**Hackathon: Creation of dashboard for CRCS portal**

**- Ministry of Cooperation**

**Introduction**

The purpose of this project is to participate in the Hackathon: Creation of dashboard for CRCS portal - Ministry of Cooperation. I have incorporated my innovative ideas in developing this dashboard and visualized the given dummy dataset using various types of charts. I have included various functionalities starting from login and registration, Data Visualization, Tabular Data, Filtered Data, Forms, Acts, Rules and more to the dashboard. My dashboard is inspired in some ways from the existing CRCS portal. (Personal information attached at last page)

**Technical overview**

The dashboard is currently hosted on Netlify (for frontend) and Render (for backend) hosting platforms using their free tier plan. And the Database is hosted on MongoDB Atlas also using its free tier plan, which is a cloud-based MongoDB service. I have used Node.js for the entire backend and Express and Axios for making API calls. I have written code for the entire project in typescript. These are some important modules that I have used which plays an important role in my dashboard.

1. MERN stack is a popular technology stack for building web applications. It consists of MongoDB, Express, React, and Node.js. MongoDB is a NoSQL database, Express is a web framework for Node.js, React is a JavaScript library for building user interfaces, and Node.js is a JavaScript runtime environment.
2. Mui is a popular React UI library that provides a set of components and tools for building user interfaces. It is based on the Material Design guidelines, which are a set of design principles and standards for creating user interfaces.
3. TypeScript is a typed superset of JavaScript. This means that it adds type safety to JavaScript, which can help to prevent errors and make the code more maintainable.
4. MongoDB Atlas is a cloud-based MongoDB service that makes it easy to deploy and manage MongoDB databases. It offers a variety of features, such as scalability, security, and availability.
5. React Chart.js is a library for creating charts and graphs in React. It provides a variety of chart types, including line charts, bar charts, and pie charts.
6. React PDF Viewer is a library for viewing PDFs in React. It provides a simple and easy-to-use interface for viewing PDFs.

**Design and implementation**

The dashboard will be divided into six main sections:

* + 1. Authentication
    2. Charts – Data Visualization
    3. Tabular Visualization
    4. Registered Societies
    5. Forms
    6. MSCS Act

**Detailed Information about each section:**

1. In the Authentication section, I have implemented Sign in and Register functionality with the help of captcha verification.
2. In the Charts section, I have implemented aggregation operations between the data provided in the dummy dataset. And I have represented them in various type of charts such as doughnut, bar and line etc. We can view societies registered between two dates in this section.
3. In the Tabular section, I have represented all the registered societies data in a tabular format with necessary details displayed by default and details with lesser priority are displayed after toggling the down arrow button. I have also implemented search functionality as well as sorting options such as ascending, descending old first, new first etc.
4. In the Registered Societies section, I have displayed the number of societies registered in every state and the total number of societies in the last
5. In the Forms section, I have displayed every form in its own tab. The user can view the forms online, and can download by clicking on the download button. The PDF viewer is integrated with a toolbar with necessary options
6. In the MSCS Act, I have represented the MSCS Act,2002, Rules, Checklist, Model Bye-laws, National policy on cooperative 2002 both as a PDF and as text.

**Future Plans**

The future functionalities that can be integrated with this website are as follows:

* + 1. Maps – Display Society locations in google maps, I tried to implement this now but since I don’t have an international credit or debit card, I couldn’t proceed further in creating a google cloud account which is needed to access the maps api
    2. Data Visualization – I have implemented and visualized all the possible aggregations with the combinations of fields provided with the dummy dataset. If I had access to a lot more attributes, I could perform newer aggregation operations and visualize them.
    3. User Interface – Since the time was limited, I couldn’t focus much on the aesthetics of the dashboard. Hence, I will improve the UI to add attractive colours, smooth transitions, animations and dark theme etc.
    4. Information & Images – Once I get a few more official images of your organization I could add them to the site’s home page to give a brief introduction about your organization and its purpose

**Conclusion**

I have tried to fulfil all the given criteria for the competition in the given time frame. I hope the dashboard I developed pleases you and meets all the needs. I am ready to further engage in development if you prefer my work. And I am open to suggestions, so please provide feedback to my mail id if you want to update the existing design or to collaborate in future works. And I am really grateful for extending the deadline. It was extremely helpful. Thank you. (Personal Information, Next page)

**Personal Information:**

**Name**: Namasivaayam L

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**LinkedIn Profile:** https://www.linkedin.com/in/namasivaayam-l-42bb601b1/

**My Other Works**:

1. Stack Overflow Clone + (Chatbot, social media, Premium Plans etc)
   1. GitHub Repo: <https://github.com/Namasivaayam-L/stack-overflow-clone>
   2. Live Website: <https://stack-overflow-clone-namasivaayam-l.netlify.app/>
2. ERP for my Department at College:
   1. GitHub Repo: <https://github.com/Namasivaayam-L/erp_ads_dept>
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