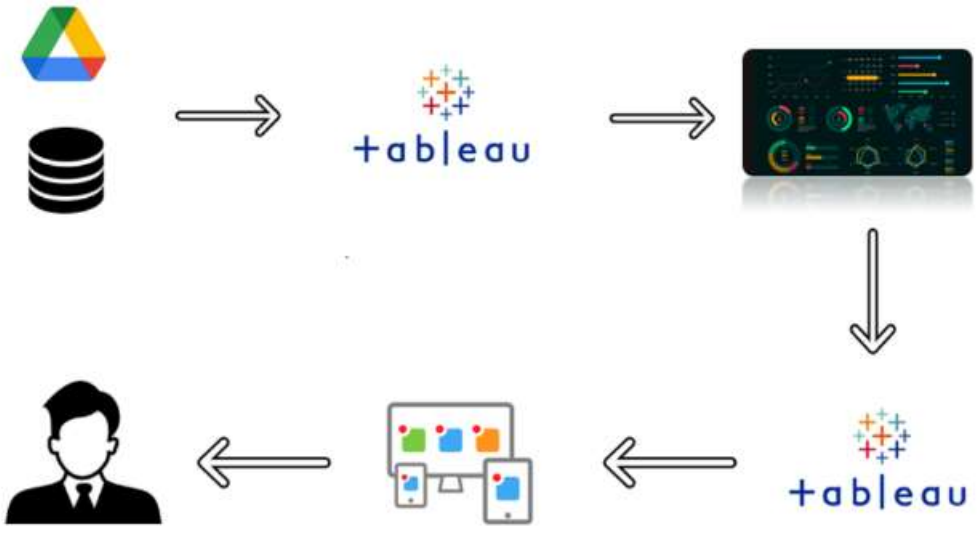
Depression: A Common Mental Disorder

Introduction:

Depression is a prevalent mental disorder that affects millions of people worldwide. It is characterized by persistent feelings of sadness, hopelessness, and a lack of interest in activities. This condition can have a profound impact on an individual's overall well-being, affecting their emotional, social, and physical health. Understanding and addressing the problem of depression is crucial, as it not only leads to personal suffering but also has significant societal implications. Identifying the factors that contribute to depression and developing effective prevention and treatment strategies is a pressing concern for both individuals and society as a whole. In conclusion, depression, as a common mental disorder, is a critical issue that necessitates our attention and concerted efforts to provide support, reduce stigma, and improve mental health care.

In this project, we aim to provide a deeper understanding of depression through the use of Business Intelligence tools. We employ Tableau tools to transform datasets into visual representations, creating informative dashboards and narratives to convey insights effectively which can conclude meaningful solutions to deal with depression.

Technical Architecture:



Project Flow:

- Problem statement
    1. Specify the business problem
    2. Business requirements
    3. Social Impact
- Data Collection and Connecting Database
    1. Collect the dataset
    2. Storing Data in DB
    3. Perform SQL Operations
    4. Connect DB with Tableau
- Data pre-processing
    1. Cleaning and filtering datasets
- Data Visualizations
    1. Unique Visualizations
- Dashboard
    1. Responsive and Design of Dashboard
- Story
    1. Number of Scenes of the Story
- Performance Testing
    1. Amount of Data Rendered to Database
    2. Number of Calculation Fields
    3. Number of Visualizations/ Graphs
- Web Integration
    1. Embedding Dashboard and Story with UI using Flask

Milestone 1: Problem statement

- **Activity 1: Specify the business problem**

  "Depression is a widespread and debilitating mental health condition, marked by persistent feelings of sadness, hopelessness, and disinterest in daily life. It afflicts millions worldwide, transcending age, gender, and background, resulting in reduced quality of life and heightened healthcare expenses." we aim to provide a deeper understanding of depression through the use of Business Intelligence tools. We employ Tableau tools to transform datasets into visual representations, creating informative dashboards and narratives to convey insights effectively which can conclude meaningful solutions to deal with depression.

- **Activity 2: Business Requirements**

  This project is essential for countries where many people suffer from depression. Depression can happen for many reasons, and these countries need to understand why it's so common. We will use data visualization to learn more about what causes depression and find ways to help people who are depressed. This project is not just for school; it's a real effort to deal with a big health problem in the world.

- **Activity 3: Social Impact**

  Engaging in a depression project using data visualization can have a significant social impact. It raises awareness about the prevalence and effects of depression, reducing the stigma associated with mental health issues and promoting understanding. The project provides valuable information for individuals to make informed decisions about their mental health and supports targeted interventions and policies to address specific community needs. By using data-driven insights, decision-makers can allocate resources more efficiently for mental health services, reducing the burden on healthcare systems and improving overall healthcare delivery. Moreover, the project fosters more empathetic and supportive communities, enhancing the social support networks for those affected by depression.

Milestone 2: Data Collection and Connecting Database

Data collection is the systematic process of gathering and accumulating information or data from various sources and observations. This process involves identifying, recording, and storing data to facilitate analysis, decision-making, and the generation of insights.

- **Activity 1: Collect the dataset**

  Dataset link:
  https://drive.google.com/file/d/1eMWjZzv1BnT5pBQv8kKLoLVs9KXXK3H5/view?usp=sharing

  Understanding dataset:
  Here is the detailed information on the columns we are dealing with in the depression dataset

  Columns and their description:

  a) Index: Serial number of entries
  b) Entity: Name of country
  c) Code: Code of country
  d) Year: Entry year
  e) Schizophrenia (%): Percentage of people affected by Schizophrenia
  f) Bipolar disorder (%): Percentage of People affected by Bipolar Disorder
  g) Eating disorder (%): Percentage of People affected by Eating Disorders
  h) Anxiety Disorder (%): Percentage of People affected by Anxiety Disorder
  i) Drug Use Disorder (%): Percentage of People affected by Drug Use Disorder
  j) Depression (%): Percentage of People affected by Depression
  k) Alcohol use Disorder (%): Percentage of people affected by Alcohol use

- **Activity 2: Storing Data in DB & Perform SQL Operations**
- **Activity 3: Connect DB with Tableau**

Milestone 3: Data pre-processing

- **Activity 1: Cleaning and filtering datasets**

  Data preprocessing is an important step in the data mining process. It refers to the cleaning, transforming, and integrating of data to make it ready for analysis. The goal of data preprocessing is to improve the quality of the data and to make it more suitable for the specific data mining task. This process enhances data quality and suitability for analytical tasks and visualization, ultimately ensuring more accurate and reliable insights.

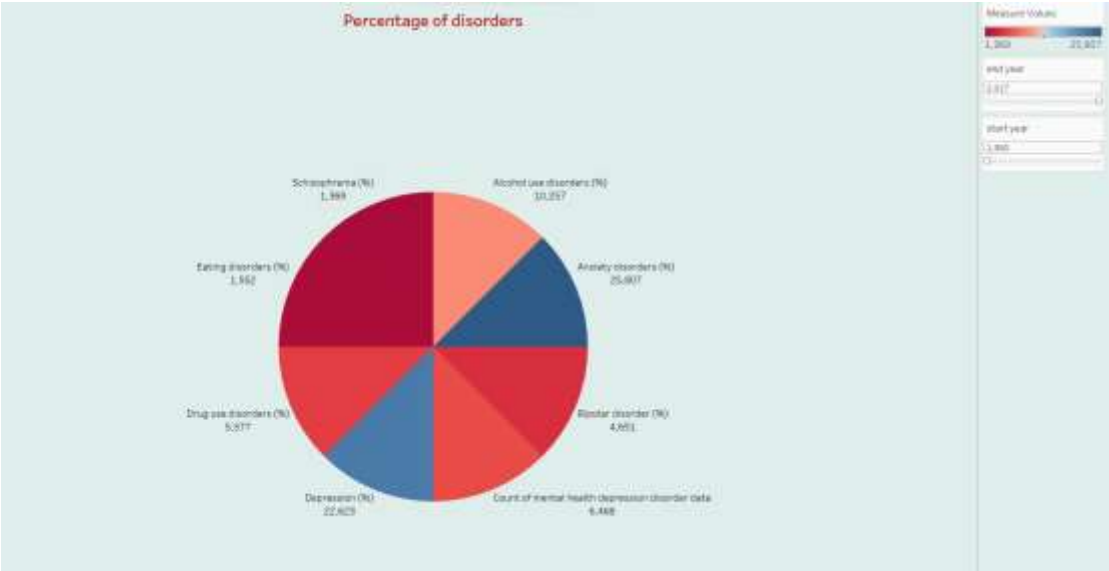
Milestone 4: Data Visualizations

Data visualization is the art of presenting data visually through charts, graphs, and other visual elements to simplify complex information and reveal insights at a glance. It's a powerful tool for making data more accessible and understandable, aiding in data-driven decision-making across numerous fields.

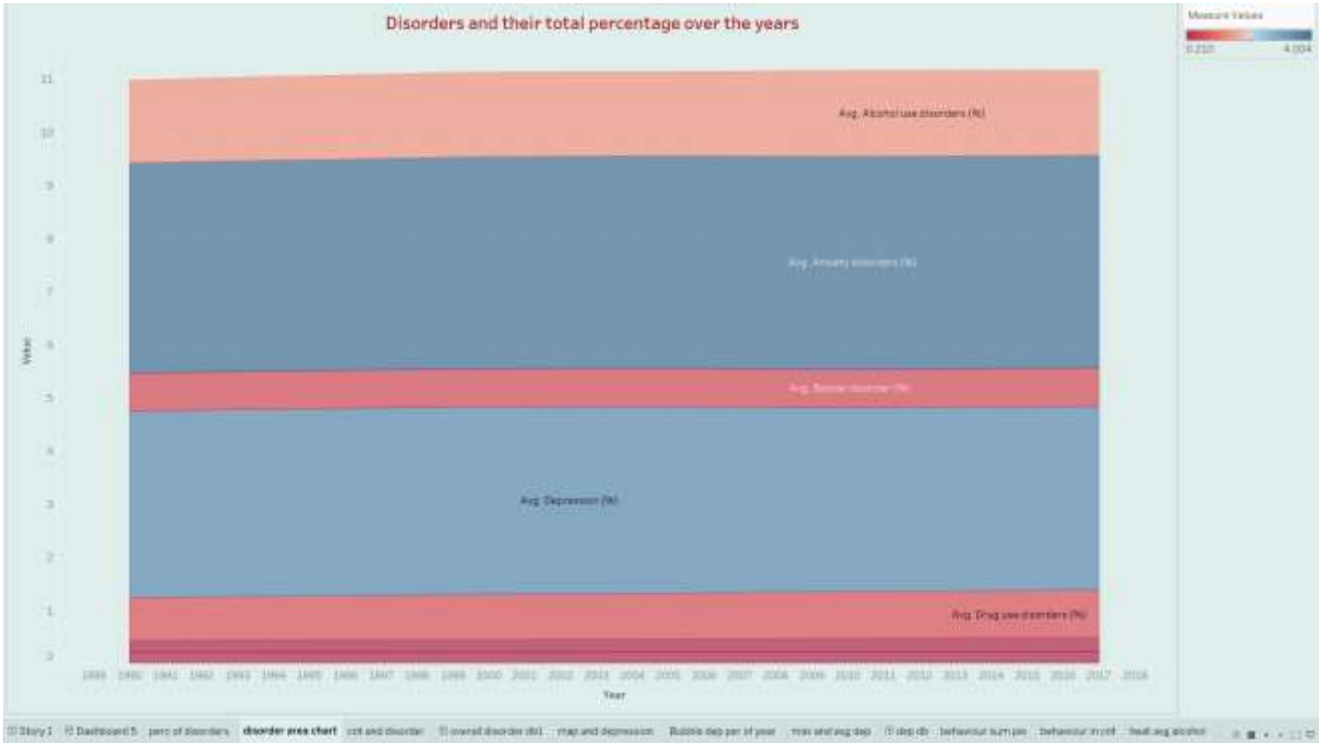
- **Activity 1: Unique Visualizations:**

1. **Percentage of disorders**

https://drive.google.com/file/d/1t0tHcXjrjl1KhISFlam5oOpghayrJPO_/view?usp=sharing

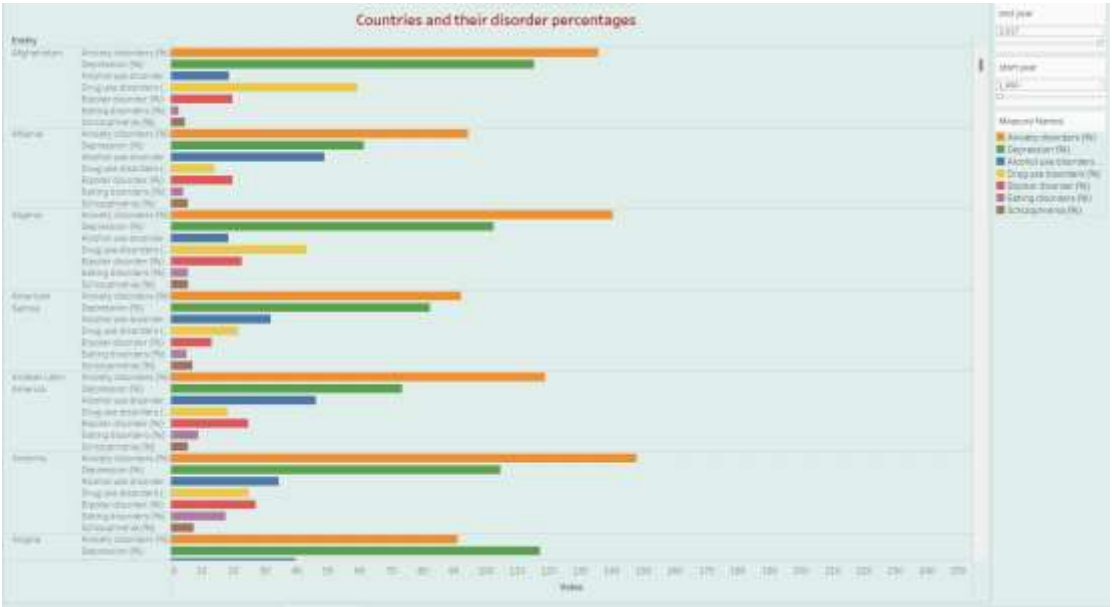


2. **Disorders and their total percentage over the years**
   https://drive.google.com/file/d/1VIOOc64KrkawgQBXg8cSIko5eZPm6g5/view?usp=sharing



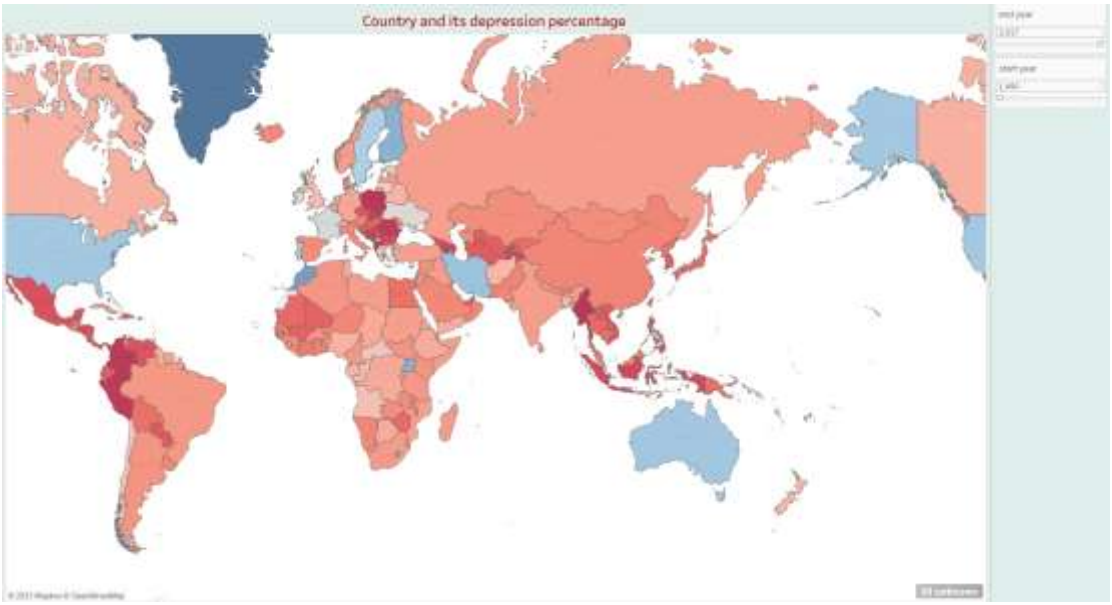
3. **Countries and their disorder percentages**

https://drive.google.com/file/d/1wyDkriGTEawZY3eE0mjyPtdEh6Z6TIV/view?usp=sharing



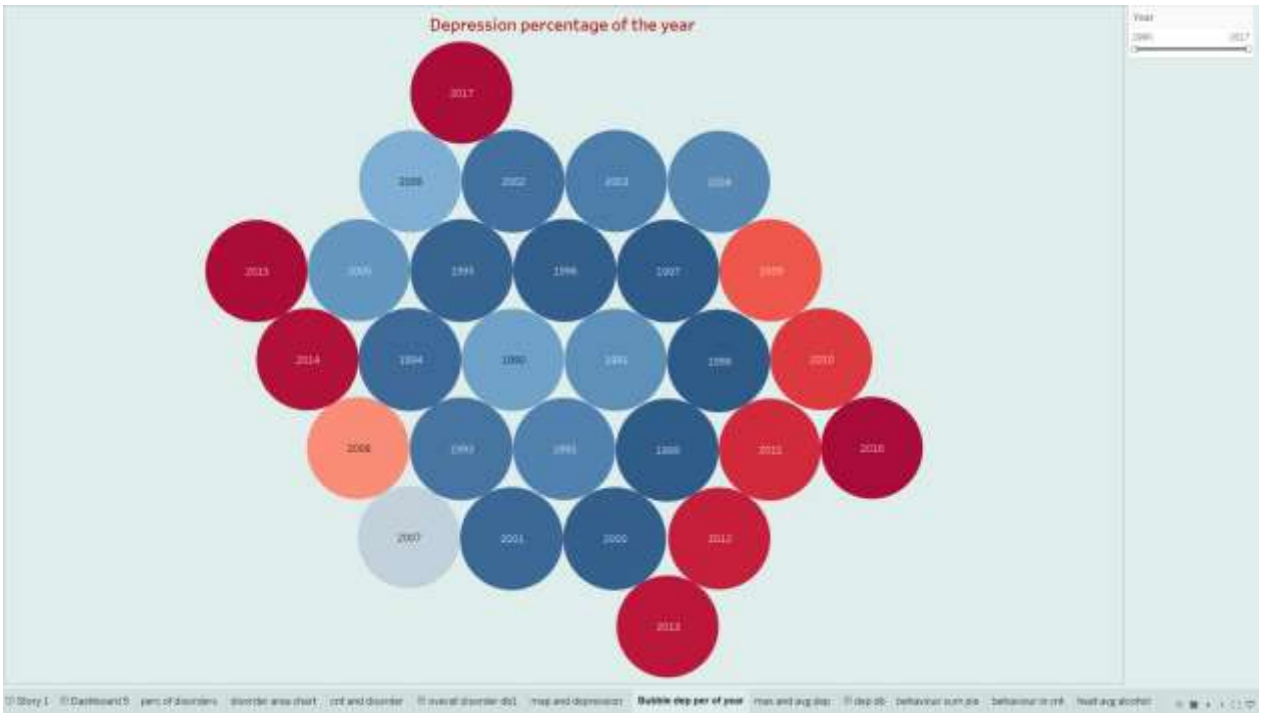
4. **Country and its depression percentage**

https://drive.google.com/file/d/1qo2KMKFGwaOORAVqDjQsNX57HS7XouM/view?usp=sharing



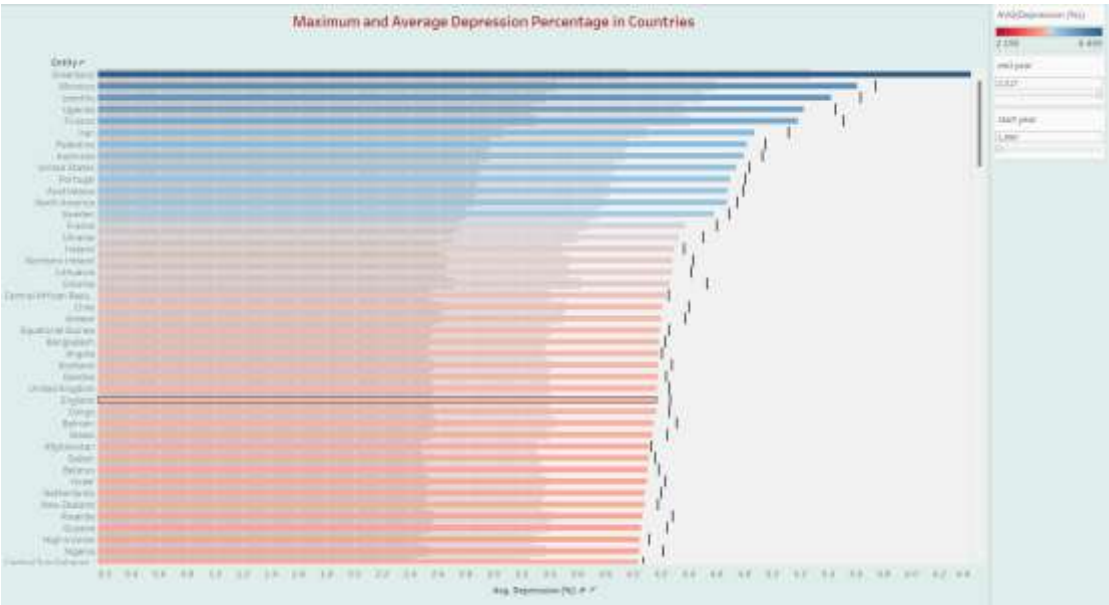
5. **Depression percentage of the year**

https://drive.google.com/file/d/1KjGSKu0z64qRPFk7vCSmf8HP7vLAcvJ/view?usp=sharing

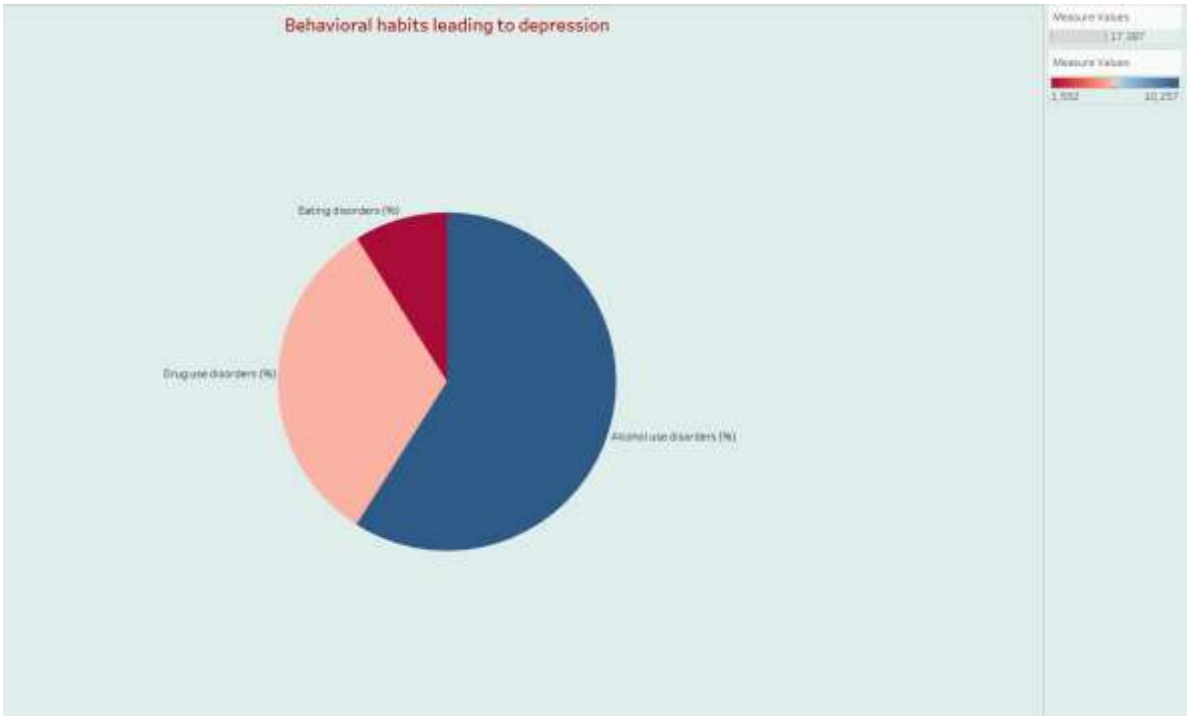


6. **Maximum and Average Depression Percentage in Countries**

https://drive.google.com/file/d/1SSUf2JfGdDTa7vDhz5uORnvv3UvMcPvH/view?usp=sharing

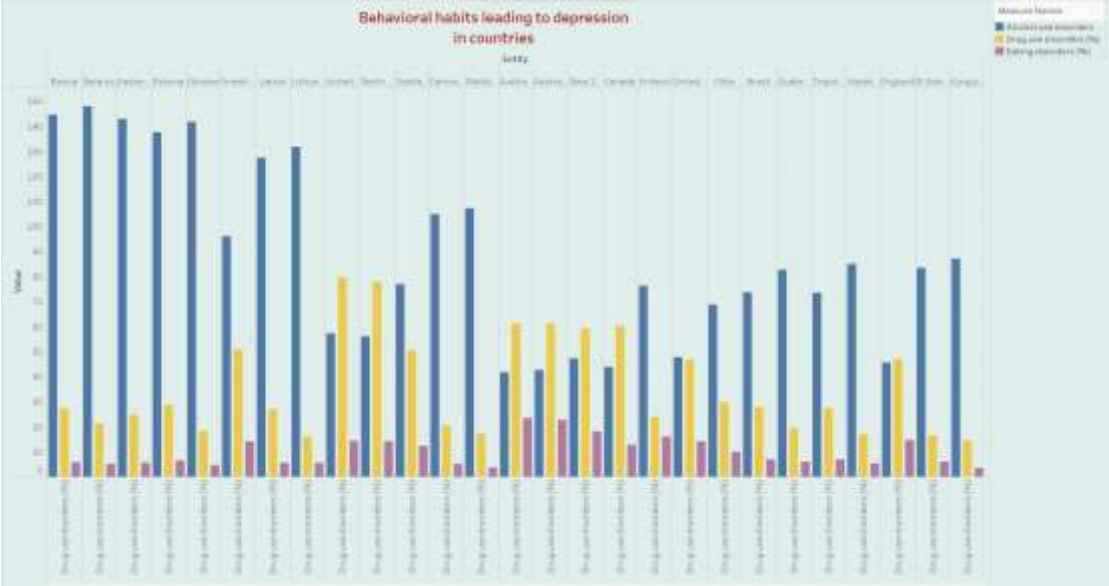


7. **Behavioral habits leading to depression**
   https://drive.google.com/file/d/1qfuVqoFmpzam1TAH8aWYyzLyFNfEuj2/view?usp=sharing



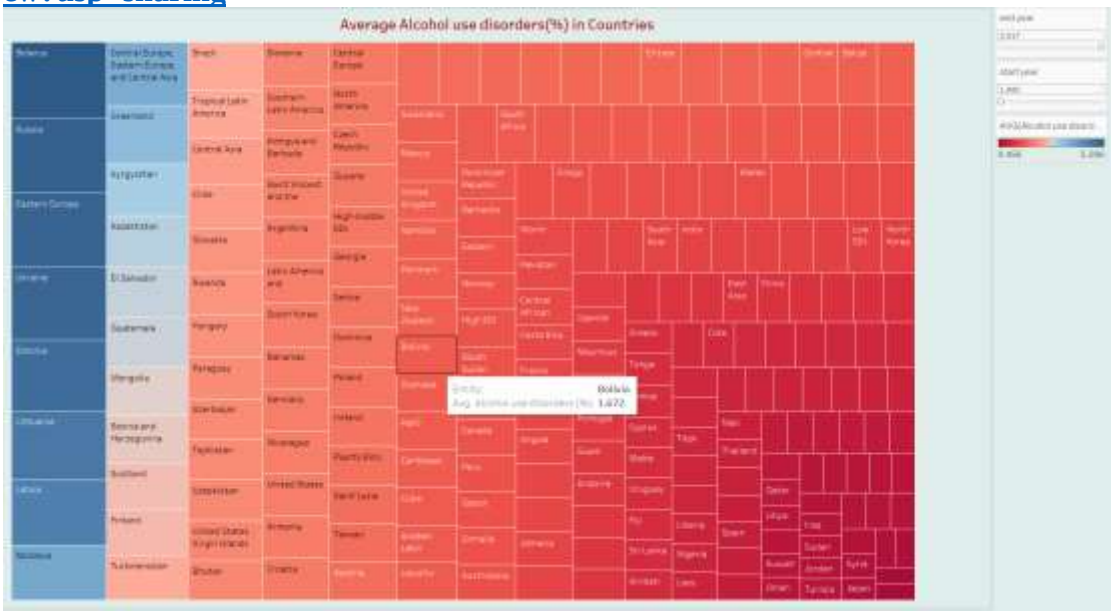
8. **Behavioral habits leading to depression in countries**

https://drive.google.com/file/d/1KuV4oQT1B5TiyKEm_Lmh42VjW7NVDCdr/view?usp=sharing



9. **Average Alcohol use disorders (%) in Countries**

https://drive.google.com/file/d/1wrMreXfXDBKjxTD5sYSWJqmpVHb4jLMe/view?usp=sharing



10. **Average Drug Use disorders (%) in Countries**

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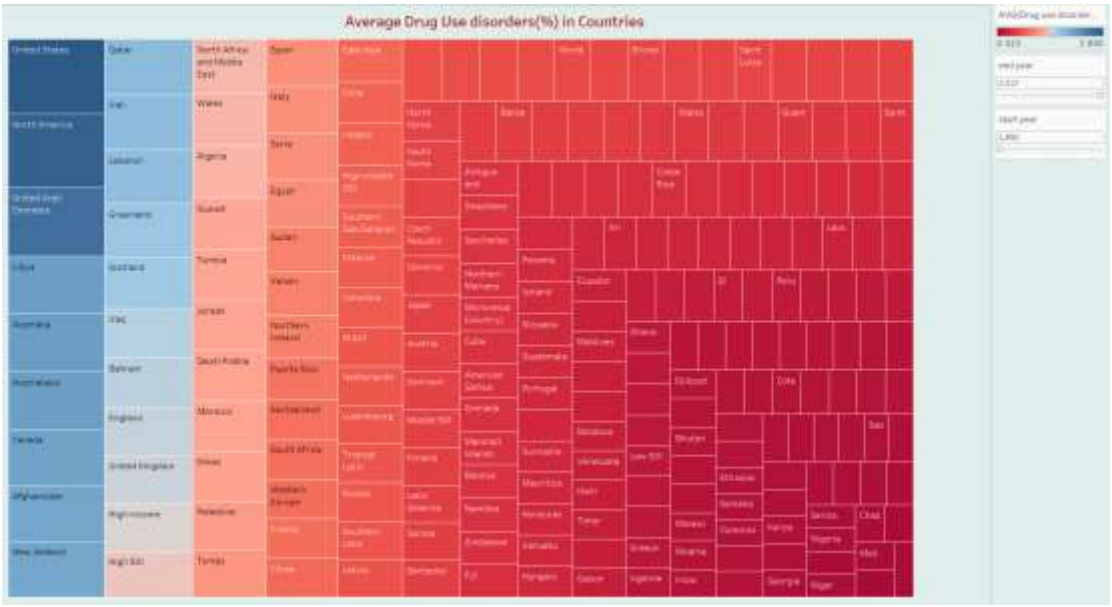
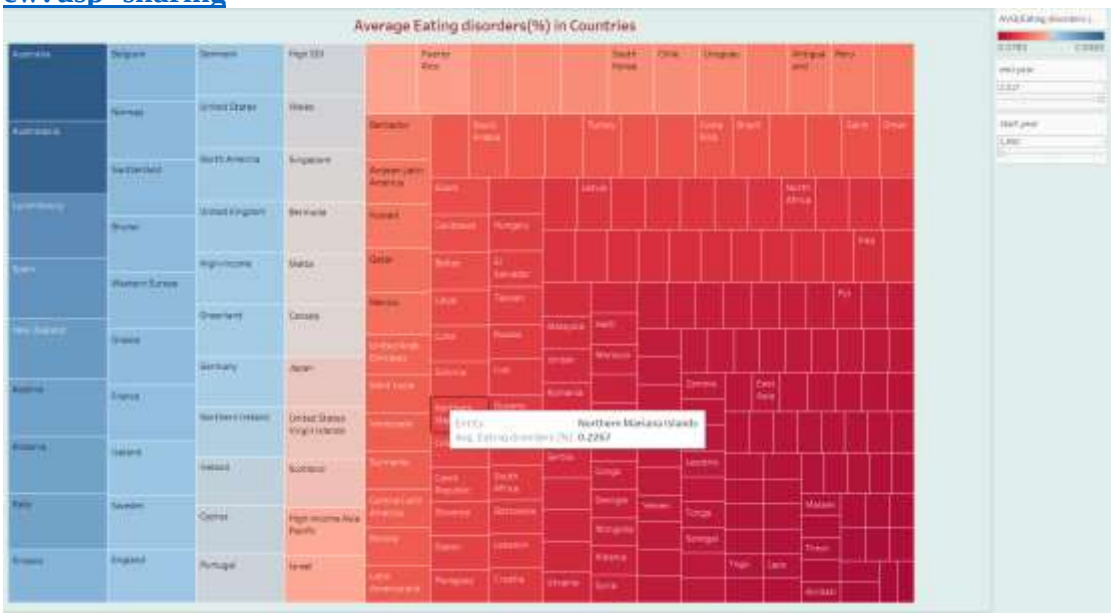
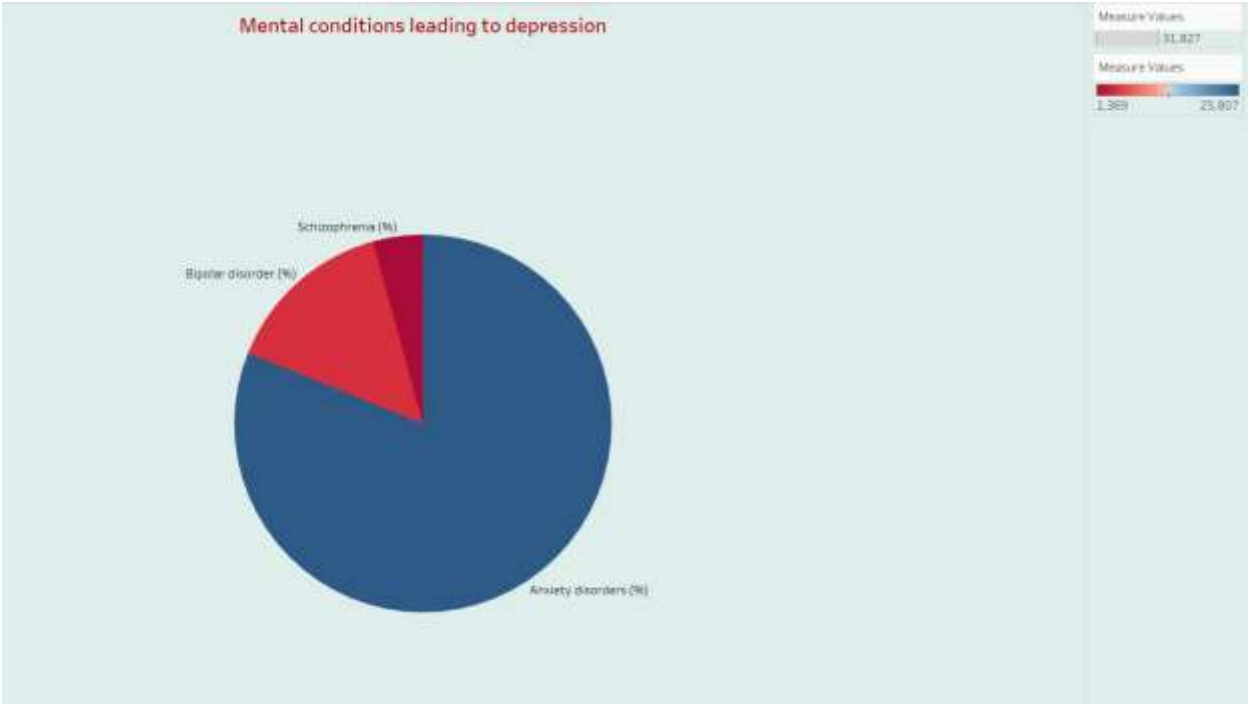


11. Average Eating disorders (%) in Countries

https://drive.google.com/file/d/1X4VDHTsGh5VZ8MAz3UeDb4WPPdHJnbne/view?usp=sharing

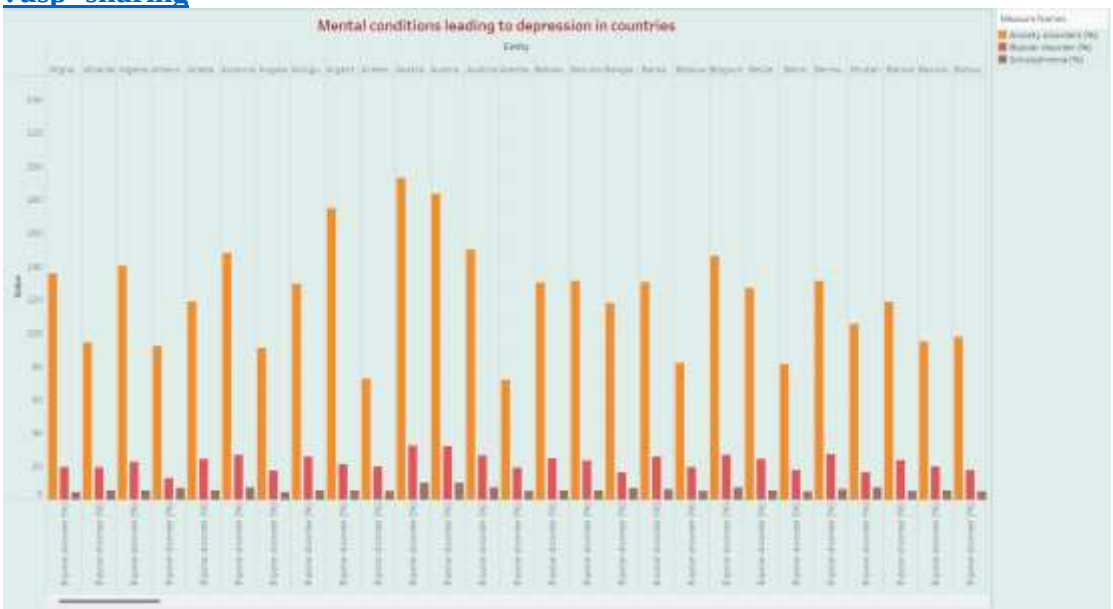


12. **Mental conditions leading to depression**
    https://drive.google.com/file/d/1XEU5pnjeayzjHwV4jcRqmviFmpH8MTr/view?usp=sharing



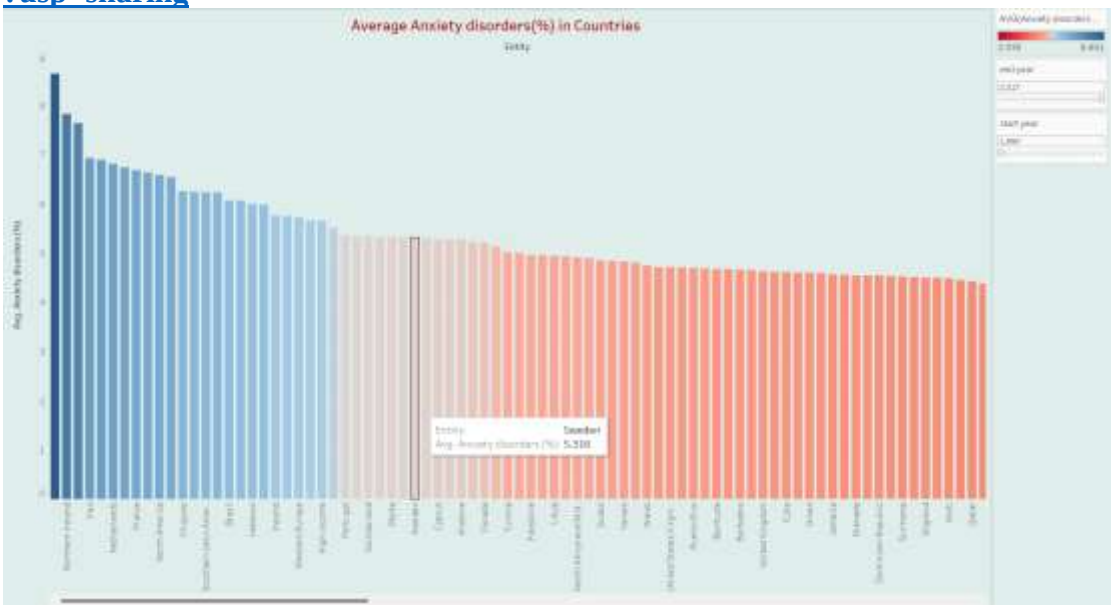
13. **Mental conditions leading to depression in countries**

https://drive.google.com/file/d/1SSUf2JfGdDTa7vDhz5uORnvv3UvMcPvH/view?usp=sharing



14. Average Anxiety disorders (%) in Countries

https://drive.google.com/file/d/14w7DtXoHPxa5HsAydAk1bA1bZ7eA_9NZ/view?usp=sharing



15. Average Bipolar disorders (%) in Countries

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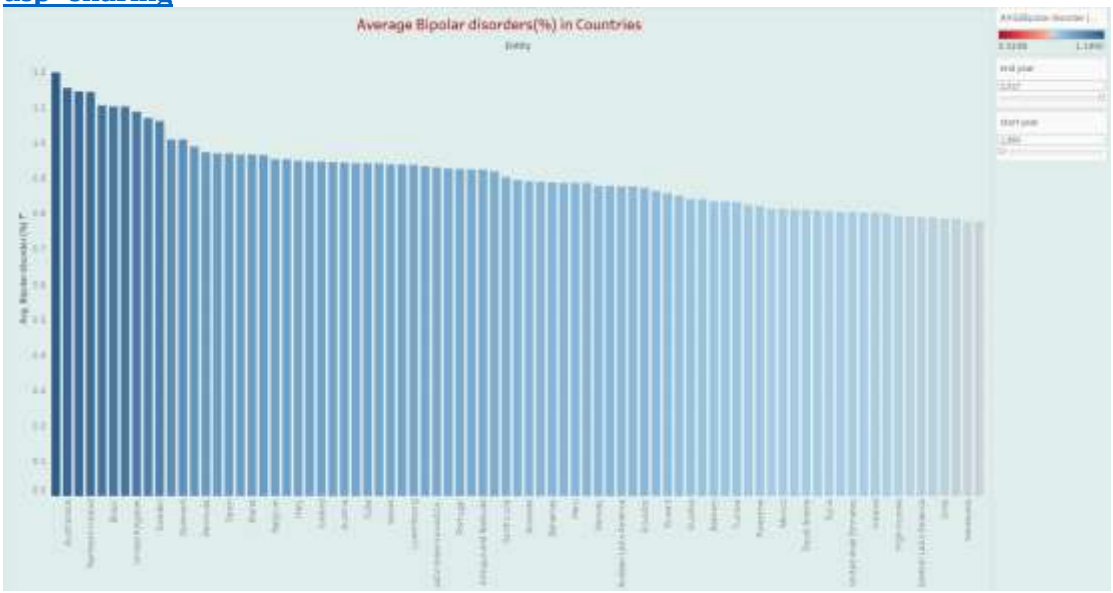

16. Average Schizophrenia (%) in Countries

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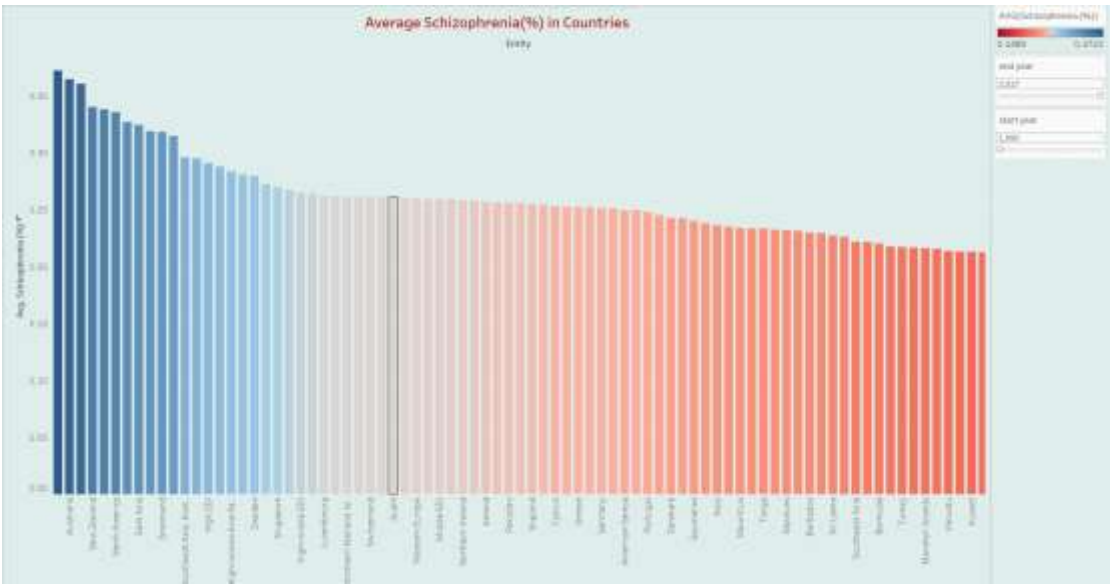
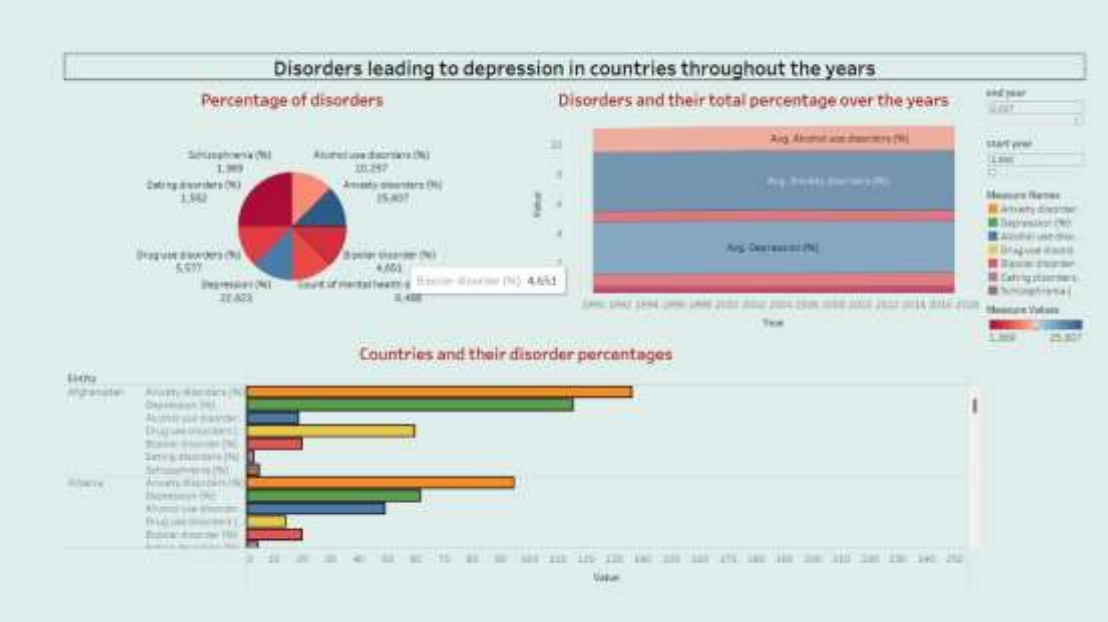


Milestone 5: Dashboard

A dashboard is a visual display of key information, often presented in the form of charts, graphs, tables, and other data visualizations, on a single screen or interface. Dashboards are designed to provide users with a concise and easily understandable overview of relevant data, enabling them to make informed decisions and gain insights from the presented information. Dashboards can be used in various fields, including business, analytics, and software applications, to track performance, monitor metrics, and facilitate data-driven decision-making.

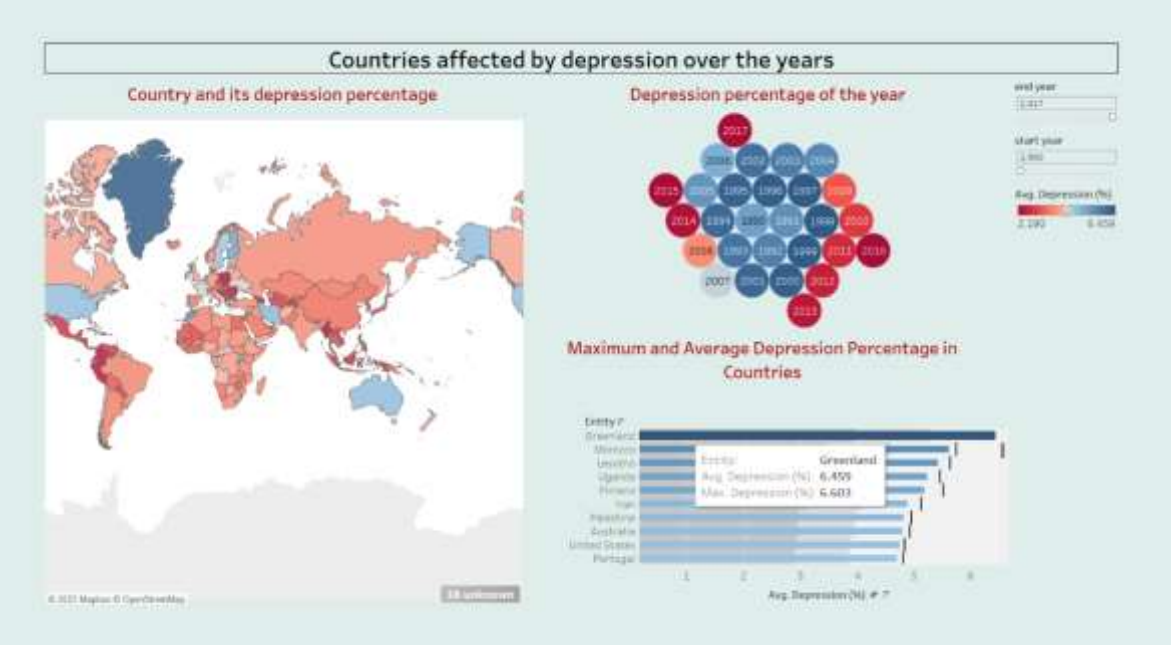
- **Number of dashboards:**

1. **Disorders leading to depression in countries throughout the years**
   https://drive.google.com/file/d/1OH418Ptsd8E1zHB-6Y6qtVJRfhtcZhKx/view?usp=sharing



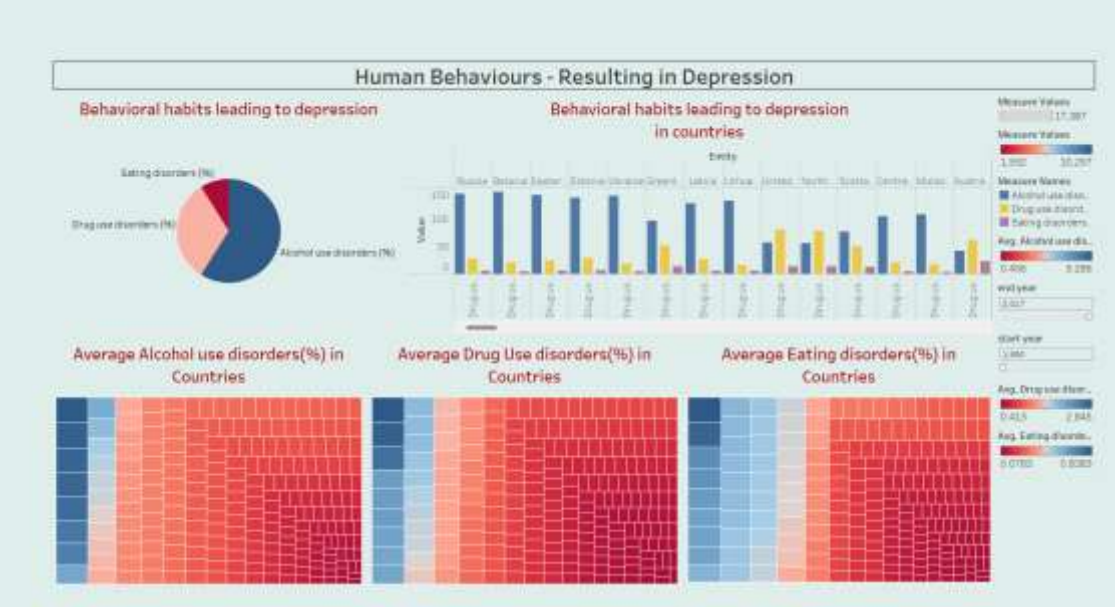
2. **Countries affected by depression over the years**

   https://drive.google.com/file/d/1pJt9K0pTlXukjRUgQeDBcRIhULvvNZqS/view?usp=sharing



3. **Human Behaviours - Resulting in Depression**

   https://drive.google.com/file/d/1FyXJoU2oct5EP5nRBiCO_QWzGofY_byz/view?usp=sharing

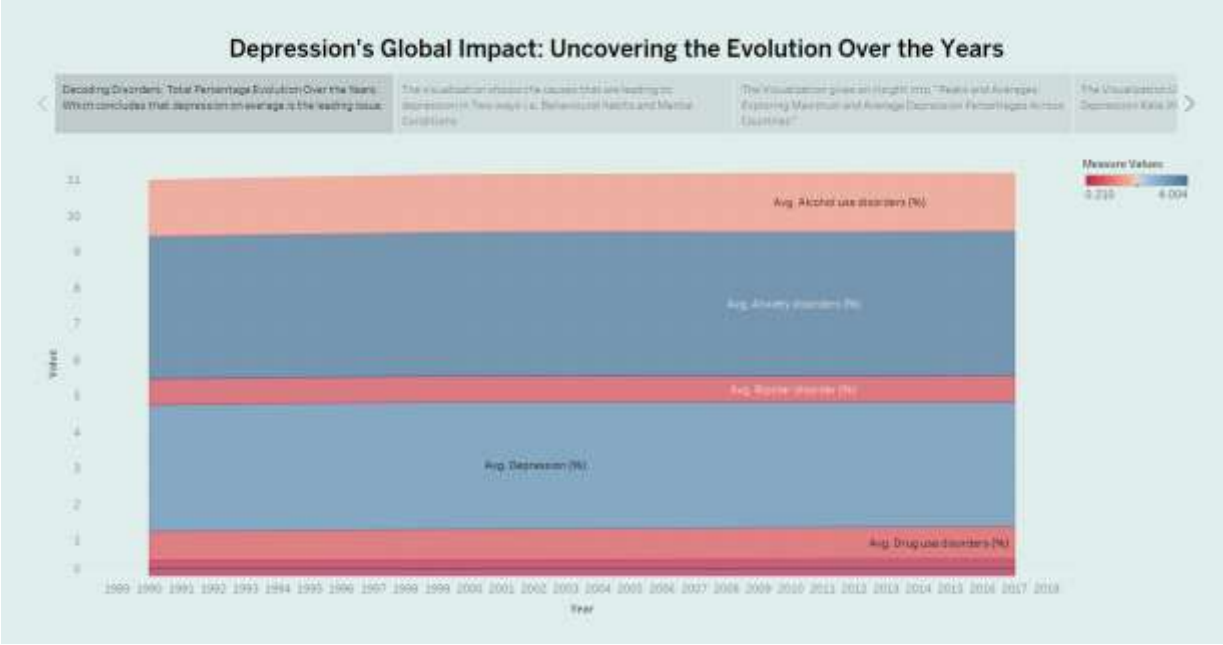


4. **Mental Health Conditions - Resulting in Depression**
   https://drive.google.com/file/d/1Ys0h43Vo7_TCiUICO7f1KEK1rioUzfN0/view?usp=sharing

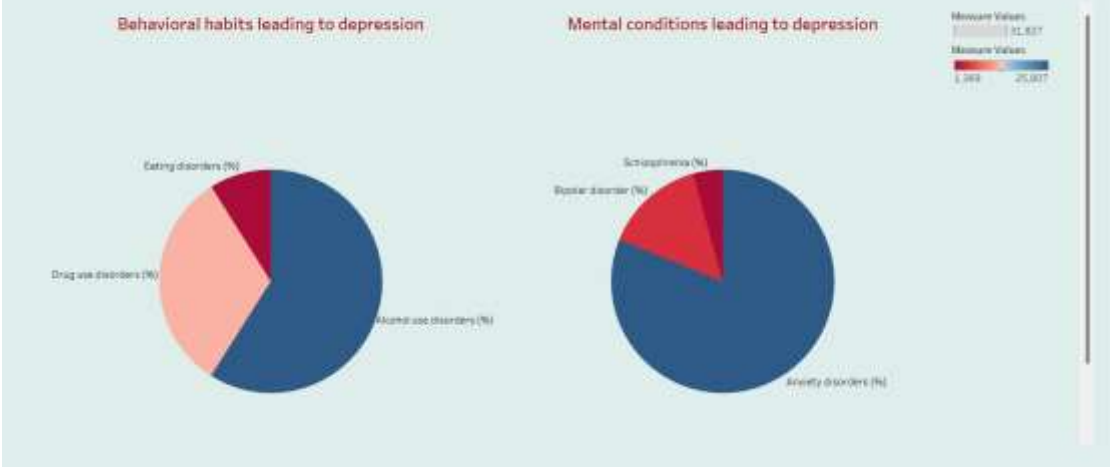
Milestone 6: Story

In data visualization, a "story" is a narrative-driven approach that uses a sequence of visualizations to convey data insights effectively. It serves to contextualize data, communicate a clear message, engage the audience, and facilitate in-depth analysis. By structuring data presentations in a storytelling format, data professionals and analysts can guide viewers through a logical progression of information, making it more relatable and influential in decision-making and education.

- **Number of scenes of story**
    1. **Depression's Global Impact: Uncovering the Evolution Over the Years**
       https://drive.google.com/file/d/1rlk6zFeY_aH983lOUEsjlQS6ZpbLWXS_/view?usp=sharing



Depression's Global Impact: Uncovering the Evolution Over the Years



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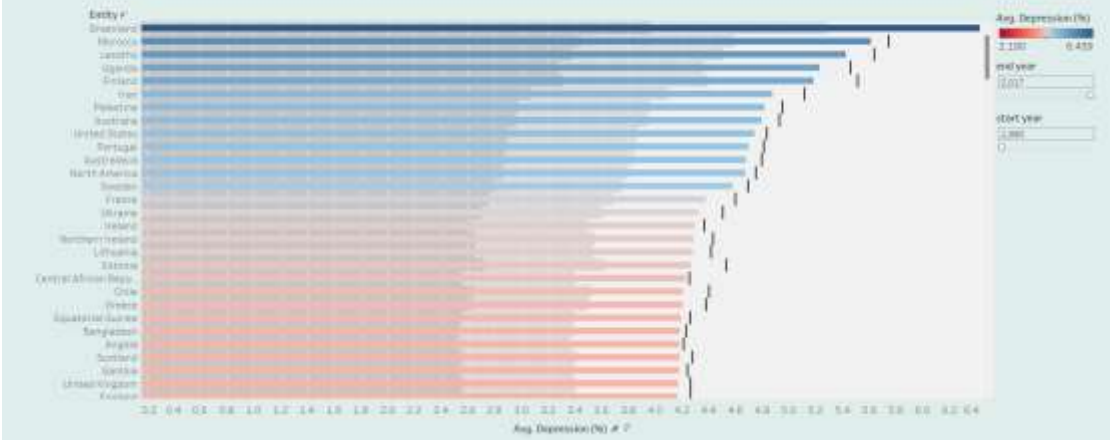
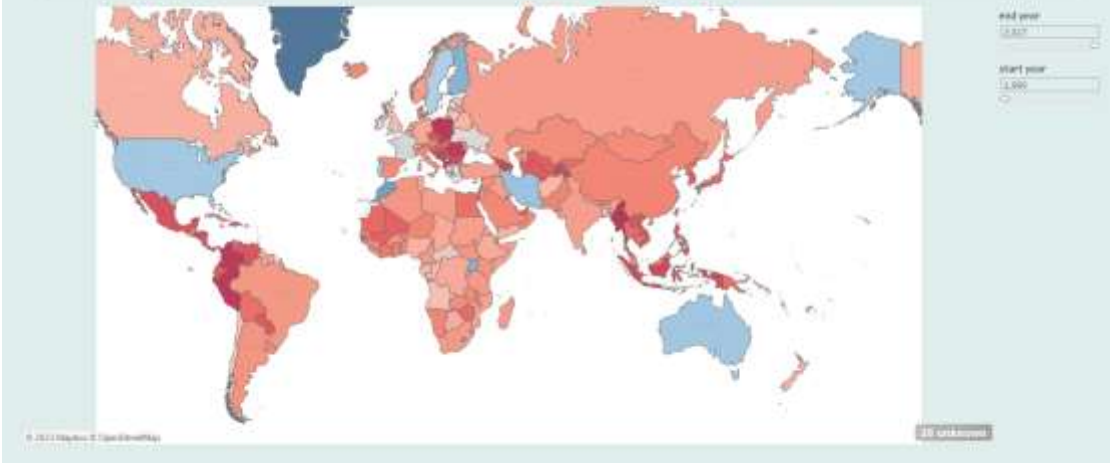


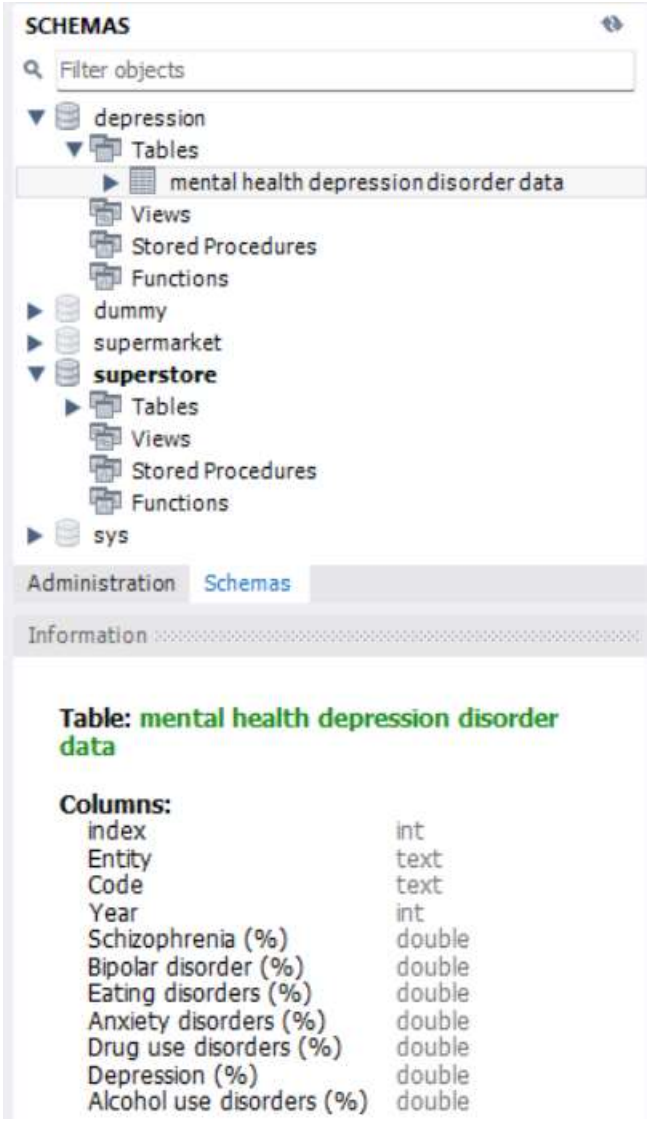
Depression's Global Impact: Uncovering the Evolution Over the Years



Milestone 7: Performance Testing

- **Activity 1:** Amount of Data Rendered to Database

  On opening the MYSQL Workbench, in schemas go to the database and after finding depression click to expand the tables, select the table, and click on the table name to get information related to the table as columns, rows datatypes, etc.



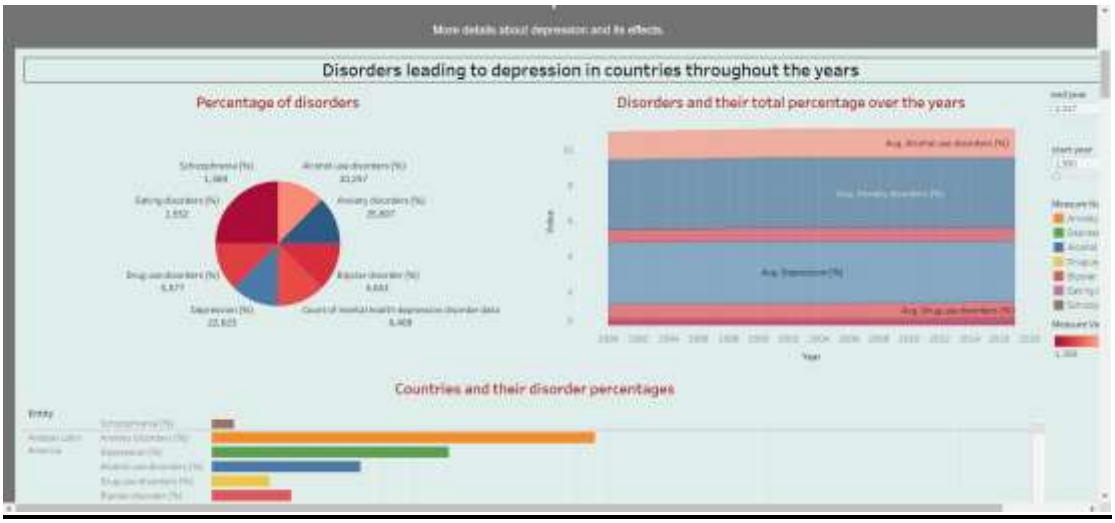
- **Activity2: Number of Calculation fields**

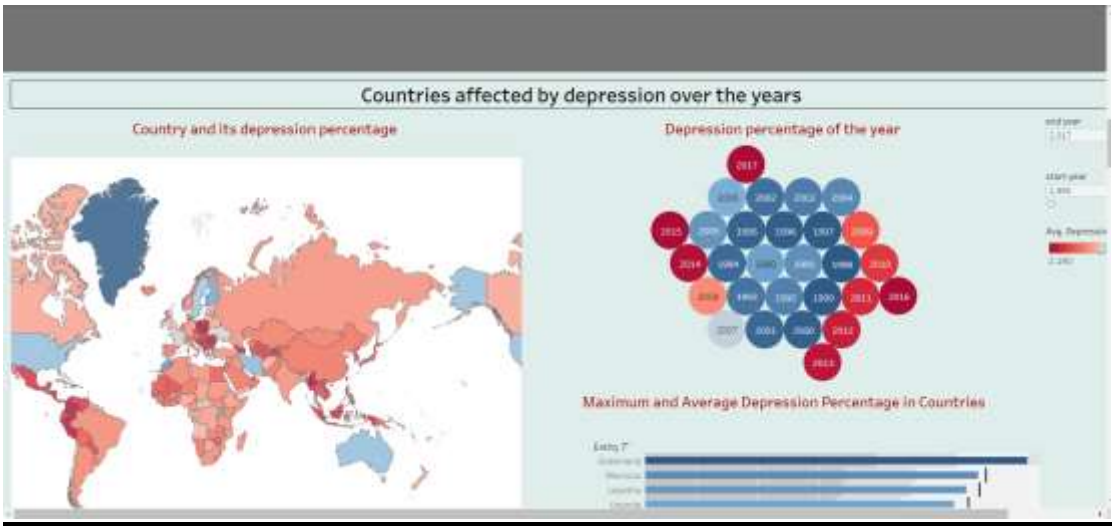
- **Activity 3: Number of Visualizations/ Graphs**

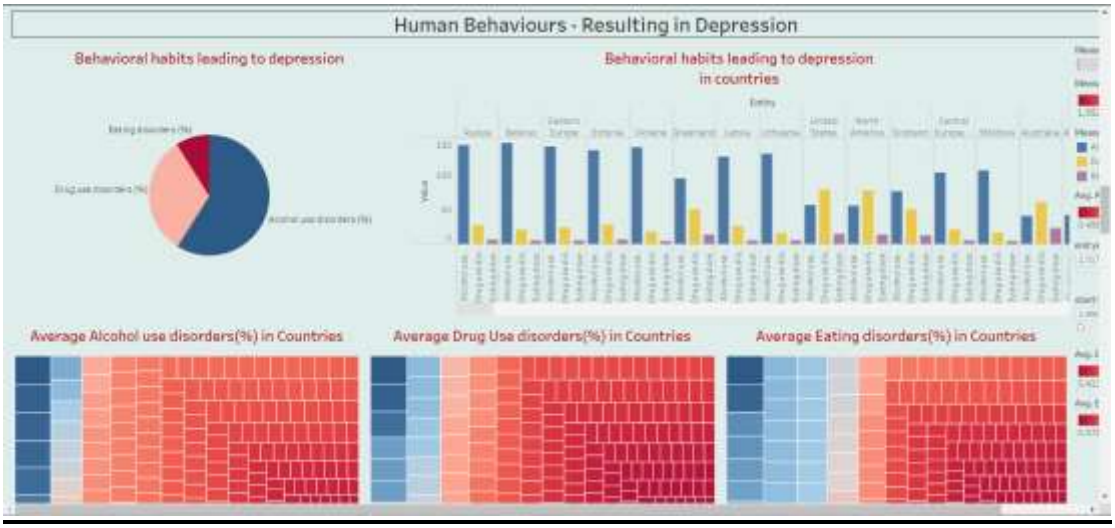
1) Percentage of disorders
2) Disorders and their total percentage over the years
3) Countries and their disorder percentages
4) Country and its depression percentage
5) *Depression percentage of the year*
6) Maximum and Average Depression Percentage in Countries
7) Behavioral habits leading to depression
8) Behavioral habits leading to depression in countries
9) Average Alcohol use disorders (%) in Countries
10) Average Drug Use disorders (%) in Countries
11) Average Eating disorders (%) in Countries
12) Mental conditions leading to depression
13) Mental conditions leading to depression in countries
14) Average Anxiety disorders (%) in Countries
15) Average Bipolar disorders (%) in Countries
16) Average Schizophrenia (%) in Countries

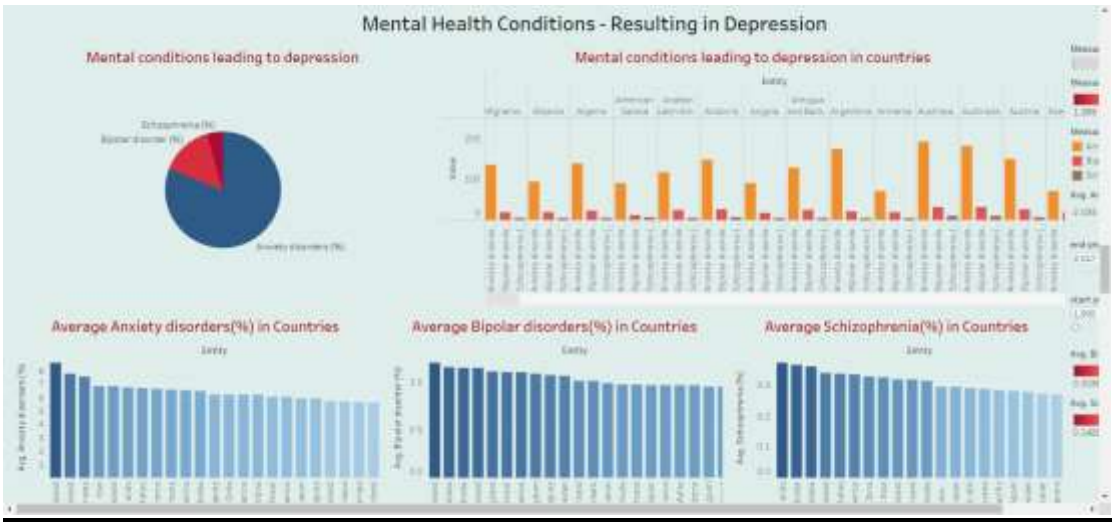
Milestone 8: Web Integration

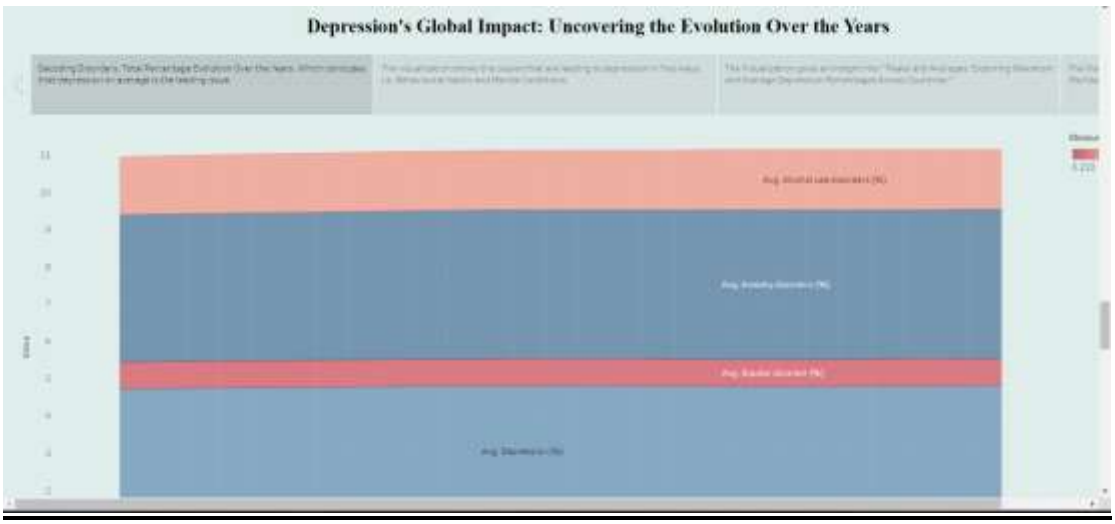
- **Activity 1: Embedding Dashboard and Story with UI using Flask**

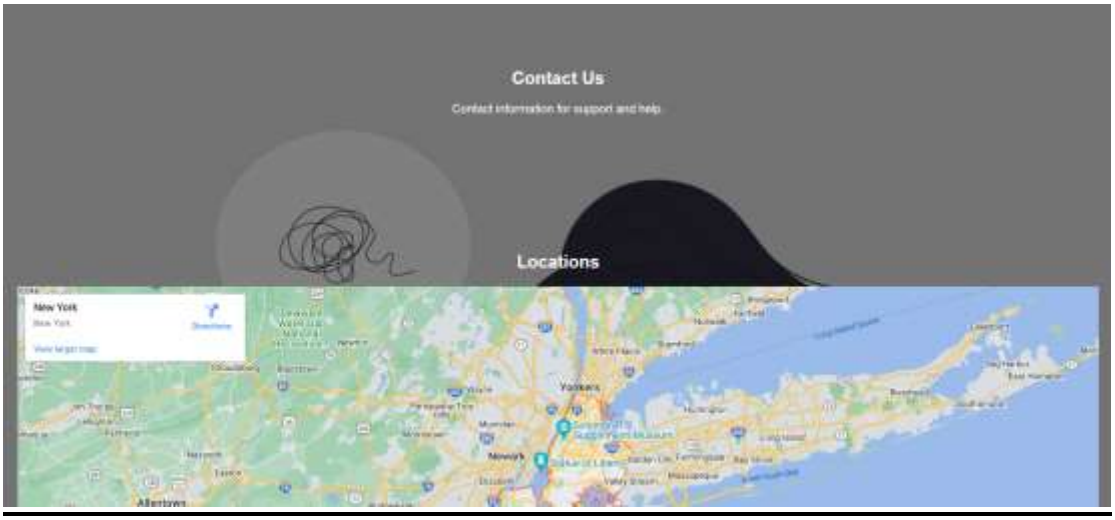




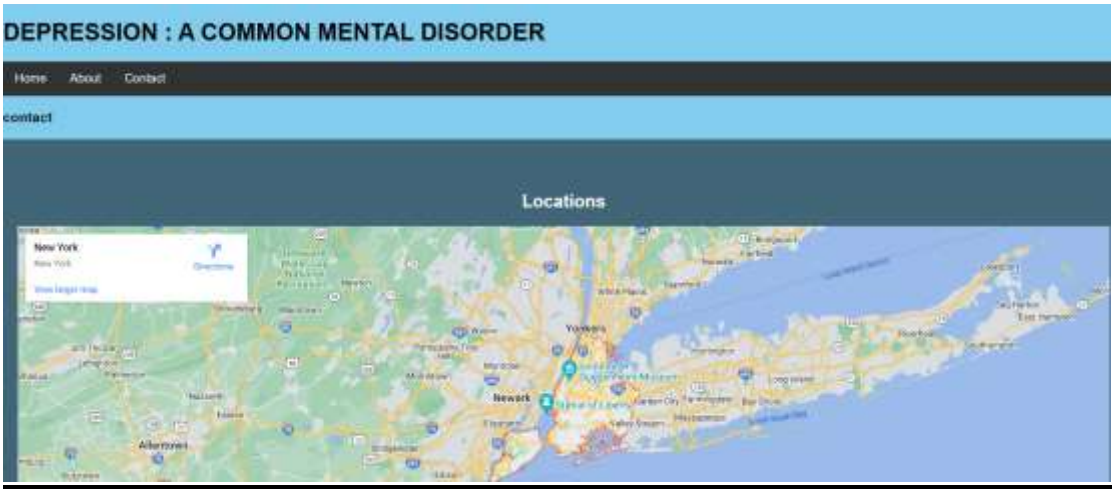

Human Behaviours - Resulting in Depression
Behavioral habits leading to depression
Behavioral habits leading to depression in countries
Average Alcohol use disorders(%) in Countries
Average Drug Use disorders(%) in Countries
Average Eating disorders(%) in Countries


Mental Health Conditions - Resulting in Depression
Mental conditions leading to depression
Mental conditions leading to depression in countries
Average Anxiety disorders(%) in Countries
Average Bipolar disorders(%) in Countries
Average Schizophrenia(%) in Countries


Depression's Global Impact: Uncovering the Evolution Over the Years


Contact Us
Contact information for support and help
Locations
New York
Yonkers
Newark
Allentown

Understanding Depression


DEPRESSION : A COMMON MENTAL DISORDER
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Allentown