CRCS portal

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1 Project Introduction

This project is made for the purpose of designing a new dashboard for visualizing the given MSCS dataset with *all requirements implemented completely* as follows:
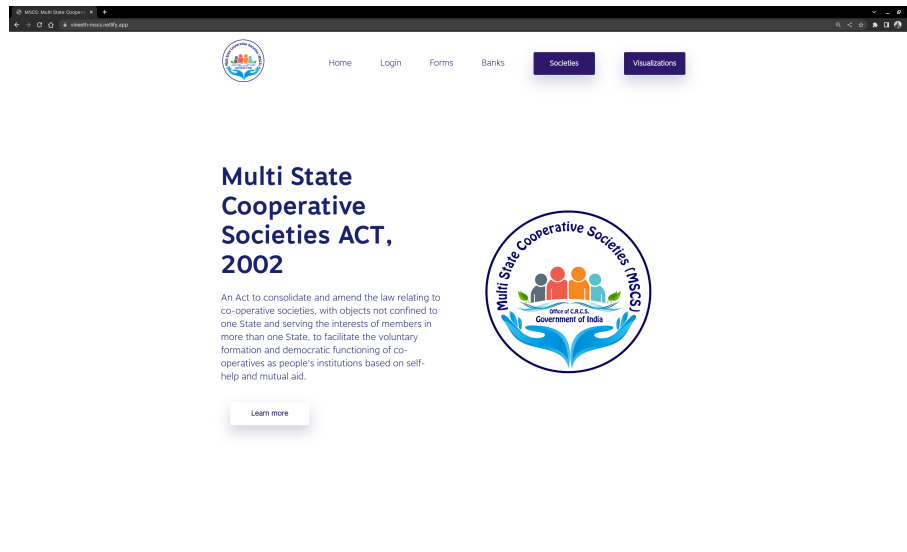
- Visualization — The dashboard leads to tabular data of all societies and close to ten visualizations for analysing trends.

- Filters and Interactivity — Filters are implemented for visualizing and accessing only a subset of the data based on states and sector types in all places. All visualizations are interactive with features such as tooltips, zoom and sroll.

- Key Metrics — Almost half the visualizations have been created with an emphasis on highlighting key metrics and aggregate data.

- Drill-down Capabilities — Specifics can be retrieved for all societies through filter and expansion in the table.

- Responsive Design — All pages in the portal are responsive to changing screen size through expansion and collapsing components for *mobile as well as desktop view.*

- Data Analytics — The visualizations allow the use to analyze trends in the data such as dates, geographical distribution and so on.

- User-Friendly Interface — All components have been designed keeping user experience in mind to be intuitive and easily accessible.

The live demonstration can be found here and the code is posted on GitHub. Major technologies used are React, d3.js and Material UI.

2 Portal Components

2.1 Dashboard Home

The dashboard home hold relevant introductions to the act and is visually appealing. It contains links to all required pages in the older website and has two *blue*-highlighted buttons leading to the societies and visualizations page.

2.2   Societies Table

The societies table lists all the registered societies in an intuitive way with relevant colour schemes for highlighting major information. It is paginated for enhancing UX and allows the user to search for society name, filter by state and sector type and, sort by name, state, district and date of registration. Clicking on the pane of a society expands it to show all relevant details.
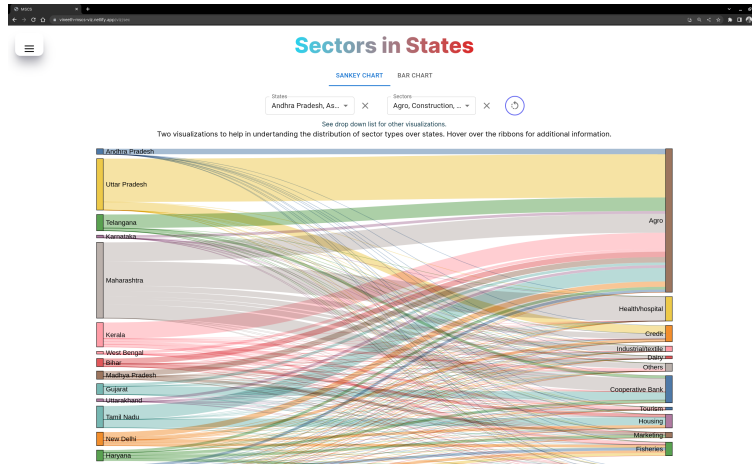
2.3   Sectors in States Visualization

A major trend that can be observed is the distribution of sectors in different states. A Sankey Chart allows the user to get an overview how sector types are divided between different states and a stacked bar chart lets the user compare different states in a tidier, more comprehensive manner. Filters have been implemented and tooltips appear on placing the cursor above a ribbon.

2.4   Operation Areas and Sectors Visualization

Each society has a particular area of operation that is different from its state. Analysing this can let us have an overview of which area has what sectors supporting it and which sector is present in what areas. This has been implemented using a zoomable circular packing for quick overview which yield details on clicking a circle.

2.5   State Statistics Visualization

This displays general information about a state. It highlights all the districts with societies, provides a table filtered to the state and most importantly visual-

izes sector wise distribution and areas of operation. The sector wise distribution is shown using a simple pie chart for use if the user doesn't want to filter in the sectors in state visualization. More importantly, a map is shown with the amount of operations in areas using the number of societies as a metric with tooltips to show the number of societies operating in the area and the area's name.

2.6 Registration Trends Visualization

It is important to know how many societies register between a particular timeframe. This visualization sports a scrollable line plot with lines showing how many societies registered over a month along with separate lines for every sector type for better data analytics. The line plot allows filtering through states and sector types, and also indicates that it is scrollable through a preliminary automatic scroll.

3 Acknowledgements

I express my sincere gratitude to the Ministry of Cooperation for the opportunity to participate in the hackathon aimed at creating dashboard. This initiative will greatly enhance the efficiency of cooperative societies' registration, amendments, appeals, and annual returns management.