

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR
(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)



Skill Based Mini Project Report

on

Web Application on

“USER AUTHENTICATION SYSTEM USING GOOGLE”

Submitted By:

NAVEEN MITTAL

0901CS201076

Faculty Mentor:

Ms. JAIMALA JHA

ASSISTANT PROFESSOR

Submitted to

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE

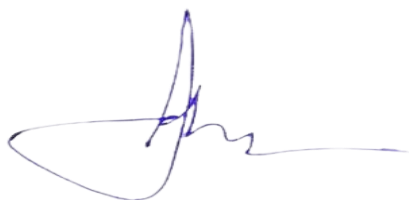
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MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR
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CERTIFICATE

This is certified that **NAVEEN MITTAL** (0901CS201076) has submitted the project report titled **Web Application on ‘User Authentication System Using Google ’** under the mentorship of **Ms.. JAIMALA JHA**, in partial fulfilment of the requirement for the award of degree of Bachelor of Technology in Computer Science and Engineering from Madhav Institute of Technology and Science, Gwalior.



Ms. JAIMALA JHA
Faculty Mentor
Assistant Professor
Computer Science and Engineering

DECLARATION

I hereby declare that the work being presented in this project report, for the partial fulfilment of requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering at Madhav Institute of Technology & Science, Gwalior is an authenticated and original record of my work under the mentorship of **Ms. JAIMALA JHA, ASSISTANT PROFESSOR,** Computer Science and Engineering

I declare that I have not submitted the matter embodied in this report for the award of any degree or diploma anywhere else.



NAVEEN MITTAL

0901CS201076

II Year,

Computer Science and Engineering

ACKNOWLEDGEMENT

The full semester project has proved to be pivotal to my career. I am thankful to my institute, **Madhav Institute of Technology and Science** to allow me to continue my disciplinary/interdisciplinary project as a curriculum requirement, under the provisions of the Flexible Curriculum Scheme (based on the AICTE Model Curriculum 2018), approved by the Academic Council of the institute. I extend my gratitude to the Director of the institute, **Dr. R. K. Pandit** and Dean Academics, **Dr. Manjaree Pandit** for this.

I would sincerely like to thank my department, **Department of Computer Science and Engineering, for allowing** me to explore this project. I humbly thank **Dr. Manish Dixit**, Professor and Head, Department of Computer Science and Engineering, for his continued support during the course of this engagement, which eased the process and formalities involved.

I am sincerely thankful to my faculty mentors. I am grateful to the guidance of **Ms. JAIMALA JHA**, Assistant Professor, Computer Science and Engineering, for her continued support and guidance throughout the project. I am also very thankful to the faculty and staff of the department.



NAVEEN MITTAL

0901CS201076

II Year,

Computer Science and Engineering

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ABSTRACT

The main purpose of this system is to authenticate the users from their google id and validating them. Then the details can be fetched from the user's mail id and stored in the data base.

Without google authentication any false can user can also signup or sign in. So to prevent such type of activity google authentication is required. User will sign in using Gmail id and the authorization will be done by google and user details are called back and hence user is verified.

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LIST OF ABBREVIATIONS

Abbreviation	Description
HTML	Hyper Text Markup Language
CSS	Cascading Style Sheets
MDB	Material Design Bootstrap
DBMS	Data Base Management System
2FA	Two factor Authentication
Auth	Authentication
IAP	Identity-Aware Proxy
LAN	Local Area Network
SQL	Structured Query Language

Chapter 1: INTRODUCTION

1.1 INTRODUCTION

Identity theft has always been a problem in society. With the proliferation of the internet and the devices connected to it, our digital identities have never had to fend the vast amount of tech-savvy identity thieves out there. Identity theft has become one of the most prevalent forms of cyber-crimes.

With so many of these cyber-crimes happening every day on the internet, its become a requirement for all developers to implement two-factor authentication (2FA) whenever data has to be protected. For more information on 2FA, see the end of the article.

Most people use two-factor authentication almost every day through the use of ATMs. An ATM often requires a bank card (1st authentication method — something you know) and a PIN (2nd authentication method — something you have). Both authentication methods are used to verify the person trying to access the bank account. That's basically the concept of two-factor authentication in a nutshell.

Authentication is basically the verification of users before granting them access to the website or services. Authentication which is done using a Google account is called Google Authentication. We can do Google authentication using OAuth API which is provided by Google on their developer portal.

1.2 OBJECTIVES

- Require users of your App Engine app to authenticate themselves by using IAP.
- Access users' identities in the app to display the current user's authenticated email address.

1.3 SYSTEM ESSENTIALS

1.3.1 HARDWARE ESSENTIALS

- Processor: Minimum 1 GHz; Recommended 2GHz or more.
- Ethernet connection (LAN) OR a wireless adapter (Wi-Fi)
- Hard Drive: Minimum 32 GB; Recommended 64 GB or more.
- Memory (RAM): Minimum 1 GB; Recommended 4 GB or above

1.3.2 SOFTWARE ESSENTIALS

- Any Web Browser (eg: Chrome)
- Operating system: Windows or MacOS or Linux
- Language: Node.js
- Database: MySQL

Chapter 2: LITERATURE REVIEW

2.1 FRONTEND

2.1.1 HTML

HTML is the acronym for Hypertext Markup Language which is the standard markup language for the designed documents that are to be displayed in the web browser, aided by a scripting language like JavaScript and some technologies like Cascading Style Sheets (CSS).

2.1.2 CSS

CSS is an acronym for Cascading Style Sheets which is a style sheet language used for demonstrating the presentation of a document that is written in a markup language such as HTML. Designed of CSS is done to separate the content and presentation, including colours, layouts, and fonts.

2.1.3 MDB

MDB stands for *material design for bootstrap*. Or in simple word, a version of bootstrap that inspired with Material Designs. MDB have hundreds of beautiful components, templates, animations, effects and helpers. Everything fully responsive, compatible with different browsers and it is easy to use. You can also have a look a Top Material Design websites to get an idea of the material design concept.

2.2 BACKEND

2.2.1 NODE.JS

It is an open source, cross-platform runtime environment for creating networking applications and server-side. The applications of Node.js are written in JavaScript which can be run within the Node.js runtime on Microsoft Windows, OS X, and Linux

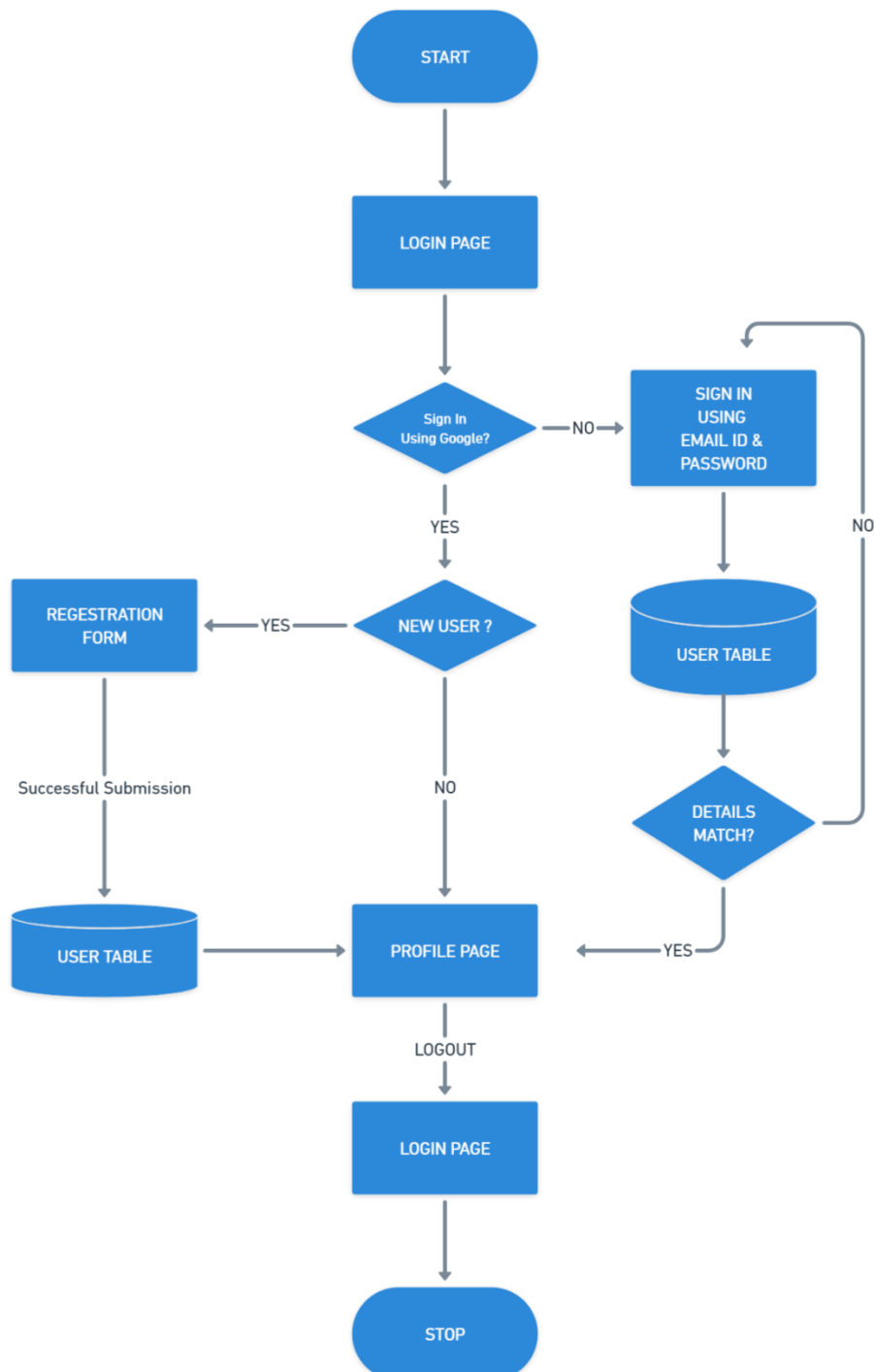
2.2.2 MySQL

MySQL is an open-source relational database management system. As with other relational databases, MySQL stores data in tables made up of rows and columns. Users can define, manipulate, control, and query data using Structured Query Language, more commonly known as SQL.

Chapter 3: PRELIMINARY DESIGN

(FIG 1 : ER Diagram)

ER DIAGRAM

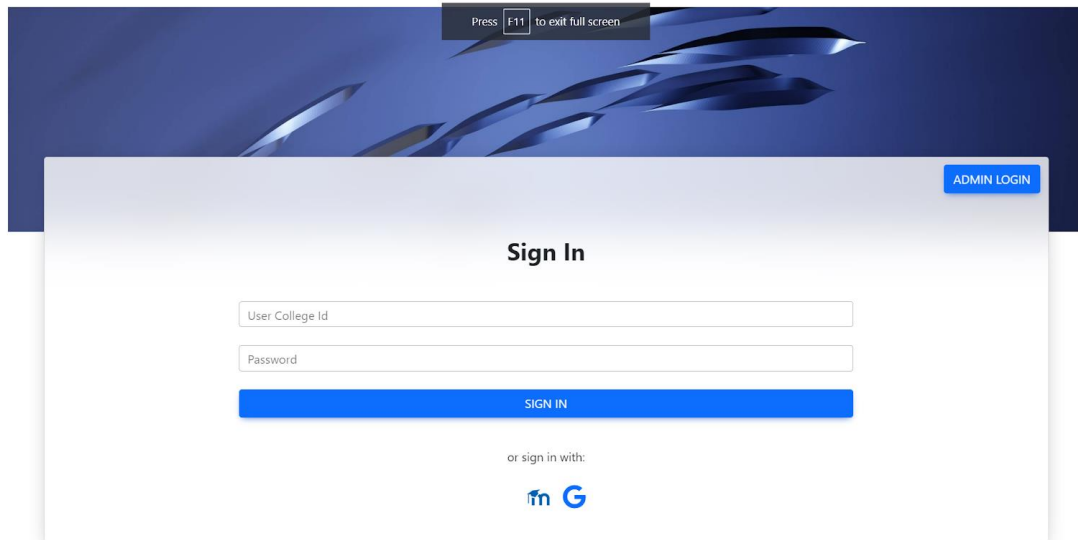


CHAPTER 4 : APPLICATION DEMONSTRATION

4.1 HOME PAGE

Hit localhost:3000 in your browser and a login page will be rendered.

(FIG 2 : Home Page)

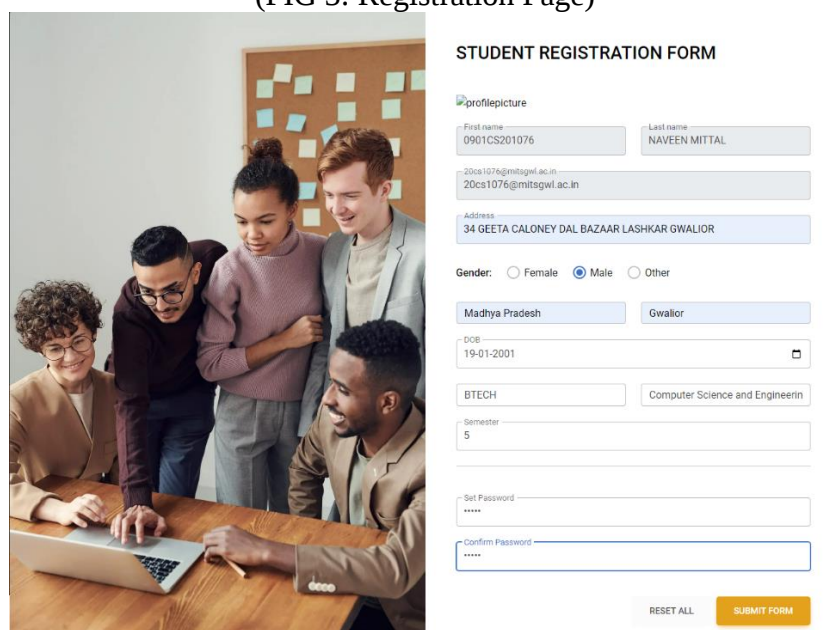


The screenshot shows a web application interface for signing in. At the top, there is a dark blue header with a white text box that says "Press F11 to exit full screen". Below the header, there is a white box with a blue "ADMIN LOGIN" button in the top right corner. The main content area is titled "Sign In" and contains two input fields: "User College Id" and "Password". Below these fields is a blue "SIGN IN" button. Underneath the button, it says "or sign in with:" followed by the LinkedIn and Google logos.

4.2 REGISTRATION PAGE

If sign in with google then program checks if you are new user then you are directed to the registration form.

(FIG 3: Registration Page)

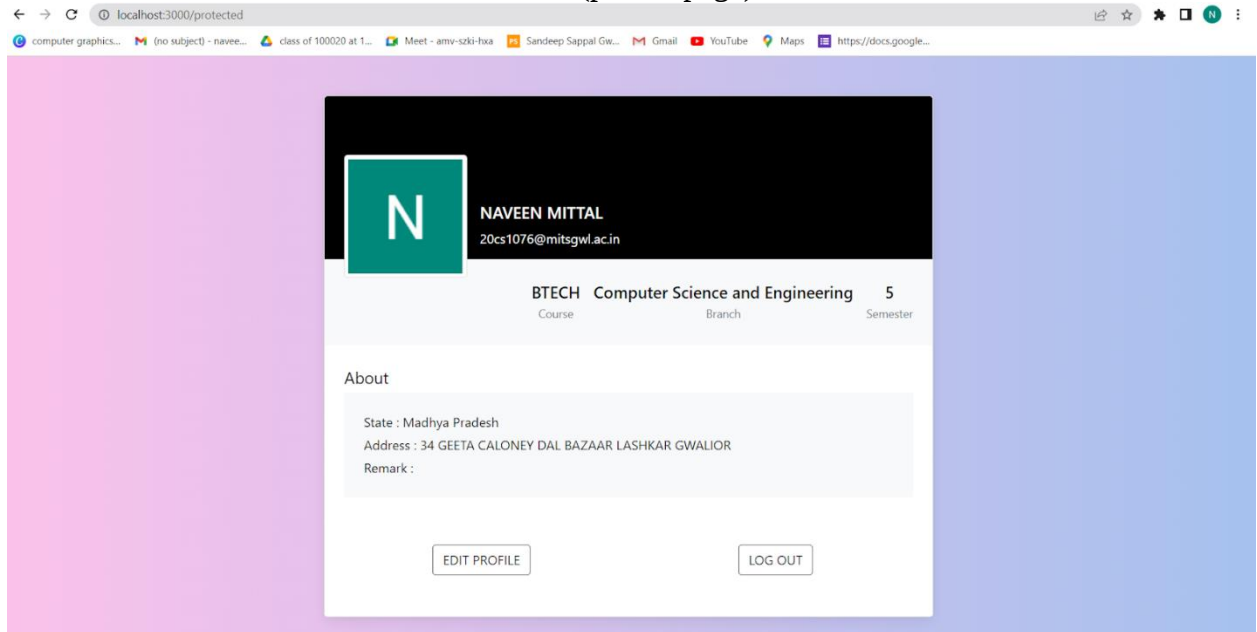


The screenshot shows a "STUDENT REGISTRATION FORM". On the left side of the form is a photograph of four students (three women and one man) looking at a laptop. The form itself has the following fields: "First name" (0901CS201076), "Last name" (NAVEEN MITTAL), "Email" (20cs1076@mitsgwl.ac.in), "Address" (34 GEETA CALONEY DAL BAZAAR LASHKAR GWALIOR), "Gender" (radio buttons for Female, Male, and Other, with Male selected), "State" (Madhya Pradesh), "City" (Gwalior), "DOB" (19-01-2001), "Course" (BTECH), "Department" (Computer Science and Engineering), "Semester" (5), "Set Password" (with a strength indicator), and "Confirm Password" (with a strength indicator). At the bottom right, there are two buttons: "RESET ALL" and "SUBMIT FORM".

4.3 PROFILE PAGE

After successful form submission your data is stored in the database and you are directed to your profile picture.

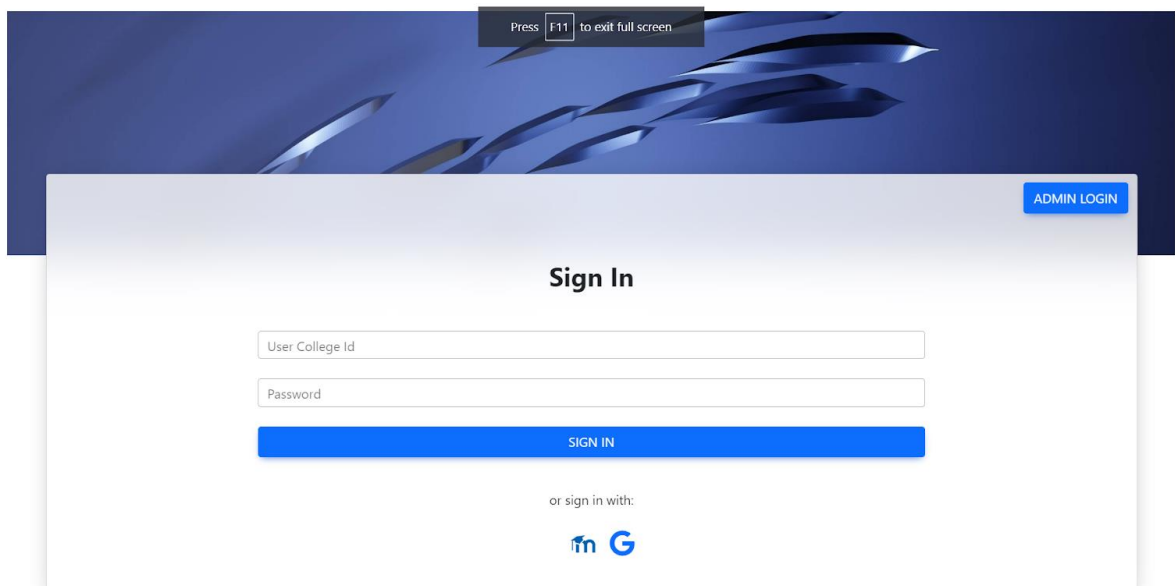
FIG 4 :(profile page)



4.4 HOME PAGE

After logging out you will again redirected to the index page.

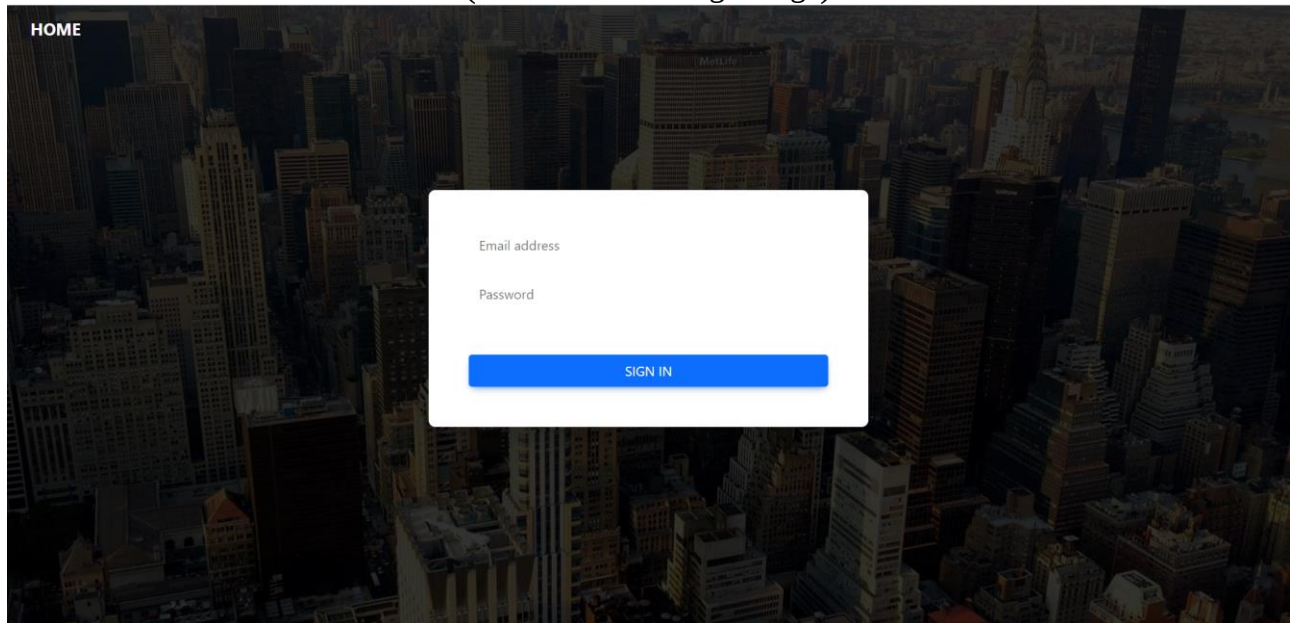
(FIG 5: Index Page)



4.5 ADMIN LOGIN

After Clicking in ADMIN LOGIN button admin will be redirected to the admin login page.

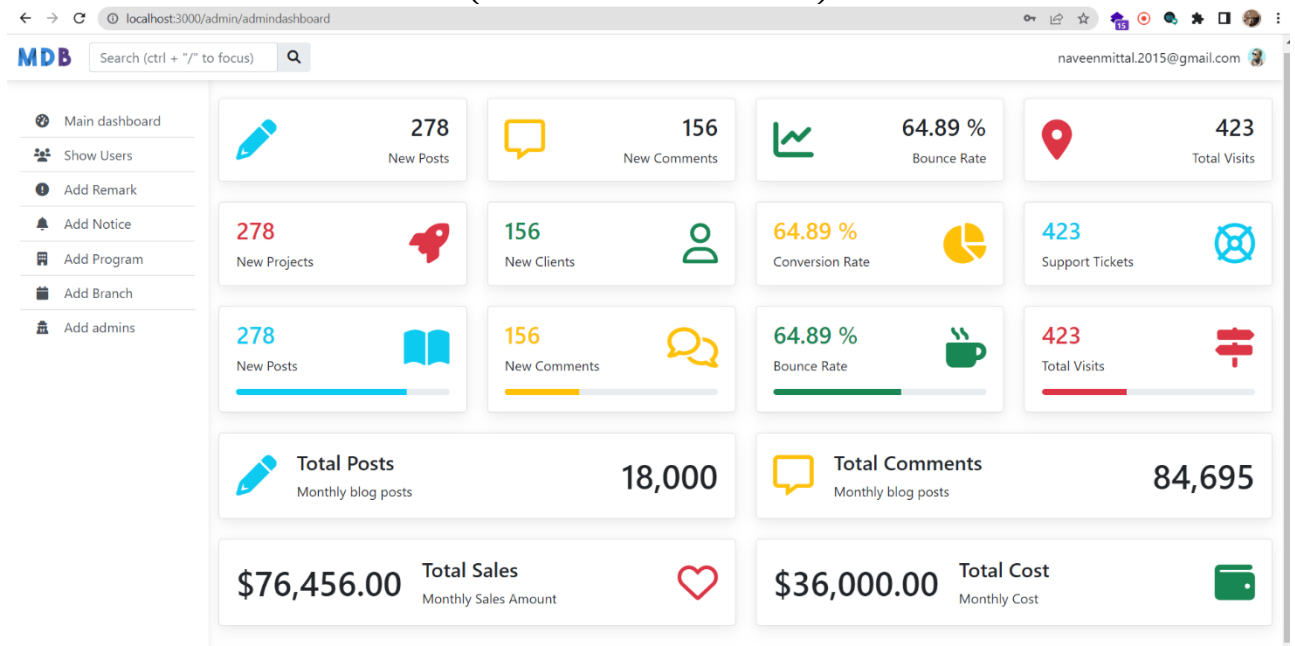
(FIG : 6 Admin Login Page)



4.6 ADMIN DASHBOARD

After successful login admin will be directed to the admin dashboard page.

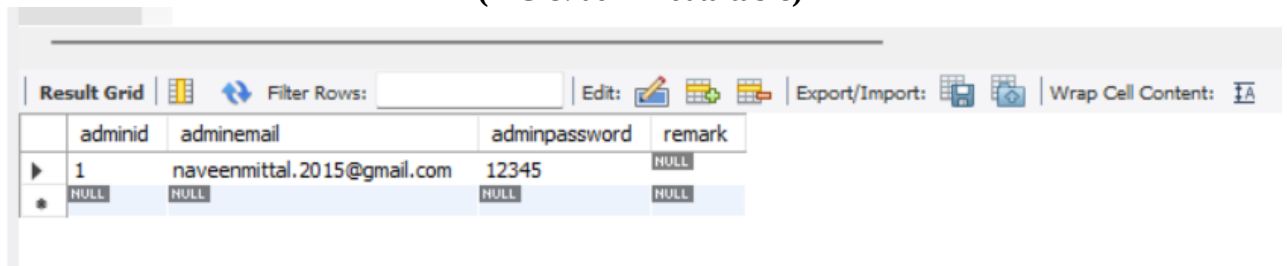
(FIG 7: Admin Dashboard)



4.7 DATABASE

4.7.1 ADMIN TABLE

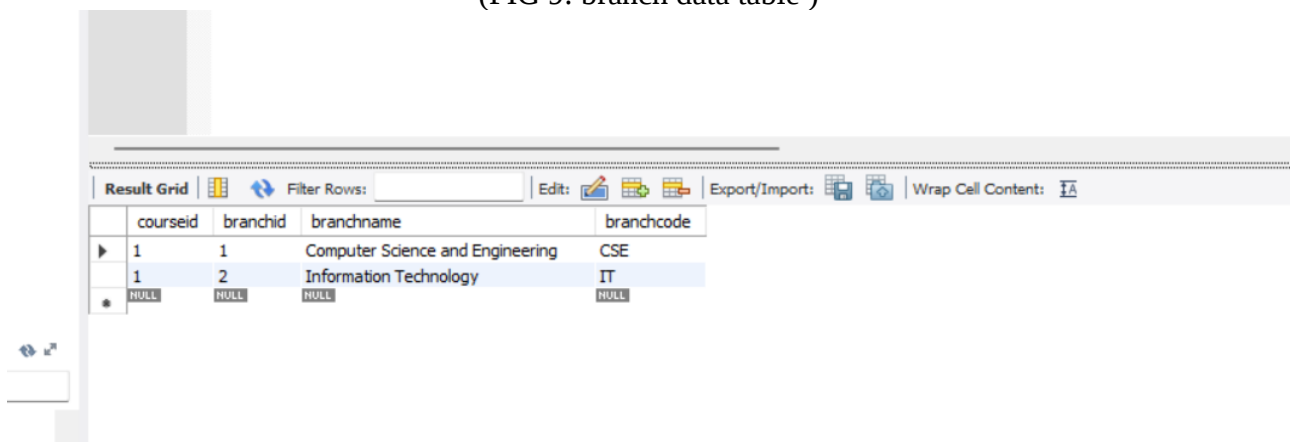
(FIG 8: admin data table)



	adminid	adminemail	adminpassword	remark
▶	1	naveenmittal.2015@gmail.com	12345	NULL
*	NULL	NULL	NULL	NULL

4.7.2 BRANCH TABLE

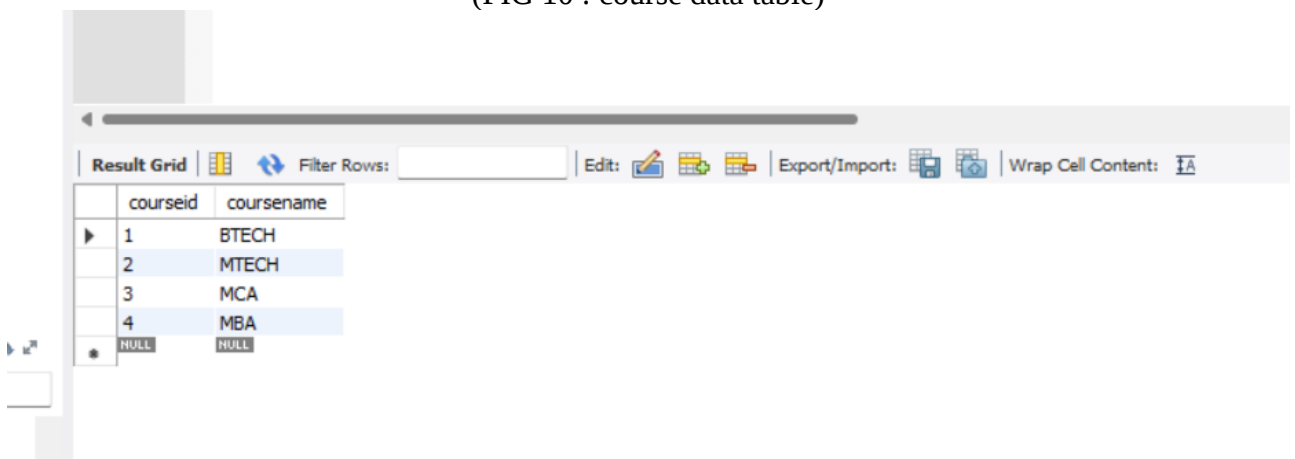
(FIG 9: branch data table)



	courseid	branchid	branchname	branchcode
▶	1	1	Computer Science and Engineering	CSE
	1	2	Information Technology	IT
*	NULL	NULL	NULL	NULL

4.7.3 COURSE TABLE

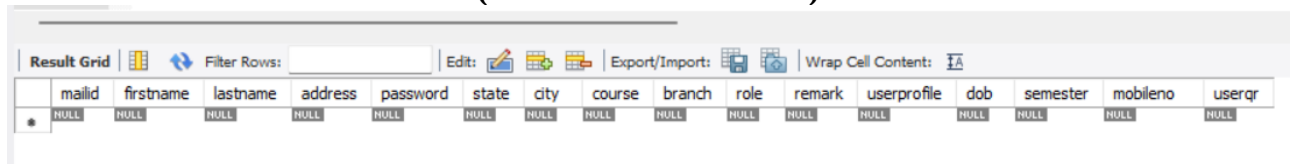
(FIG 10 : course data table)



	courseid	coursename
▶	1	BTECH
	2	MTECH
	3	MCA
	4	MBA
*	NULL	NULL

4.7.3 USERS TABLE

(FIG 11 : Users data table)



	mailid	firstname	lastname	address	password	state	city	course	branch	role	remark	userprofile	dob	semester	mobileno	userqr
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

4.8 NOTE

You must be logged in your browser using your google id.

CHAPTER 5 : CONCLUSION

Authentication and authorization are two vital information security processes that administrators use to protect systems and information.

Authentication verifies the identity of a user or service, and authorization determines their access rights. Although the two terms sound alike, they play separate but equally essential roles in securing applications and data. Understanding the difference is crucial. Combined, they determine the security of a system.

You cannot have a secure solution unless you have configured both authentication and authorization correctly.

REFERENCES

- <https://darshansaroya.com/bootstrap-vs-mdbootstrap/>
- <https://whimsical.com>
- https://fusebit.io/blog/google-oauth/?utm_source=www.google.com&utm_medium=referral&utm_campaign=none
- <https://medium.com/@allistair.vilakazi/2fa-with-node-js-and-google-authenticator-7ddd44881493>

APPENDICES

The source code given below is of index page.

```
<!DOCTYPE html>
<html lang="en">

<head>
  <title>
    Proxy
  </title>
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <!--Gooogle Auth-->

  <meta name="google-signin-client_id" content="15064425583-
h6gqtm6l884069s03jtuvn8v892ulukj.apps.googleusercontent.com">
  <script src="https://apis.google.com/js/platform.js" async defer></script>
  <link rel='stylesheet' href='/stylesheets/style.css' />
  <!-- Font Awesome -->
  <link href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.0.0/css/all.min.css"
rel="stylesheet" />
  <!-- Google Fonts -->
  <link href="https://fonts.googleapis.com/css?family=Roboto:300,400,500,700&display=swap"
rel="stylesheet" />
  <!-- MDB -->
  <link href="https://cdnjs.cloudflare.com/ajax/libs/mdb-ui-kit/5.0.0/mdb.min.css"
rel="stylesheet" />
  <!-- MDB -->
  <script type="text/javascript" src="https://cdnjs.cloudflare.com/ajax/libs/mdb-ui-
kit/5.0.0/mdb.min.js"></script>
  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta1/dist/css/bootstrap.min.css"
rel="stylesheet"
    integrity="sha384-giJF6kkoqN000vy+HMDP7azOuL0xtbfIcaT9wjKHr8RbDVddVHyTfAAsrekwKmP1"
crossorigin="anonymous">

</head>

<body>
  <!-- Section: Design Block -->
  <section class="text-center">
    <!-- Background image -->
    <div class="p-5 bg-image" style="
      background-image: url('https://mdbootstrap.com/img/new/textures/full/171.jpg');
      height: 300px;
    "></div>
    <!-- Background image -->

    <div class="card mx-4 mx-md-5 shadow-5-strong" style="
      margin-top: -100px;
      background: hsla(0, 0%, 100%, 0.8);
      backdrop-filter: blur(30px);
    ">
      <div style="display: flex; justify-content: right;">
        <div style="padding: 10px;">
          <a href="/admin/adminlogin" target="_self" class="btn btn-primary">Admin
Login</a>
        </div>
      </div>
    </div>
    <div class="card-body py-5 px-md-5">

      <div class="row d-flex justify-content-center">
        <div class="col-lg-8">
          <h2 class="fw-bold mb-5">Sign In</h2>
          <form action="/checkuser" method="post">
            <!-- Email input -->
            <div class="form-outline mb-4">
              <input type="text" id="userid" name="userid" class="form-control" />
              <label class="form-label" for="userid">User College Id</label>
            </div>
          </form>
        </div>
      </div>
    </div>
  </section>
</body>
</html>
```

```

        <!-- Password input -->
        <div class="form-outline mb-4">
            <input type="password" id="userpassword" name="userpassword" class="form-
control" />
            <label class="form-label" for="userpassword">Password</label>
        </div>

        <!-- Submit button -->
        <button type="submit" class="btn btn-primary btn-block mb-4">
            Sign in
        </button>
    </form>
    <center>
        <p style="color: red;"><%=msg%></p>
    </center>
    <!-- Register buttons -->
    <div class="text-center">
        <p>or sign in with:</p>
        <button type="button" class="btn btn-link btn-floating mx-1">
            
        </button>

        <button type="button" class="btn btn-link btn-floating mx-1">
            <a href="/auth/google"><i title="Google" class="fab fa-google fa-2x"
></i></a>
        </button>

    </div>

    </div>
</div>
</div>
</div>
</div>
</section>
<!-- Section: Design Block -->
</body>
<!-- MDB -->
<script type="text/javascript" src="https://cdnjs.cloudflare.com/ajax/libs/mdb-ui-
kit/5.0.0/mdb.min.js"></script>

</html>

```

SC OF REGISTRATION PAGE
<html lang="en">

```

<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Registration</title>
    <style>
        .card-registration .select-input.form-control[readonly]:not([disabled]) {
            font-size: 1rem;
            line-height: 2.15;
            padding-left: .75em;
            padding-right: .75em;
        }

        .card-registration .select-arrow {
            top: 13px;
        }
    </style>
    <script src="https://code.jquery.com/jquery-3.6.1.js" integrity="sha256-
3zlB5s2uwoUzrXK3BT7AX3FyvojsraNFxCc2vC/7pNI=" crossorigin="anonymous"></script>
    <script src="https://apis.google.com/js/platform.js" async defer></script>
    <link rel='stylesheet' href='/stylesheets/style.css' />
    <!-- Font Awesome -->
    <link href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.0.0/css/all.min.css"
rel="stylesheet" />
    <!-- Google Fonts -->

```

```

    <link href="https://fonts.googleapis.com/css?family=Roboto:300,400,500,700&display=swap"
rel="stylesheet" />
    <!-- MDB -->
    <link href="https://cdnjs.cloudflare.com/ajax/libs/mdb-ui-kit/5.0.0/mdb.min.css"
rel="stylesheet" />
    <!-- MDB -->
    <script type="text/javascript" src="https://cdnjs.cloudflare.com/ajax/libs/mdb-ui-
kit/5.0.0/mdb.min.js"></script>
    <!--CityList-->
    <script src="/javascripts/fillCity.js"></script>
</head>

<body>

    <form action="/adduser" method="post" enctype="multipart/form-data">
        <section class="h-100 bg-dark">
            <div class="container py-5 h-100">
                <div class="row d-flex justify-content-center align-items-center h-100">
                    <div class="col">
                        <div class="card card-registration my-4">
                            <div class="row g-0">
                                <div class="col-xl-6 d-none d-xl-block">
                                    
                                </div>
                                <div class="col-xl-6">
                                    <div class="card-body p-md-5 text-black">
                                        <h3 class="mb-5 text-uppercase">Student registration form</h3>
                                        <div>
                                            <div class="col-md-12 mb-4">
                                                
                                                <input type="hidden" name="profilepic" id="profilepic"
value="<%=data.picture%>" />
                                            </div>
                                            </div>
                                            <div class="row">
                                                <div class="col-md-6 mb-4">
                                                    <div class="form-outline">
                                                        <input type="text" id="firstname" name="firstname" class="form-
control form-control-lg" value="<%=data.given_name%>" readonly/>
                                                        <label class="form-label" for="firstname">First name</label>
                                                    </div>
                                                </div>
                                                <div class="col-md-6 mb-4">
                                                    <div class="form-outline">
                                                        <input type="text" id="secondname" name="secondname" class="form-
control form-control-lg" value="<%=data.family_name%>" readonly/>
                                                        <label class="form-label" for="secondname">Last name</label>
                                                    </div>
                                                </div>
                                            </div>
                                            <div class="row">
                                                <div class="col-md-12 mb-4">
                                                    <div class="form-outline">
                                                        <input type="text" id="emailid" name="useremailid" class="form-
control form-control-lg" value="<%=data.email%>" readonly/>
                                                        <label class="form-label" for="emailid"><%=data.email%></label>
                                                    </div>
                                                </div>
                                                <div class="form-outline mb-4">
                                                    <input type="text" id="address" name="address" class="form-control
form-control-lg" />
                                                    <label class="form-label" for="address">Address</label>
                                                </div>
                                            </div>
                                            <div class="d-md-flex justify-content-start align-items-center mb-4 py-
2">
                                                <h6 class="mb-0 me-4">Gender: </h6>

```

```

        <div class="form-check form-check-inline mb-0 me-4">
            <input class="form-check-input" type="radio" name="gender"
id="femaleGender" value="Female" />
            <label class="form-check-label" for="femaleGender">Female</label>
        </div>

        <div class="form-check form-check-inline mb-0 me-4">
            <input class="form-check-input" type="radio" name="gender"
id="maleGender" value="Male" />
            <label class="form-check-label" for="maleGender">Male</label>
        </div>

        <div class="form-check form-check-inline mb-0">
            <input class="form-check-input" type="radio" name="gender"
id="otherGender" value="Other" />
            <label class="form-check-label" for="otherGender">Other</label>
        </div>
    </div>

    <div class="row">
        <div class="col-md-6 mb-4">

            <select class="select form-control" id="statename" name="state">
                <option value="" disabled selected>Select State</option>
                <% states.map((item) => { %>
                    <option
value="<%=item.countryCode%>.<%=item.isoCode%>.<%=item.name%>"><%=item.name%></option>
                <% }) %>
            </select>

        </div>
        <div class="col-md-6 mb-4">

            <select class="select form-control" id="cityname" name="city">
                <option value="" disabled selected>Select City</option>

            </select>

        </div>
    </div>

    <div class="form-outline mb-4">
        <input type="date" id="dob" class="form-control form-control-lg"
name="dob" />
        <label class="form-label" for="dob">DOB</label>
    </div>

    <div class="row">
        <div class="col-md-6 mb-4">

            <select class="select form-control" id="course" name="course">
                <option value="" disabled selected>Select Course</option>
            </select>

        </div>
        <div class="col-md-6 mb-4">

            <select class="select form-control" id="branch" name="branch">
                <option value="" disabled selected>Select Branch</option>
            </select>

        </div>
    </div>

    <div class="form-outline mb-4">
        <input type="number" min="1" max="10" id="Semester" class="form-
control form-control-lg" name="semester" />
        <label class="form-label" for="Semester">Semester</label>
    </div>

    <div class="mb-5">
        <hr width="100%">
    </div>

    <div class="form-outline mb-4">

```



```
alt="Generic placeholder image" class="img-fluid img-thumbnail mt-4 mb-2" style="width: 150px; z-index: 1">

</div>
<div class="ms-3" style="margin-top: 130px;">
    <h5><%=data.lastname%></h5>
    <p><%=data.mailid%></p>
</div>
</div>
<div class="p-4 text-black" style="background-color: #f8f9fa;">
    <div class="d-flex justify-content-end text-center py-1" style="padding-top: 20px;">
        <div>
            <p class="mb-1 h5"><%=data.course%></p>
            <p class="small text-muted mb-0">Course</p>
        </div>
        <div class="px-3">
            <p class="mb-1 h5"><%=data.branch%></p>
            <p class="small text-muted mb-0">Branch</p>
        </div>
        <div>
            <p class="mb-1 h5"><%=data.semester%></p>
            <p class="small text-muted mb-0">Semester</p>
        </div>
    </div>
</div>
<div class="card-body p-4 text-black">
    <div class="mb-5">
        <p class="lead fw-normal mb-1">>About</p>
        <div class="p-4" style="background-color: #f8f9fa;">
            <p class="font-italic mb-1">State : <%=data.state%></p>
            <p class="font-italic mb-1">Address : <%=data.address%></p>
            <p class="font-italic mb-0">Remark : <%=data.remark%></p>
        </div>
    </div>
    <div>
        <div class="row" style="display: flex;justify-content: center">
            <div class="col-md-6" style="display: flex;justify-content: space-around;padding: 10px;">
                <form>
                    <button type="button" class="btn btn-outline-dark" data-mdb-ripple-color="dark" style="z-index: 1;">Edit Profile</button>
                </form>
            </div>
            <div class="col-md-6" style="display: flex;justify-content: space-around;padding: 10px;">
                <form action="/logout" method="post">
                    <button type="submit" class="btn btn-outline-dark" data-mdb-ripple-color="dark" style="z-index: 1;">Log Out</button>
                </form>
            </div>
        </div>
    </div>
</div>
</div>
</div>
</div>
</div>
</div>
</section>
</body>
<script type="text/javascript" src="https://cdnjs.cloudflare.com/ajax/libs/mdb-ui-kit/5.0.0/mdb.min.js"></script>
</html>
```