CODE CONTEST CALENDAR

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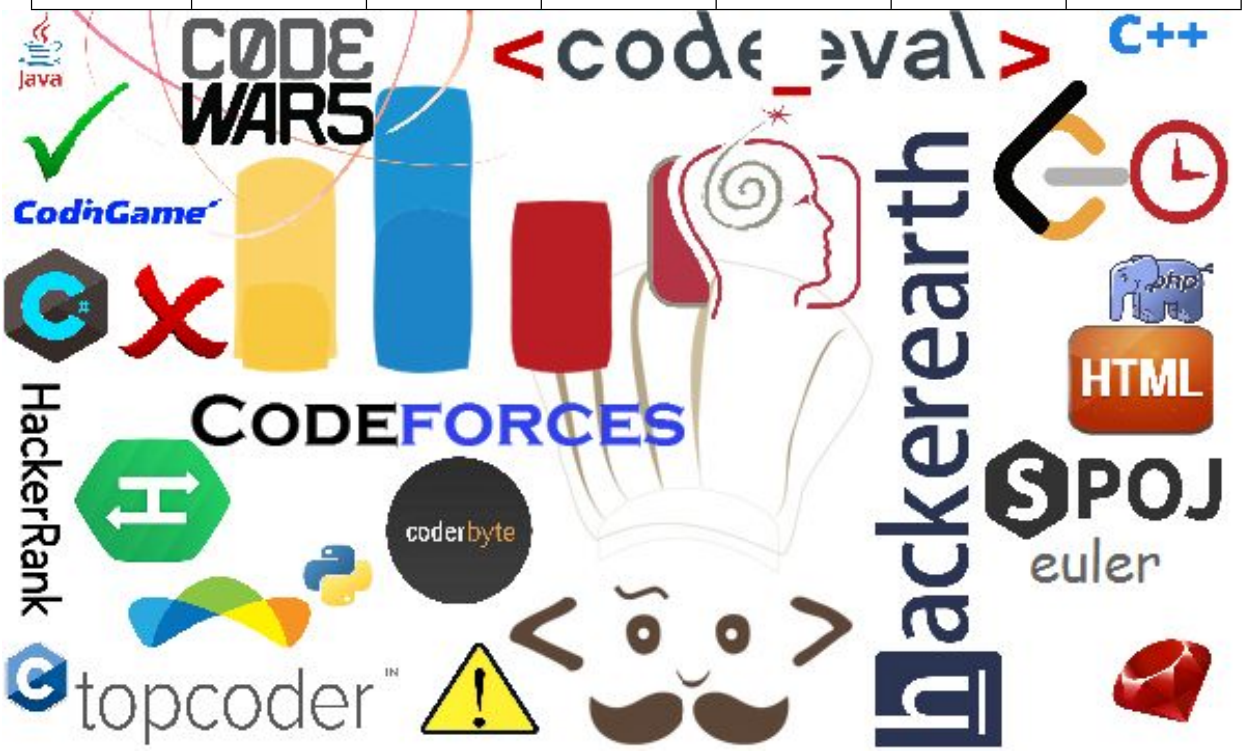

This is the logo of the website. The logo precisely summaries everything., that is ordering of the different un-organized coding websites together under a calendar. The details of the process are explained in detailed in the upcoming analysis of the website.

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Introduction

In today's growing coding cultures, coding sites have really taken over gaming sites. Each coding competition organized by each website has its own unique mark. Considering the huge number of websites, it has become really hard for the coders to keep track of the various contests and the contests which are apt to their level of skills in coding. In order to overcome the current problem, the idea of code contest calendar is strong.

In this project, the data of the coding competitions is collected from all the websites and stored in SQL database for proper management and retrieval. Also, the competitions will be sorted according to their dates like a calendar and the user can view present, past and future contests with ease. Each coding website will be categorized using ML techniques and stored in the SQL database. SQL will be used for easy retrieval and recovery of data. Contests along with their dates will be stored and organized. Students can easily see the available contests. Machine learning and web crawler techniques will also be implemented.

Similar Existing Applications:

The best part of this application is , it is a unique project and a new idea.

Entities in the Database:

1) *Users_List(*User_name *primary key,* email_Id, First_name, Middle_name, Last_name, profile_picture, Birth_date, preferred_language)

The user name is used as the primary key to the users list, where all the contact and profile details are stored in the users_list table. Any redundancy in the user name and email ID is checked by making the fields - User_name and email_Id unique.

2) *Competitions_List(*coding_link *primary key,* Name_of_Competition, Name_of_website, start_date, start_time, end_date, end_time, duration of the competition)

After crawling the website, the data is collected and sorted in the order of start date, with coding link as primary key. Coding link is made unique and the entity is updated every five minutes.

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3) *MetaData_Table(* User_name *primary key,* CodeChef, HackerRank, HackerEarth, Euler, SPOJ, Codewars, CodeForces, Coderbyte, CodeEval, LeetCode, Codingame)

Each user is requested to rate the competition question difficulty of each coding website ranging from 1 to 5 stars and the data is stored in the metaData_List which will be further used to create a metadata of the competition difficulty.

Data in the Database:

The competitions present in different websites are already categorized into present, future and past. This data is collected from the competitive coding sites like CodeChef, HackerRank, HackerEarth, Euler, SPOJ, Codewars, CodeForces, Coderbyte, CodeEval, LeetCode and Codingame.

One entity that deals with the competitions ,it consists of the competition name, Coding site, the link to the competition, the start date and time, the end date and time, the duration of the competition and the difficulty rating (rated by the users).

The other entity which deals with the user data consists of the Username, Password, Email-id and other primary details.The database of a individual user also contains the metadata obtained from the maching learning techniques of user's activity, which includes the favorite coding site of the user and the preferred duration of the user. The plan is to extend this to favorite type of test(Algorithm, Maths, Code challenge etc.,).

Applications

A website is created where a user can login or register. A week calendar is displayed where a particular day is selected and the competitions present on that day from every site is displayed, sorted according to the preference of the user from past participation in competitions which is accomplished by machine learning. The home page shows the ongoing competitions by default. When a particular competition is selected it goes to the competition link. The default page displayed is the competition of the present date, but the user can always change the date to view the competitions of a particular date.

Frequent Operations

In the front-end the user operations can be browsing the different competitions and the websites according to various dates. The user can also rate the websites which is star based where a 5 star rating indicates the competitions in this site are highly difficult compared to other sites' competitions which has a lower star rating. By intelligent machine learning techniques every user gets a unique preference display according to his/her ratings.

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In the back-end websites are crawled and the database is updated every five minutes using web mining. SQL DDL(Data Definition Language) commands and DML(Data Manipulation Languages) commands are used for the retrieval of the data and manipulation of the data.

We presently have three entities, one for the user and the other for the competitions. Both the entities will be linked to each other. The user data base will have primary details of each user, and the meta data created from his previous activities which are obtained from the machine learning techniques. The user data base will have the websites sorted according to the activity of the each individual user. This data will be used, when the user is logged into the website, to display the competitions. The database of the competitions will have the the competitions of each website put under a table with fields- Competition Link, Competition name, Coding site of the competition, start date, end date, start time, end time and the duration of the contest. Each individual user is entitled to have interest in a competition of a particular time length. Machine learning techniques could be used, in order to give suggestions to the users. Competition link is used as the primary key in the database of the competitions and email ID as the primary key to the database of the users.

USERS OF THE SYSTEM:

The users of the system are the coders in short. This is the best and the only online coding comparison website, as it involves intelligent queries merged along with Machine learning and Web mining. The users range can vary from students to professionals, authors to teachers, employed to unemployed. The highly user friendly interface due to the intelligent database planned will not only help in easy usage but also in up-gradation of coding skills. The users can use the website, without getting logged in. All the functions are same to a logged in user, except the unique sorted interface of the logged in user and the ability to rate the website or the coding competition.

TECHNIQUES USED:

SQL is the database query language used. HTML, CSS, JavaScript and AJAX are the scripting language used for website development. Python(BeautifulSoup) is the language used for Data Mining and crawling. Machine learning techniques are used by clustering and the similar data are clustered to obtain Discrete outputs.