

CODESPRINT

(A web application for all contests)

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ABSTRACT – This is the age of technology; every day, new innovations are created. In the past few years, programming languages have exploded. They first began as machine languages, but they have since expanded to the point that even the best businesses can no longer compete globally. These competitions are becoming an essential component of any programmer's career. A high rank may propel you to tremendous heights, while a poor rank can serve as a wake-up call for all programmers. Learning from mistakes is a talent that can help you reach these heights.

The origins of programming languages may be traced back to the 1940s, when hand-crafted assembly programmes were utilised because of memory and speed constraints. "CodeSprint: A web application to keep track of all the major programming contests and hackathons" offers a one-stop shop for all contest and hackathon-related questions. This website application notifies users of forthcoming hackathons [5] and maintains track of any active coding competitions[6] taking place online. This method was created with both professionals and students in mind.

Keywords-CodeSprint

I. INTRODUCTION

1.1 The Purpose and Significance of The Project

In this age of competition, it is expected of students to continuously improve their skill sets, and even professionals are urged to keep up with new technology. Those who don't take advantage of these possibilities fall short, while those who do succeed in their endeavours and scale incredible heights are left in the dust. The suggested system, "CODESPRINT," offers a platform for such students and professionals to understand their worth by letting them know about the competitions that are essential for programmers. Our system informs the user of the most appropriate competitions (schedule, pre-requisites, eligibility, and resources). An online resource for all ambitious technical students, "CodeSprint: A web application to keep track of all the major programming contests and hackathons" offers a one-stop shop for all contest and hackathon-related questions. This website application notifies users of forthcoming hackathons and maintains track of any active coding competitions taking place online. This method was created with both professionals and students in mind.

1.2 Technology and Development Environment

The system was developed using MERN stack, React.js was used in the frontend.[3]

II. DEMAND ANALYSIS

2.1 Analysis of Current Situation Programming languages have exploded in the last ten years; they began as machine languages but have evolved to the point where even the biggest global companies and the smallest local businesses need them to succeed globally. This is the age of the digital revolution, in which new technologies are created every day. These competitions are becoming an essential component of any programmer's career. A high rank may propel you to success, while a poor rank serves as a wake-up call for all programmers. Learning from mistakes is a talent that can lead you far. Our system motivates programmers to test their skills against top programmers across the world, this shows their standings in the market and helps them realize their shortcomings, and they can rectify these by taking the courses offered on our system, these courses are taught by teachers with very high standards.

2.2 System function analysis

The "CodeSprint" is a web application to keep track of all the live contests across different platforms.

S. No.	Tangible Benefits	Description
1.	Use is free	There are no fees or costs associated with using it.
2.	Interesting	The user interface is very intuitive and simple to use.
3.	Accessibility	Users can access the CODESPRINT using any web browser on laptops or PCs.
4.	friendly to users	The interface is both visually appealing and incredibly simple to use.

S. No.	Intangible Benefits	Description
1.	Efficient	It significantly reduces the time and effort required to search for the same information on each contest/hackathon platform individually.
2.	Saves time	The system streamlines time management so that the user is saved from looking for hackathons and competitions on separate platforms.
3.	Satisfied user	The user interface is highly intuitive and simple to use.
4.	Maintenance	Regular updates to the web application are not required.
5.	Easy to use	To fully satisfy the intended audience, it was designed especially for them. The HCIU principles will be taken into consideration when developing the application.

be given access to the contest's registration links, eligibility requirements, and curriculum.

FRESHERS: Freshers spend a lot of time looking for high-quality learning materials. To learn about contests and courses, students must visit each website separately. With the aid of our system, all this information is now just a click away.

PROFESSIONALS: Since technology is always developing, working professionals may improve their skill set by taking part in prestigious hackathons and competitions. This is where our system comes in.

III. SYSTEM FEASIBILITY ANALYSIS

3.1 Economic viability

The final market position of a website can be determined using an economic feasibility study as a criterion. An effective economic feasibility study is beneficial for managing and implementing projects. The technology employed in this system's development process, from the deployment to the development tools to the server, is free, therefore the system's development costs are limited to time and labour. As a result, the system is cost-effective.

3.2 Operational feasibility

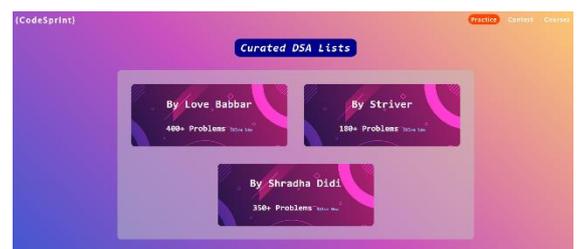
This is the age of digital revolution, everyday new technologies are developed, programming languages have boomed in the past decade, it started as a machine language and has evolved so much that even the largest international as well as smallest local companies need them to excel in the world. Now these contests are an integral part of every programmer's career. Good rank can help you get a reputed job and status, and low ranks is an eye opener/wake up call for every programmer, learning from mistakes is a skill which can push you to great heights.

In conclusion, this approach is entirely workable.

IV. THE SYSTEM DESIGN

1.1 System function design

- Data Structures and Algorithms Question bank:** The users will have access to the shortlisted question banks for effective learning, these were prepared by professionals.



- Selective Filter:** With the help of features like sort and filter, the user can find the contests and hackathons according to their need.

2.3 Target audience

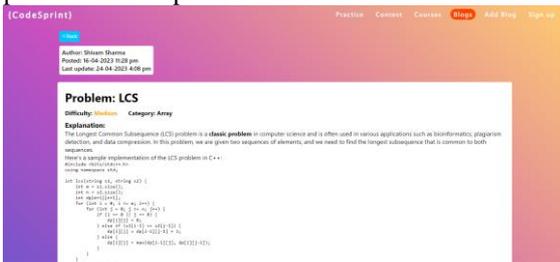
The system's main users are divided into three categories:

STUDENTS: Beginning students are welcome to sign up to view the status of future and existing tournaments. They will

3. **Prime Courses:** All the available courses were evaluated and only the best was shortlisted for the user suiting their needs.



4. **Optimized Solutions:** The user will have access to the questions, and the answers are provided for reference, Data Structures and ALgorithm question bank are provided with optimized answers.



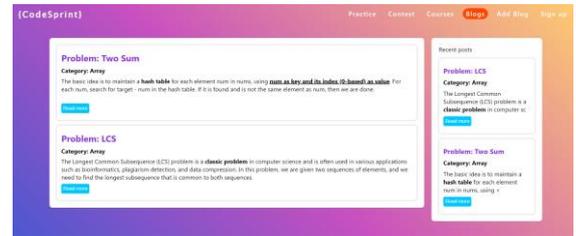
5. **Contest details:** The user will have a page that lists all current and forthcoming competitions from a variety of platforms, including Leetcode, Hackerrank, Codeforces, and Codingninjas.



VI. Future Scope

- Continuous expansion of question banks:** As new algorithms and data structures emerge; the question banks will need to be continuously updated to stay relevant and provide the most effective learning experience.
- Integration of gamification elements:** To make the learning process more engaging, gamification elements such as points, badges, and leader boards could be integrated into the platform.
- Personalization of learning paths:** The platform could use machine learning algorithms to analyse user behaviour and preferences to offer personalized learning paths and recommendations.

6. **Blog:** Students and working adults can contribute their ideas, professional experiences, solutions, and advice in the online application's blog part.



6.2 Logical Structure Design of System Database

According to the functional design of the system, by analysing the system structure and requirements, we can know that the system should have the difference between the five tables, linked with each other, together constitute the system's database module. A partial data tables are given below:

V. SYSTEM DETAILED DESIGN AND IMPLEMENTATION

5.1 Build the Development Environment

1.	Laptop/ Personal Computer (at least i3 processor)
2.	RAM (Memory) - 4 GB or more
3.	Monitor – Any standard monitor
4.	Internet Services

S. No.	Software Requirements
1.	Visual Studio Code
2.	Npm (package manager for Javascript Programming Language)
3.	Any operating system (Windows/Linux)
4.	Documentation and Presentation tool - Microsoft Office 2010

4. **Integration with other platforms:** The platform could be integrated with other educational platforms and tools, such as coding editors, to provide a seamless learning experience.

VII. CONCLUSION

The suggested system, "CODESPRINT," offers a platform for such students and professionals to understand their worth by letting them know about the competitions that are essential for programmers. Our system informs the user of the most appropriate competitions (schedule, pre-requisites, eligibility, and resources). An online resource for all ambitious technical students, "CodeSprint: A web application to keep track of all the major programming contests and hackathons" offers a one-stop shop for all contest and hackathon-related questions. This website application notifies users of forthcoming hackathons and maintains track of any active coding competitions taking place online. This method was created with both professionals and students in mind.

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