Tableau Insight: unemployment during covid 19 in India

The purpose of the project on unemployment during COVID-19 in India was to analyse the impact of the pandemic on employment trends in the country. Specifically, the project aimed to:

1. Understand the magnitude of job losses and changes in unemployment rates during the COVID-19 pandemic.

2. Identify the sectors and demographics most affected by unemployment.

3. Assess the effectiveness of government policies and interventions in mitigating the socio-economic impact of the pandemic on employment.

4. Provide insights and recommendations to policymakers, businesses, and other stakeholders to formulate targeted strategies for addressing unemployment challenges and promoting economic recovery.

Overall, the project sought to contribute to a better understanding of the dynamics of unemployment during the COVID-19 crisis and to inform evidence-based decision-making for effective policy responses.

REAL TIME SCENARIO:

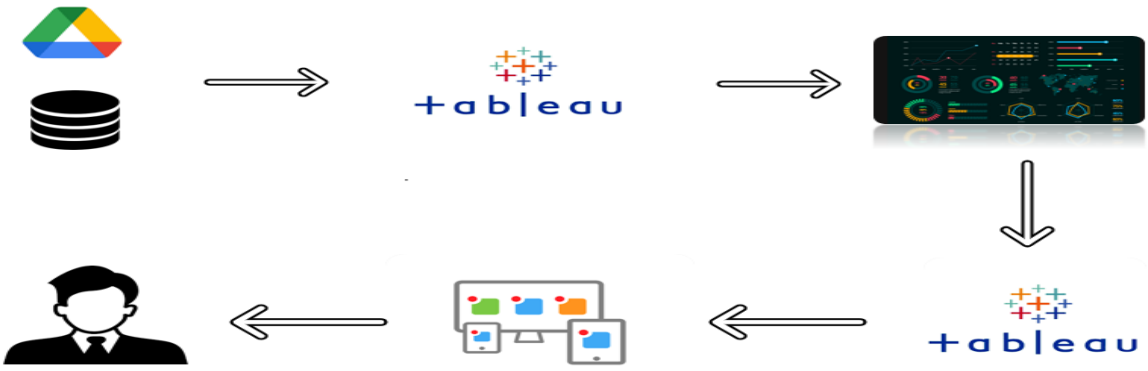
1. Job Loss Monitoring:

Imagine you're monitoring job loss data in real-time during the COVID-19 pandemic. You notice a sudden increase in unemployment claims from the hospitality and retail sectors. This information alerts policymakers and businesses to the urgent need for targeted support measures, such as job retraining programs or financial assistance, to help affected workers find new employment opportunities.

2. Government Policy Assessment:

You're analysing the impact of government policies on unemployment rates in real-time. After the government announces a stimulus package to support small businesses and create new job opportunities, you observe a gradual decrease in unemployment rates over the following weeks. This real-time feedback helps policymakers evaluate the effectiveness of their policies and adjust interventions as needed to address ongoing unemployment challenges.

Technical Architecture:



Project Flow

To accomplish this, we have to complete all the activities listed below,

- Data Collection & Extraction from Database
  - Collect the dataset,
  - Connect data with Tableau
- Data Preparation
  - Prepare the Data for Visualization
- Data Visualizations
  - No of Unique Visualizations
- Dashboard
  - Responsive and Design of Dashboard
- Story
  - No of Scenes of Story
- Performance Testing
  - Amount of Data Loaded
  - Utilization of Data Filters
  - No of Calculation Fields
  - No of Visualizations/ Graphs
- Web Integration
  - Dashboard and Story embed with UI With Flask
- Project Demonstration & Documentation
  - Record explanation Video for project end to end solution
  - Project Documentation-Step by step project development procedure

Milestone 1: Data Collection & Extraction from Database

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes and generate insights from the data.

Activity 1.1: Understand the data

Data contains all the meta information regarding the columns described in the CSV files.

Column Description of the Dataset:

1. Region: This column indicates the geographical region or area for which the unemployment data is recorded. It could represent a country, state, city, or any other relevant administrative division.

2. Date: Represents the specific date or time period to which the unemployment data corresponds. It could be a single date or a range of dates, depending on the frequency of data collection and reporting.

3. Frequency: Indicates the frequency at which the unemployment data is reported or updated. It could be daily, weekly, monthly, quarterly, or annually, depending on the data source and reporting practices.

4. Estimated Unemployment Rate (%): Denotes the estimated percentage of the labour force that is unemployed during the specified time period. It provides insights into the extent of joblessness within the region and is typically calculated using survey data or statistical models.

5. Estimated Employed: Represents the estimated number of individuals who are employed in the region during the specified time period. It provides context for understanding the size of the labour force and the impact of unemployment on the economy.

6. Estimated Labour Participation Rate (%): Indicates the estimated percentage of the working-age population that is either employed or actively seeking employment during the specified time period. It reflects the level of engagement in the labour market and can help assess the overall health of the economy.

Milestone 2: Data Preparation

Activity 1: Prepare the Data for Visualization

Preparing the data for visualization involves cleaning the data to remove irrelevant or missing data, transforming the data into a format that can be easily visualized, exploring the data to identify patterns and trends, filtering the data to focus on specific subsets of data, preparing the data for visualization software, and ensuring the data is accurate and complete. This process helps to make the data easily understandable and ready for creating visualizations to gain insights into the performance and efficiency.

Explanation video link 1: Data Loading

https://drive.google.com/file/d/1qX_BvhgH7GfvsPhdySJg4aNfwQyHkl8c/view?usp=drivesdk

Milestone 3: Data Visualization

Data visualization is the process of creating graphical representations of data in order to help people understand and explore the information. The goal of data visualization is to make complex data sets more accessible, intuitive, and easier to interpret. By using visual elements such as charts, graphs, and maps, data visualizations can help people quickly identify patterns, trends, and outliers in the data.

Activity 1: No of Unique Visualizations

The number of unique visualizations that can be created with a given dataset. Some common types of visualizations that can be used to analyse the performance and efficiency of Radisson Hotels include bar charts, line charts, heat maps, scatter plots, pie charts, Maps etc. These visualizations can be used to compare performance, track changes over time, show distribution, and relationships between variables, breakdown of revenue and customer demographics, workload, resource allocation and location of hotels.

Activity 1.1 Employment, Labour Participation Rate, and Unemployment Rate by Region

Explanation video link:

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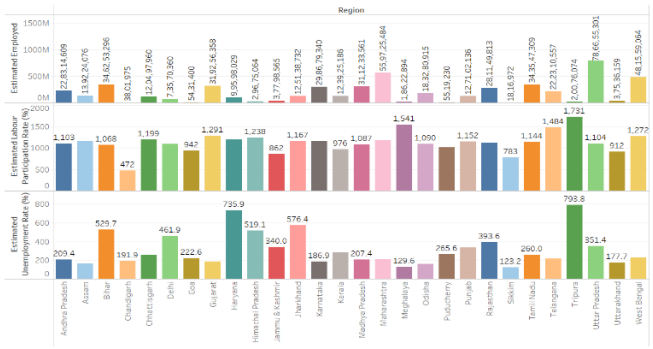

Activity 1.2: Geographical Distribution and Estimated Employment by Region

Explanation video link:
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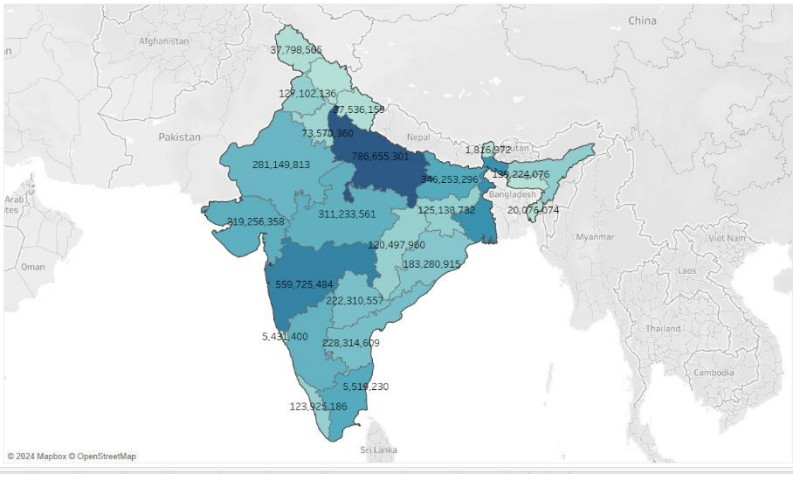

Activity 1.3: Estimated Unemployment Rate (%) by region

Explanation video link:
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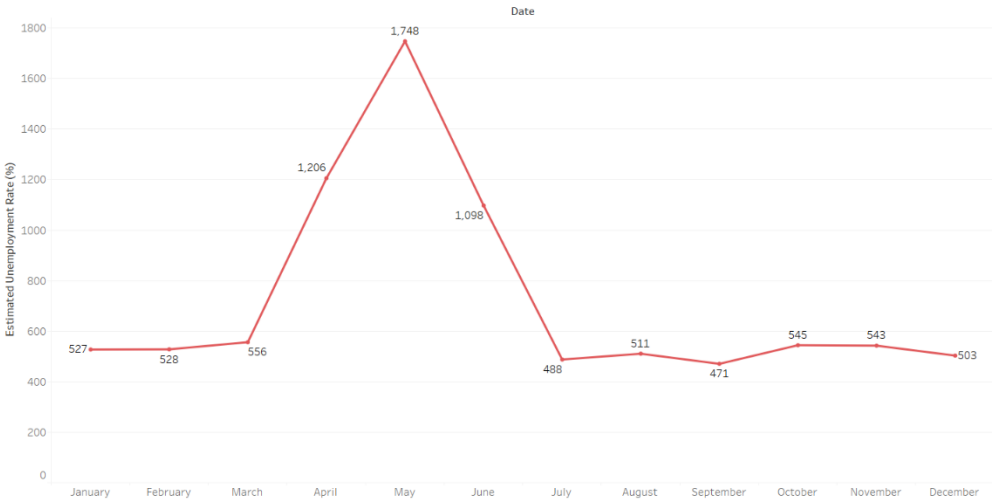

Activity 1.4: unemployment trades across months

Explanation video link:

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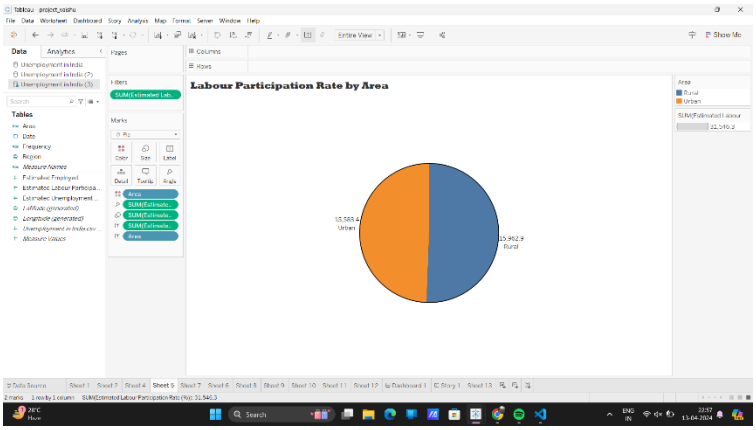

Milestone 4: Dashboard

A dashboard is a graphical user interface (GUI) that displays information and data in an organized, easy-to-read format. Dashboards are often used to provide real-time monitoring and analysis of data, and are typically designed for a specific purpose or use case. Dashboards can be used in a variety of settings, such as business, finance, manufacturing, healthcare, and many other industries. They can be used to track key performance indicators (KPIs), monitor performance metrics, and display data in the form of charts, graphs, and tables.

Activity :1- Responsive and Design of Dashboard

Explanation video link:

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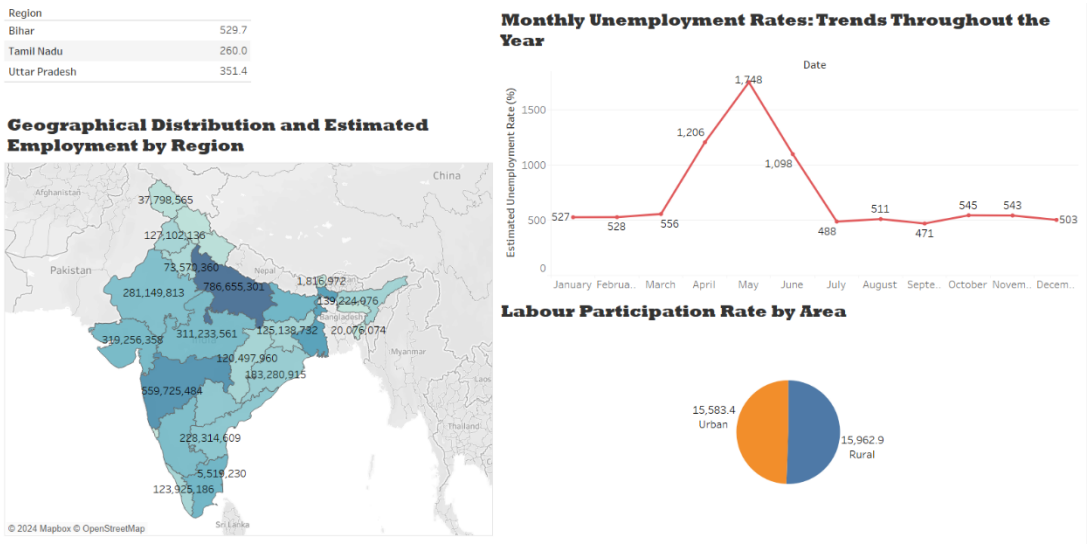

Milestone 5: Story

A data story is a way of presenting data and analysis in a narrative format, with the goal of making the information more engaging and easier to understand. A data story typically includes a clear introduction that sets

the stage and explains the context for the data, a body that presents the data and analysis in a logical and systematic way, and a conclusion that summarizes the key findings and highlights their implications. Data stories can be told using a variety of mediums, such as reports, presentations, interactive visualizations, and videos.

Activity 1: No of Scenes of Story

Explanation video link:

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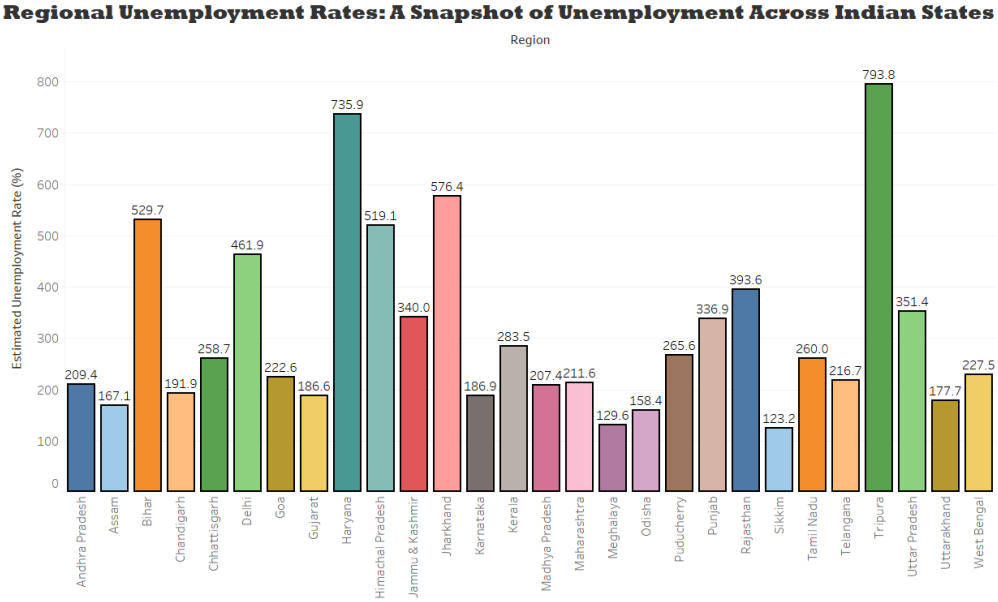
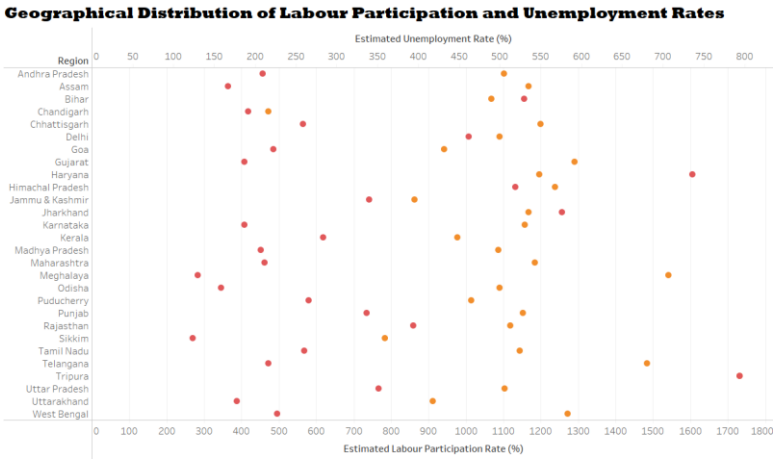


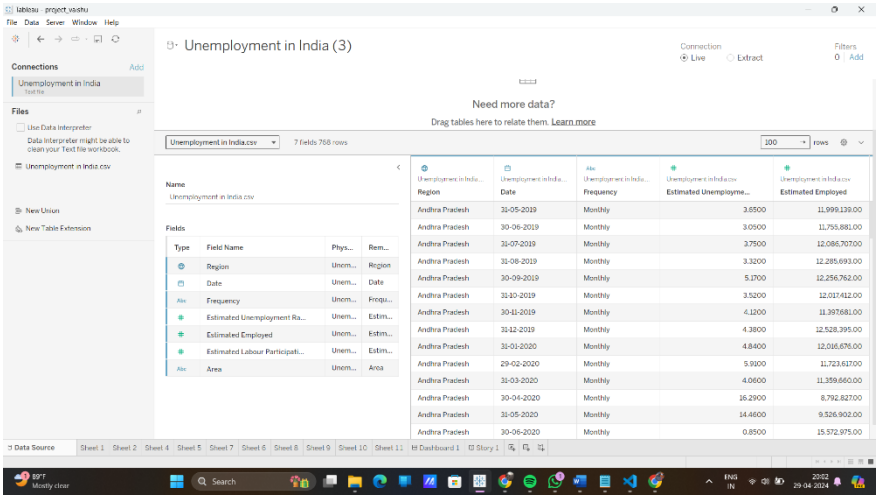


Estimated Unemployment Rate by Region during COVID-19

Milestone 6: Performance Testing

Activity 1: Amount of Data Loaded

"Amount of Data Loaded" refers to the quantity or volume of data that has been imported, retrieved, or loaded into a system, software application, database, or any other data storage or processing environment. It's a measure of how much data has been successfully processed and made available for analysis, manipulation, or use within the system.

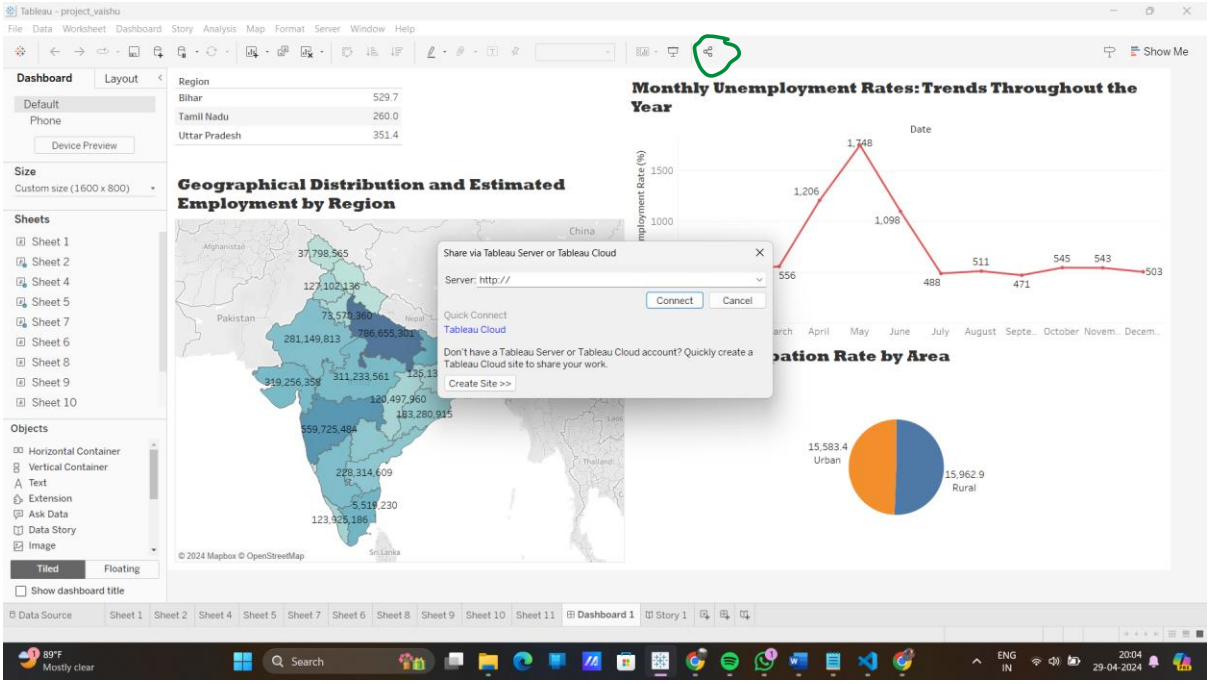


Milestone 7: Web integration

Publishing helps us to track and monitor key performance metrics, to communicate results and progress. help a publisher stay informed, make better decisions, and communicate their performance to others.

Publishing dashboard and reports to tableau public

Step 1: Go to Dashboard/story, click on share button on the top ribbon



Activity 1: Dashboard and Story embed with UI With Flask

Explanation video link:

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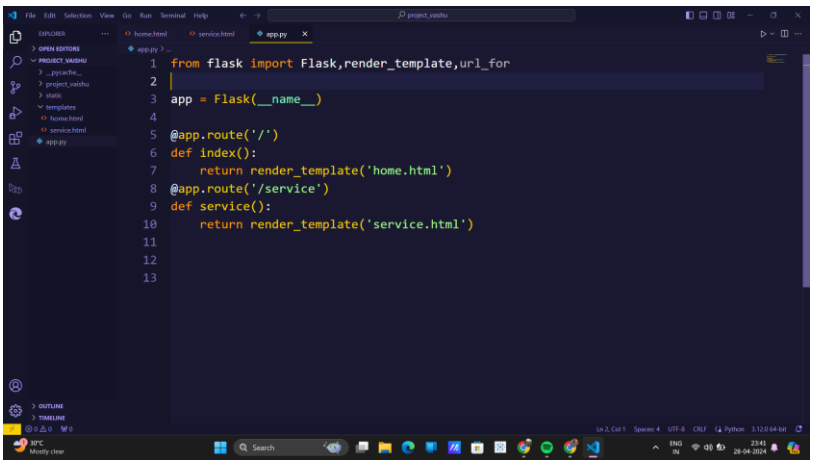


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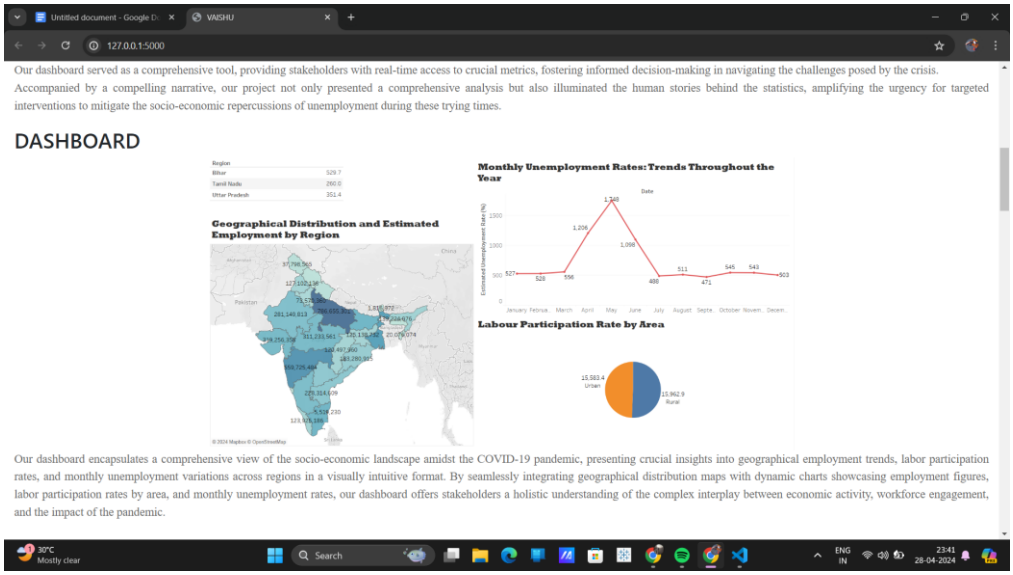
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Our dashboard served as a comprehensive tool, providing stakeholders with real-time access to crucial metrics, fostering informed decision-making in navigating the challenges posed by the crisis.
Accompanied by a compelling narrative, our project not only presented a comprehensive analysis but also illuminated the human stories behind the statistics, amplifying the urgency for targeted interventions to mitigate the socio-economic repercussions of unemployment during these trying times.
DASHBOARD
Region
Bihar 529.7
Tamil Nadu 260.6
Uttar Pradesh 351.4
Geographical Distribution and Estimated Employment by Region
Monthly Unemployment Rates: Trends Throughout the Year
Date
Estimated Unemployment Rate (%)
527
528
556
1,206
1,388
1,098
488
511
471
545
543
503
January Februa... March April May June July August Septe... October Nover... Decem...
Labour Participation Rate by Area
15,583.4
Urban
15,962.9
Rural
Our dashboard encapsulates a comprehensive view of the socio-economic landscape amidst the COVID-19 pandemic, presenting crucial insights into geographical employment trends, labor participation rates, and monthly unemployment variations across regions in a visually intuitive format. By seamlessly integrating geographical distribution maps with dynamic charts showcasing employment figures, labor participation rates by area, and monthly unemployment rates, our dashboard offers stakeholders a holistic understanding of the complex interplay between economic activity, workforce engagement, and the impact of the pandemic.
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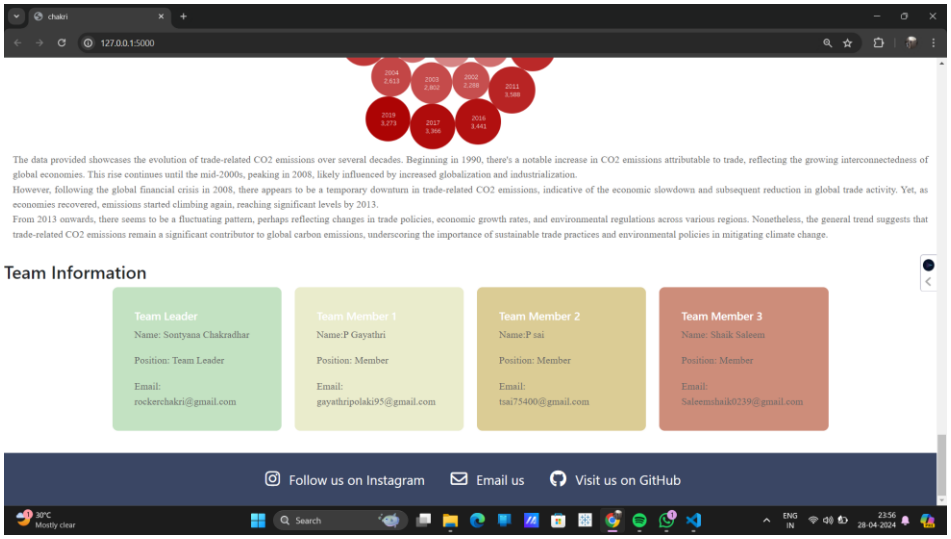
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2004
2,613
2003
2,802
2002
2,288
2011
1,588
2019
3,273
2017
3,366
2016
3,441
The data provided showcases the evolution of trade-related CO2 emissions over several decades. Beginning in 1990, there's a notable increase in CO2 emissions attributable to trade, reflecting the growing interconnectedness of global economies. This rise continues until the mid-2000s, peaking in 2008, likely influenced by increased globalization and industrialization.
However, following the global financial crisis in 2008, there appears to be a temporary downturn in trade-related CO2 emissions, indicative of the economic slowdown and subsequent reduction in global trade activity. Yet, as economies recovered, emissions started climbing again, reaching significant levels by 2013.
From 2013 onwards, there seems to be a fluctuating pattern, perhaps reflecting changes in trade policies, economic growth rates, and environmental regulations across various regions. Nonetheless, the general trend suggests that trade-related CO2 emissions remain a significant contributor to global carbon emissions, underscoring the importance of sustainable trade practices and environmental policies in mitigating climate change.
Team Information
Team Leader
Name: Soutyana Chakradhar
Position: Team Leader
Email: rockerchakri@gmail.com
Team Member 1
Name:P Gayathri
Position: Member
Email: gayathripolaki95@gmail.com
Team Member 2
Name:P sai
Position: Member
Email: tsai75400@gmail.com
Team Member 3
Name: Shaik Saleem
Position: Member
Email: Saleemshaik0239@gmail.com
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