

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

❑ DATABASE

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

❑ BACKEND

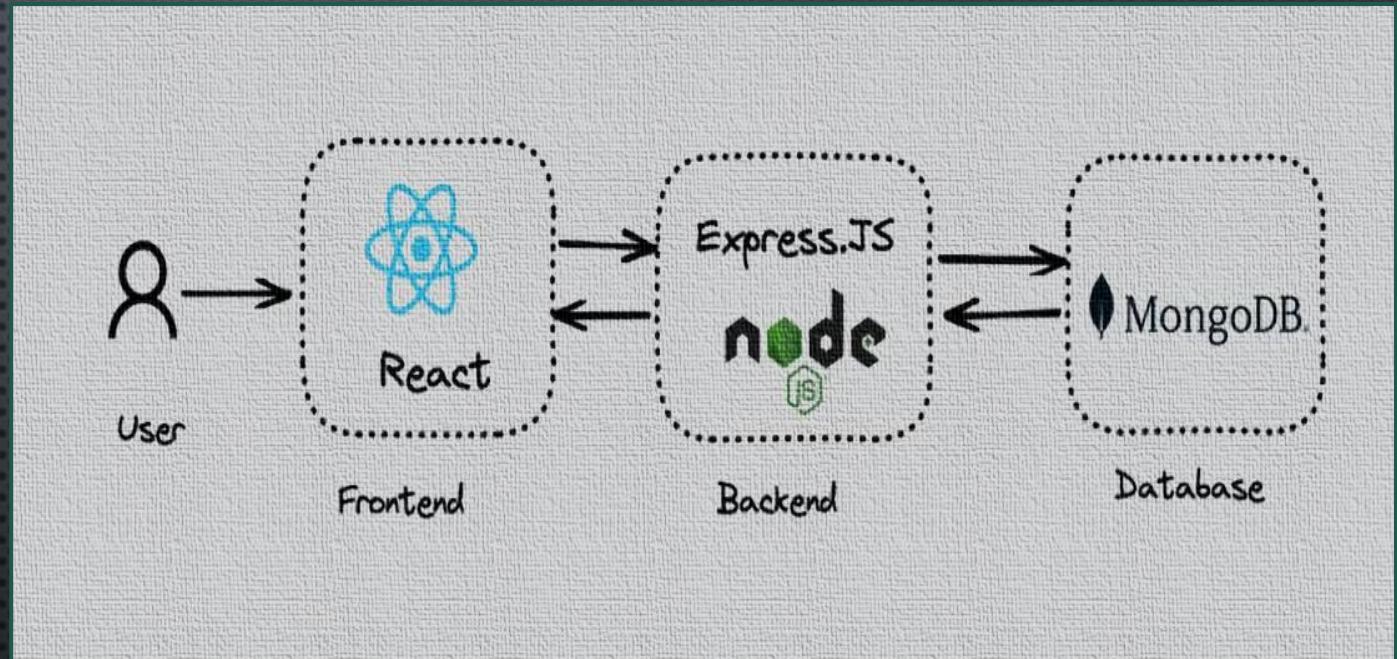
- **NODE.JS** – SERVER-SIDE RUNTIME ENVIRONMENT
- **EXPRESS.JS** – REST API DEVELOPMENT

❑ 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)

3. Learning Module

- Video lectures
- Course progress tracking

2. Course Management

- Course creation and publishing
- Category-wise course listing

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

COURSES:

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

PROFILE:

GET/api/v1/profile/getUserDetails

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

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

Verify OTP

OTP sent to maitysanjay357@gmail.com

Enter OTP



Welcome Back

Sign in to continue your journey

Email

Enter your email

Password

Enter your password

[Forgot Password?](#)

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

First Name
Learner

Last Name
Beta

Email
learner@email.com

Phone Number
Add Contact Number

Gender
Add Gender

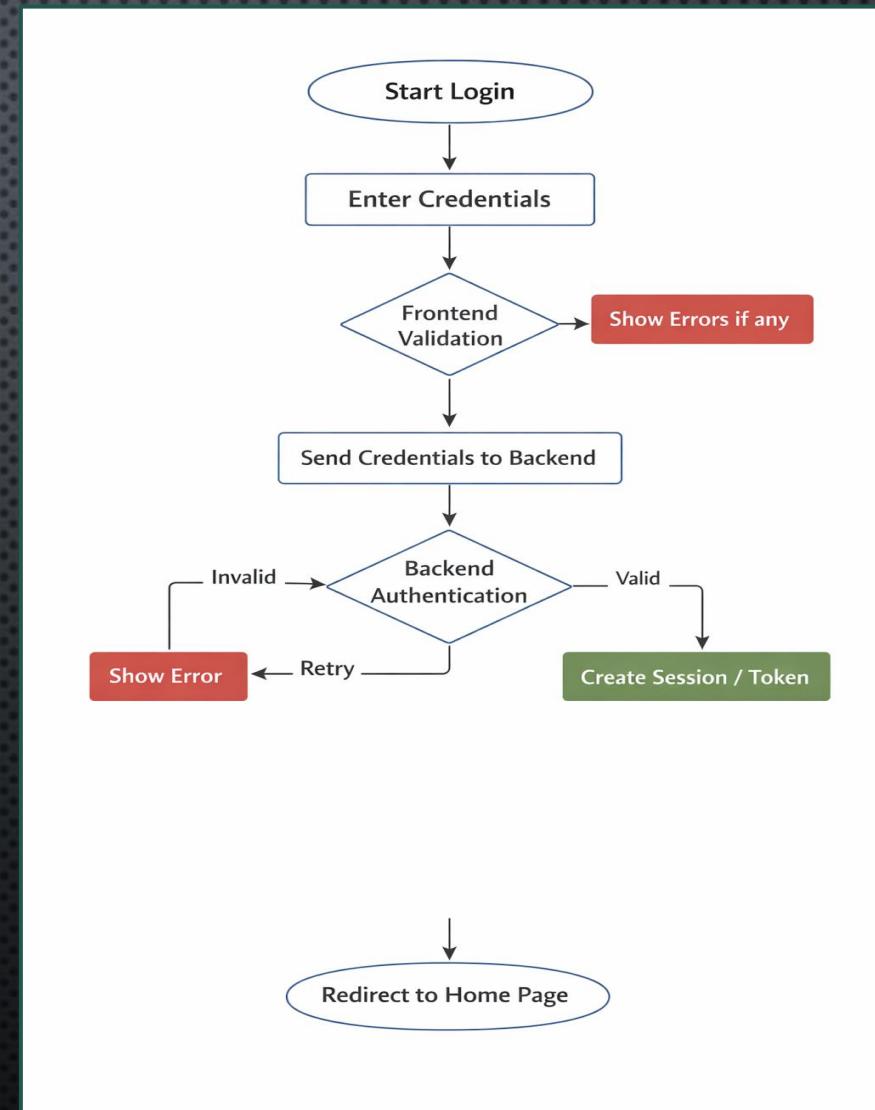
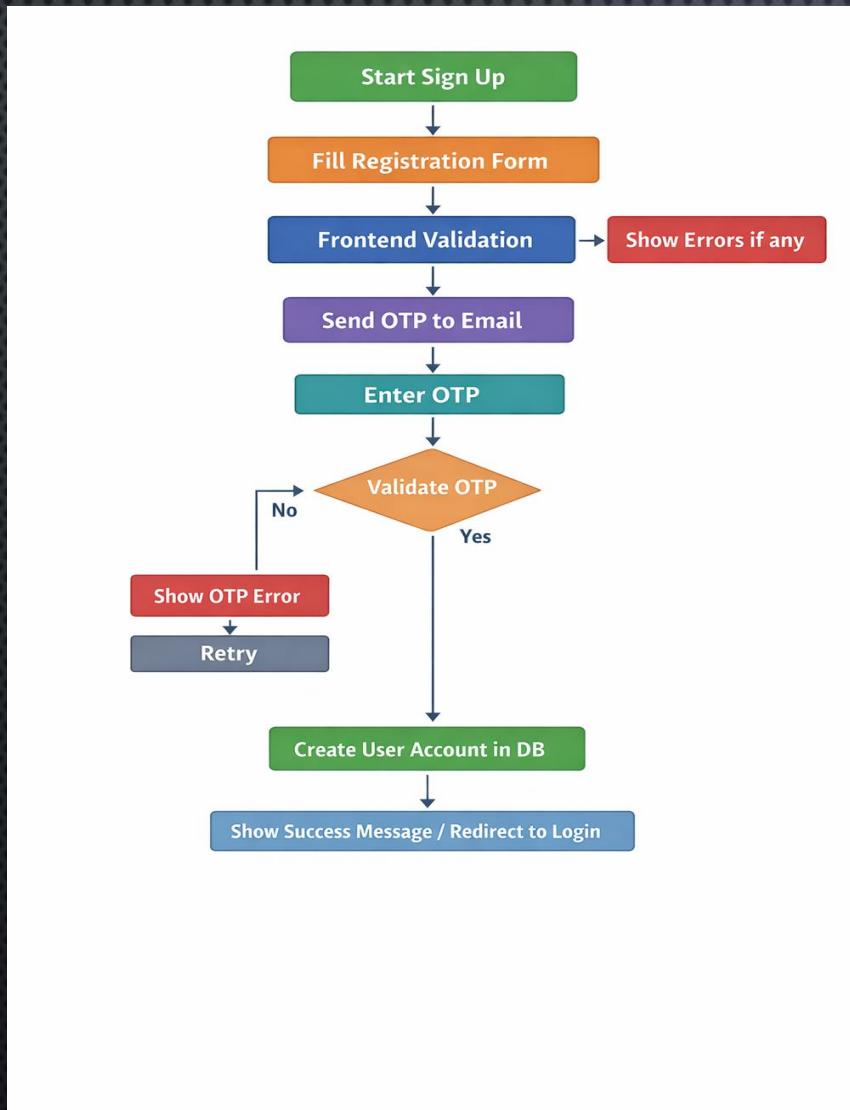
Date of Birth
January 1, 1970

Edit

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