

**LONG TERM
INTERNSHIP
DATA ANALYTICS**

**UNCOVERING THE
VOICES OF DIGITAL
AGE: SOCIAL MEDIA
ANALYSIS**

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UNCOVERING THE VOICES OF THE DIGITAL AGE:

A SOCIAL MEDIA ANALYSIS

INTRODUCTION:

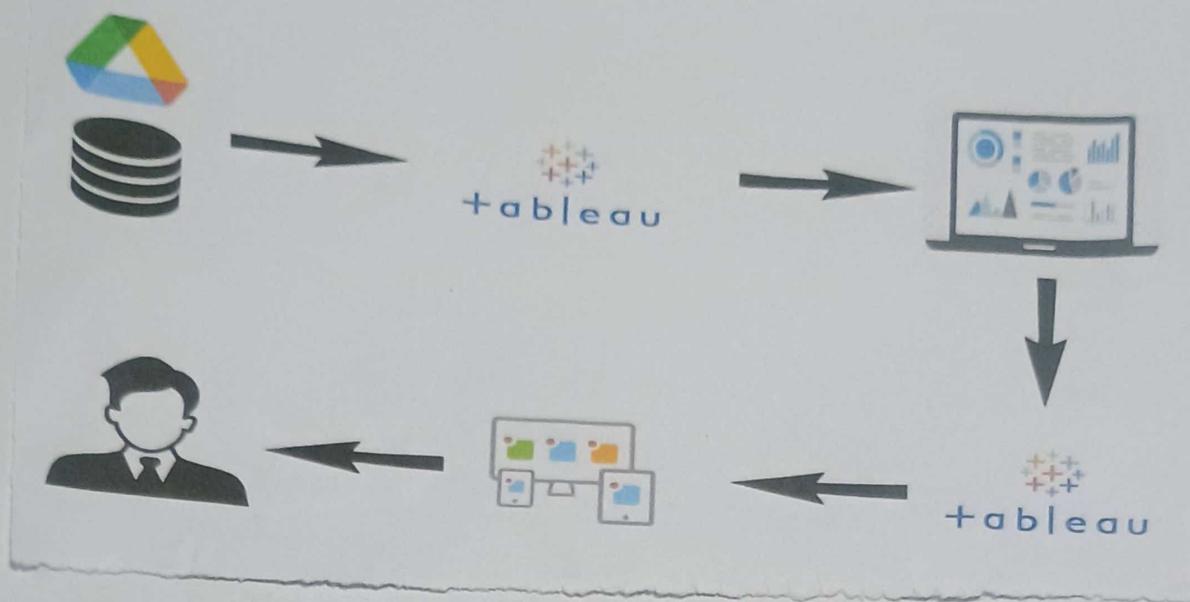
Now-a-days the age of the internet has changed the way people express their views and opinions. It is now mainly done through blog posts, online forums, product review websites, social media, etc.

In the modern world, millions of people are using social network sites like Facebook, Twitter, Instagram, etc to express their emotions, and opinions and share views about their lives. Social media is generating a large volume of data in the form of tweets, blog posts, comments, reviews etc.

Problem Statement :

Analyzing the performance of the social media data (Twitter) data. This data set contains, huge volumes of opinion texts in the form of tweets, likes, expressions, re-tweets, media views, etc.

Technical Architecture



Pre - Requisites :

For Completing this Project these are some of the Pre requisites needed

- A System with minimum 4GB RAM and 256GB Hard Disk .
- Good Internet Connection
- Google Drive / Any of the Database Server with management Studio
- MySQL :

<https://www.youtube.com/watch?v=2C2fU0gZMmY>

- Tableau Desktop :

<https://www.youtube.com/watch?v=b3PWYyvHQ08>

- Tableau Public Account :

<https://public.tableau.com/app/discover>

HTML, CSS or Bootstrap

Prerequisites - Knowledge :

To complete this project, one must understand the below concepts and able to work with the tools.

- Data visualization :

<https://www.youtube.com/watch?v=5gpnZvMSTzs>

- uni-variate, bi-variate and multi-variate Analysis :

<https://www.youtube.com/watch?v=JGIBGRIMjP3c>

- Chart Types :-

<https://www.youtube.com/watch?v=cSXMVBwBcd0>

- Tableau :

<https://www.youtube.com/watch?v=atta01vRooSo>

- Business Intelligence :

<https://www.youtube.com/watch?v=Hg8ZBj1DhLQ>

Project Objectives :

By the end of this Project, you will :

- Able to Connect Tableau with different data sources
- Know fundamental Concepts and techniques used for Data visualization.
- Gain a broad understanding about data and different types of charts .
- Have knowledge on developing visualization Dashboards and Story .

Able to integrate the developed dashboard and story with the web application.

Project Flow :

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

- Data Collection

- Collect the dataset or create the dataset

- Database / Spread sheet Connection

- Collect data will be stored into the database or upload into google drive.

- Connect the tableau desktop with google drive option or required database under Connectors.

- Visualizing and analysing data

- Understand the Data and the Business Questions.

- Based on the Business questions try to develop the visualizations.

- Develop the Dashboard

- Develop the Story board

- Publishing to the Tableau Public

- Developed visualizations, Dashboard and Story will be Published to Tableau Public Account.

- Once it is Published, we will get the shareable links.

- Web Application Integration
 - Develop a web application using HTML, CSS or using Bootstrap.
 - Integrate the visualizations, Dashboard and Story with the web Application.

Milestone 1 : Data Collection

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 hypothesis, and evaluate outcomes and generate insights from the data.

Activity 1 : Downloading the dataset

Please use the link to download the dataset :

<https://drive.google.com/file/d/1epqjLC952SG3GV5FYZYP6IUXynINexBc/view?usp=sharing>

Milestone 2 : Working with dataset

Activity 1 : Understand the data

The In dataset Twitter.csv data contains a period of six months beginning from June 2020 till October 2020, has 21 columns and 1173 records.

Fields include

- ID - Person id
- Tweets - Individual tweets
- Date - Date of the tweets

- Impressions - impressions of the tweets
- Engagements - Tweets Engagement
- Engagements Rate - Engagement ratio
- Retweets - People retweet or not
- Replies - Folks replay to the tweet
- likes - People like a tweet
- UPC - User Profile clicks on a Particular tweet
- UC - User clicks
- HC - Hashtag clicks on a Particular tweet
- DE - Details Expands
- PI - Permalink
- APP opens - People app opens
- APP installs - apps install
- Follows - People follows a Person's Profile
- Email tweet - Email tweet
- Dial Phone - Particular tweet Phone dial
- media views - People's views on a tweet
- media Engagements - Total Engagement on a tweet

Activity 2 : Import Data Net into Database and Connect
Tableau Desktop to Database Server :

Explanation video link :

<https://drive.google.com/file/d/1d6qdoteXAJa3dwUMeq1LiPvwomqWAhsZ/view?usp=sharing>

Milestone 4 : 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 : Month - wise media views and links

The pie chart depicts the information about month-wise media views and likes in July month has the highest likes and media views as compared to other months.

Explanation video link :

<https://drive.google.com/file/d/1JRKURW8fogKHbvgFoFahPgUKOKRbxOFy/view?usp=sharing>

Activity 2 : Day - wise Engagement Ratio

The graph illustrates the information about day wise engagement ratio, from the result October 30 has the highest engagement ratio.

Explanation video link :

<https://drive.google.com/file/d/1HM816EFXL-YMY227SjgjgTaffnaQouLw1i9nsp=sharing>

Activity 3: Total Impressions, media views, and likes

The graph give the overall insights of the data of total impression, media views, and likes.

Explanation video link :

<https://drive.google.com/file/d/1HicaBQxsUKRFI15iUKcdTH6zPI9344o/view?usp=sharing>

Activity 4: Top 10 days of media views

The bubble chart Show the complete visualization of top 10 days media views, in which day 10 has the highest media views.

Explanation video link :

<https://drive.google.com/file/d/1JRkURw8fogKHBWvgF0FahPgUKOKRbxQFy/view?usp=sharing>

Activity 5: Day - wise replies

The graph depicts the information about day wise replies, where highest replies received on July 10th and drastically it decreased on July 9th and again in the month of aug slightly decreased.

Explanation video link :

<https://drive.google.com/file/d/1HicaBQxsUKRFI15iUKcdTH6zPI9344o/view?usp=sharing>

Activity 6: TOP 10 days Impressions

This graph depicts the information about top 10 days impression compare to all days, day 10 has the highest

Explanation video link :

<https://drive.google.com/file/d/1tyGnvigKdOphAK95XNBN64IUqFKY85U/view?usp=sharing>

Activity 7: Day-wise media views and likes

Explanation video link :

<https://drive.google.com/file/d/1Hm816EFxJ-YmY2z7sigjgToFFnaQ0UTA/view?usp=sharing>

Activity 8 : Day-wise Retweets and impressions

Line chart depicts the information about individual day wise impressions and retweets , from the result as usual day 10 has highest retweets and impressions.

Explanation video link :

<https://drive.google.com/file/d/1LtUryRMCTRjnSWDBZ92q9NjXv5TrNxFI/view?usp=sharing>

Milestone 5 : Dashboard

Dashboard can be defined as an information management tool that visually tracks , analyses , and displays key performance indicators (KPI) , metrics , as well as key data points , allowing you to monitor the current state of your business , department , team , or specific process

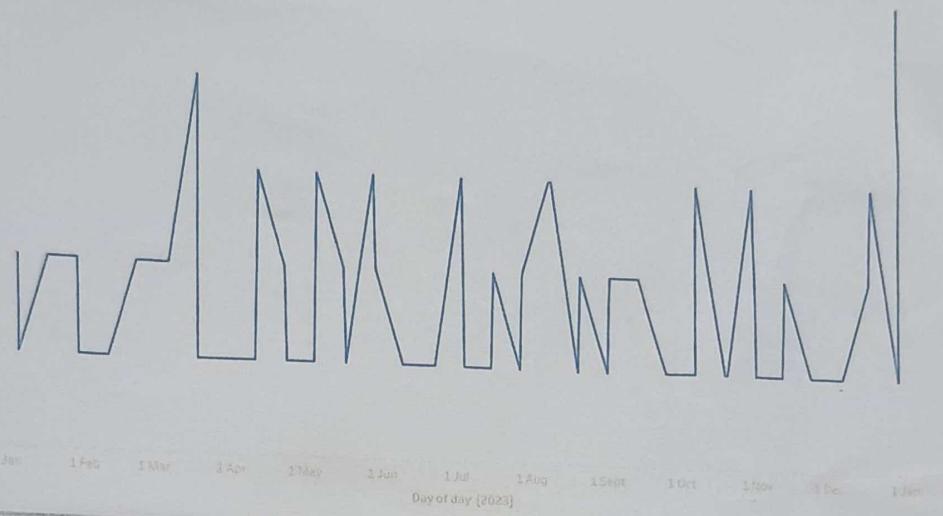
Activity 1 : Creating the Dashboard

once you have created views on different sheets in Tableau , you can pull them into a dashboard .

Explanation Video link :

<https://drive.google.com/file/d/1VC05Jt5u0QdozyqNTS0FrPwT8hQOE0/view?usp=sharing>

DAY-WISE REPLIES



Milestone 6 : 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 : creating the story board

Explanation video link :

<https://drive.google.com/file/d/1Pda1nwFj9LiqCd5RxhU0U1ji5nC3Na/view?usp=sharing>

Month-Wise Media Views And Likes



Milestone 7 : Publishing and 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 .

Activity 1 : Publishing dashboard and reports to tableau public .

Step 1 : Go to Dashboard / Story , click on Share button on the top ribbon

Share via Tableau Server or Tableau Cloud
Server: <https://public.tableau.com>

Quick Connect
Tableau Cloud

Connect

Cancel

Don't have a Tableau Server or Tableau Cloud account? Quickly create a Tableau Cloud site to share your work.

Create Site >>

Give the sever address of your tableau public account and click on Connect.

Step 2: Once you click on Connect it will ask you for tableau Public username and Password

tableau ++ Public

Email _____

Password _____

• This site is SSL Encrypted

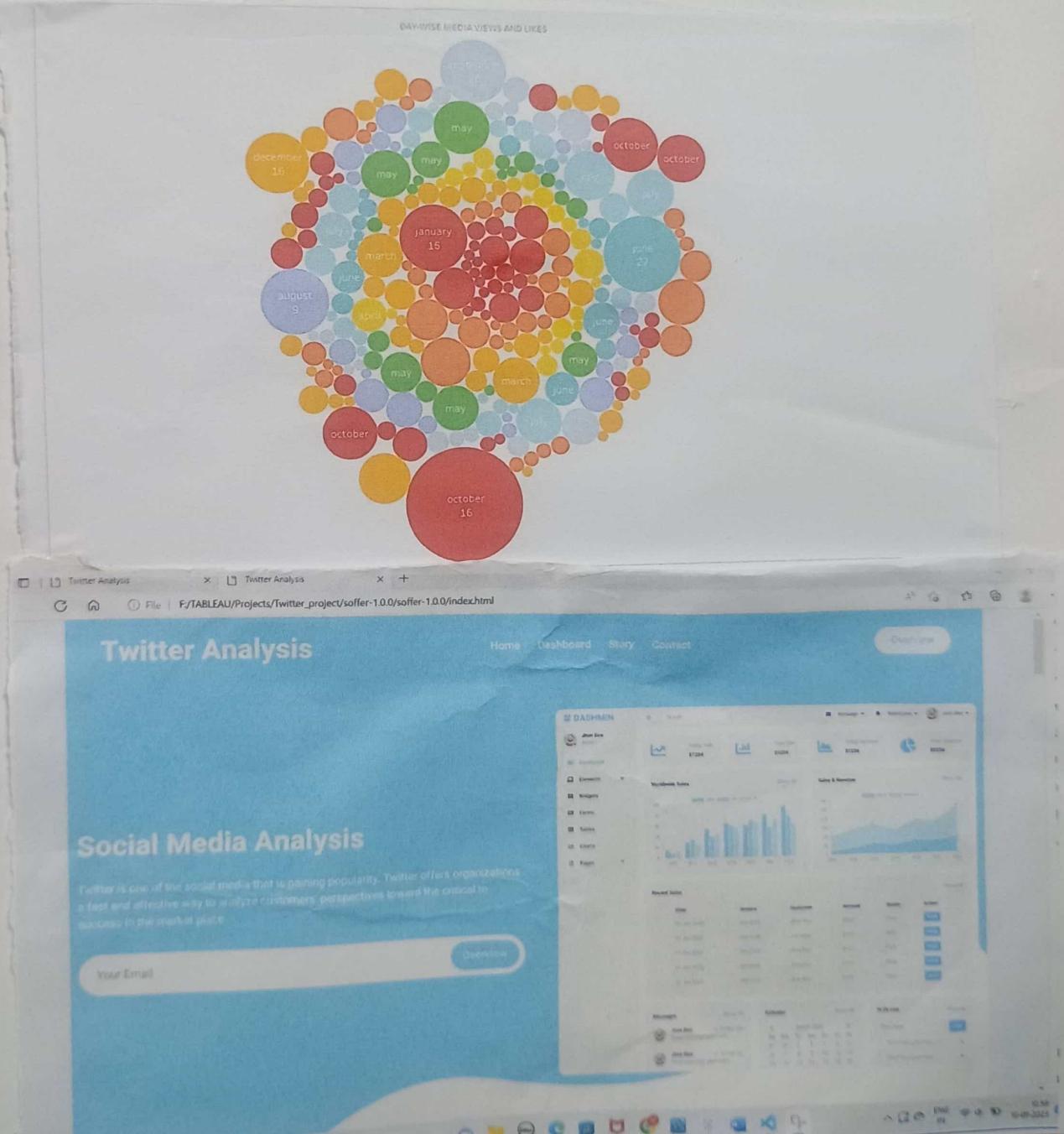
Forgot your Password?
Don't have a profile yet?
Create one now for free

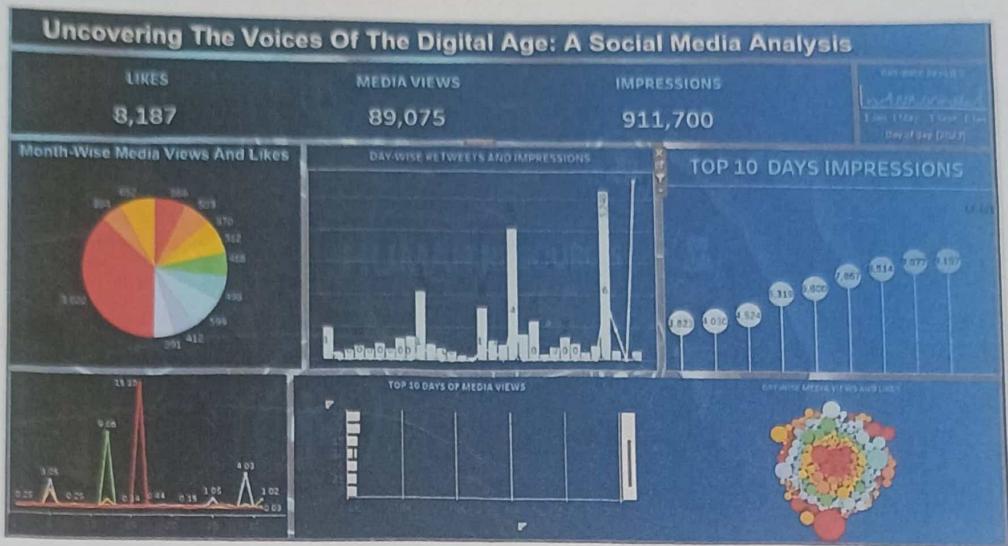
Once you login into your tableau Public using the cred the particular visualization will be Published into tableau Public.

NOTE : while Publish the visualization to the Public, respective sheet will get Published where you click on Share option

Activity 2 : Integrating with web with Embed Code
Explanation Video link :-

<https://drive.google.com/file/d/1D3UwVBRGJubePAVK4NzheJH9i8smTLMN/view?usp=Sharena>





Conclusion :

- From the Analysis and result section, most of the likes and replies received on 10th July as compare to other months and lesser amount of likes and replies received in August and June.
- On Average, if a Person tweeted was highest viewed by People's in the month of July so it has 51,261 views on a Particular tweet whereas, from 20 to 24 day has lesser views.
- These show how People responding on a Particular tweet and they mostly do likes, replies, views and impressions rather than hashtags, url clicks, follows etc. most of the People do not use hashtag in their tweets, few Peoples interested in using hashtag in tweets.

Data Analytics with Tableau

S.NO	Content	Pg.No
1	Introduction & Suggested Prerequisites	1
2	Training Timelines	2
3	Week-1 : Hands-on training (2 hrs/day) + self learning (1 hr/day)	2
4	Week-2 : Hands-on training (2 hrs/day) + self learning (1 hr/day)	2
5	Week-3 : Hands-on training (2 hrs/day) + self learning (1 hr/day)	3
6	Week-4 : Hands-on training (2 hrs/day) + self learning (1 hr/day)	3
7	Week-5 : Hands-on training (2 hrs/day) + self learning (2 hrs/day)	3
8	Week-6 : Hands-on training (2 hrs/day) + self learning (2 hrs/day)	4
9	Week-7 : Project work (3 hrs/day) + AMA session (1 hr/day)	4
10	Knowledge Sessions	5
11	Assignment & Quiz	5
12	Grand Assessment	5
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15	Submissions	5
16	Evaluation	5
17	Certificate Generation	5
18	Interview Preparation	5
19	Career Fair	5
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ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day -1	Introduction to Business Intelligence • Data Integration • Data Processing • Data presentation • ETL Architecture	We have learned Data integration fundamentals.	
Day -2	Introduction to tableau Introduction to tableau overview & Features Connecting Tableau to Data source working with flat files	Develop skills in using tableau to various data sources	
Day -3	Data extraction Introduction to Database creating Database & Table CRUD operation on database tables	Develop proficiency in data	
Day -4	Basic SQL operations	Learn basic SQL operations	
Day -5	Basic SQL operations	Acquire skills in filtering, sorting, etc..	
Day -6	Architecture of Tableau Architecture of Tableau Interface of Tableau Tableau field types Live vs extract connection	-	J. MTH

ACTIVITY LOG FOR THE SECOND WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Architecture of Tableau Interface of Tableau Tableau field types Live vs extract connection various file types	Understand Tableau's Architecture components	
Day - 2	Histograms Box Plot motion Bar Line, Bubble	understanding all visualizations and learning principles	
Day - 3	Bullet Scatter Tree heat maps maps	Develop proficiency in creating the most suitable chart type	
Day - 4	custom charts	Acquire skills in creating, customizing charts to effectively	
Day - 5	Connecting to Data source Tableau data types Connection to Excel cubes and PDF's Data Preparation.	Learn effective management for meta data & to optimize data	
Day -6	-	-	

ACTIVITY LOG FOR THE THIRD WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	<ul style="list-style-type: none"> • Joins and Union • Dealing with NULL values, cross-database joining, data extraction, data blending etc • Data blending 	Gain comprehensive understanding & skills in joins	
Day - 2	<ul style="list-style-type: none"> • Advanced Data Manipulations • Preview • Groups • Sets • Computed Sets 	Advanced data manipulation including previewing marking.	
Day - 3	<ul style="list-style-type: none"> • Bins • Hierarchies • Sorting and Types • Editing axes and annotations 	Learned how to utilize bins for grouping data	
Day - 4	<ul style="list-style-type: none"> • Working with Filters, Data • Filters • Working with filters • Filtering dates, dimensions 	Removal of filters to refine & focus data sets	
Day - 5	<ul style="list-style-type: none"> • Filtering in Tableau • Types of filters • Filtering the order of operation 	Master Tableau's filtering tools for data manipulation	
Day - 6			

ACTIVITY LOG FOR THE FORTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	<ul style="list-style-type: none"> • Working on Coordinate points • Plotting Longitude & latitude • Editing unrecognized location • WMS: web mapping services 	Explore the versatility of quick table calculations	
Day - 2	Calculated Fields in Tableau	Apply quick table calculations dynamically to values	
Day - 3	Quick Table Calculations	Utilize for instant data analysis	
Day - 4	LOD Expressions in Tableau	Coordinate point manipulation	
Day - 5	Working on the background image, including add images map visualization, custom territories	How to incorporate images & add images in tableau.	
Day - 6			

ACTIVITY LOG FOR THE FIFTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Creating Parameters Parameters in calculation using Parameters with filters Chart Selection Parameter	Creation of parameters in Tableau	
Day - 2	K-means cluster analysis Trend and reference lines visual analytics in Tableau Forecasting, Confidence	Learn K-means cluster analysis to patterns	
Day - 3	• Building and formatting a dashboard using size, object, views etc. • Best practices for creating creative dashboard.	Understand the principles of story telling	
Day - 4	Creating multiple dashboard creating stories including the intro of story Adding catchy visuals.	Gain proficiency in creating dashboards	
Day - 5	Adding annotation with descriptions. Selecting and clearing values Highlights actions, URL	Update story points to present insights.	
Day - 6			

ACTIVITY LOG FOR THE SIXTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	<ul style="list-style-type: none"> • Adding annotations with descriptions. • Highlights actions, URL actions • Selecting and clearing values 	Master the skill of adding annotations	
Day - 2	<ul style="list-style-type: none"> • Introduction to flask • Working with flask framework • Introduction to Bootstrap 	Acquire an intro to flask, a Python	
Day - 3	Working with Bootstrap	utilize bootstrap components such as grid	
Day - 4	Building application with flask framework	Gain proficiency in developing full stack with flask	
Day - 5	<ul style="list-style-type: none"> • Embedding Dashboard & Story with web Application Grand Assessment 	Methods for integrating tableau visuals.	
Day - 6			

ACTIVITY LOG FOR THE SEVEN WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Mentoring Session	-	
Day - 2	Mentoring Session	-	
Day - 3	Mentoring Session	-	
Day - 4	Mentoring Session	-	
Day - 5	Mentoring Session	-	
Day - 6			

ACTIVITY LOG FOR THE EIGHTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	mentoring session	-	
Day - 2	mentoring session	-	
Day - 3	mentoring session	-	
Day - 4	mentoring session	-	
Day - 5	mentoring session.	-	
Day - 6			