

# CODEEMY

## *E-LEARNING PLATFORM USING MERN STACK*

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# INTRODUCTION

- CODEEMY is a web-based e-learning platform focused on learning coding skills.
- Provides structured programming courses with video lectures.
- Supports student and instructor roles.
- Tracks course progress and learning outcomes.
- Developing using the MERN stack.



## PROBLEM STATEMENT

- Many students face difficulty learning coding through traditional classroom methods.
- Lack of structured and accessible online coding resources.
- Limited platforms for tracking individual learning progress.
- Insufficient interaction between learners and instructors.
- Need for a centralized platform focused on coding education.
- MANY AVAILABLE E-LEARNING PLATFORMS ARE EXPENSIVE AND NOT AFFORDABLE FOR ALL LEARNERS.

## OBJECTIVES

- To develop a cost-effective e-learning platform focused on coding education.
- To provide structured programming courses with video-based learning.
- To enable student and instructor role-based access.
- To track learner progress and course completion.
- To offer an easy-to-use and scalable online learning system.



# TECHNOLOGY STACK

## ❑ FRONTEND

- **REACT.JS** – COMPONENT-BASED UI DEVELOPMENT
- **TAILWIND CSS** – RESPONSIVE AND MODERN STYLING
- **JAVASCRIPT (ES6+)** – CLIENT-SIDE LOGIC

## ❑ BACKEND

- **NODE.JS** – SERVER-SIDE RUNTIME ENVIRONMENT
- **EXPRESS.JS** – REST API DEVELOPMENT

## ❑ DATABASE

- **MONGODB** – NOSQL DATABASE FOR FLEXIBLE DATA STORAGE
- **MONGOOSE** – ODM FOR MONGODB SCHEMA MANAGEMENT

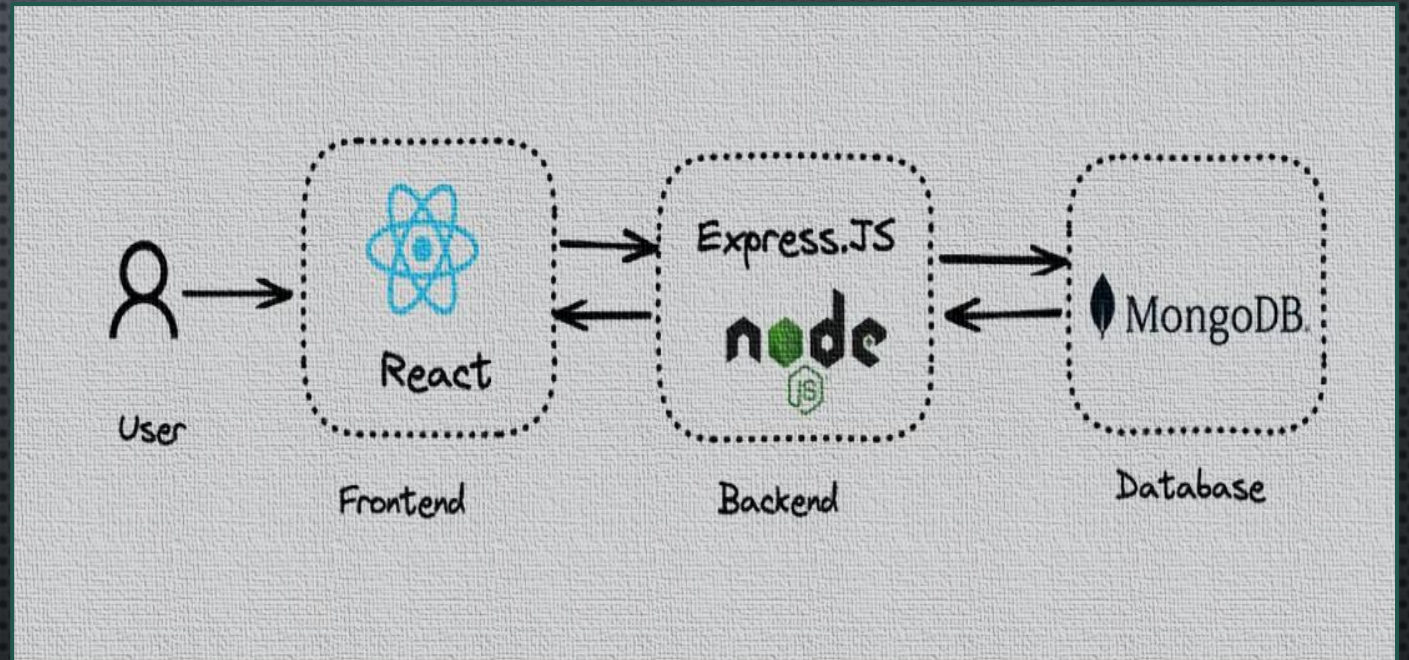
## ❑ AUTHENTICATION & SECURITY

- **JWT (JSON Web Token)** – Secure authentication
- **Bcrypt.js** – Password encryption



# SYSTEM ARCHITECTURE

- CLIENT-SERVER ARCHITECTURE
- REACT FRONTEND
- REST APIS
- NODE.JS BACKEND
- MONGODB DATABASE





# USER ROLES

## 1. STUDENT

- Registers and logs in
- Enrolls in coding courses
- Watches video lectures
- Tracks learning progress

## 2. INSTRUCTOR

- Creates and manages courses
- Uploads lectures and content

## 3. ADMIN

- Manages users and roles
- Approves instructors and courses
- Monitors platform activity

# FUNCTIONAL MODULES

## 1. User Management

- Registration and login
- Role-based access (Student, Instructor, Admin)

## 2. Course Management

- Course creation and publishing
- Category-wise course listing

## 3. Learning Module

- Video lectures
- Course progress tracking

## 4. Review & Rating

- Course ratings and feedback



## DATABASE DESIGN

- **User** – stores student, instructor, admin details
- **Profile** – additional user information
- **Course** – course details and instructor mapping
- **Section** – course sections
- **Subsection** – video lectures
- **Courseprogress** – learning progress tracking
- **Ratingandreview** – course feedback
- **Category** – course classification

## WORK COMPLETED TILL 7TH SEM

- Requirement analysis completed
- System architecture designed
- UI development completed like home, about, contact, authentication
- The backend apis implemented like user authentication, course management



# BACKEND RESTFUL API ENDPOINT

## **AUTH:**

POST /api/v1/auth/signup  
POST/api/v1/auth/sendotp  
POST /api/v1/auth/login  
POST/api/v1/auth/logout  
POST/api/v1/auth/changepassword  
POST/api/v1/auth/reset-password

## **PROFILE:**

GET/api/v1/profile/getUserDetails

## **COURSES:**

GET /api/v1/course/getAllcourses  
POST /api/v1/courses/createCourse  
GET/api/v1/course/getCourseDetails

## PROOF OF WORK – HERO SECTION

Codeemy

[Home](#)

[Courses](#)

[About Us](#)

[Contact Us](#)

[Get's started](#)


# Build Skills That Shape Your Future With Codeemy

Powered by modern learning methods, Codeemy helps you master coding through structured courses, hands-on practice, and real-world projects.

[Join Us](#)



# SIGN UP , VERIFY OTP & LOGIN PAGE



## Create Account


Join us and start learning today


Student

Instructor


First Name

Last Name


 First name


 Last name

Email Address


 Enter your email


Password

 Create a password



Confirm Password

 Confirm your password



→ Sign Up as Student


Already have an account? [Sign In](#)

## Verify OTP

OTP sent to maitysanjay357@gmail.com

Enter OTP


Verify & Signup




## Welcome Back


Sign in to continue your journey

Email

 Enter your email

Password

 Enter your password



[Forgot Password?](#)

→ Sign In

Don't have an account? [Sign up](#)



# CHANGE PASSWORD & RESET PASSWORD





## Change Password

Update your account password below



Old Password

 Enter old password 

New Password

 Enter new password 

Confirm New Password

 Confirm new password 

Change Password


Remember your password? [Sign in](#)



## Forgot Password

Enter your registered email to reset your password

Email

 Enter your registered email

→ Send Reset Link



Remembered your password? [Back to Login](#)




## Reset Password

Enter your new password below

New Password

 Enter new password 


Confirm Password


 Confirm new password

→ Reset Password





# USER DASHBOARD

 **My Profile**

 Enrolled Courses

 Cart

 Settings

 Logout

## My Profile




**Learner Name**  
learner@email.com


 Edit

### About

Write something about yourself

 Edit

### Personal Details

 Edit

First Name

Learner

Last Name

Beta

Email

learner@email.com

Phone Number

Add Contact Number

Gender

Add Gender

Date of Birth

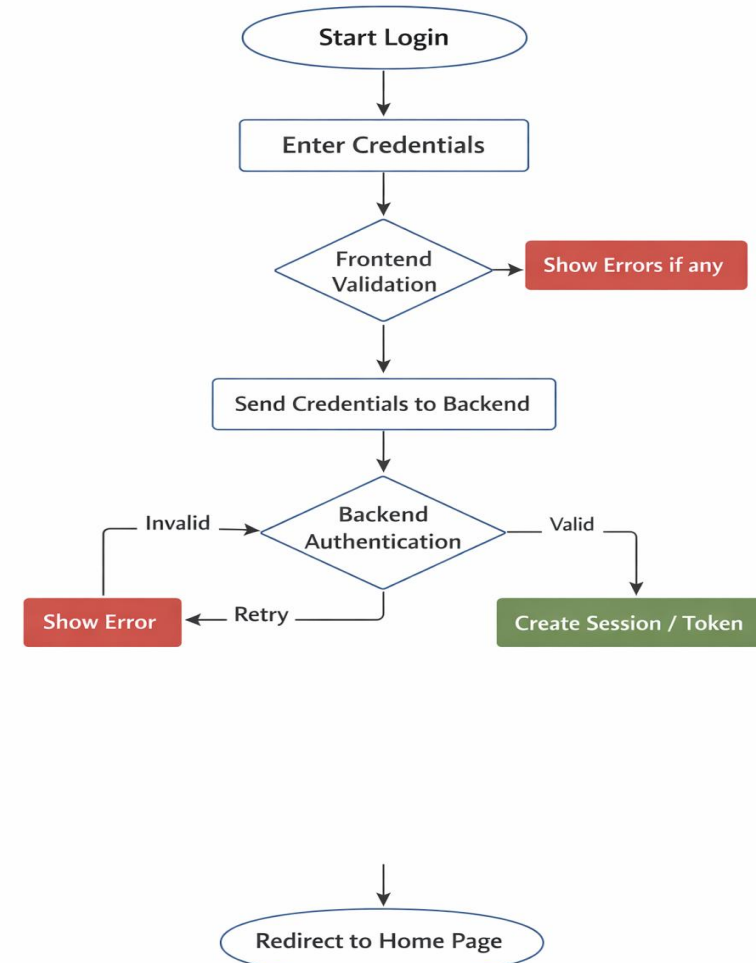
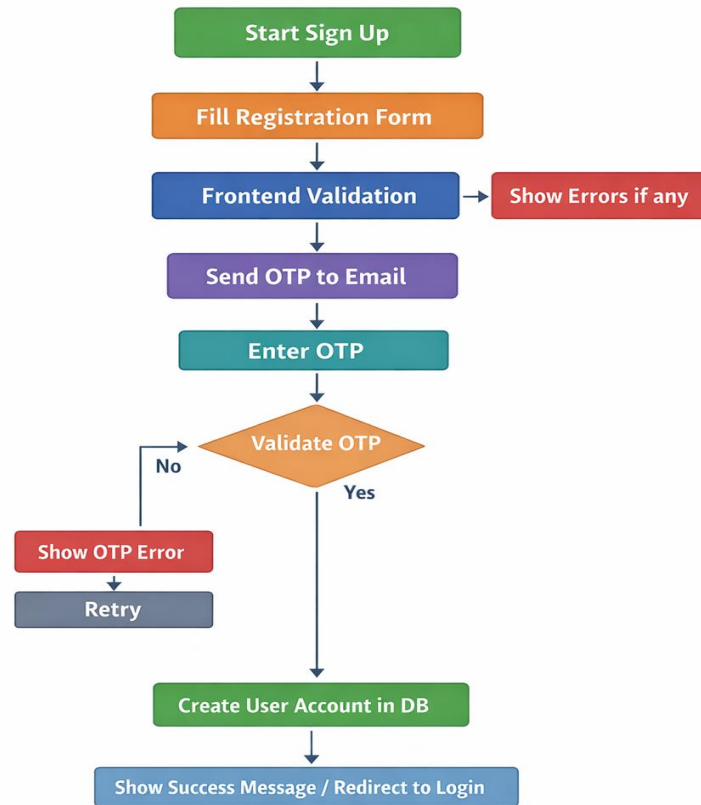
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## PRELIMINARY RESULTS

- Login & registration working
- Change password and forgot password is working
- Course creation functional is ready but not UI
- Course listing displayed functional is ready not UI



# WORK FLOW OF SIGN UP AND LOGIN FUNCTIONALITY



## FUTURE SCOPE

- **Payment Gateway Integration** – Support multiple online payment options
- **Course Recommendation System** – Suggest courses based on user preferences
- **Enhanced User Interface** – Improve UI/UX for better user experience
- **Certificate Generation** – Auto-generate certificates for completed courses
- **Quiz Setup** – Add quizzes and assessments for learning evaluation
- **Deployment** – Host platform for global access and scalability



## CONCLUSION

- CODEEMY provides a strong e-learning foundation
- Scalable and secure architecture
- Ready for full implementation

**THANK YOU**