****

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Project Proposal

Software Engineering (SE-202)

*Under the guidance of: Submitted by:*

**Prof. Rahul Kataria Vikash (2K19/SE/146)**

**Umang Gupta ( 2K19/SE/138)**

The Coding Monitor

ABSTRACT

Competitive programming is something which many students of CSE background are associated with. Questions related to Data Structures and Algorithms always need a good amount of practice. CodeChef and Codeforces are some of the platforms where coders generally practice for these skills. As such, there isn’t any dashboard where the user can get full statistics /overview and details of all the questions attempted. **Through this project we want to solve this problem and build a dashboard that will monitor their progress across various platforms and help them maintain a pace to ace competitive programming.**

OBJECTIVES

In this project, we will make a website which will serve as a dashboard for a user to view his/her performance in competitive coding and the number of questions of Data Structures and Algorithms solved by the user. For now the program will have features for Codeforces and Codechef (which will be expanded later on). There will be 2 types of users in our program, one who comes as guest.

* Temporary Users : These users will be temporary and there data will not be stored in the database. These users will get only limited features.
* Permanent Users : The second type of users will be the ones who log in our website. The data will be stored and all the additional functionalities will be available to these users.

REQUIREMENTS

**Hardware:** Any laptop/desktop/mobile

**Software:** VS Code (as code editor) , GitHub (code sharing and version control platform) , NodeJS (used for backend server) , MongoDB (database) , Any web Browser

**Languages/Technologies Used:** HTML, CSS, JavaScript, Materialize CSS, MongoDB, NodeJS.

PROJECT CONSTRAINTS

For implementing this project, we are fetching the user data from various websites like Codeforces, Codechef through the use of API. The codeforces API is publicly available, but for codechef, we had to request them to provide us the access to API. In reply to this we got an API of version 1.0.0 which simply means that they have provided us some limited access to their database. So further implementation and expansion will be subjected to availability of API from these organizations.

REFERENCES

* Roger S. Pressman, Software Engineering: A Practitioner’ S Approach, Fifth Edition.
* K.K Aggarwal & Yogesh Singh, Software Engineering (3rd ed.).
* Ian Sommerville, SOFTWARE ENGINEERING, Ninth Edition.
* Ralph Moseley, Developing Web Applications.
* Jason Clark, Building Web Applications with HTML5, CSS3, and JavaScript: An Introduction to HTML5.
* Karl Seguin, The Little MongoDB book.
* Eric T. Freeman & Elisabeth Robson, Head First JavaScript Programming.
* Marc Wandschneider, Learning Node.js: A Hands-On Guide to Building Web Applications in JavaScript.
* Julie C. Meloni, SamsTeachYourself : HTML, CSS and JavaScript.