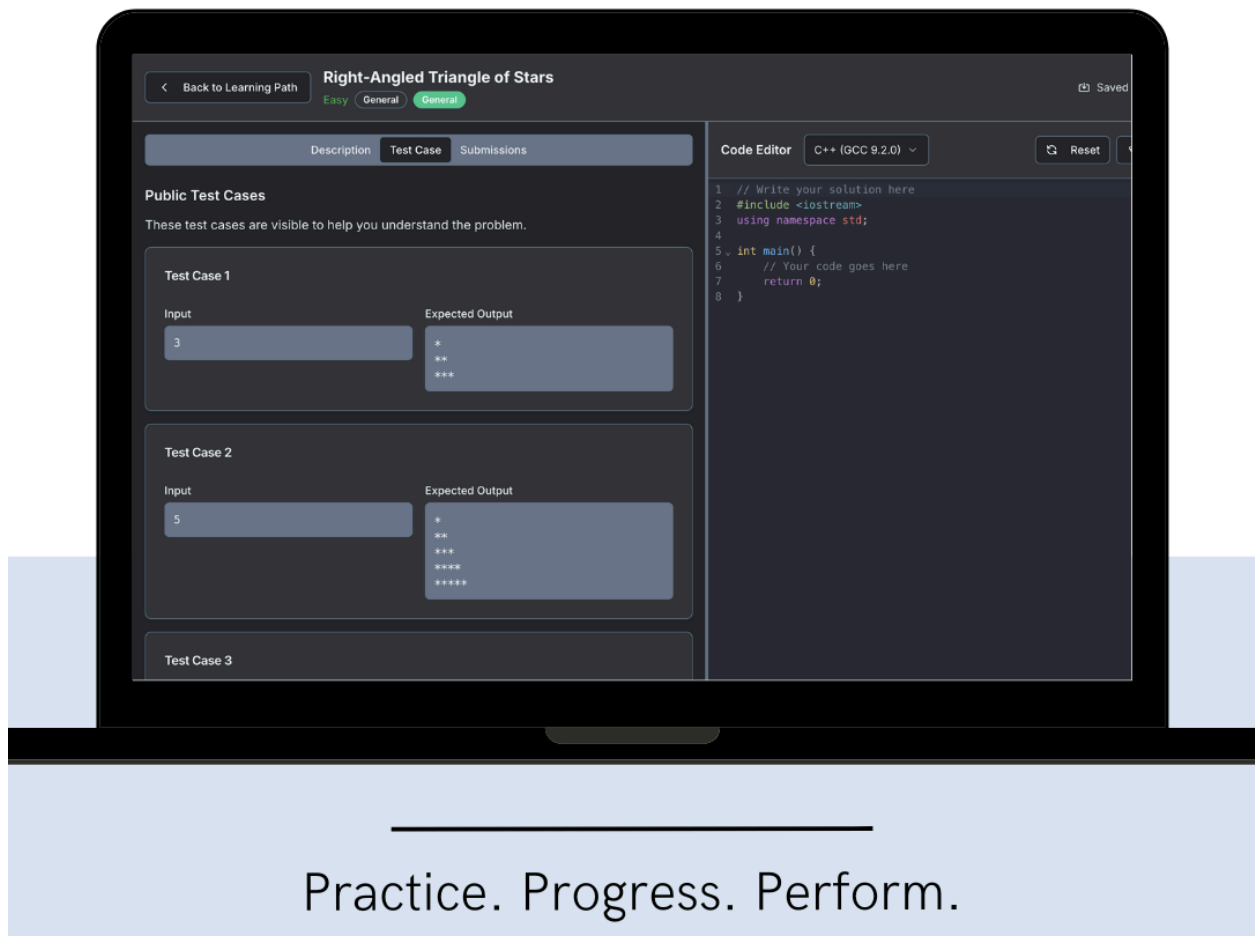



Introduction & Overview

Product Name :- CodeArena : A Competitive Programming Platform


Code Arena



Team Details



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CodeArena - Practice. Progress. Perform.

Product Overview :- CodeArena is an integrated web-based platform designed for college students and faculty to bridge the gap between practice and placement preparation. It offers a consistent interface for learning , automated evaluation, and centralized access to question banks, including previous placement questions.

Problem Statement :- The project aims to develop an intuitive and efficient online code compiler for programming exams and student practice. The primary goal is to create a seamless coding experience with real-time feedback, automatic grading, and support for multiple programming languages. The platform is designed to be user-friendly, ensuring ease of use for both students and faculty while maintaining security and reliability.

Purpose of Development :- Our objective is to develop a **Competitive Programming Platform** for college students, helping them to enhance their coding skills and preparing them for placement drives. The platform will serve as a **centralized hub** where faculty members can upload previously asked coding questions from placement exams, allowing students to practice and improve their problem-solving abilities.

Key Features & Benefits

Core Functionalities :-

- 1) Student Can Practice the questions
- 2) Faculty can add the coding questions
- 3) Faculty can later update the questions
- 4) Students can view their submission
- 5) Faculty can view the question wise submission
- 6) Faculty can view the student wise submission
- 7) System will Evaluate the code submission

Unique Selling Points (USPs) :

CodeArena - USP

- Student and Faculty Centric coding Platform
- Easy access to previously asked company questions.
- Helps with syllabus-based question bifurcation
- Uses Code Sandboxing to prevent miscellaneous code executing



Technology Stack :-

CodeArena - Tech Stack



git

 MySQL

- Frontend Framework: ReactJS, CodeMirror

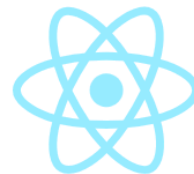


- Backend Framework: PHP(Laravel)

- Database: MySQL



- Version Control: Git



React

- Remote Code Execution Engine : Judge0

Technical Specifications

Performance Metrics :-

- Varies based on the server on which the platform is hosted.

System Requirements (Client) :-

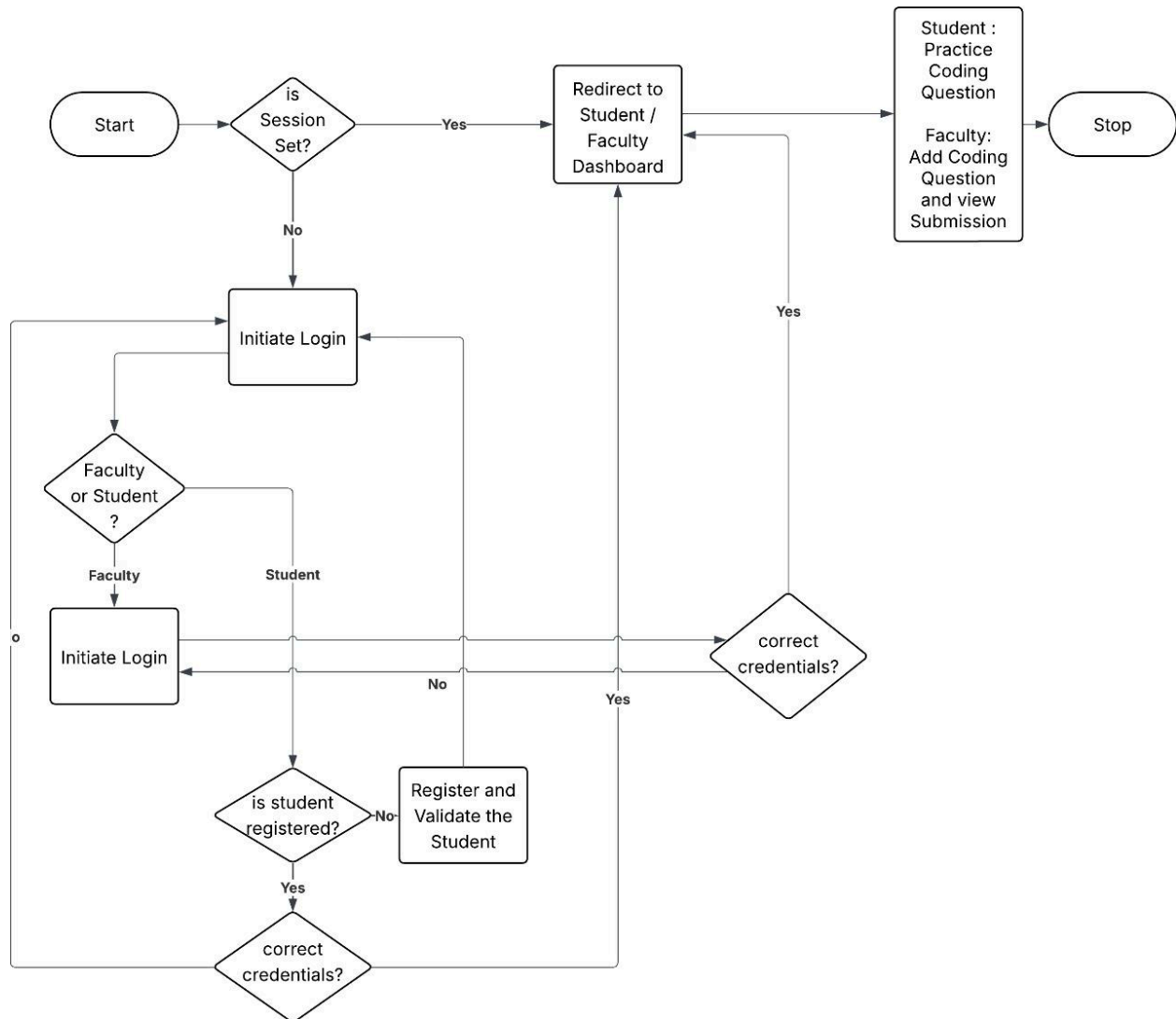
- System Having Browsing functionality.
- System Having Internet Connectivity.
- System Must be Connected to the local network.

System Requirements (Server) :-

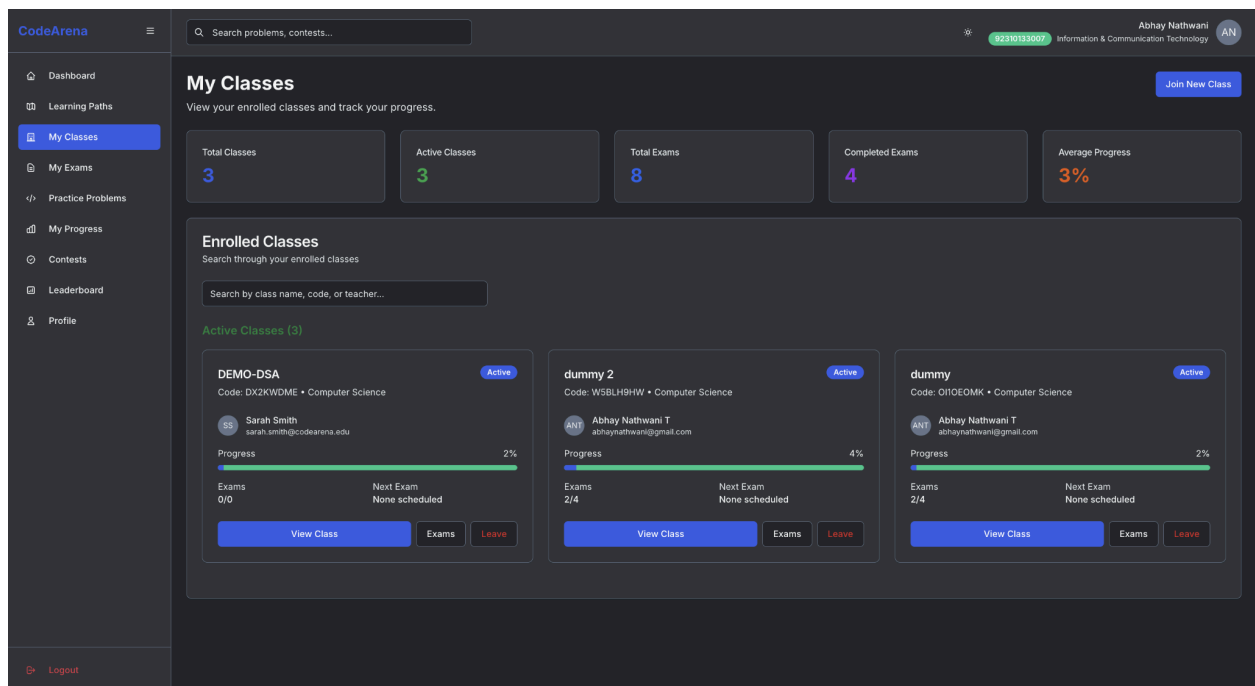
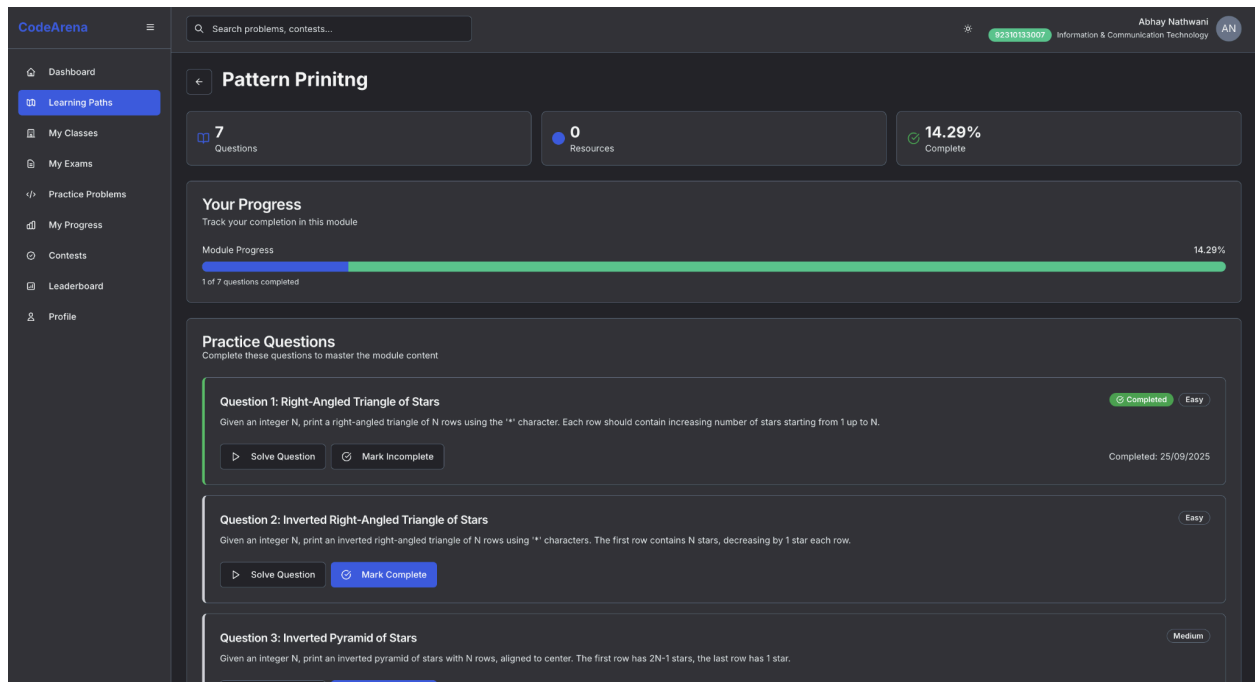
- CPU: Multi-core processor (e.g., 4 cores)
- RAM: Minimum 4 GB; 8 GB or more recommended for handling multiple concurrent code executions.
- Storage: At least 50 GB of free disk space to accommodate Docker images and logs

Product Design & Diagrams

Flow Chart:-



UI Screens:



CodeArena

Dashboard

Learning Paths

My Classes

My Exams

Practice Problems

My Progress

Contests

Leaderboard

Profile

Search problems, contests...

Abhay Nathwani

Information & Communication Technology

Practice Problems

Sharpen your coding skills with practice questions

Problems Solved

0

Total solved

Current Streak

0

Days in a row

Average Time

0m

Per problem

Accuracy

0%

Success rate

Available Questions

14

Total problems

Easy Problems

11

Beginner level

Medium Problems

2

Intermediate level

Find Practice Problems

Search problems by title, description, tags, or companies...

All Difficulties

Search

Practice Problems

Choose a problem to start practicing your coding skills

Factorial of N

Easy

Compute factorial of a given number N.

13 test cases

Start

Generate First N Prime Numbers

Medium

Generate the first N prime numbers and print them space-separated.

13 test cases

Start

My Classes

My Exams

Practice Problems

My Progress

Contests

Leaderboard

Profile

Overview

Achievements

Settings

Security

Abhay Nathwani

abhaynathwani123@gmail.com

Student

Silver

Rating: 1494

66

Problems Solved

72%

Acceptance Rate

165

Total Submissions

3

Badges Earned

Submission Statistics

Distribution of solved problems by difficulty

Easy: 25

Medium: 3

Hard: 8

Rating History

Your contest performance over time

2200

1650

1100

650

0

Aug 27

Aug 29

Aug 31

Sep 2

Sep 4

Sep 6

Sep 8

Sep 10

Sep 12

Sep 14

Sep 16

Sep 18

Sep 20

Sep 22

Sep 25

Activity Map

Your coding activity over the past year

Oct

Nov

Dec

Jan

Feb

Mar

Apr

May

Jun

Jul

Aug

Sep

Mon

Wed

CodeArena

Dashboard

Learning Paths

My Classes

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Practice Problems

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Profile

Logout

Search problems, contests...

52310133007 Information & Communication Technology

Abhay Nathwani

DEMO-DSA

Class Code: DX2KWDME

OverviewAssignments (1)Announcements (3)Students (1)

Class Information

Instructor

SS

Sarah Smith

sarah.smith@codearena.edu

Class Details

Class Code:

DX2KWDME

Students:

1

Assignments:

1

Created:

09/09/2025

Recent Assignments

Latest assignments posted

DEMO

40 pts

Due: 12/09/2025

View

Recent Announcements

Latest announcements from instructor

New Assignment: DEMO

DEMO

10/09/2025

Assignment

eee

10/09/2025

Daily WorkExamContent CoveredAssignment

Join Discord

Join my discord !!! kpo

1

10/09/2025

Daily WorkExam

Back to Class

DEMO

autosaveProgress1/2 completedShow Sidebar

DescriptionTest CaseSubmissions

Problem Description

Sarah

Examples

Constraints

Sarah

Public Test Cases

Test Case 1

Input

S

Expected Output

S

JavaScript...

ResetRunSubmit

User Interaction & Integration

User Interfaces:

- **Students:-**

- Student Classes
- Student Profile
- Practice Problems
- Coding Interface
-

- **Faculty:-**

- Code Upload/Update Screen
- Code Running Screen
- Question List
- Previous Submission List filtered by students , question and status

Deployment:

- System will be deployed on the one of the college system

Market Relevance & Future Scope

Potential Applications

- Engineering and IT colleges
- On-campus placement preparation
- Coding clubs and hackathons

Future Improvements

- Gamified coding experience (XP, levels, badges)
- Exams Module will be integrated