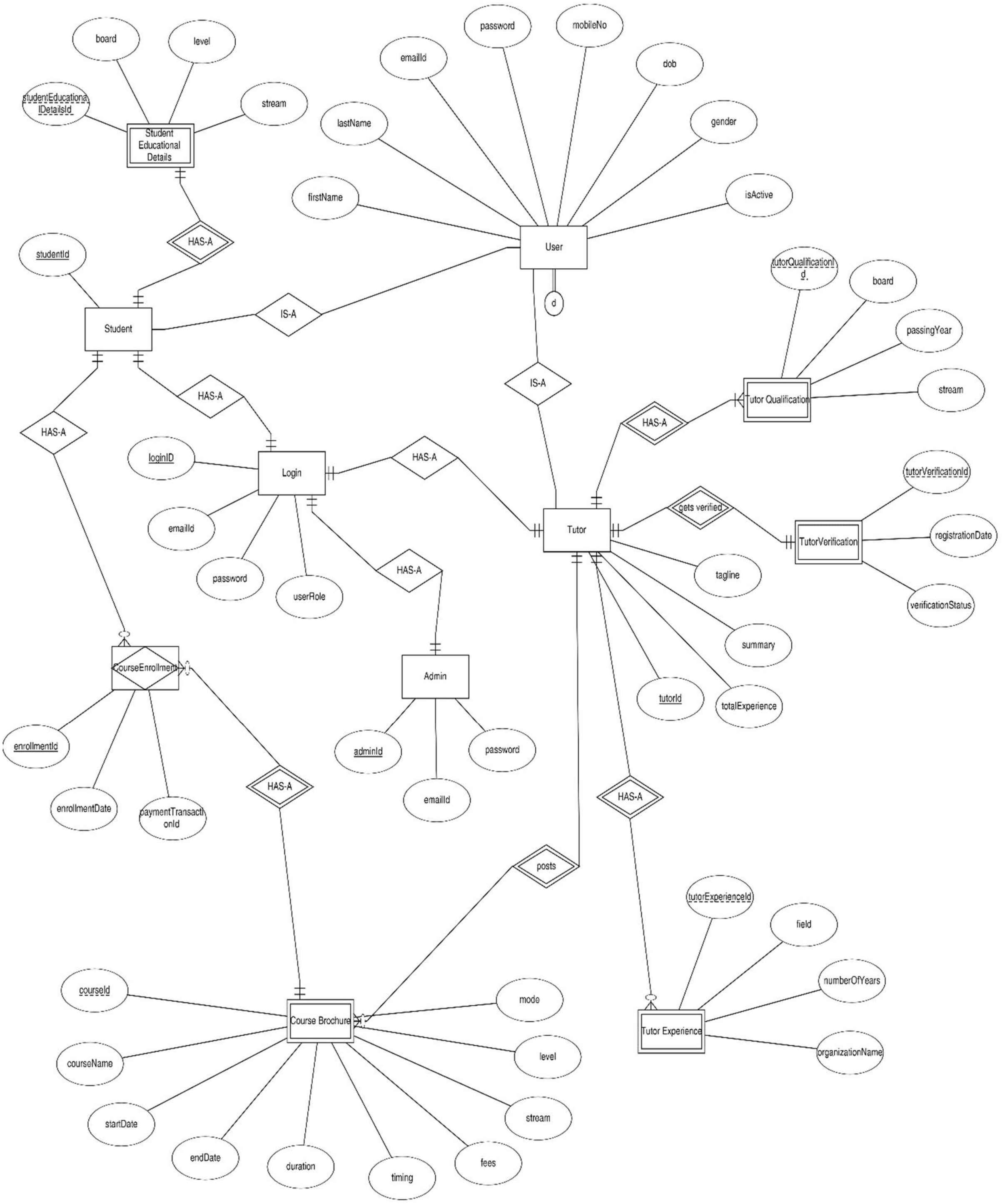


Figure 1- ER Diagram

Auto-Generated E-R:

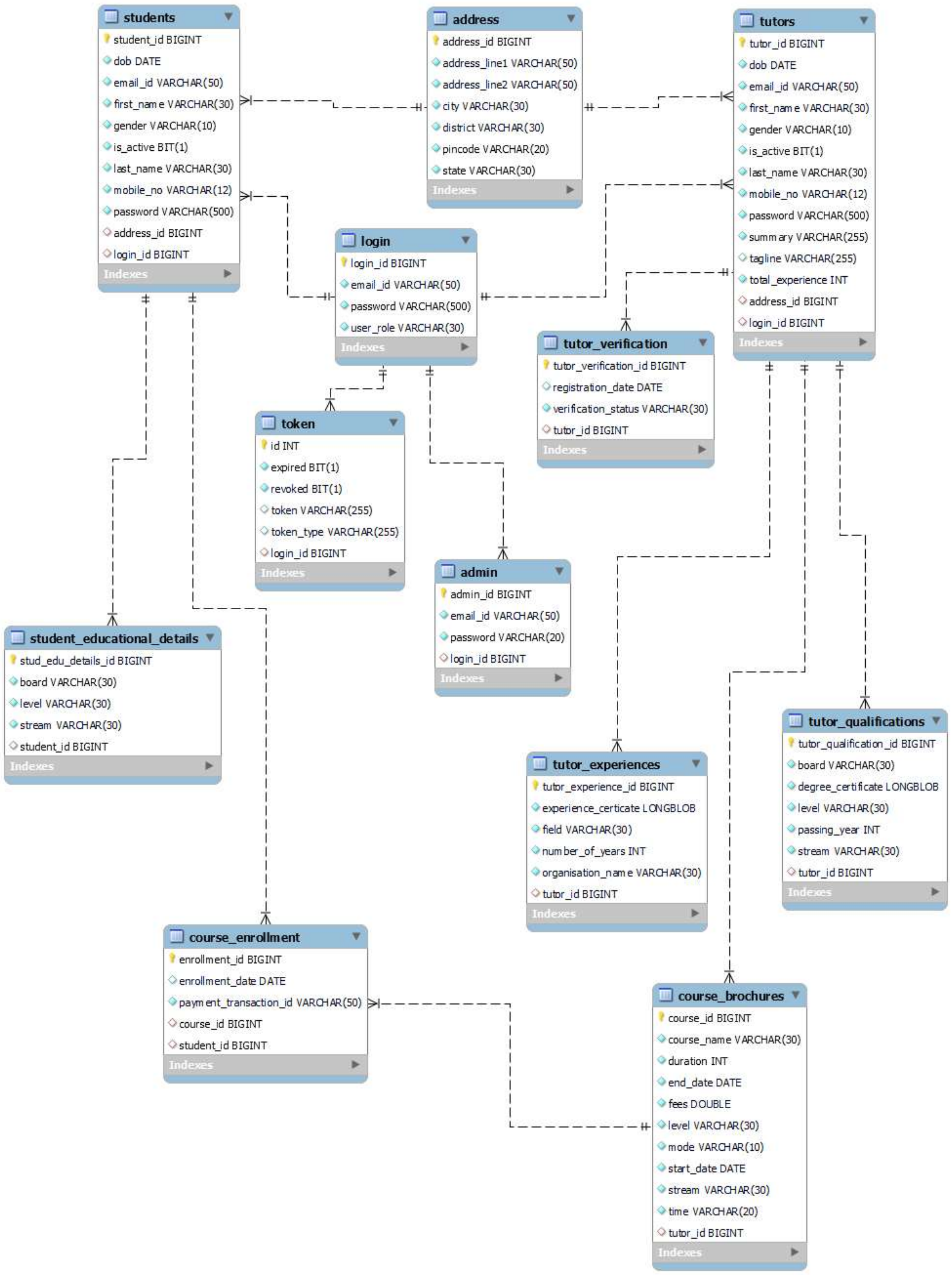


Figure 2- AdAuto-generated ERD

USE CASE DIAGRAMS :

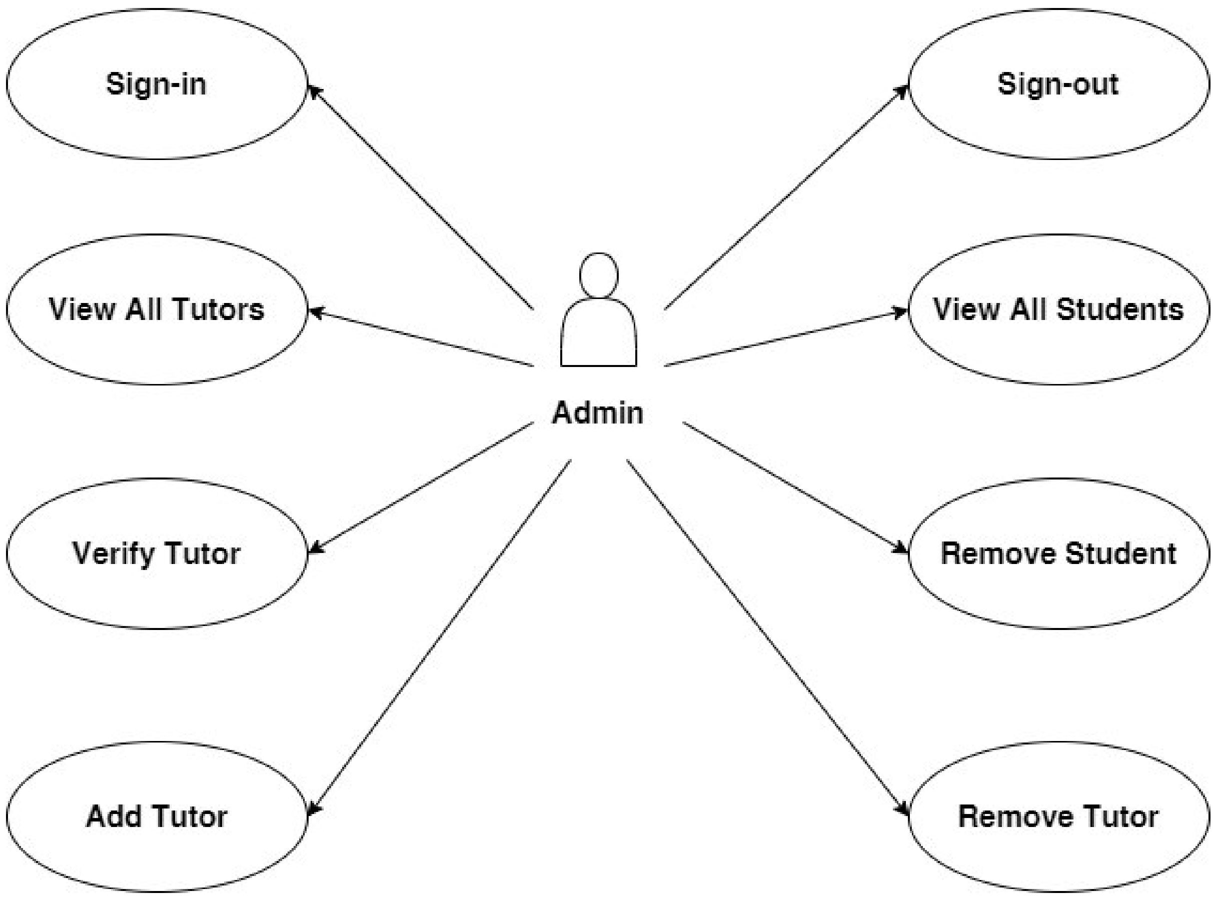


Figure 3- Admin Use Case Diagram

- Sign-in / Sign-out:
  Admin can Sign-in to admin dashboard and Sign-out from admin dashboard

- View All Students:
  Admin can view all students

- View All Tutors
  Admin can view all tutors

- Verify Tutor and Add Tutor
  Admin can verify the newly registered tutors and able to accept or reject to add tutor

- Remove Tutor
  Admin can remove tutor

- Remove Student
  Admin can remove student

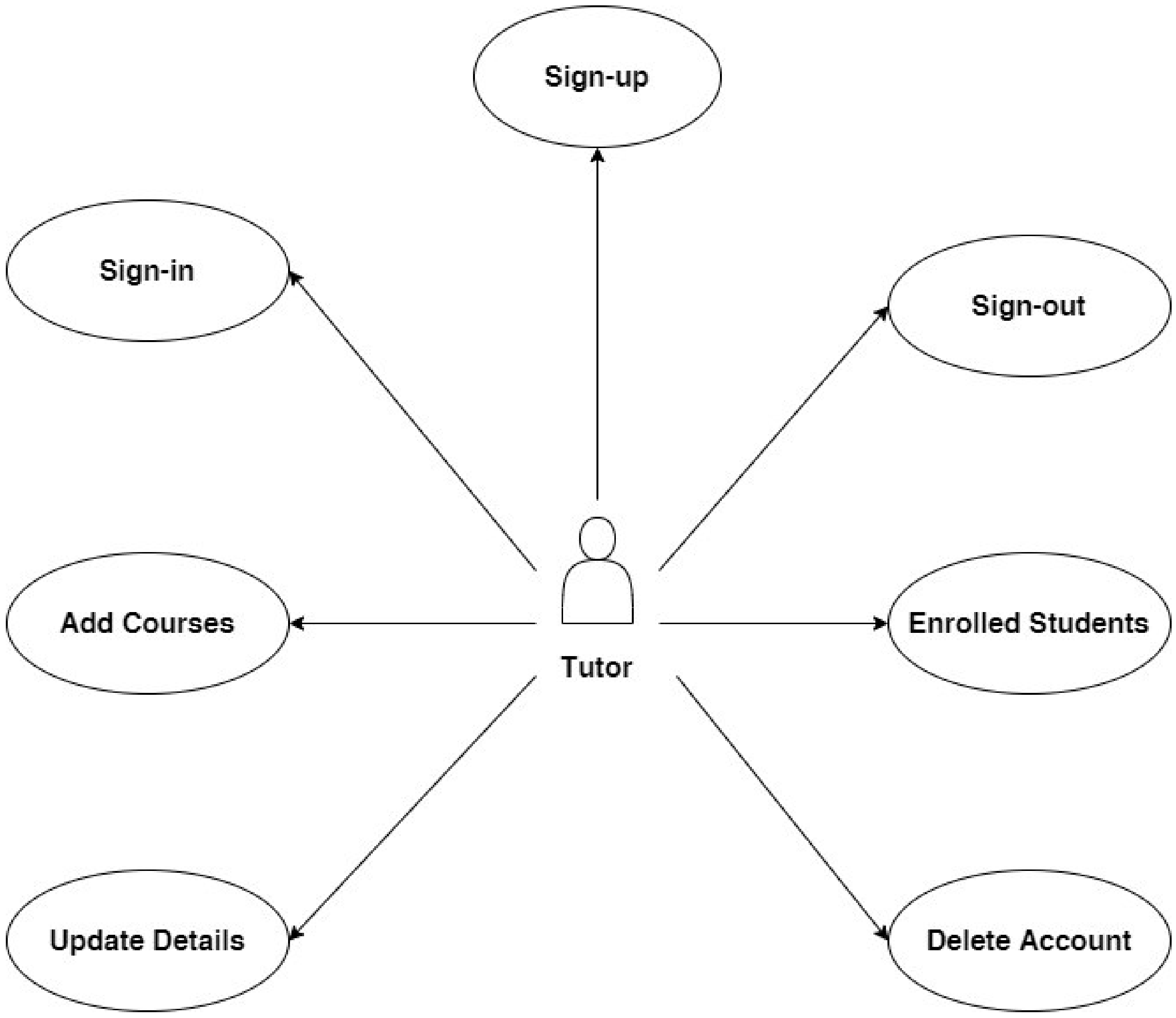


Figure 4- Tutor Use Case Diagram

- Sign-up:
  Tutor can register / create an account by entering basic details, address details, qualification details, experience details

- Sign-in / Sign-out:
  Tutor can Sign-in to Tutor dashboard and Sign-out from Tutor dashboard

- View Enrolled Students:
  Tutor can view students who enrolled to their courses

- Add Courses
  Tutor can add courses

- Update Details
  Admin can update details

- Delete Account
  Admin can delete account

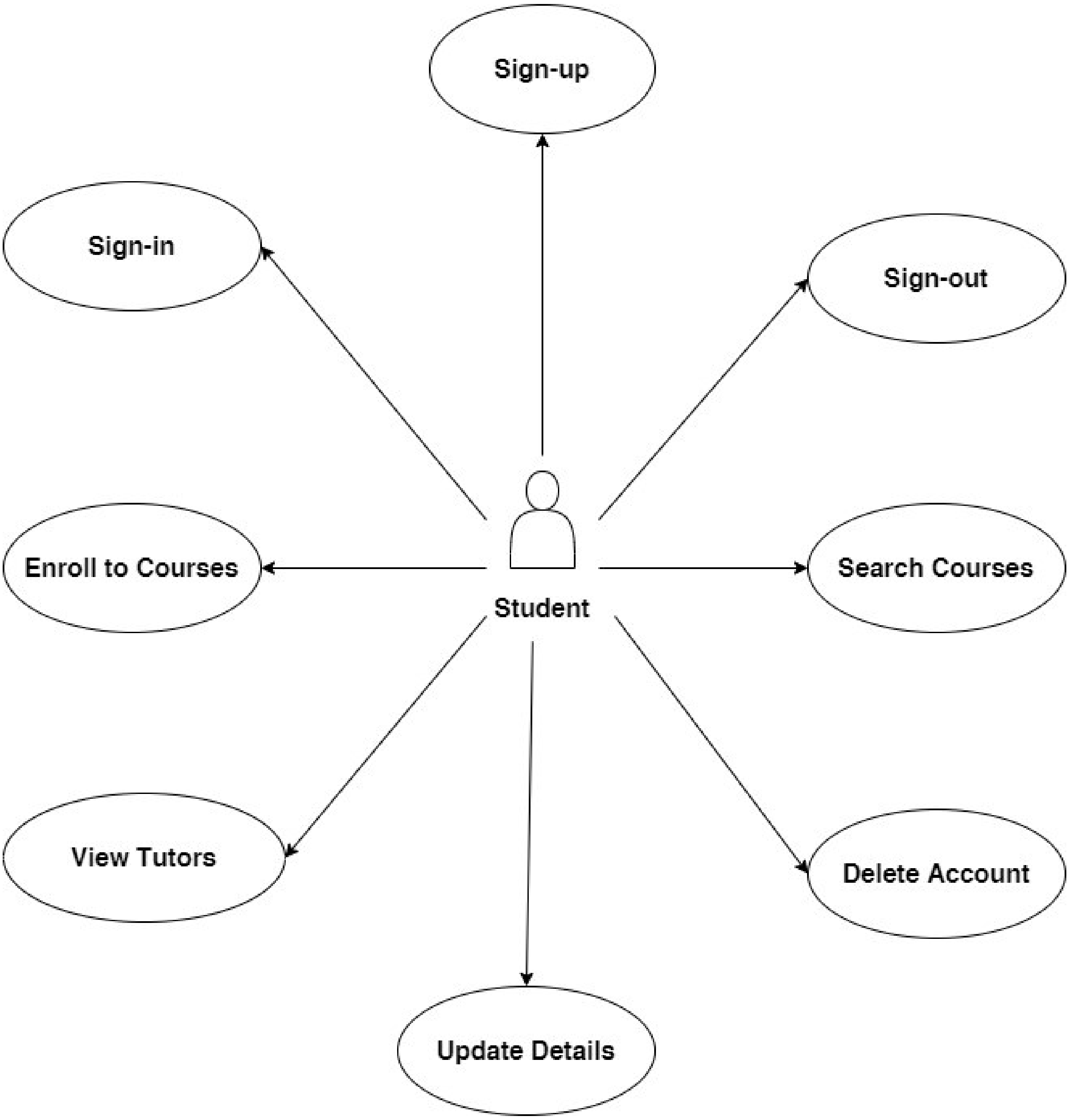


Figure 5- Student Use Case Diagram

- Search Courses:
  Student can search courses by keyword (any from stream, subject and level) without Signing in

- Sign-up:
  Student can register / create an account by entering basic details, address details, educational details

- Sign-in / Sign-out:
  Student can Sign-in to student dashboard and Sign-out from student dashboard

- Enroll to Course:
  Student can enroll to any course after Signing in

- View Tutors
  Student can view tutor details for selected course

- Update Details
  Admin can update details

- Delete Account
  Admin can delete account

Activity Diagrams:

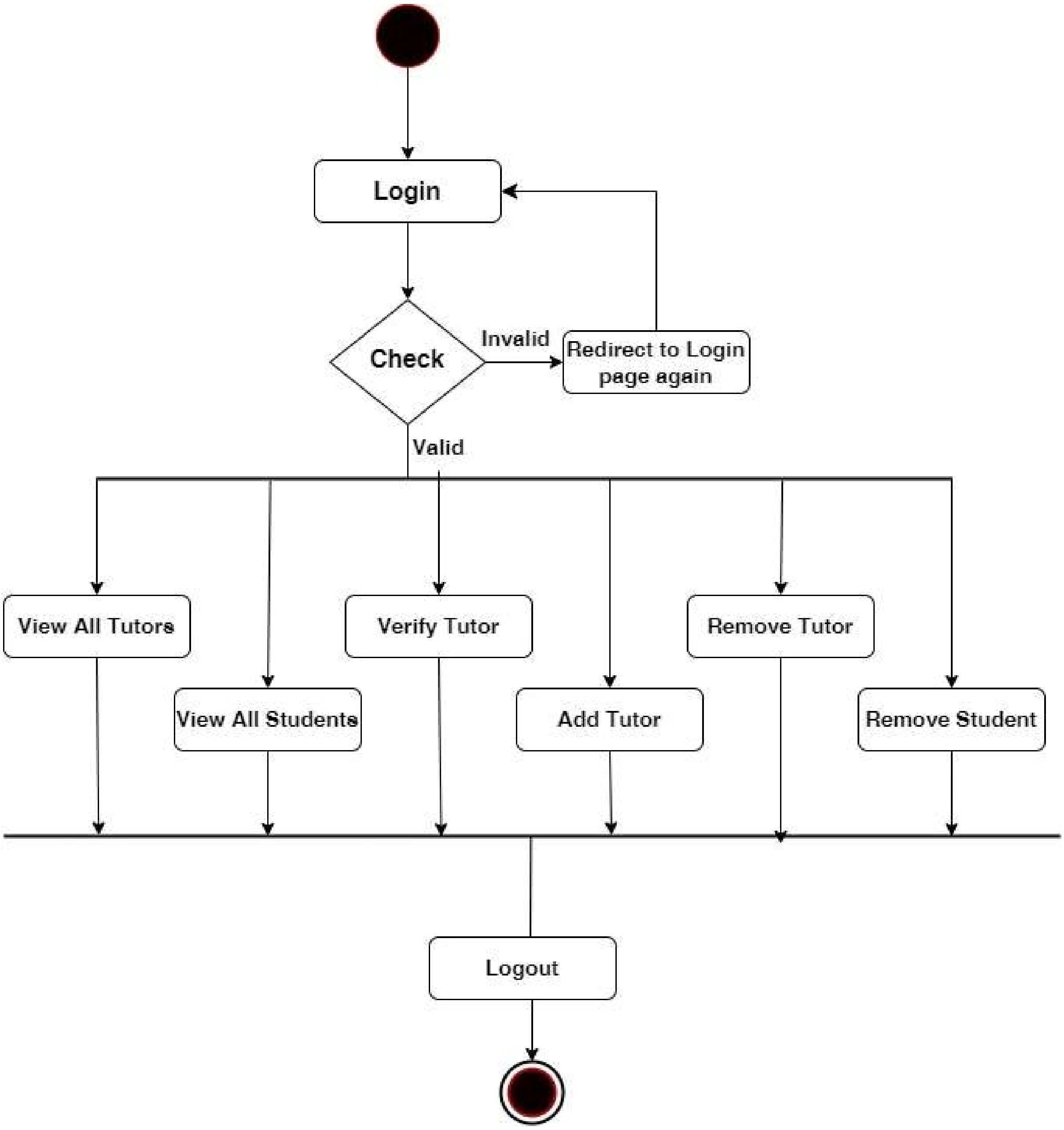


Figure 6- Admin Activity Diagram

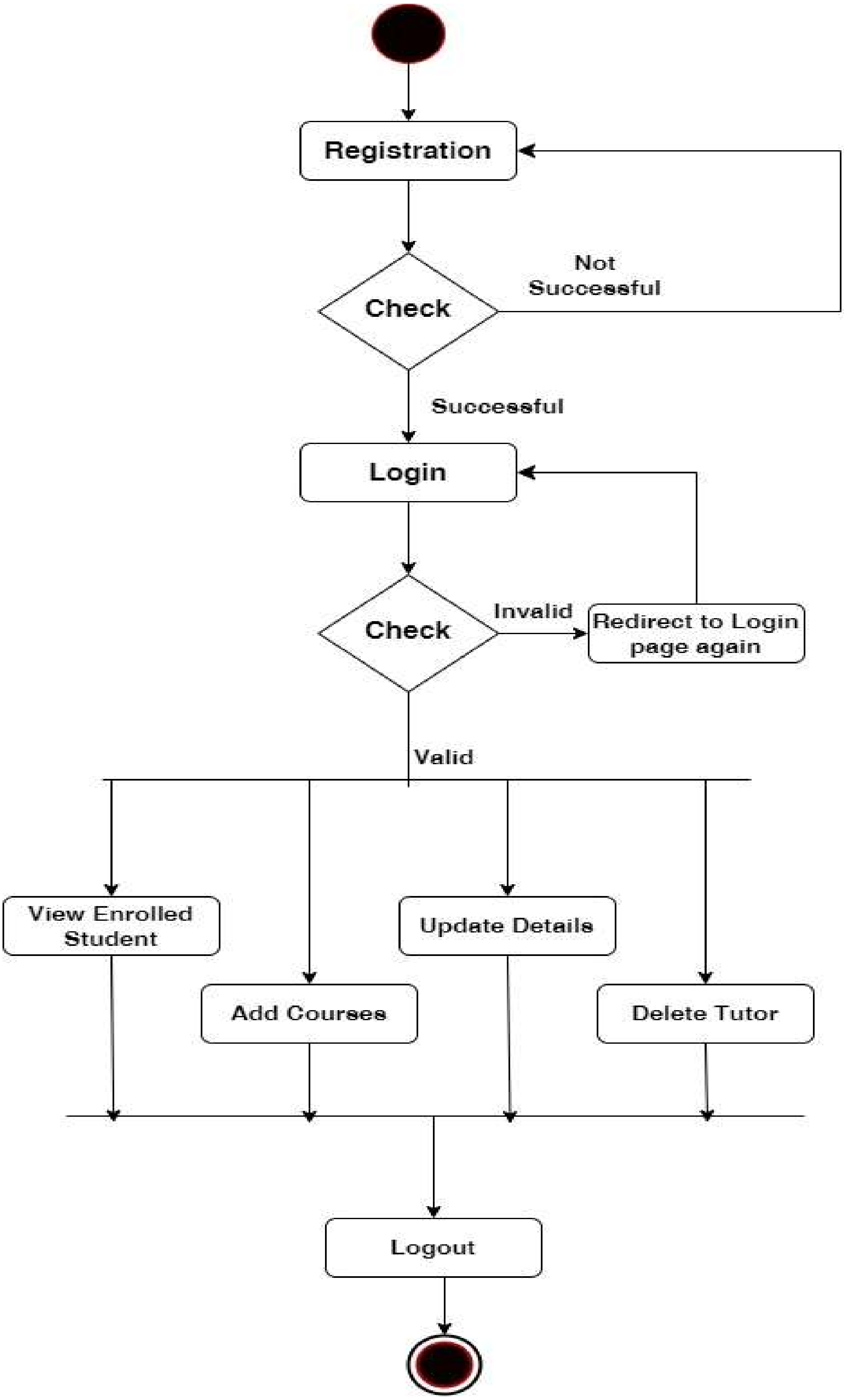


Figure 7- Tutor Activity Diagram

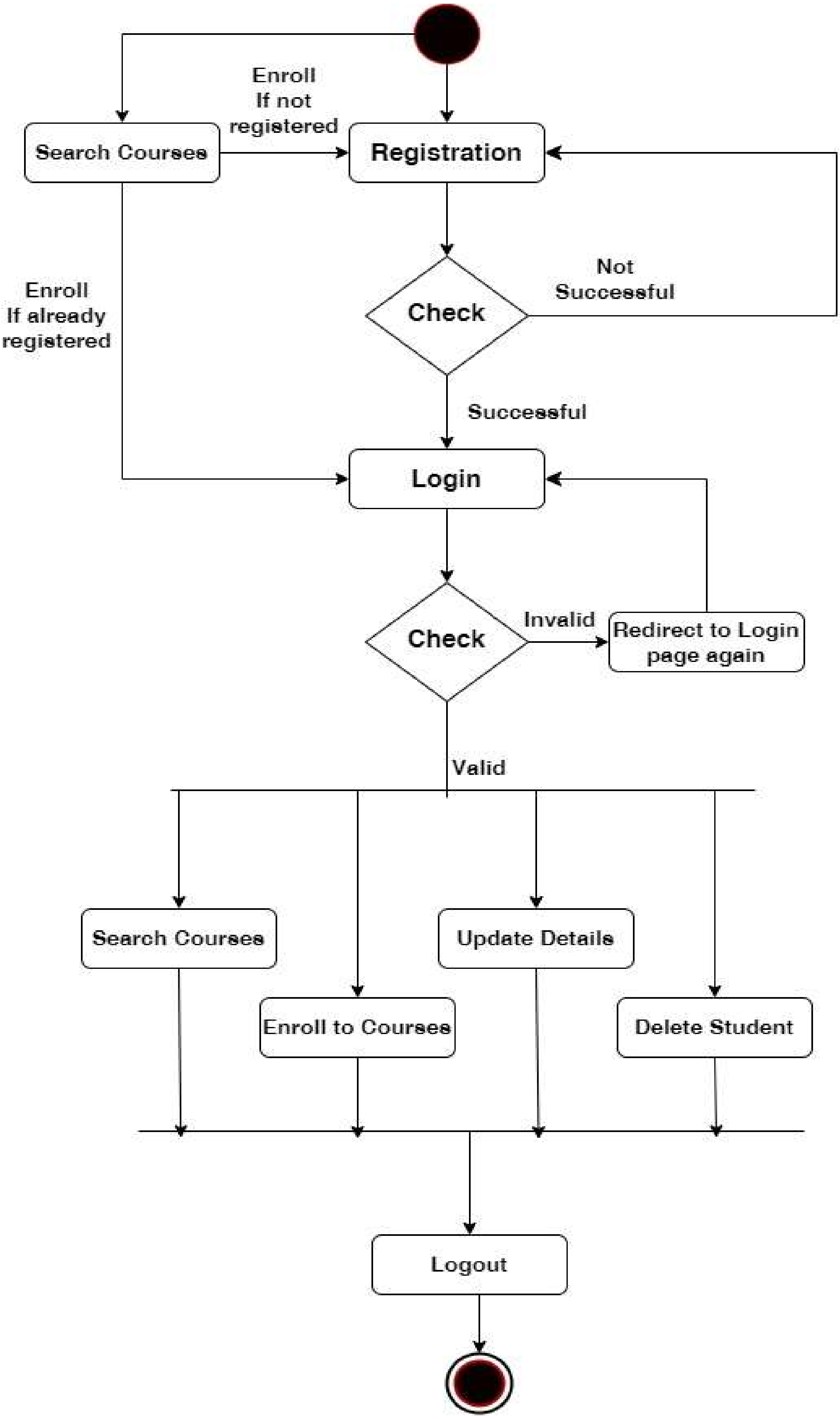


Figure 8- Student Activity Diagram

Sequence Diagram for Login:

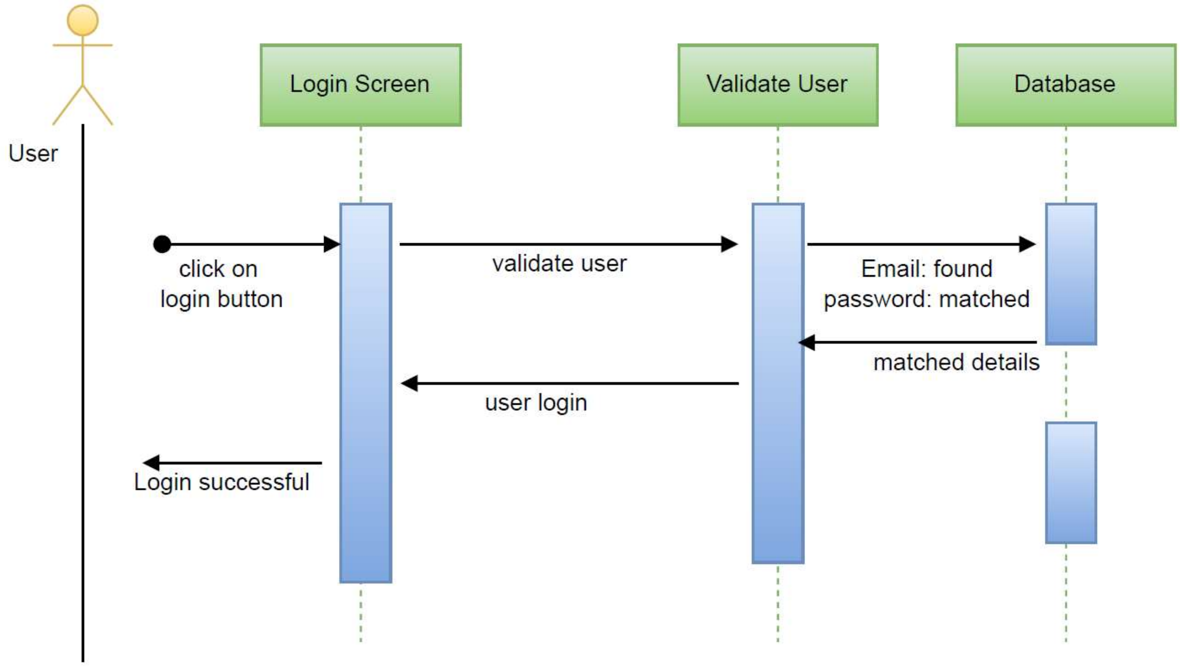


Figure 9- Sequence Diagram for Login

Data Flow Diagrams:

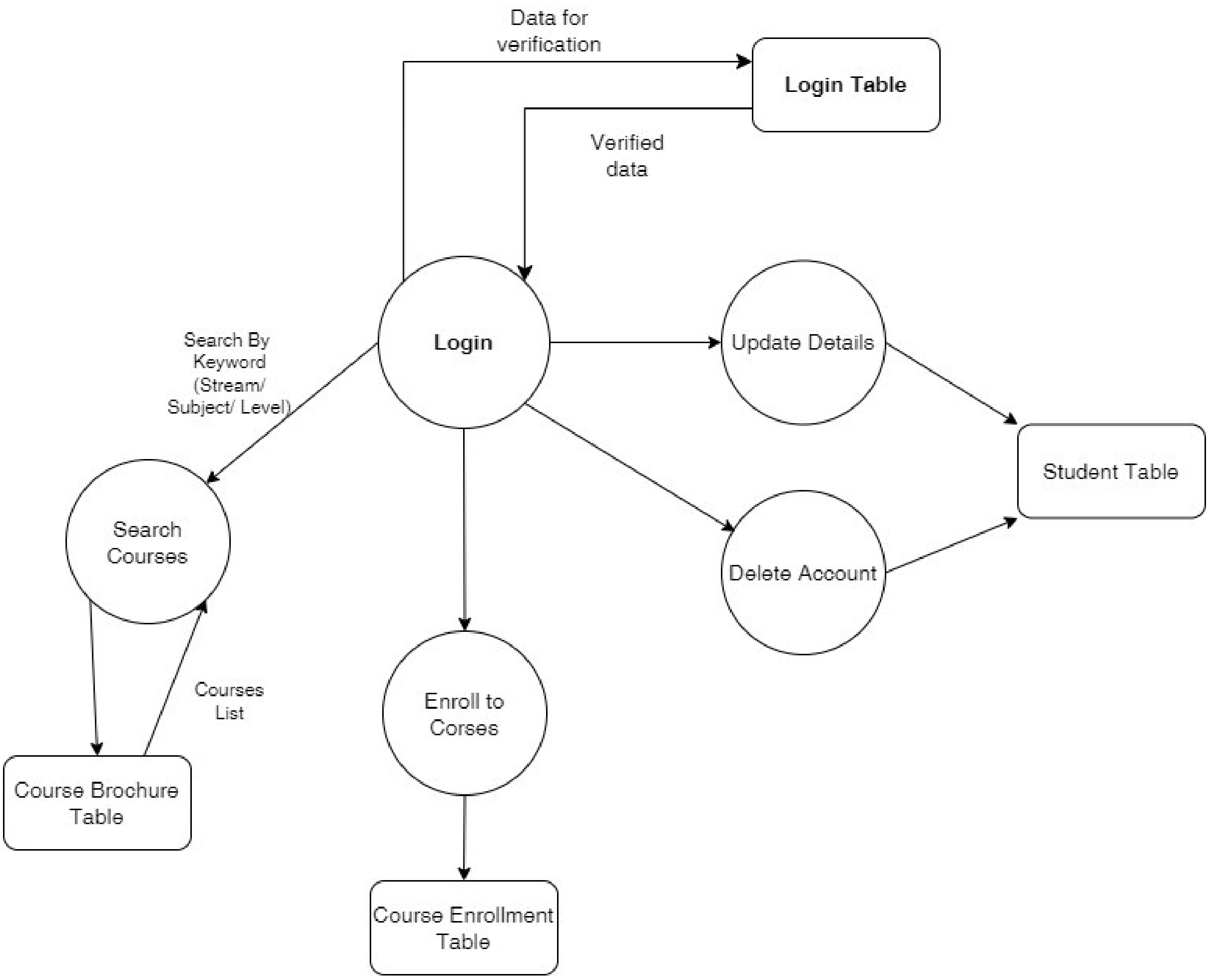


Figure 10- DFD for Student

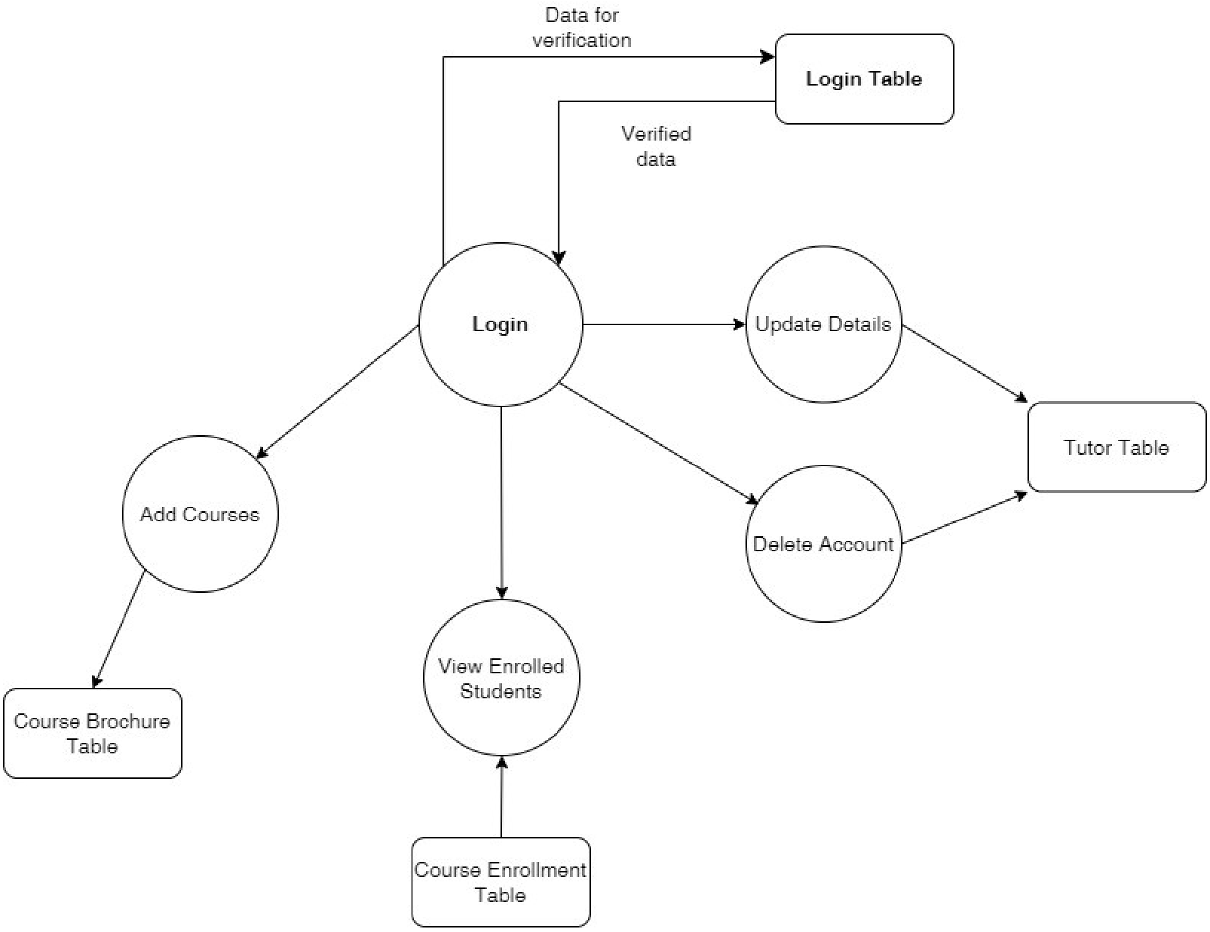


Figure 11- DFD for Tutor

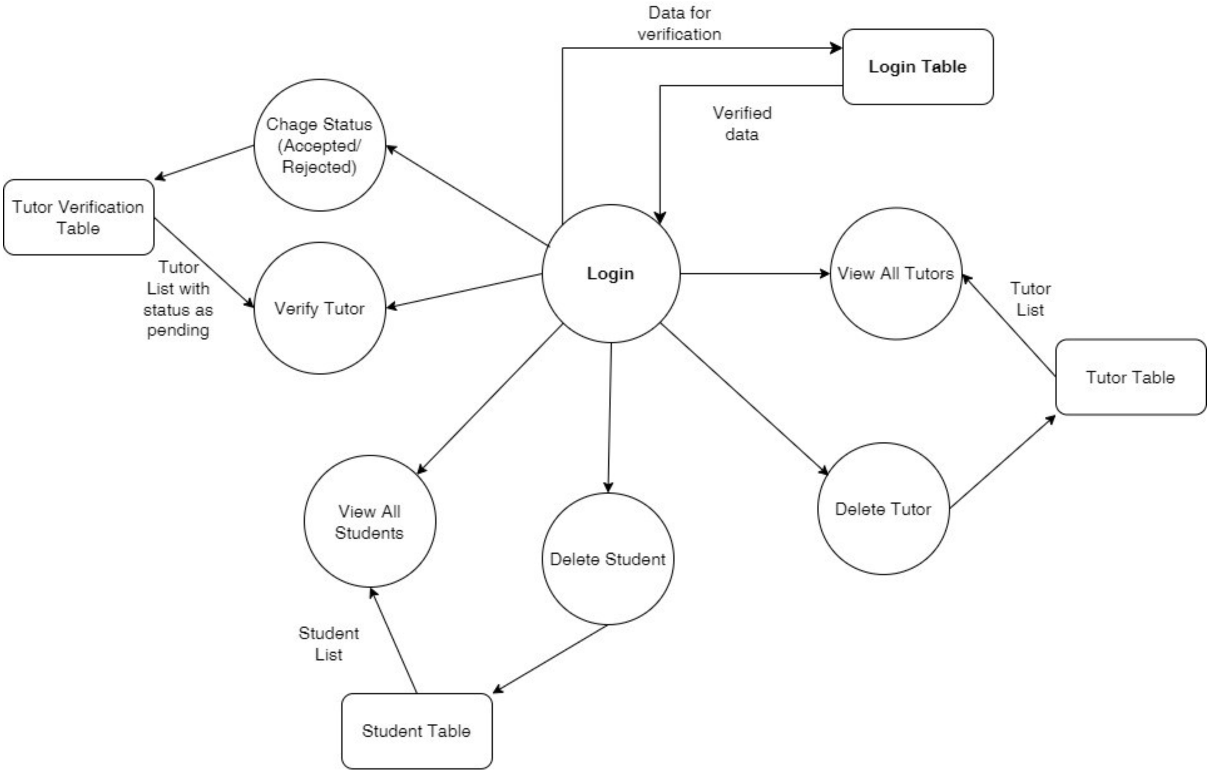
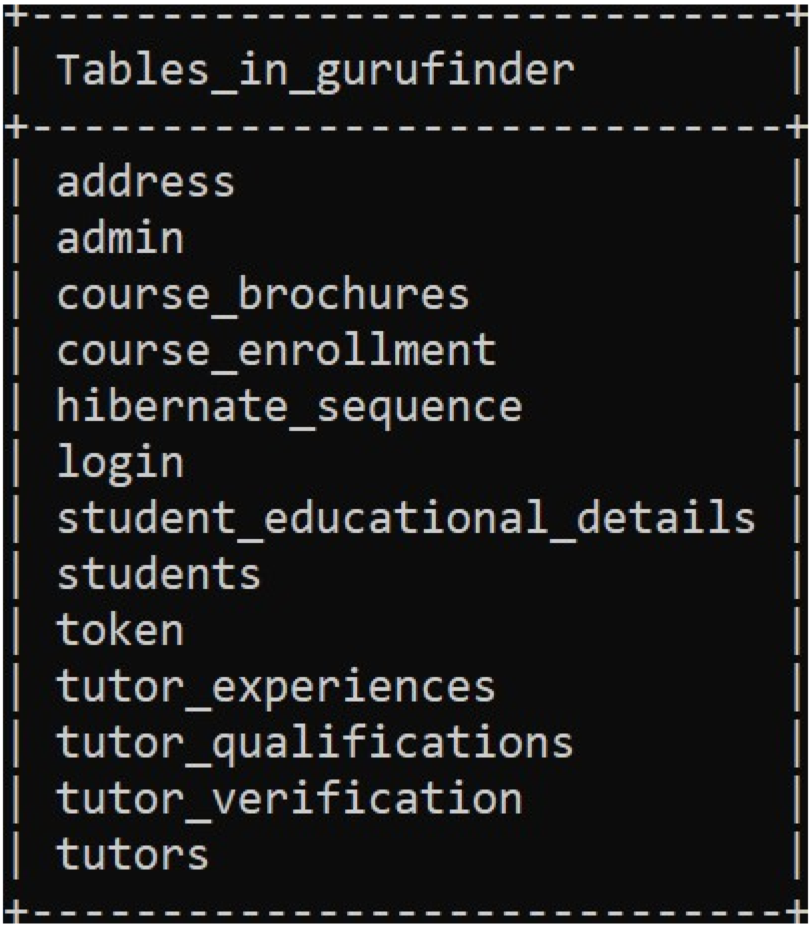


Figure 12- DFD for Admin

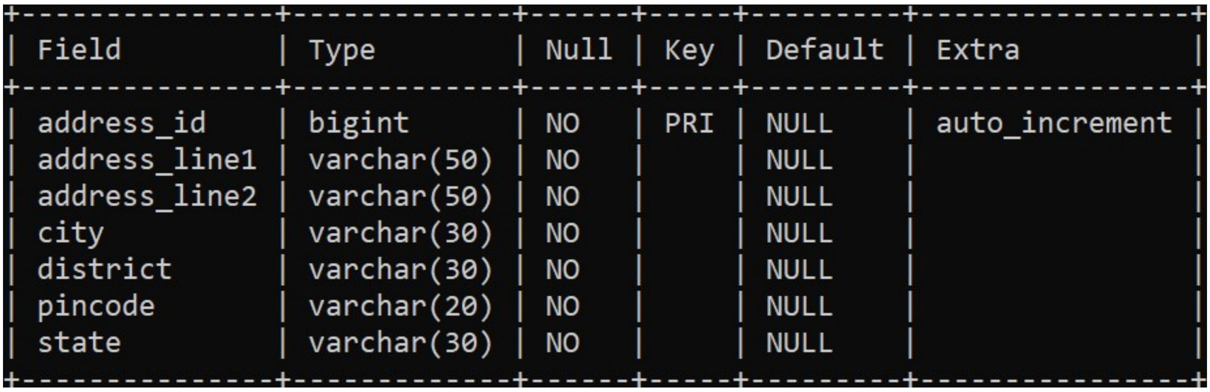
TABLE STRUCTURE:

Tables:



```
+-----------------------------+
| Tables_in_gurufinder        |
+-----------------------------+
| address                     |
| admin                       |
| course_brochures            |
| course_enrollment           |
| hibernate_sequence          |
| login                       |
| student_educational_details |
| students                    |
| token                       |
| tutor_experiences           |
| tutor_qualifications        |
| tutor_verification          |
| tutors                      |
+-----------------------------+
```

Address:



```
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| Field         | Type        | Null | Key | Default | Extra          |
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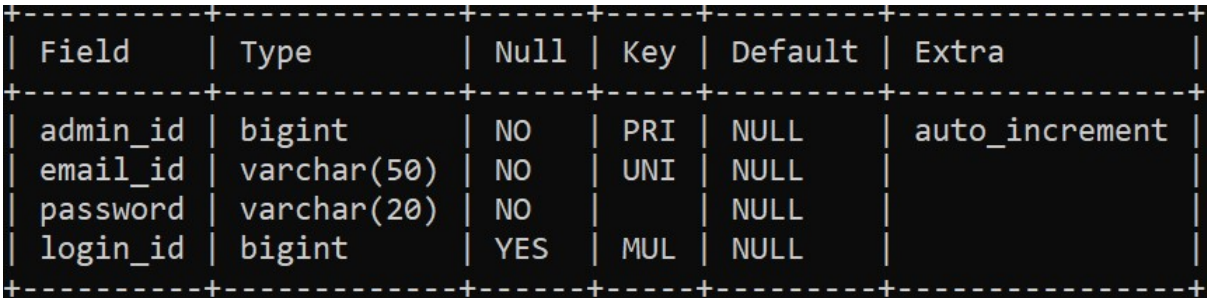
| address_id    | bigint      | NO   | PRI | NULL    | auto_increment |
| address_line1 | varchar(50) | NO   |     | NULL    |                |
| address_line2 | varchar(50) | NO   |     | NULL    |                |
| city          | varchar(30) | NO   |     | NULL    |                |
| district      | varchar(30) | NO   |     | NULL    |                |
| pincode       | varchar(20) | NO   |     | NULL    |                |
| state         | varchar(30) | NO   |     | NULL    |                |
+---------------+-------------+------+-----+---------+----------------+
```

Admin:



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| Field    | Type        | Null | Key | Default | Extra          |
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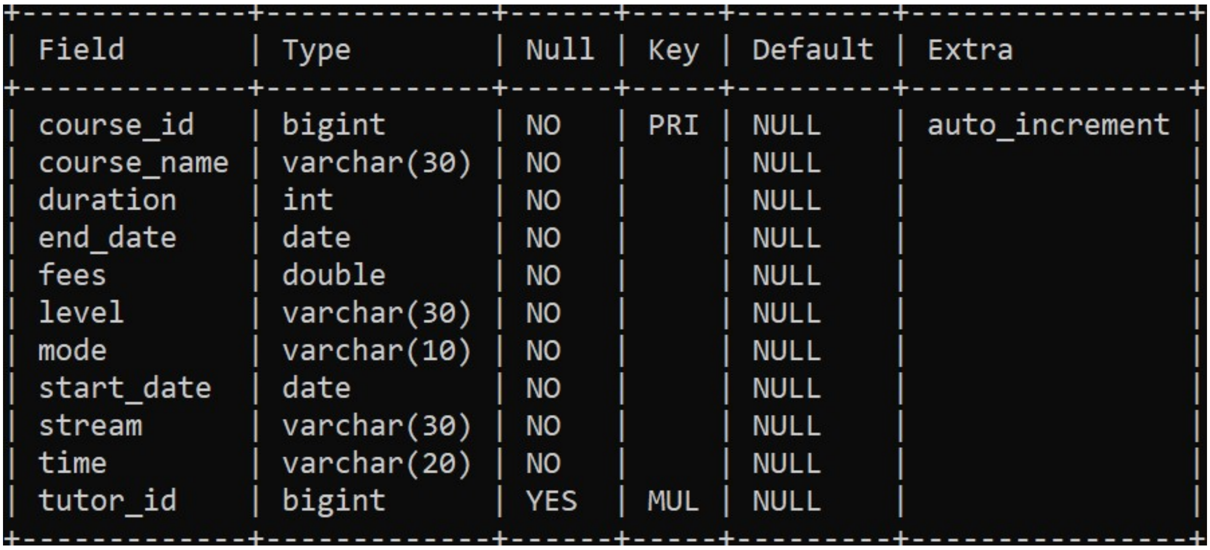
| admin_id | bigint      | NO   | PRI | NULL    | auto_increment |
| email_id | varchar(50) | NO   | UNI | NULL    |                |
| password | varchar(20) | NO   |     | NULL    |                |
| login_id | bigint      | YES  | MUL | NULL    |                |
+----------+-------------+------+-----+---------+----------------+
```

Course Brochures:



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| Field       | Type        | Null | Key | Default | Extra          |
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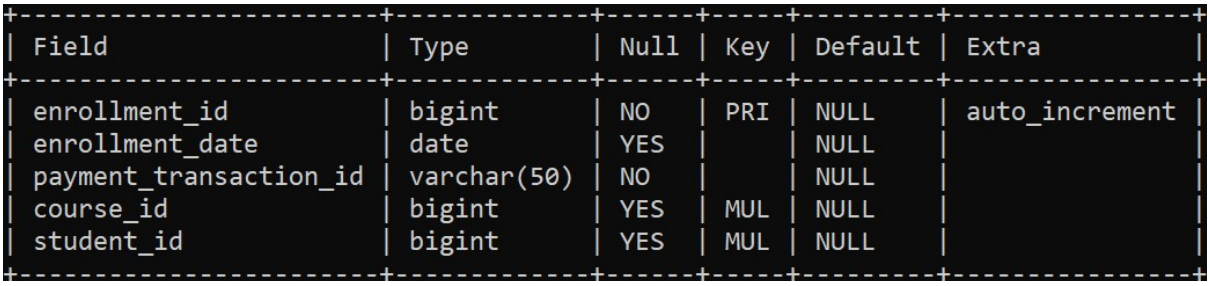
| course_id   | bigint      | NO   | PRI | NULL    | auto_increment |
| course_name | varchar(30) | NO   |     | NULL    |                |
| duration    | int         | NO   |     | NULL    |                |
| end_date    | date        | NO   |     | NULL    |                |
| fees        | double      | NO   |     | NULL    |                |
| level       | varchar(30) | NO   |     | NULL    |                |
| mode        | varchar(10) | NO   |     | NULL    |                |
| start_date  | date        | NO   |     | NULL    |                |
| stream      | varchar(30) | NO   |     | NULL    |                |
| time        | varchar(20) | NO   |     | NULL    |                |
| tutor_id    | bigint      | YES  | MUL | NULL    |                |
+-------------+-------------+------+-----+---------+----------------+
```

Course Enrollment:



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| Field                  | Type        | Null | Key | Default | Extra          |
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| enrollment_id          | bigint      | NO   | PRI | NULL    | auto_increment |
| enrollment_date        | date        | YES  |     | NULL    |                |
| payment_transaction_id | varchar(50) | NO   |     | NULL    |                |
| course_id              | bigint      | YES  | MUL | NULL    |                |
| student_id             | bigint      | YES  | MUL | NULL    |                |
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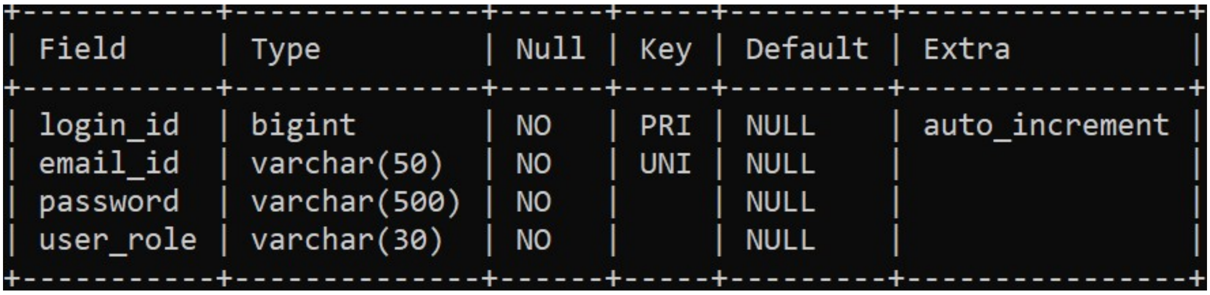
```

Login:



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| Field     | Type         | Null | Key | Default | Extra          |
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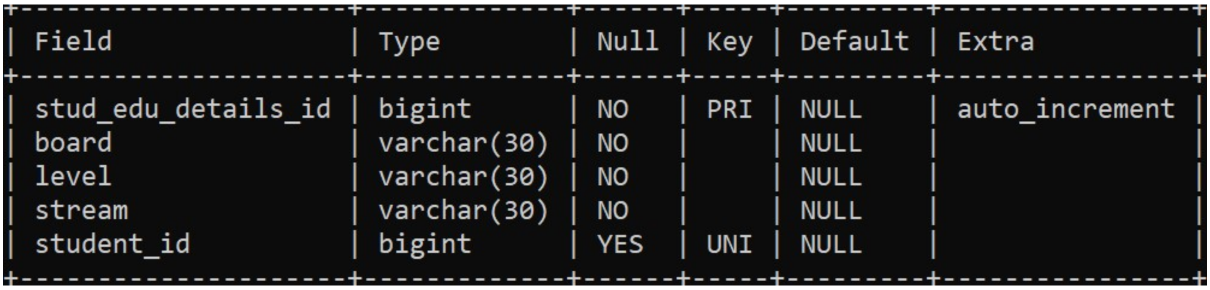
| login_id  | bigint       | NO   | PRI | NULL    | auto_increment |
| email_id  | varchar(50)  | NO   | UNI | NULL    |                |
| password  | varchar(500) | NO   |     | NULL    |                |
| user_role | varchar(30)  | NO   |     | NULL    |                |
+-----------+--------------+------+-----+---------+----------------+
```

Student Educational Details:



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| Field               | Type        | Null | Key | Default | Extra          |
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| stud_edu_details_id | bigint      | NO   | PRI | NULL    | auto_increment |
| board               | varchar(30) | NO   |     | NULL    |                |
| level               | varchar(30) | NO   |     | NULL    |                |
| stream              | varchar(30) | NO   |     | NULL    |                |
| student_id          | bigint      | YES  | UNI | NULL    |                |
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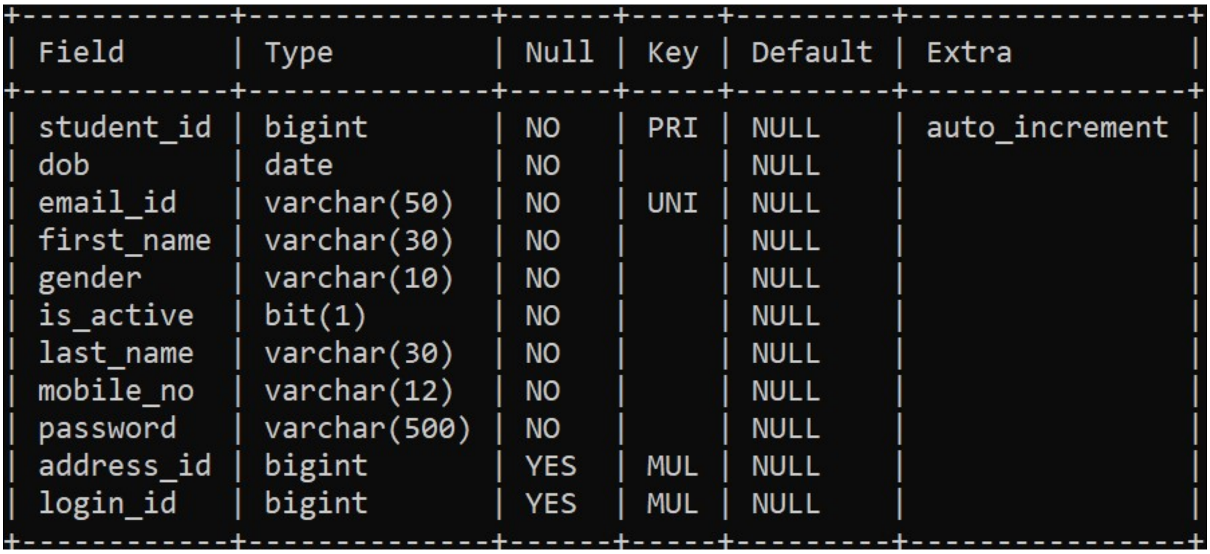
Students:



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| student_id | bigint       | NO   | PRI | NULL    | auto_increment |
| dob        | date         | NO   |     | NULL    |                |
| email_id   | varchar(50)  | NO   | UNI | NULL    |                |
| first_name | varchar(30)  | NO   |     | NULL    |                |
| gender     | varchar(10)  | NO   |     | NULL    |                |
| is_active  | bit(1)       | NO   |     | NULL    |                |
| last_name  | varchar(30)  | NO   |     | NULL    |                |
| mobile_no  | varchar(12)  | NO   |     | NULL    |                |
| password   | varchar(500) | NO   |     | NULL    |                |
| address_id | bigint       | YES  | MUL | NULL    |                |
| login_id   | bigint       | YES  | MUL | NULL    |                |
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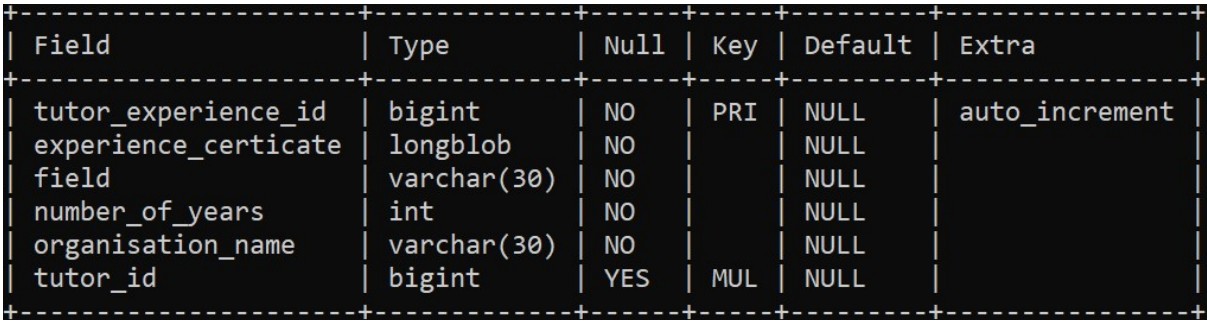
```

Tutor Experiences:



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| tutor_experience_id  | bigint      | NO   | PRI | NULL    | auto_increment |
| experience_certicate | longblob    | NO   |     | NULL    |                |
| field                | varchar(30) | NO   |     | NULL    |                |
| number_of_years      | int         | NO   |     | NULL    |                |
| organisation_name    | varchar(30) | NO   |     | NULL    |                |
| tutor_id             | bigint      | YES  | MUL | NULL    |                |
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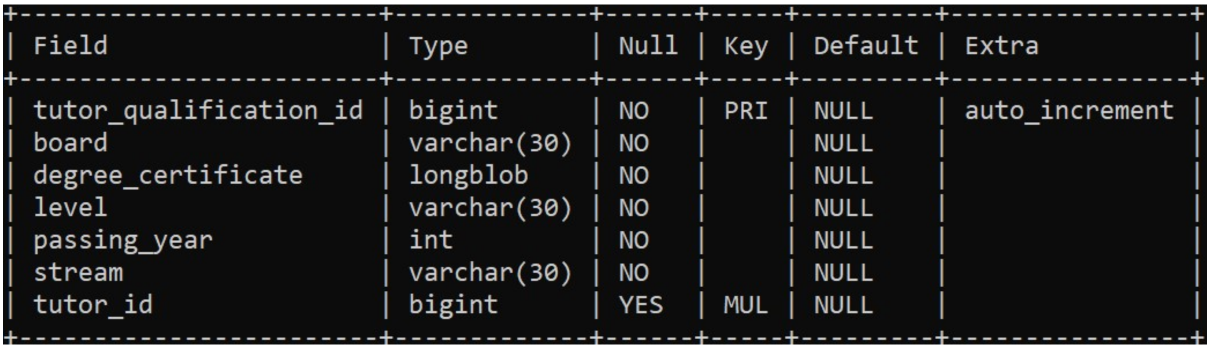
Tutor Qualifications:



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| Field                  | Type        | Null | Key | Default | Extra          |
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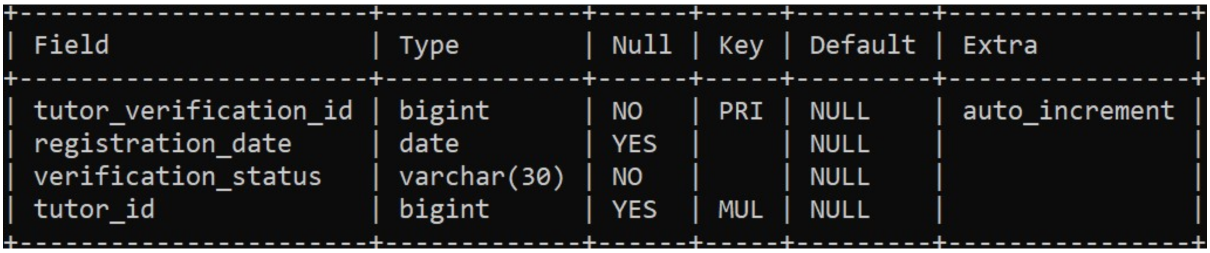
| tutor_qualification_id | bigint      | NO   | PRI | NULL    | auto_increment |
| board                  | varchar(30) | NO   |     | NULL    |                |
| degree_certificate     | longblob    | NO   |     | NULL    |                |
| level                  | varchar(30) | NO   |     | NULL    |                |
| passing_year           | int         | NO   |     | NULL    |                |
| stream                 | varchar(30) | NO   |     | NULL    |                |
| tutor_id               | bigint      | YES  | MUL | NULL    |                |
+------------------------+-------------+------+-----+---------+----------------+
```

Tutor Verification:



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+-----------------------+-------------+------+-----+---------+----------------+
| Field                 | Type        | Null | Key | Default | Extra          |
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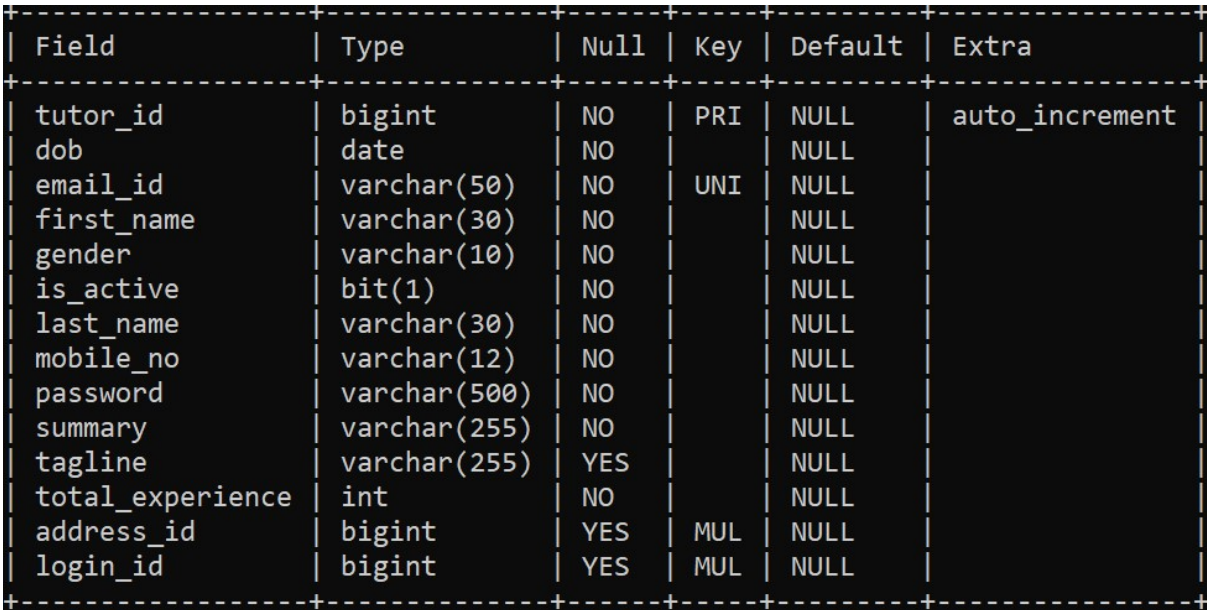
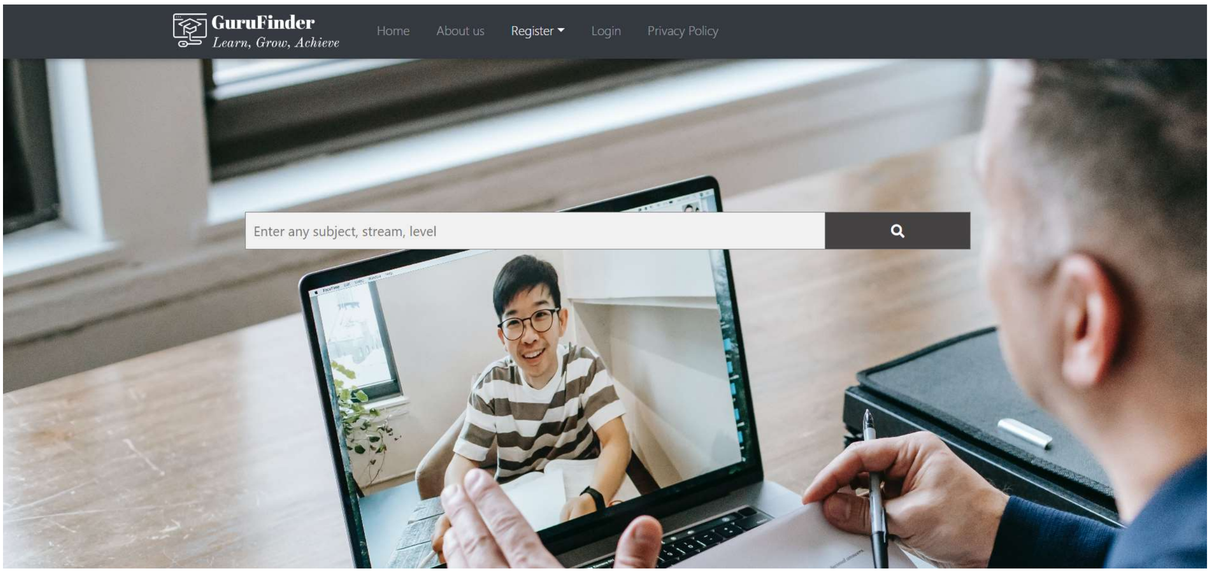
| tutor_verification_id | bigint      | NO   | PRI | NULL    | auto_increment |
| registration_date     | date        | YES  |     | NULL    |                |
| verification_status   | varchar(30) | NO   |     | NULL    |                |
| tutor_id              | bigint      | YES  | MUL | NULL    |                |
+-----------------------+-------------+------+-----+---------+----------------+
```

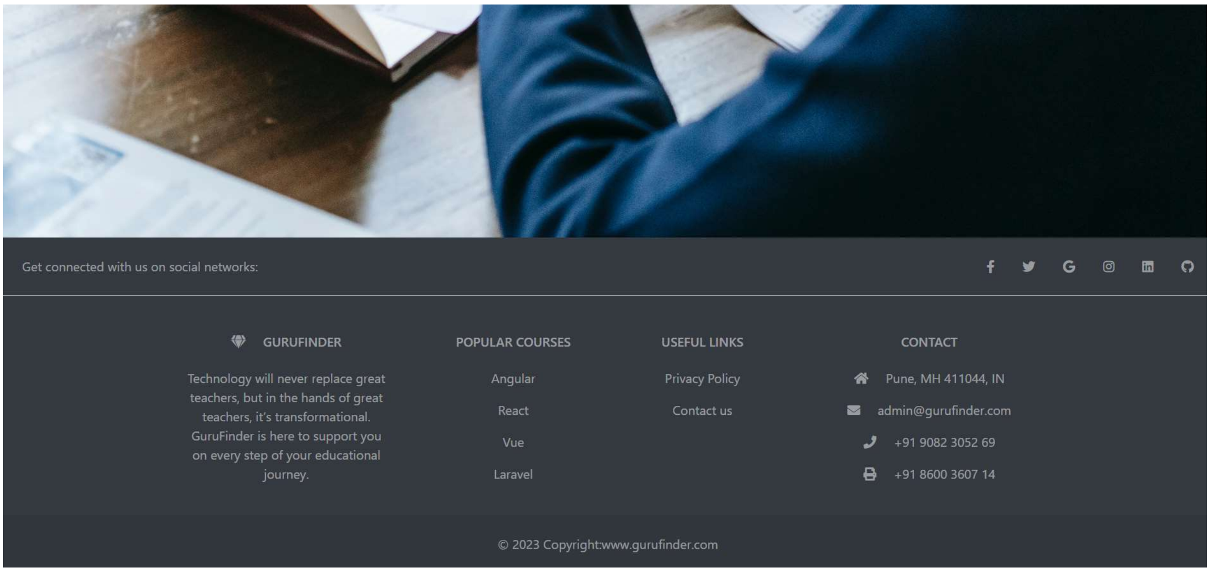
Tutors:



```
+------------------+--------------+------+-----+---------+----------------+
| Field            | Type         | Null | Key | Default | Extra          |
+------------------+--------------+------+-----+---------+----------------+
| tutor_id         | bigint       | NO   | PRI | NULL    | auto_increment |
| dob              | date         | NO   |     | NULL    |                |
| email_id         | varchar(50)  | NO   | UNI | NULL    |                |
| first_name       | varchar(30)  | NO   |     | NULL    |                |
| gender           | varchar(10)  | NO   |     | NULL    |                |
| is_active        | bit(1)       | NO   |     | NULL    |                |
| last_name        | varchar(30)  | NO   |     | NULL    |                |
| mobile_no        | varchar(12)  | NO   |     | NULL    |                |
| password         | varchar(500) | NO   |     | NULL    |                |
| summary          | varchar(255) | NO   |     | NULL    |                |
| tagline          | varchar(255) | YES  |     | NULL    |                |
| total_experience | int          | NO   |     | NULL    |                |
| address_id       | bigint       | YES  | MUL | NULL    |                |
| login_id         | bigint       | YES  | MUL | NULL    |                |
+------------------+--------------+------+-----+---------+----------------+
```

Frontend Screenshots





Get connected with us on social networks:

GURUFINDER

Technology will never replace great teachers, but in the hands of great teachers, it's transformational. GuruFinder is here to support you on every step of your educational journey.

POPULAR COURSES

Angular

React

Vue

Laravel

USEFUL LINKS

Privacy Policy

Contact us

CONTACT

Pune, MH 411044, IN

admin@gurufinder.com

+91 9082 3052 69

+91 8600 3607 14

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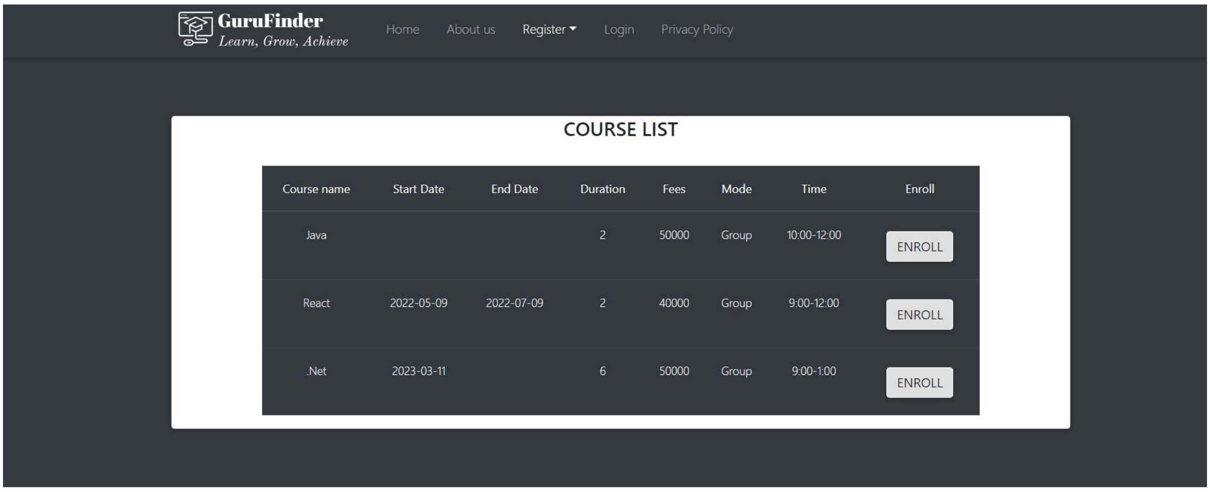
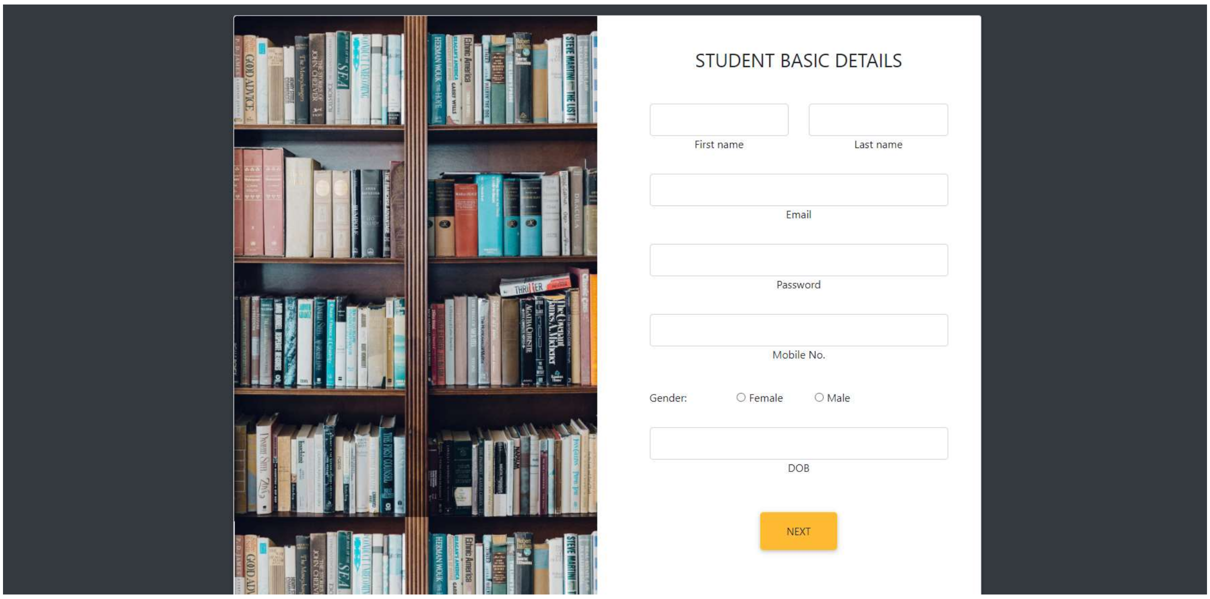


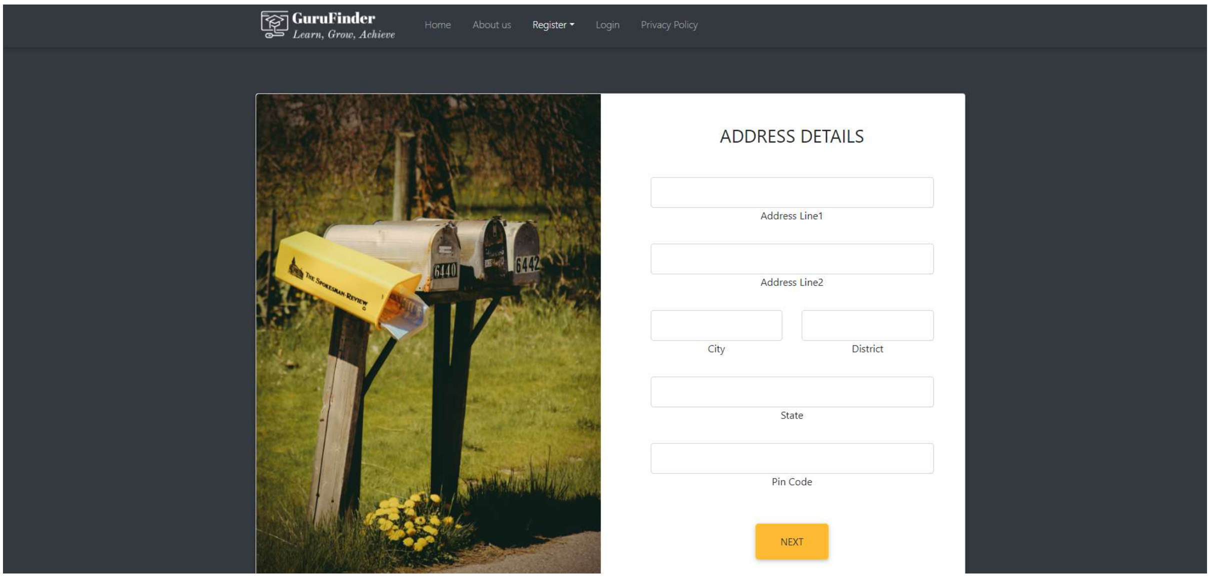
COURSE LIST

Course name	Start Date	End Date	Duration	Fees	Mode	Time	Enroll
Java			2	50000	Group	10:00-12:00	ENROLL
React	2022-05-09	2022-07-09	2	40000	Group	9:00-12:00	ENROLL
.Net	2023-03-11		6	50000	Group	9:00-1:00	ENROLL



STUDENT BASIC DETAILS

First name
Last name
Email
Password
Mobile No.
Gender: ○ Female ○ Male
DOB



ADDRESS DETAILS

Address Line1

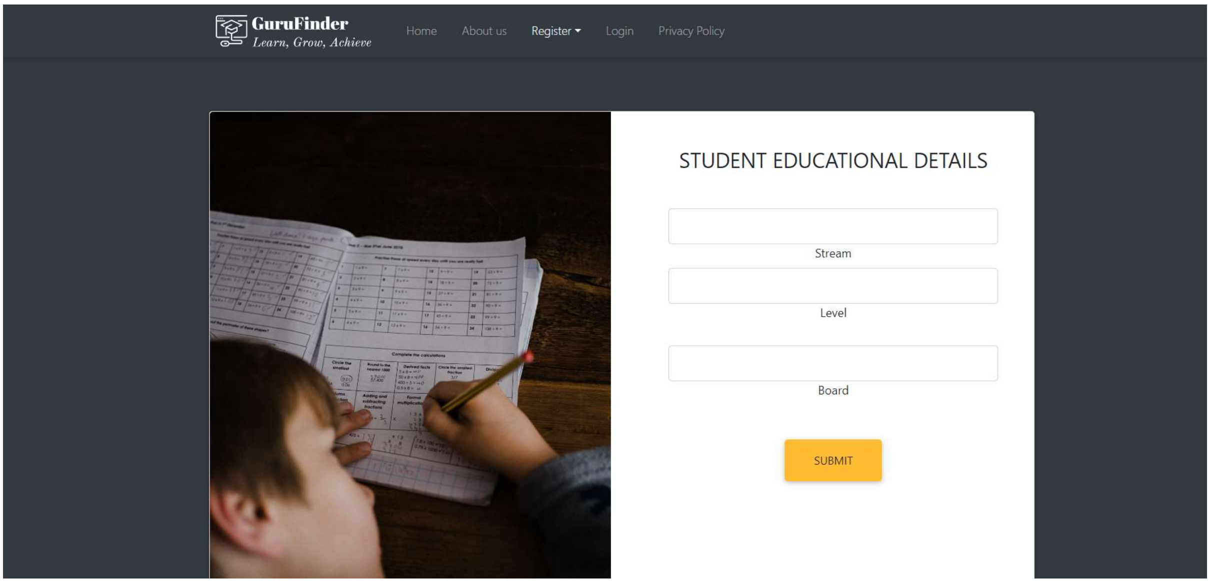
Address Line2

City

District

State

Pin Code

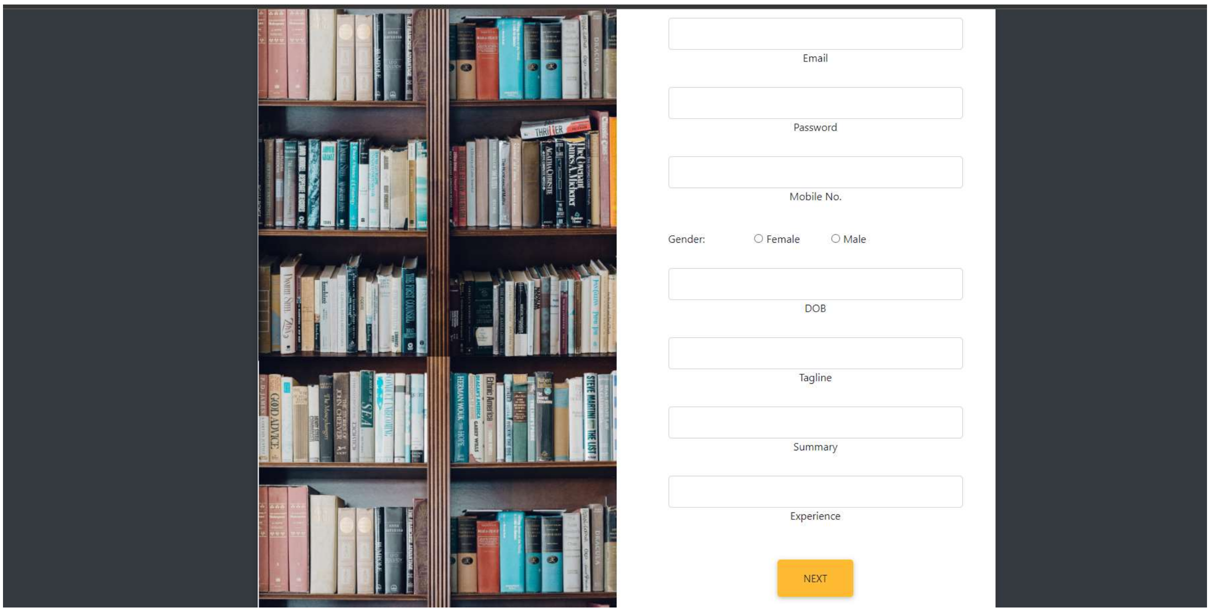


STUDENT EDUCATIONAL DETAILS

Stream

Level

Board



Email

Password

Mobile No.

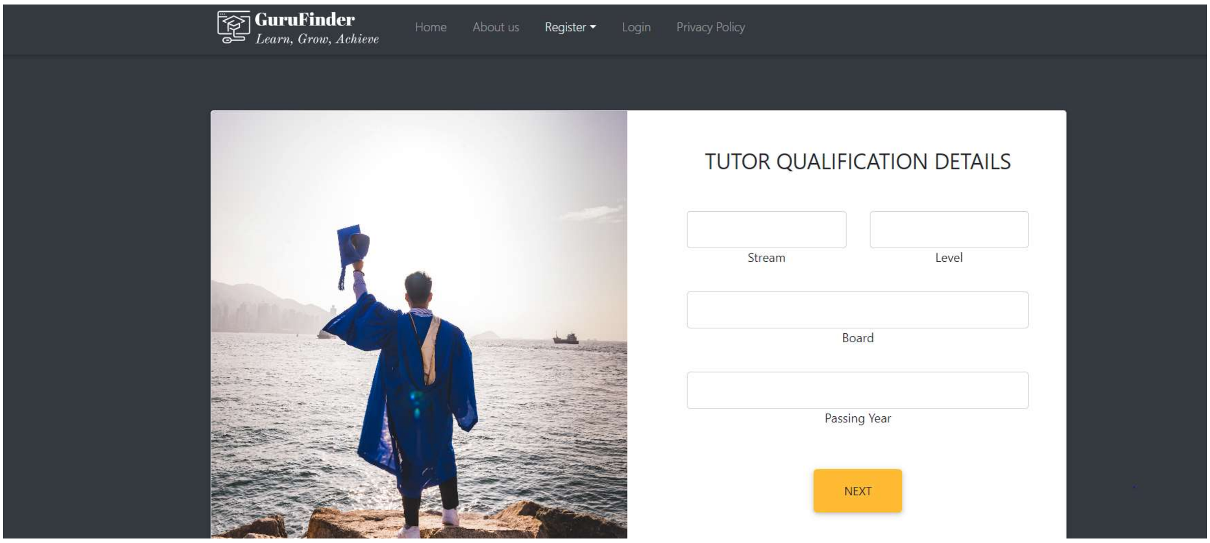
Gender: ○ Female ○ Male

DOB

Tagline

Summary

Experience



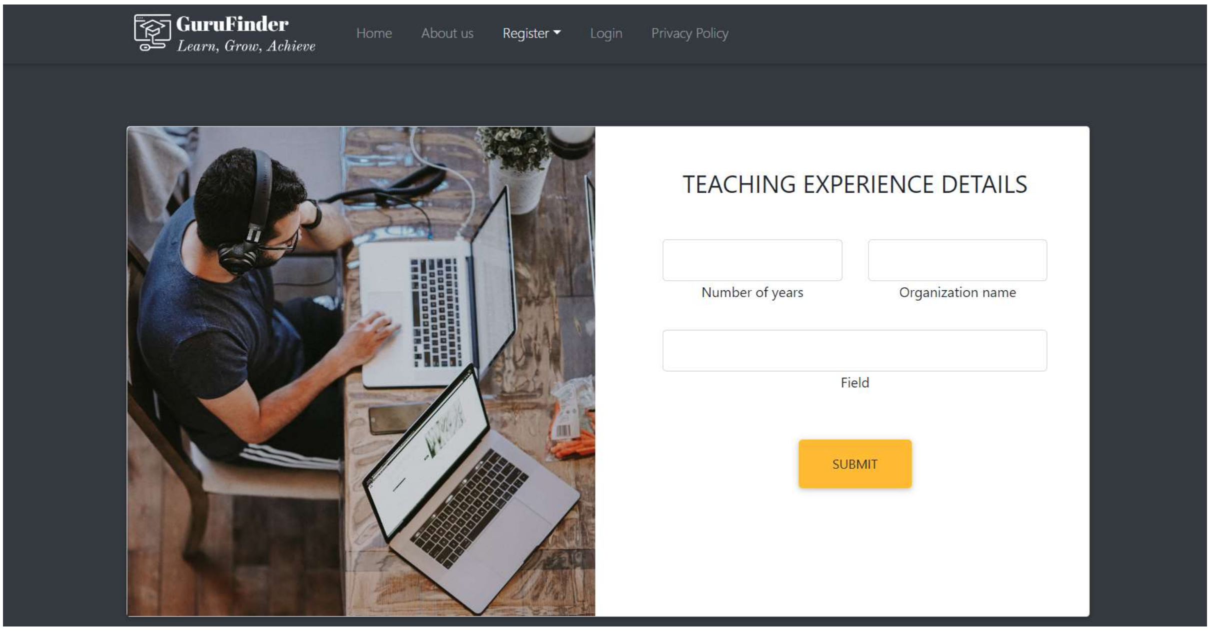
TUTOR QUALIFICATION DETAILS

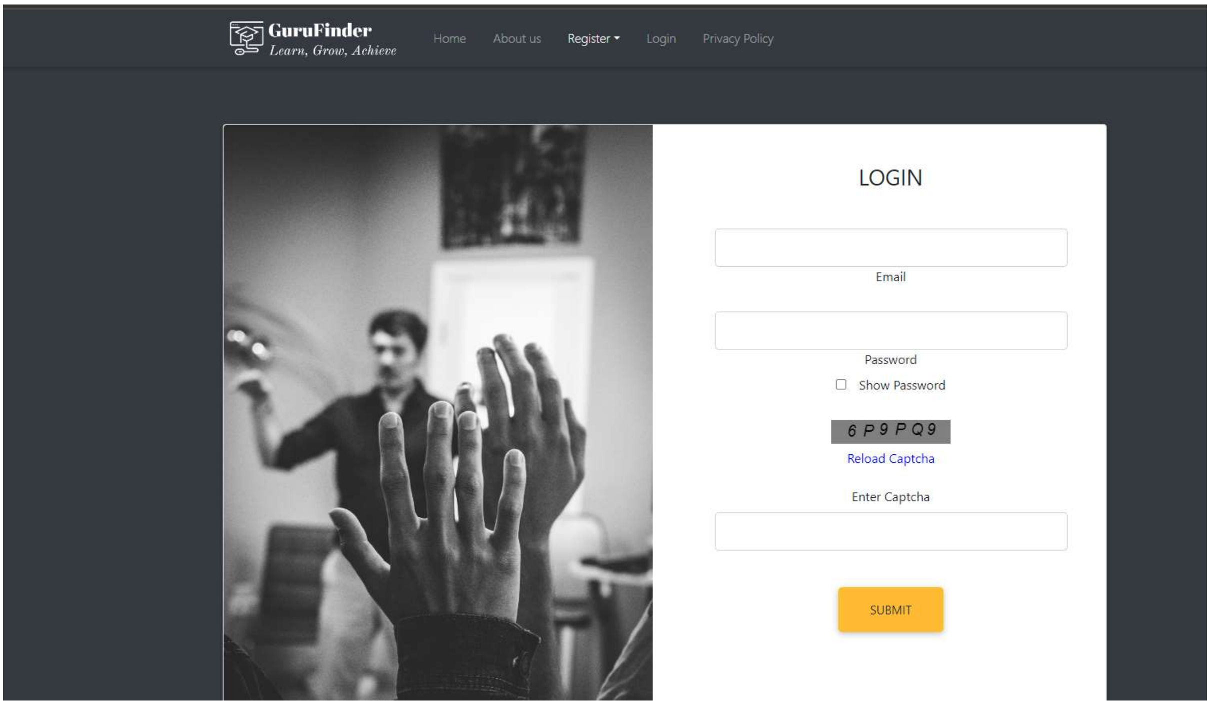
Stream

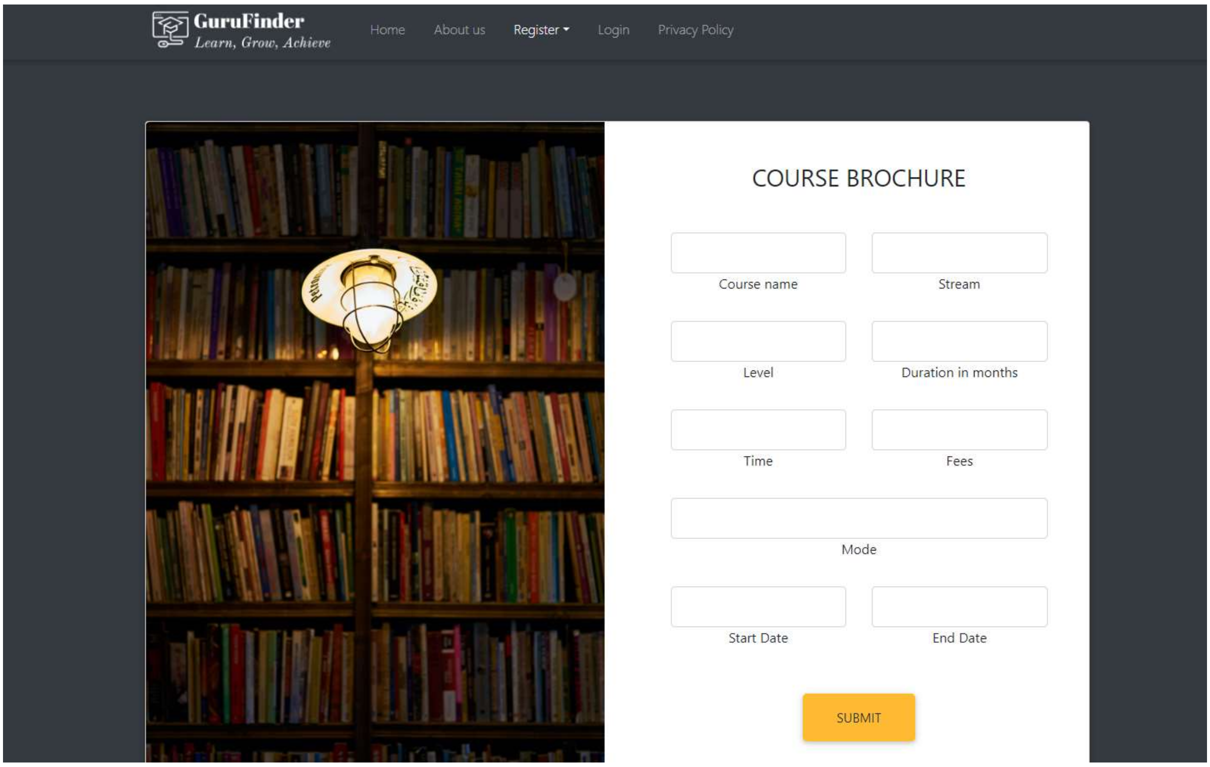
Level

Board

Passing Year


GuruFinder
Learn, Grow, Achieve
Home
About us
Register
Login
Privacy Policy
TEACHING EXPERIENCE DETAILS
Number of years
Organization name
Field
SUBMIT


GuruFinder
Learn, Grow, Achieve
Home
About us
Register
Login
Privacy Policy
LOGIN
Email
Password
□ Show Password
6 P 9 P Q 9
Reload Captcha
Enter Captcha
SUBMIT



COURSE BROCHURE

Course name

Stream

Level

Duration in months

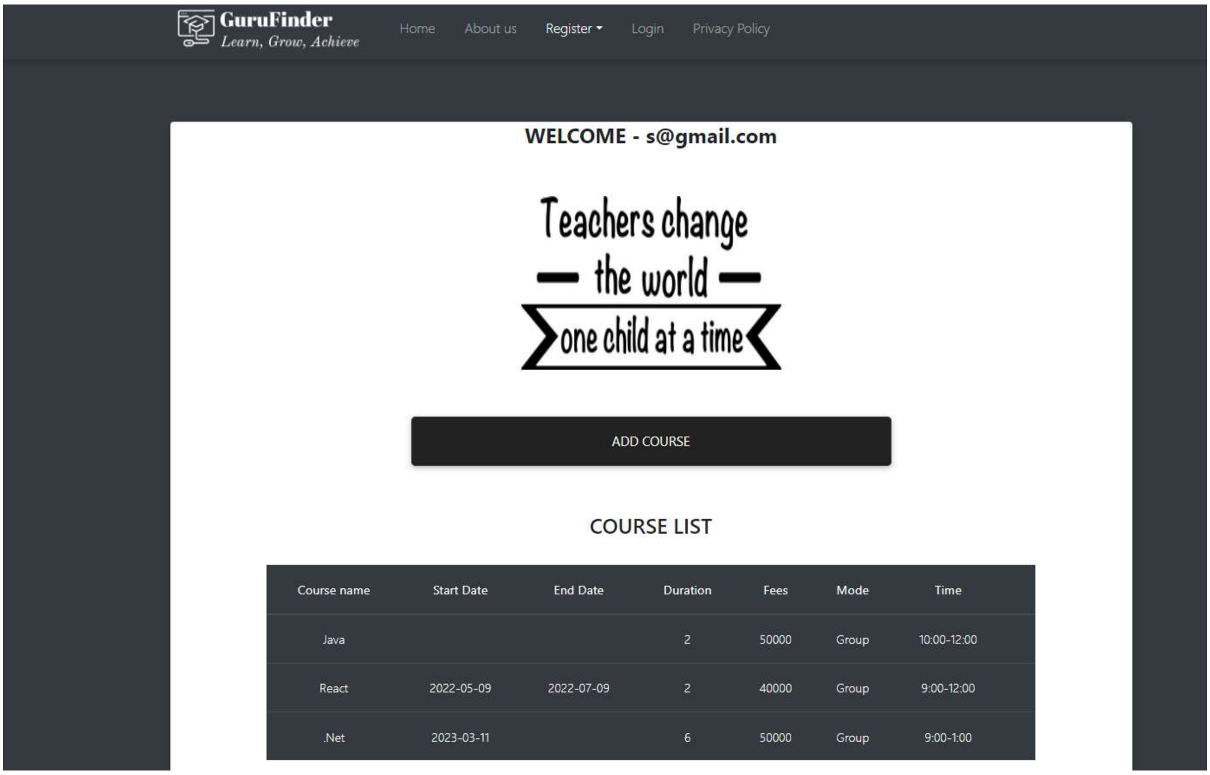
Time

Fees

Mode

Start Date

End Date



WELCOME - s@gmail.com

COURSE LIST

Course name	Start Date	End Date	Duration	Fees	Mode	Time
Java			2	50000	Group	10:00-12:00
React	2022-05-09	2022-07-09	2	40000	Group	9:00-12:00
.Net	2023-03-11		6	50000	Group	9:00-1:00

Conclusion

GuruFinder application can be an effective tool for connecting students with qualified tutors in a convenient and efficient way. This can lead to improved learning outcomes, increased access to educational resources, and greater flexibility and convenience for both students and tutors. GuruFinder prioritize safety and security and provide adequate support and resources for students and tutors to ensure a positive and productive learning experience. Overall, GuruFinder is a well-designed and well-executed tutor finding application. It is a valuable asset for the education community, helping to bridge gaps in access and opportunity and support lifelong learning.

References

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- https://docs.spring.io/spring/
- boot/docs/current/reference/htmlsingle/
- https://docs.oracle.com/javaee/7/api/toc.htm
- https://stackoverflow.com/