

PROJECT SYNOPSIS : CODE-A-THON

A COMPREHENSIVE ONLINE TEST-CONDUCTING AND SKILL ENHANCEMENT PLATFORM

Submitted By: **Jeevan.G**

Guided By: **Dr. Prashanth G K**

Degree/Program: Post-Grauate

Department: Masters of Computer Applications

Date of Submission: 10-11-2025

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.
-

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.