Suicides In India Visualisation

Suicide is the act of intentionally causing one's own death. Mental disorders (including depression, bipolar disorder, autism spectrum disorders, schizophrenia, personality disorders, anxiety disorders), nihilistic beliefs, physical disorders (such as chronic fatigue syndrome), and substance use disorders (including alcohol use disorder and the use of and withdrawal from benzodiazepines) are risk factors. Some suicides are impulsive acts due to stress (such as financial or academic difficulties), relationship problems (such as breakups or deaths of close ones), or harassment/bullying. Those who have previously attempted suicide are at a higher risk for future attempts. Effective suicide prevention efforts include limiting access to methods of suicide — such as firearms, drugs, and poisons; treating mental disorders and substance misuse; careful media reporting about suicide; and improving economic conditions. Even though crisis hotlines are common, they have not been well studied.

Real-Time Survelliance :

The range of timeliness of case submission varies across the systems from immediately upon notification to fortnightly and averages between 24 and 72 hours after a death has occurred . The disparity in system infrastructure (integrated into legislated organization *vs.* unintegrated) impacts data quality given that unintegrated systems rely on the completeness of externally sourced death reports. Using secondary data sources has demonstrated the benefits of cross-checking data completeness. Furthermore, the review of cases collated by most systems ranged from continuous to bimonthly to capture any missing cases that meet inclusion criteria.

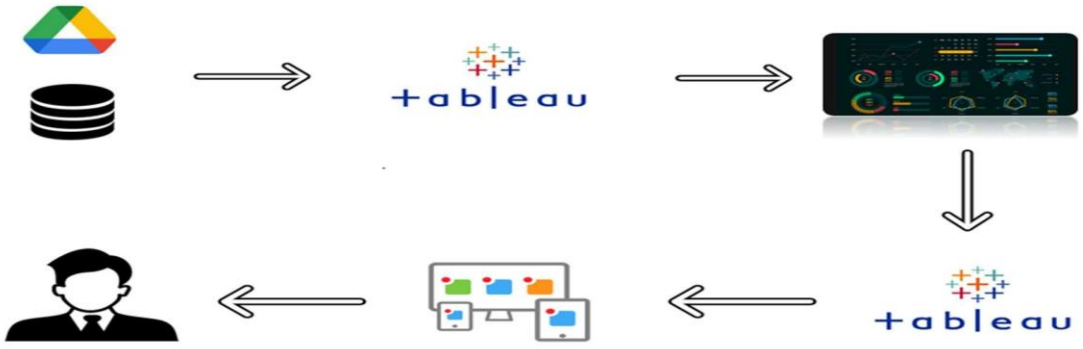
Real time assessment of suicidal thoughts and behaviors :

One of the greatest challenges to understanding, predicting, and preventing suicide is that we have never had the ability to observe and intervene upon them as they unfold in real-time. Recently developed real-time monitoring methods are creating new opportunities for scientific and clinical advances. For instance, recent real-time monitoring studies of suicidal thoughts show that they typically are episodic, with quick onset and short duration. Many known risk factors that predict changes in suicidal thoughts over months/years (e.g. hopelessness) do not predict changes over hours/days-highlighting the gap in our abilities for short-term prediction. Current and future studies using newer streams of data from smartphone sensors (e.g. GPS) and wearables (e.g. heart rate) are further expanding knowledge and clinical possibilities.

Preventions : Suicides are preventable. There are a number of measures that can be taken at population, sub-population and individual levels to prevent suicide and suicide attempts. LIVE LIFE, WHO's an approach to suicide prevention, recommends the following key effective evidence-based interventions:

- limit access to the means of suicide
- interact with the media for responsible reporting of suicide;
- foster socio-emotional life skills in adolescents;
- early identify, assess, manage and follow up anyone who is affected by suicidal behaviours.,

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 Visualizations/ Graphs
- Project Demonstration & Documentation

  Record explanation Video for project end to end solution
  - Project Documentation-Step by step

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: Collect the dataset

Please use the link to download the dataset.
https://drive.google.com/file/d/1FRSVKMTsNlPCGaqwDH9cOLfzXFu-Igum/view?usp=drive_link

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:

- Data : suicides in india
- State : which state the suicide occurred more
- Type code : cause of suicide
- Type : on particular cause of suicide
- Year : on which year got more suicides

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/1ocpWstZKgfw0J0pKYJ7MKiPetMygy7Ll/view?usp=sharing

Explanation video link 2: Data Cleaning

https://drive.google.com/file/d/1gclTiQbjU6BPCIEs0atwklbm5136llEP/view?usp=sharing

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: suicides view by state

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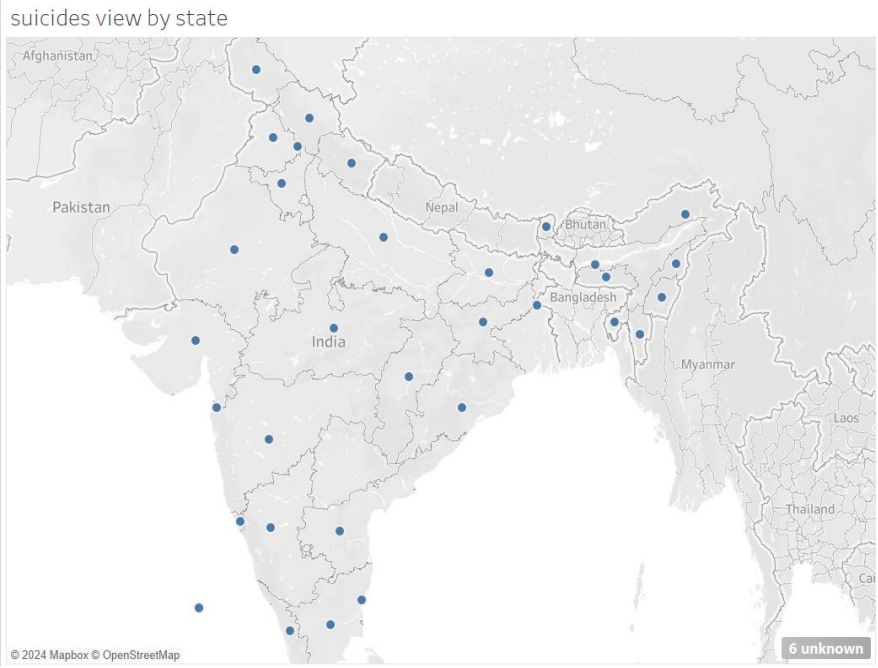

Activity 1.2:suicides in state

Explanation video link:

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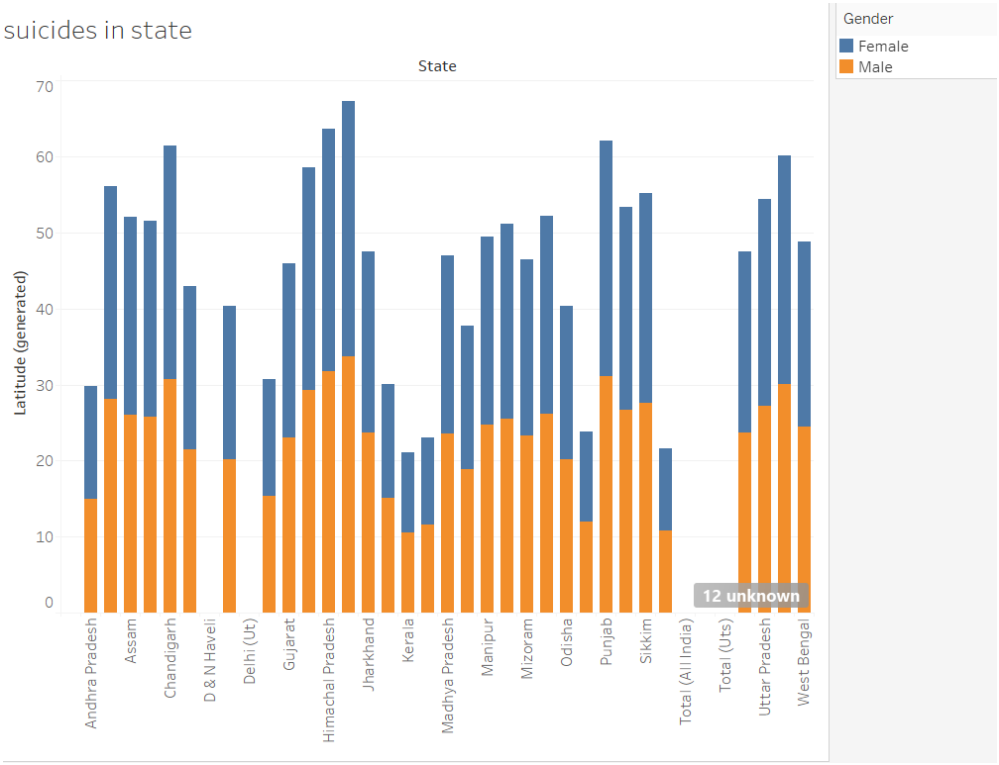

Activity 1.3: suicides by year

Explanation video link:

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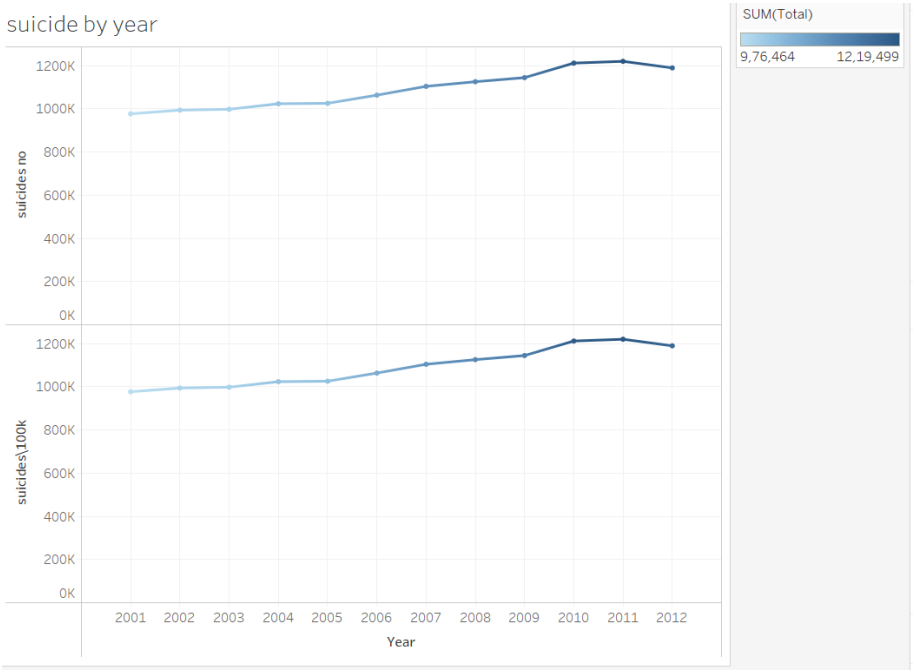

Activity 1.4: type of suicide

Explanation video link:

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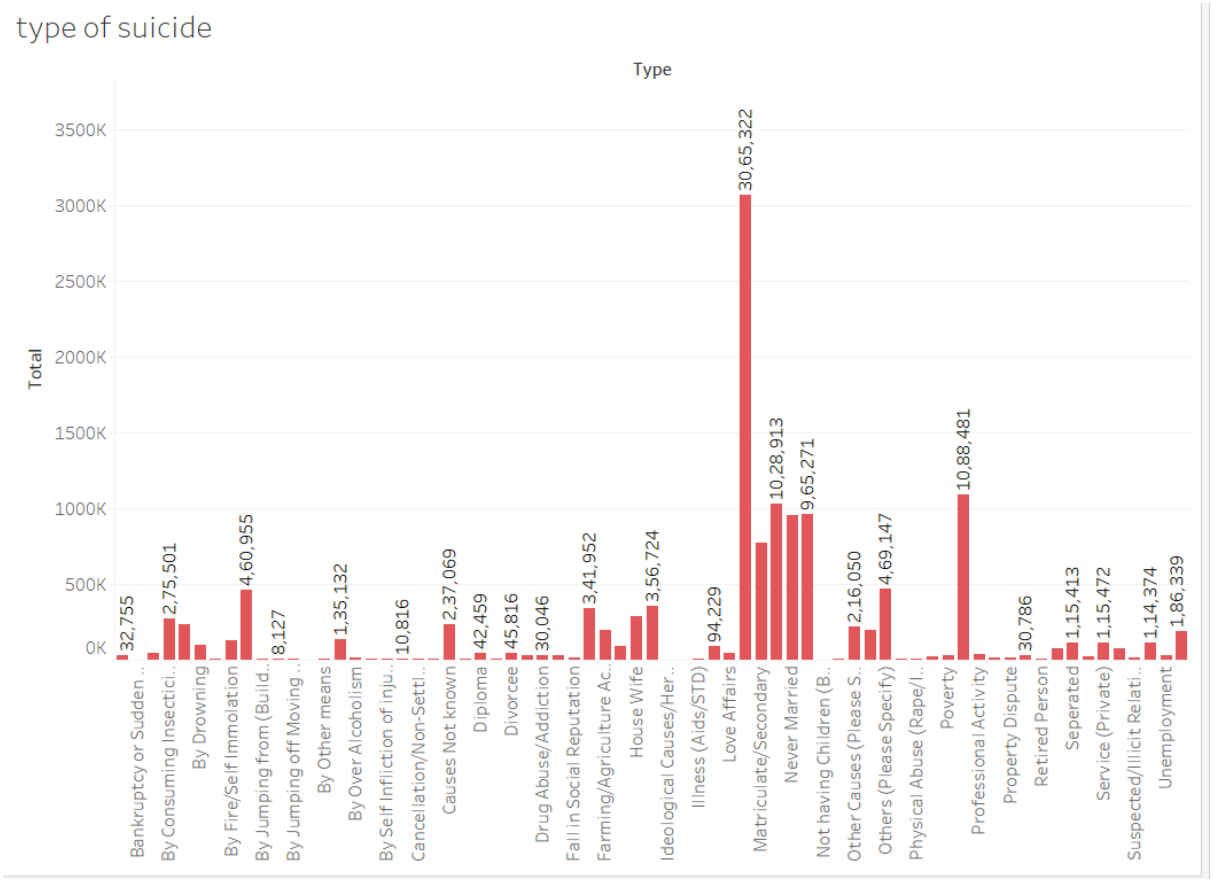

Activity 1.5: sum of suicides by year

Explanation video link:

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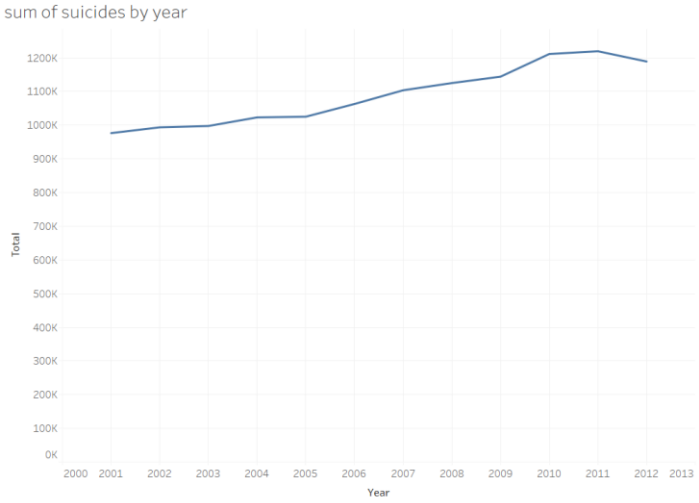

Activity 1.6: suicide by sex

Explanation video link:

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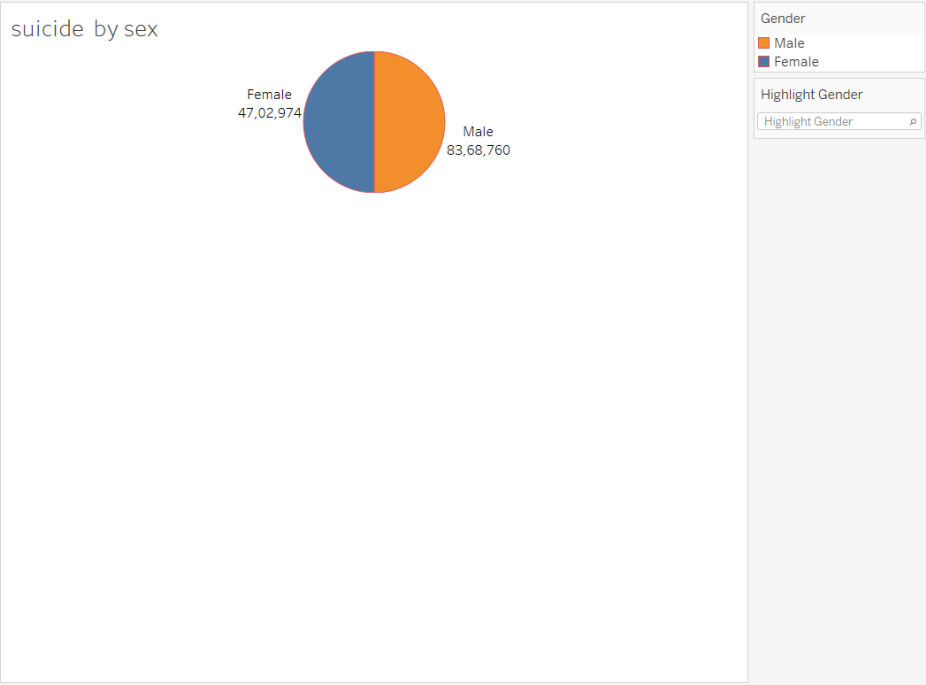

Activity 1.7: type code of suicides

Explanation video link :

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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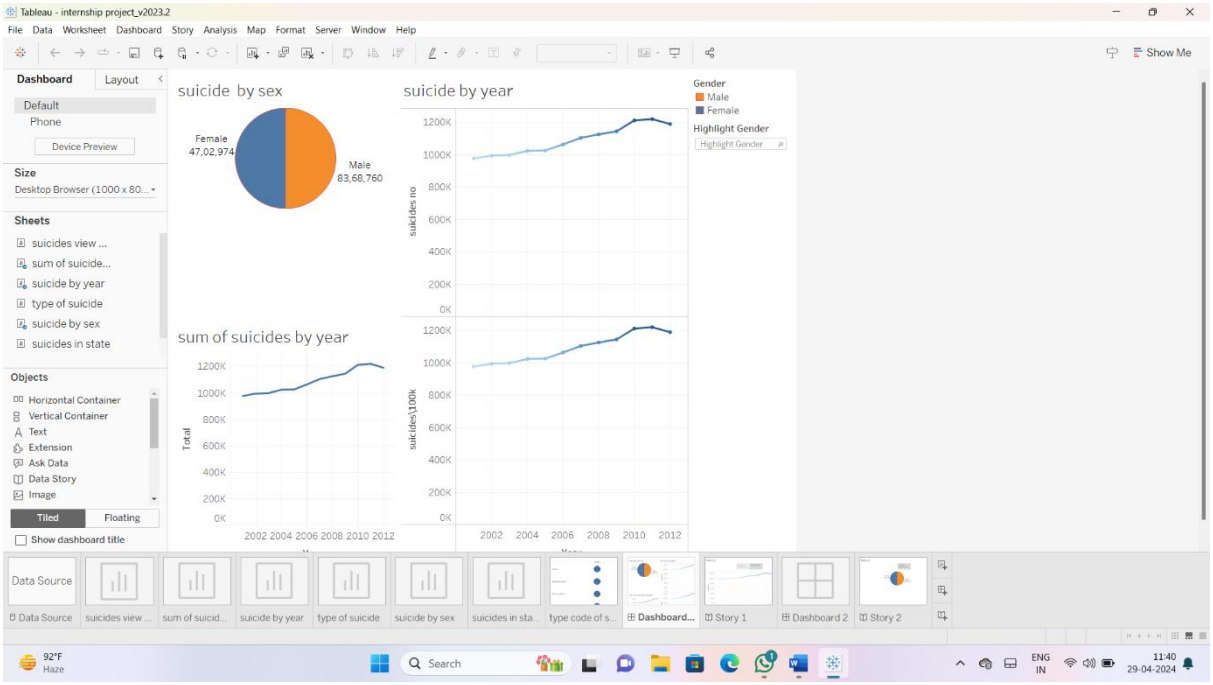

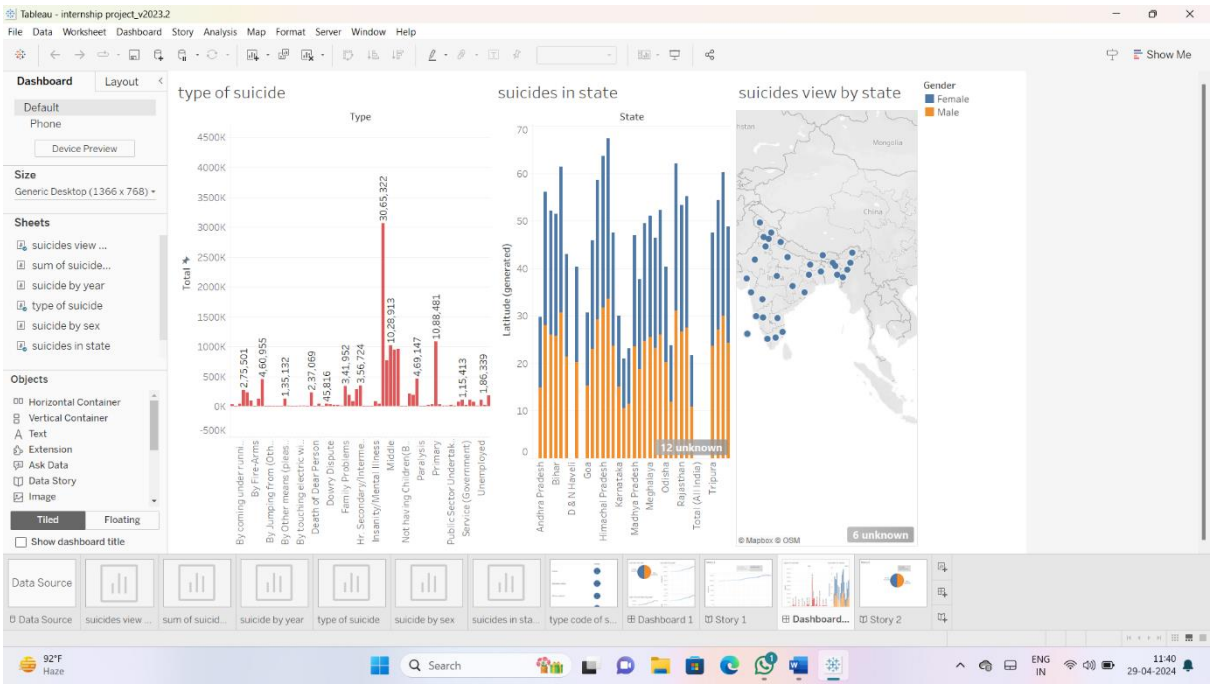

Milestone 5: Story

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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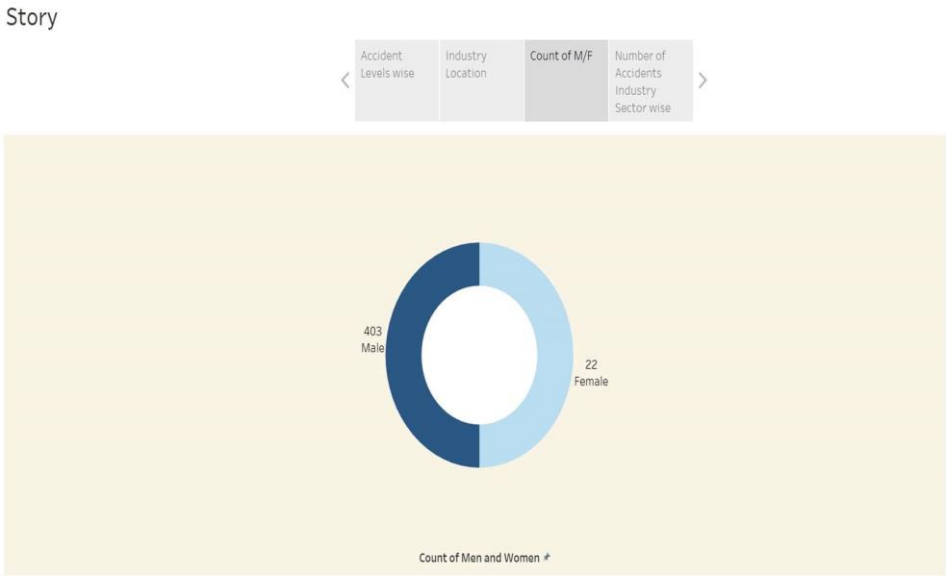


Activity 4: No of Visualizations/ Graphs

1. Number of suicides per 100k
2. Number of suicides – year wise

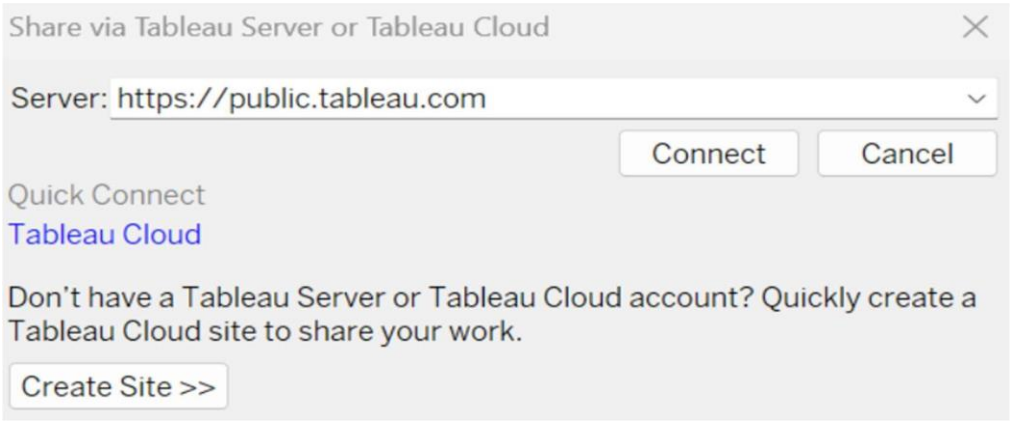
3. Gender count
4. Type of suicides
5. Type code of suicides
6. State wise – number of suicides
7. Suicides by state view wise

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



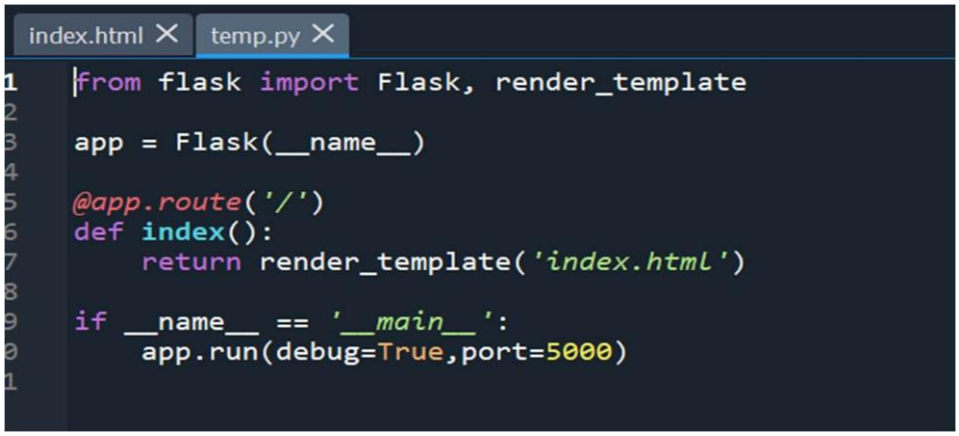
Once you login into your tableau public using the credentials, the particular visualization will be published into tableau public

Note: While publishing the visualization to the public, the respective sheet will get published when you click on share option.

Activity 1: Dashboard and Story embed with UI With Flask

Explanation video link:

https://drive.google.com/file/d/1ALC03qGBvopmyuOOSQ7bSX-Sbp_a4XqJ/view?usp=sharing



Milestone 8: Project Demonstration & Documentation

Below mentioned deliverables to be submitted along with other deliverables

Activity 1:- Record explanation Video for project end to end solution

Activity 2:- Project Documentation-Step by step project development procedure

Create document as per the template provided