

PROJECT SYNOPSIS : CODE-A-THON

A COMPREHENSIVE ONLINE TEST-CONDUCTING AND SKILL ENHANCEMENT PLATFORM

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Project Type: Web-Based Application/Full Stack Development

Domain: E-Learning, Human Resources, Skill Development

1. INTRODUCTION AND BACKGROUND

The modern corporate landscape demands that fresh graduates possess a combination of strong technical expertise and advanced cognitive skills (aptitude, logical reasoning). The current university-level Online Test-Conducting Platforms fails to keep pace with the rapidly evolving test patterns and specific skill demands of mass recruiters (like TCS, Infosys, etc.). This mismatch creates a significant employability gap.

Platforms like FACE Prep have proven the success of providing structured, company-specific preparation. This project, **CODE-A-THON** aims to replicate this successful model while integrating robust features to serve as an all-in-one portal for students, college Test Conducting Patterns.

2. PROBLEM STATEMENT

The main challenges addressed by this project are:

- ✓ Lack of Centralization : Students struggle to find up-to-date and reliable for Aptitude Questions often relying on fragmented, unverified sources.
- ✓ Ineffective Assessment : Existing practice tests are typically generic and do not accurately simulate the real-time, time-bound environment of major company exams.

3. OBJECTIVES AND SCOPE

3.1 Overall Objective (Aim)

To design, develop, and deploy a secure, scalable, multi-user web-based platform, **CODE-A-THON**, that streamlines the test conducting process and provides highly targeted, adaptive skill development and assessment resources.

3.2 Specific Objectives (Goals)

1. To implement a Two-tier user management system (Admin, Student).
2. To build a Company-Specific Mock Test Engine that can be configured to precisely replicate the pattern (sections, time) of specific company recruitment drives.
3. To develop a Coding Assessment Module capable of evaluating code submissions against multiple test cases in real-time.

3.3 Scope of the Project

The project focuses on the web application development and the core Assessment Engine . It will cover Aptitude (Quant, Reasoning) and Technical Coding modules.

4. PROPOSED SYSTEM METHODOLOGY

4.1 System Architecture

- The system will be based on a Client-Server (Two-Tier) model:
- Presentation Tier (Frontend): Handles user interaction (e.g., React).
- Application Tier (Backend): Contains the business logic and assessment algorithms (e.g., JavaScript).
- Data Tier (Database): Manages results (MongoDB).

4.2 Key Modules

- Content Management Module: Admin portal for adding, editing, and categorizing questions, and training materials.
- Assessment Engine Module: Core logic for test configuration, randomized question selection, time management, and auto-grading.

4.3 Technology Stack

- Frontend: ReactJS, HTML5, CSS3, JavaScript (with a framework like React).
- Backend: JavaScript.
- Database: MongoDB.

5. EXPECTED OUTCOMES AND CONTRIBUTION

5.1 Expected Deliverables

The successful completion of the project will result in a fully operational **CODE-A-THON** web application. This platform will provide a superior and more accessible alternative to current preparation methods by offering:

- Accurate simulation of company tests.
- A centralized, paperless system for conducting tests.

5.2 Project Contribution

This project contributes a practical, real-world solution to the industry's need for job-ready graduates. It demonstrates proficiency in full-stack development, database management, and the implementation of complex, time-sensitive submitting.

6. REFERENCES / BIBLIOGRAPHY

1. E-Learning or Online Assessment Platforms.
 2. Official Websites on the chosen Database/Programming Language.
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Alternative Project Titles

Title Options
1. Apti-Prep : A Data-Driven Aptitude and Coding Assessment System.
2. Career-Catalyst : A Personalized Skill Readiness Portal.
3. Prep-Zone : The Next-Generation Centralized Placement Preparation Hub.