

Coding Performance Tracker

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Abstract— With the increase in technologies, the demand for great developers has also increased and in order to become a great programmer, one should have an in-depth knowledge of fundamentals of computer science. One important aspect to it is the knowledge of data structures and algorithms. One way to have a good grasp of data structures and algorithms is by doing competitive programming on various coding platforms such as hackerrank, codechef, codeforces. But it is really difficult to keep a track of our own progress on various different sites, thus this application will provide a platform to monitor cumulative progress of our coding skills.

Keywords: Coding Performance Tracker

When we started our coding journey, it was very difficult for us to remain motivated and to check our progress from time to time. We used to boggle between various coding platforms in order to keep a check on our progress as well as to find new and more interesting problems being solved by our fellow. What if? Instead of visiting each and every platform separately we can check one's progress on a single platform i.e. getting all the details of the latest problem solved, upcoming contest and many more over a single platform. Along with that we need not to remember the different profile handles over different coding platforms instead we just need to enter their handle on our friend list and we can track the progress easily.

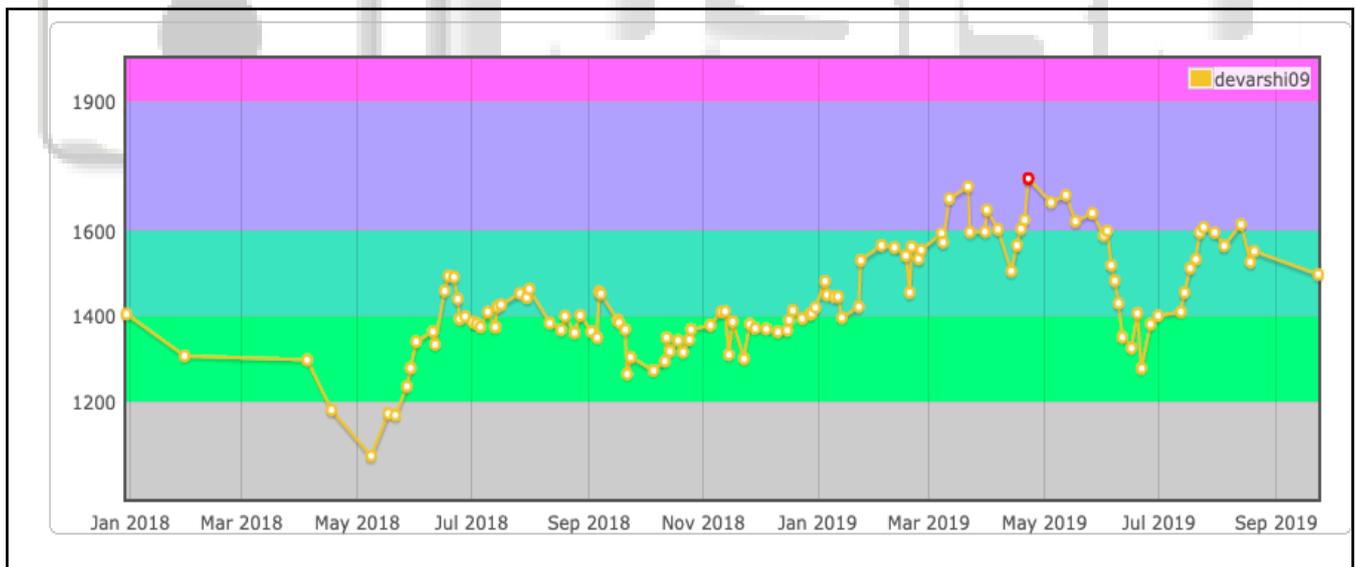
I. INTRODUCTION

With the increasing competition in the current world, it is really important for students who aspire to become great developers to have a good knowledge of data structures and algorithms and as everyone is very well aware of the fact that solving problems on various coding platforms helps students to gain knowledge of various data structures and algorithms.

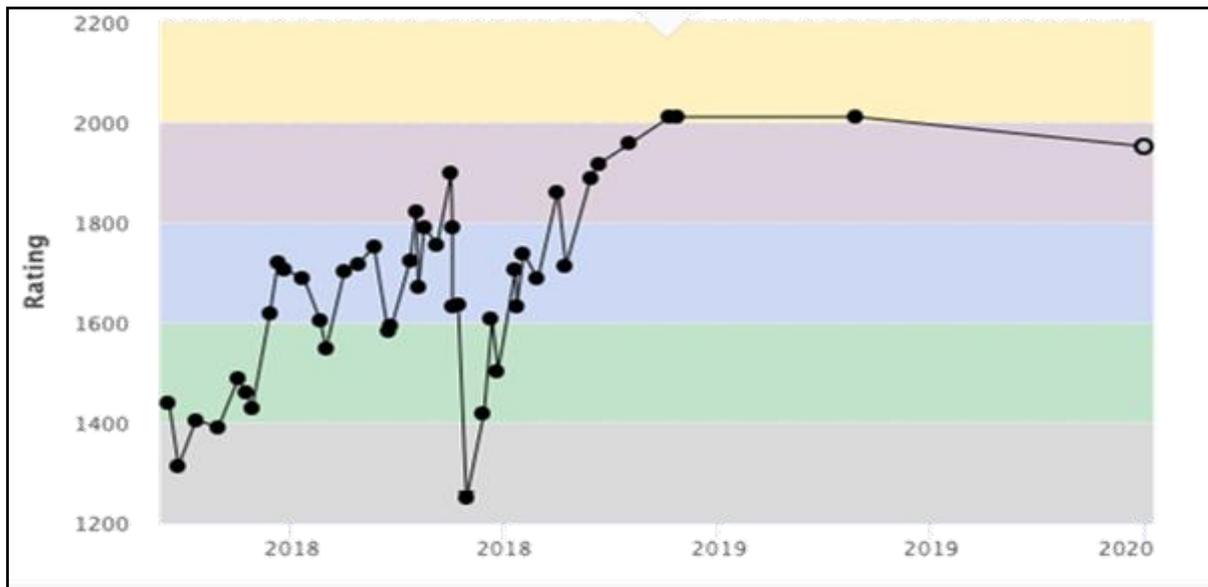
II. EXISTING SYSTEM

In the existing system in order to check the progress one needs to view the profile of each and every participant separately over different coding platforms. Like below we have viewed the progress over codeforces and codechef coding platform respectively which shows us a graph in which its x-axis shows the date of the contest and y-axis shows rating earned over those contests.

A. CODEFORCES Coding Platform Progress



B. CODECHEF Coding Platform Progress



III. PROPOSED SYSTEM

This Project will solve the problem faced by many programmer like:

1) Make Friend and code collectively:

This project will help in staying motivated by seeing your friend's progress. Users can add friends to see their submissions on various programming platforms.(i.e codeforces, codechef, hackerrank, hackerearth , SPOJ etc) so that they can feel a competitive environment .

2) User Profile :

A unique and cumulative profile page across competitive programming platform with total number of problems solved, overall accuracy, sitewise accuracy, contest rating graph etc. which will reduce headache of viewing profile individually on various platforms. it will save time as well.

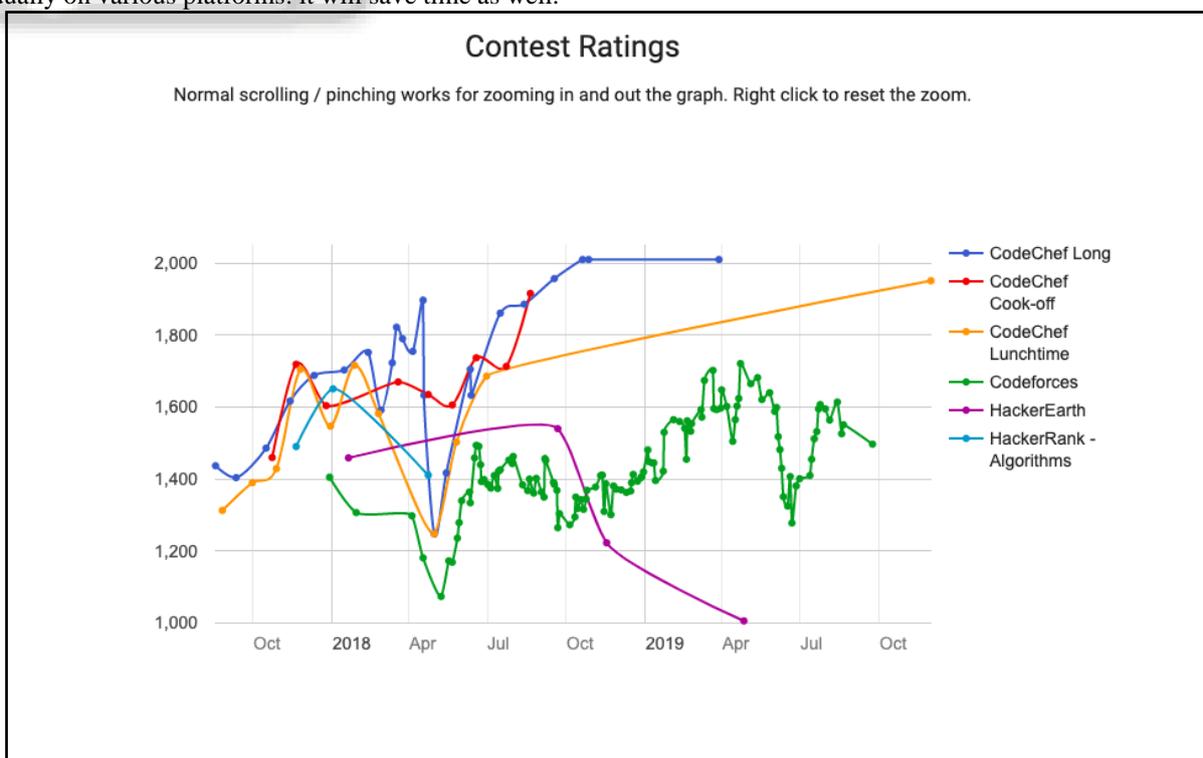
3) Leaderboard :

There will be one cumulative leaderboard for all the programming platforms. rating will change everyday that will motivate users to stay connected with competitive programming. Users can filter their friends/competitors by their handle, college name , country name etc.

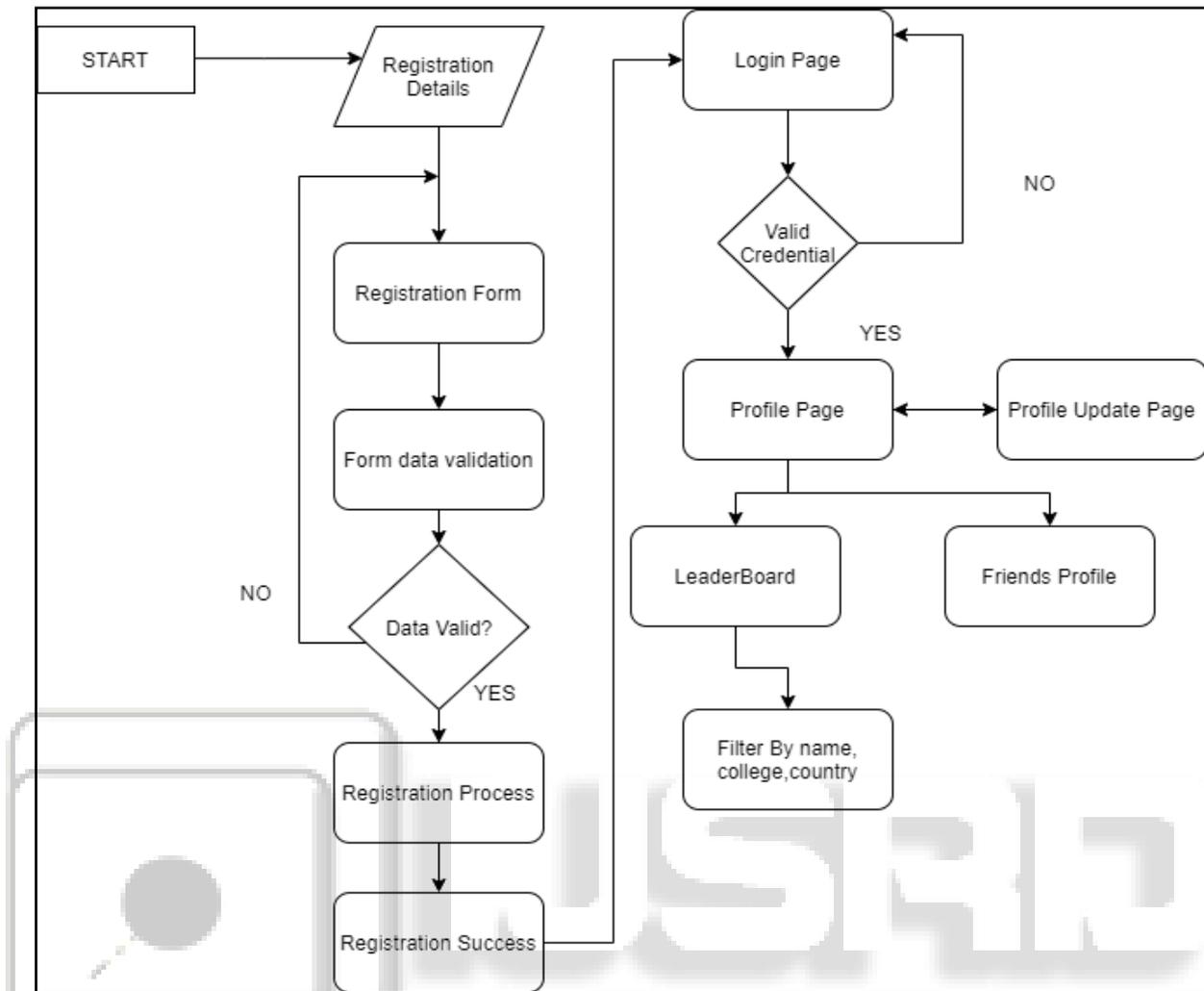
4) Trending problems:

All trending problems that your friends solving across the sites or which are globally trending will be available to you at one place. It will help users to stay Updated and users can also add problems to their to do list .

Below graph represents the cumulative ratings of various competitive programming platforms at a single place so that users can analyse their progress in competitive programming in one go rather than checking individually.



IV. DATA FLOW DIAGRAM



V. SYSTEM DESCRIPTION

The design of this system is divided into three categories:
User

- 1) Interface Design
- 2) Database Design
- 3) System Design

1) User Interface Design (UI) :

In this phase, User interface of the system or project is developed. Basically, a web page with which User will interact with the proposed system. This phase plays a vital role in the development of this system.

2) Database Design:

Database is the building block of every project as it plays a very vital role in the development of any system. In this phase, the database would be designed in which all the information of the users would be stored for future reference at any time. In this system, the database stores the handles of various online coding platforms of User.

3) System Design:

This is the final and major phase of this project. In this phase, a flow diagram of the complete working system is designed. This phase shows the detailed representation of different flow charts and procedures and how users will interact with our website.

VI. MODULE DESCRIPTION

There are various modules which would be developed for this system:

- 1) Registration Page
- 2) Login Page
- 3) Profile Page
- 4) LeaderBoard
- 5) Friends Profile Page

1) Registration Page:

This is the first and basic module of this system as users firstly register themselves with their valid handles of various coding platforms such as codechef, codeforces, hackerrank, hackerearth etc.

2) Login Page:

After registering themselves on the system, they are asked to login with the same mail id and password which they use at the time of registration. After logging in to the system, the user can see the leaderboard along with the various problems solved by his/her fellows.

3) Profile Page:

In the profile page, User will be able to see his/her own cumulative submissions on various coding platforms along with pictorial representation depicting his/her own cumulative progress.

4) *Leaderboard:*

In the Leaderboard section, users can navigate through the cumulative rating and can also filter out on the bases of Institute, Country etc.

5) *Friends Profile Page:*

In the friends profile page, User will be able to see his/her friends' cumulative submissions on various coding platforms along with pictorial representation depicting his/her friends' cumulative progress.

VII. REQUIREMENT SPECIFICATIONS

Implementation Details:

- Code: Python3
- IDE: Pycharm
- Front End: HTML, CSS, Bootstrap
- Back End: Django
- Database: SQLite
- Web Browser: Chrome
- API: Google Calendar API, Google Chart API

System Specifications:

- CPU: Intel Core i3 or above
- RAM: 2GB or above

VIII. FUTURE SCOPE

Future Perspective of our project will be to provide job opportunities to students as well as make it easy for recruiters to segregate students on the basis of their profiles. Students can also link their github profiles in order to showcase their development skills as well. We are also planning to add linkedin profiles so that recruiters can reach out to students in a very easy way.

In future, we'll be providing students with the functionality of searching problems through tags and writing editorials so that they can contribute back to the programming community.

IX. CONCLUSION

This project is projected towards making the progress tracking task of programmers over different coding platforms easy by making their profile over this created platform and adding their coding platforms handles.

This project provides an easy means of knowing trending problems and different approaches to solve a single problem which genuinely helps in improving one's performance of solving different coding problems. Moreover, this project can be used by programmers, recruiters to know better programmers so that they can hire people easily, college administration, competitors, etc.

REFERENCES

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- [2] <https://www.codechef.com/>
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