PERIYAR UNIVERSITY - SALEM

GOVERNMENT ARTS & SCIENCE COLLEGE

DHARMAPURI – 5

III – B.Sc Mathematics (2023-2024)

Guided By : Mr. N.R. Thirumal, M.Sc., B.Ed., M.Phil.

TEAM MEMBERS: TEAM ID: **NM2023TMID15567**

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Voyage Vista : Illuminating Insights from Uber Expeditionary Analysis

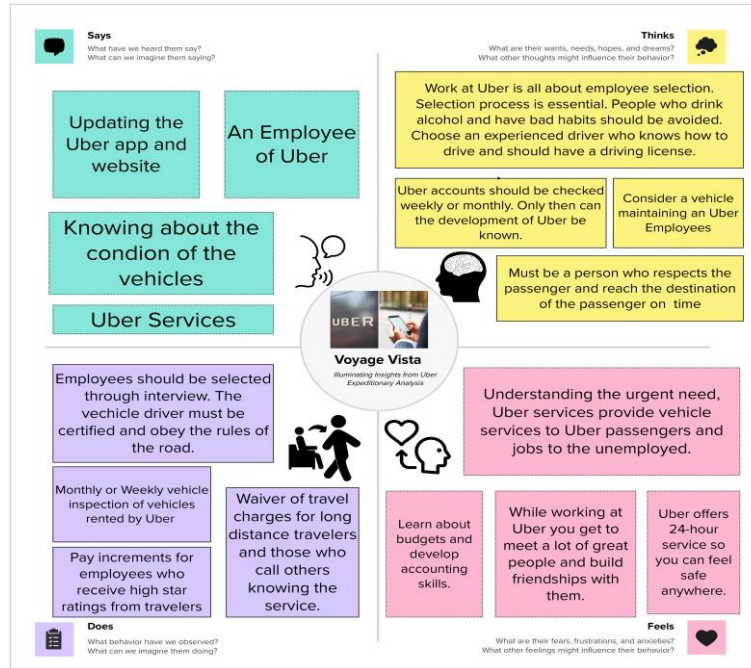## Introduction :

> **1.1 Overview**

Uber is a multinational transportation network company that operates a ride-hailing platform. Uber provides a convenient way for individuals to request rides from drivers who use their own personal vehicles. Uber Driver Analysis refers to the Analyzing the number of trips taken by Uber drivers can provide insights into their overall activity and the demand for rides in specific areas. Daily, Weekly, or Monthly Analysis: Uber's data can be analyzed on a daily, weekly, monthly basis to understand the trends and patterns of trip volumes. This analysis can help identify peak hours or days of high demand and optimize driver availability during those times. Trips can be analyzed based on geographic regions or specific cities to identify areas with higher demand. This analysis can help Uber drivers decide where to focus their driving efforts for maximum efficiency and profitability. The Major of our project is to use data Analyzing techniques to find unknown patterns in the Uber Drives dataset. The research is carried out on Uber drives data collected from the year 2016.

> **1.2 Purpose**

- **Transportation Innovation:** Uber aims to innovate and transform the way people move by providing convenient, on-demand transportation options.

- **Economic Opportunities:** It seeks to create economic opportunities for drivers by enabling them to earn income through the Uber platform.

- **Urban Mobility**: Uber strives to improve urban mobility by reducing congestion, pollution, and the need for personal car ownership.

- **Global Accessibility**: The company aims to make transportation more accessible and convenient for people around the world, regardless of their location.

- **Igniting Opportunity**: Uber's overarching goal is to ignite opportunities for both riders and drivers by facilitating efficient, reliable, and affordable transportation solutions.

Problem Definition & Design Thinking :
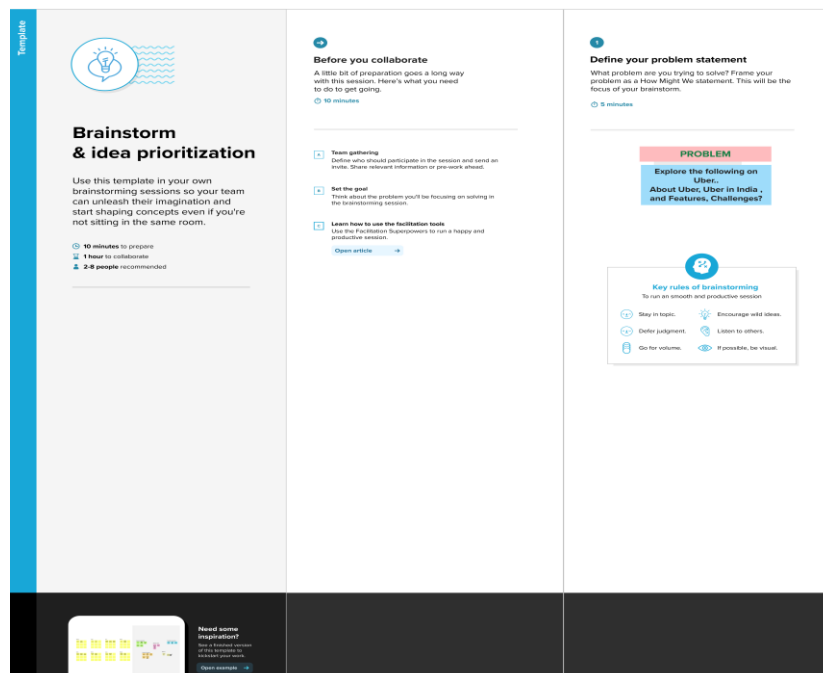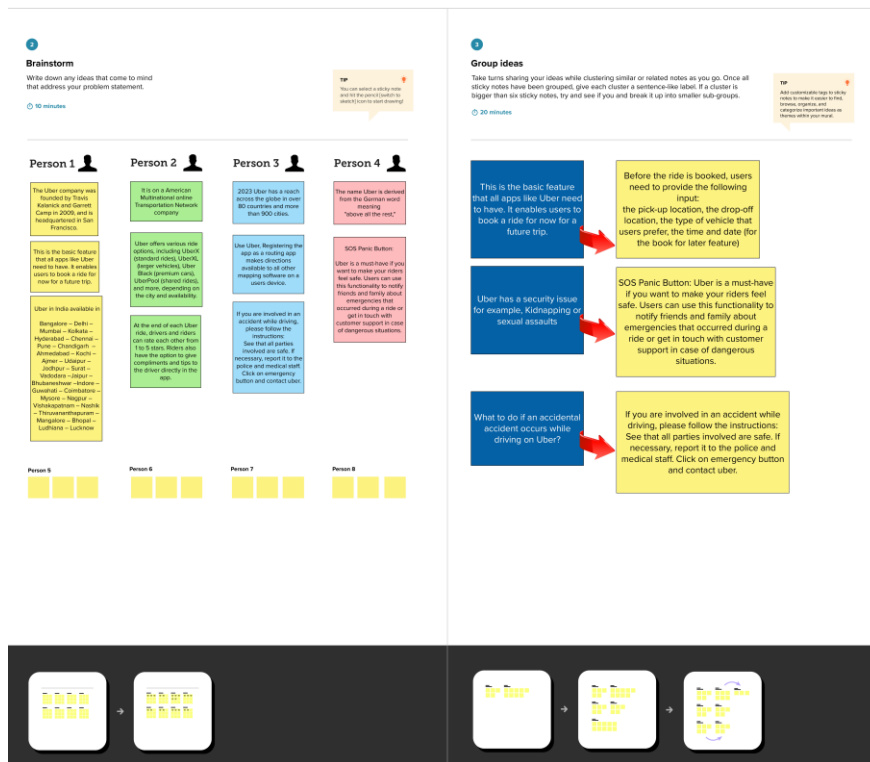
➢ **2.1 Empathy Map**

(Figure : 1)

Discussion: Using Empathy Map , We can analyse the thinking of uber in driver performance, safety , and security , Earnings and income, Regulatory Impact.
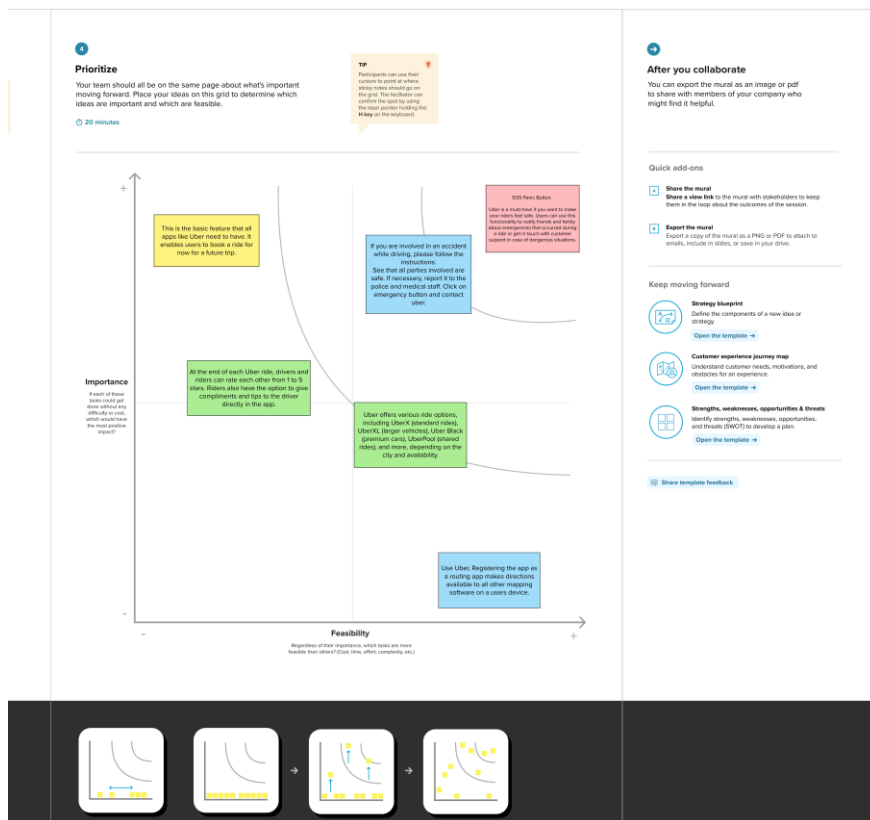
➢ **2.2 Ideation & Brainstorming Map**

(Figure : 2)

Brainstorm

Write down any ideas that come to mind that address your problem statement.

🕐 10 minutes

TIP
You can select a sticky note and hit the pencil (switch to sketch) icon to start drawing!

Person 1
The Uber company was founded by Travis Kalanick and Garrett Camp in 2009, and is headquartered in San Francisco.

This is the basic feature that all apps like Uber need to have. It enables users to book a ride for now for a future trip.

Uber in India available in

Bangalore – Delhi – Mumbai – Kolkata – Hyderabad – Chennai – Pune – Chandigarh – Ahmedabad – Kochi – Ajmer – Udaipur – Jodhpur – Surat – Vadodara – Jaipur – Bhubaneshwar –Indore – Guwahati – Coimbatore – Mysore – Nagpur – Vishakapatnam – Nashik – Thiruvananthapuram – Mangalore – Bhopal – Ludhiana – Lucknow

Person 2
It is on a American Multinational online Transportation Network company

Uber offers various ride options, including UberX (standard rides), UberXL (larger vehicles), Uber Black (premium cars), UberPool (shared rides), and more, depending on the city and availability.

At the end of each Uber ride, drivers and riders can rate each other from 1 to 5 stars. Riders also have the option to give compliments and tips to the driver directly in the app.

Person 3
2023 Uber has a reach across the globe in over 80 countries and more than 900 cities.

Use Uber, Registering the app as a routing app makes directions available to all other mapping software on a users device.

If you are involved in an accident while driving, please follow the instructions: See that all parties involved are safe. If necessary, report it to the police and medical staff. Click on emergency button and contact uber.

Person 4
The name Uber is derived from the German word meaning "above all the rest."

SOS Panic Button:
Uber is a must-have if you want to make your riders feel safe. Users can use this functionality to notify friends and family about emergencies that occurred during a ride or get in touch with customer support in case of dangerous situations.

Person 5

Person 6

Person 7

Person 8

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you break it up into smaller sub-groups.

🕐 20 minutes

TIP
Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your mural.

This is the basic feature that all apps like Uber need to have. It enables users to book a ride for now for a future trip.

Before the ride is booked, users need to provide the following input: the pick-up location, the drop-off location, the type of vehicle that users prefer, the time and date (for the book for later feature)

Uber has a security issue for example, Kidnapping or sexual assaults

SOS Panic Button: Uber is a must-have if you want to make your riders feel safe. Users can use this functionality to notify friends and family about emergencies that occurred during a ride or get in touch with customer support in case of dangerous situations.

What to do if an accidental accident occurs while driving on Uber?

If you are involved in an accident while driving, please follow the instructions: See that all parties involved are safe. If necessary, report it to the police and medical staff. Click on emergency button and contact uber.

(Figure : 3)

Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

🕐 20 minutes

TIP
Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the H key on the keyboard.

Importance
If each of these tasks could get done without any difficulty or cost, which would have the most positive impact?

This is the basic feature that all apps like Uber need to have. It enables users to book a ride for now for a future trip.

SOS Panic Button:
Uber is a must-have if you want to make your riders feel safe. Users can use this functionality to notify friends and family about emergencies that occurred during a ride or get in touch with customer support in case of dangerous situations.

If you are involved in an accident while driving, please follow the instructions: See that all parties involved are safe. If necessary, report it to the police and medical staff. Click on emergency button and contact uber.

At the end of each Uber ride, drivers and riders can rate each other from 1 to 5 stars. Riders also have the option to give compliments and tips to the driver directly in the app.

Uber offers various ride options, including UberX (standard rides), UberXL (larger vehicles), Uber Black (premium cars, UberPool (shared rides), and more, depending on the city and availability.

Use Uber, Registering the app as a routing app makes directions available to all other mapping software on a users device.

Feasibility
Regardless of their importance, which tasks are more feasible than others? (Cost, time, effort, complexity, etc.)

After you collaborate

You can export the mural as an image or pdf to share with members of your company who might find it helpful.

Quick add-ons

Share the mural
Share a view link to the mural with stakeholders to keep them in the loop about the outcomes of the session.

Export the mural
Export a copy of the mural as a PNG or PDF to attach to emails, include in slides, or save in your drive.

Keep moving forward

Strategy blueprint
Define the components of a new idea or strategy.
Open the template →

Customer experience journey map
Understand customer needs, motivations, and obstacles for an experience.
Open the template →

Strengths, weaknesses, opportunities & threats
Identify strengths, weaknesses, opportunities, and threats (SWOT) to develop a plan.
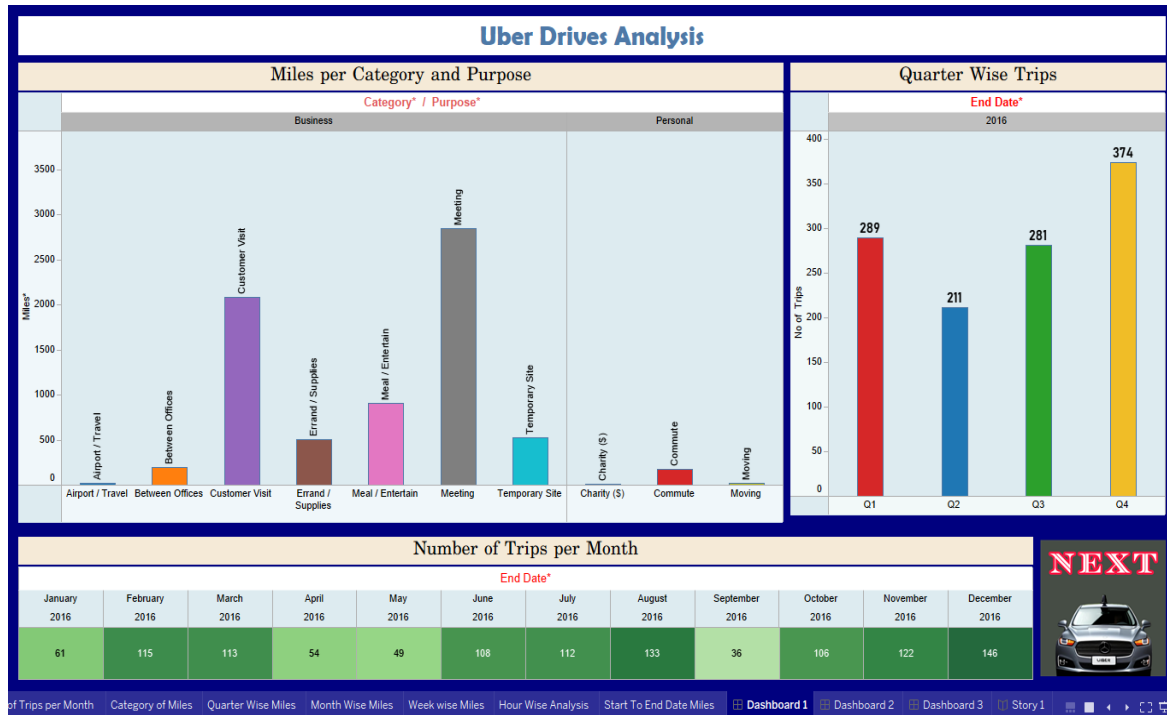Open the template →

Share template feedback

(Figure : 4)

Discussion: In this Brainstorming Map, we can create and understand the question. Using Anaysis , we get a solution for the questions
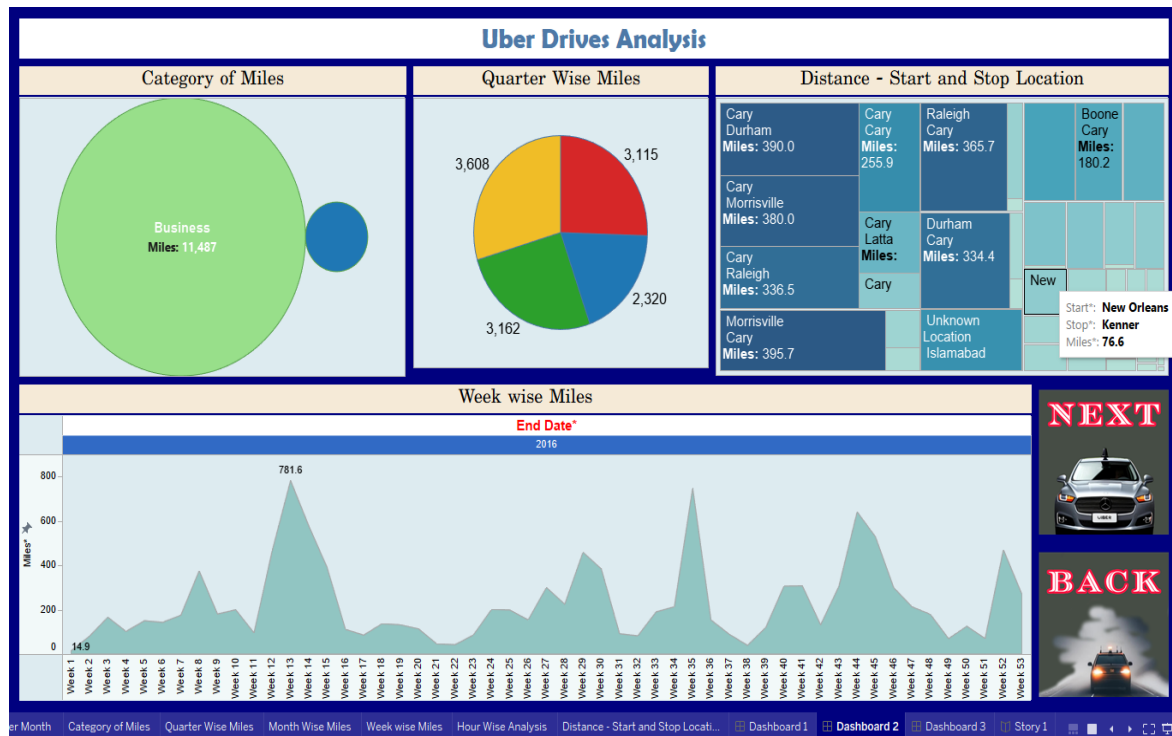
Result :

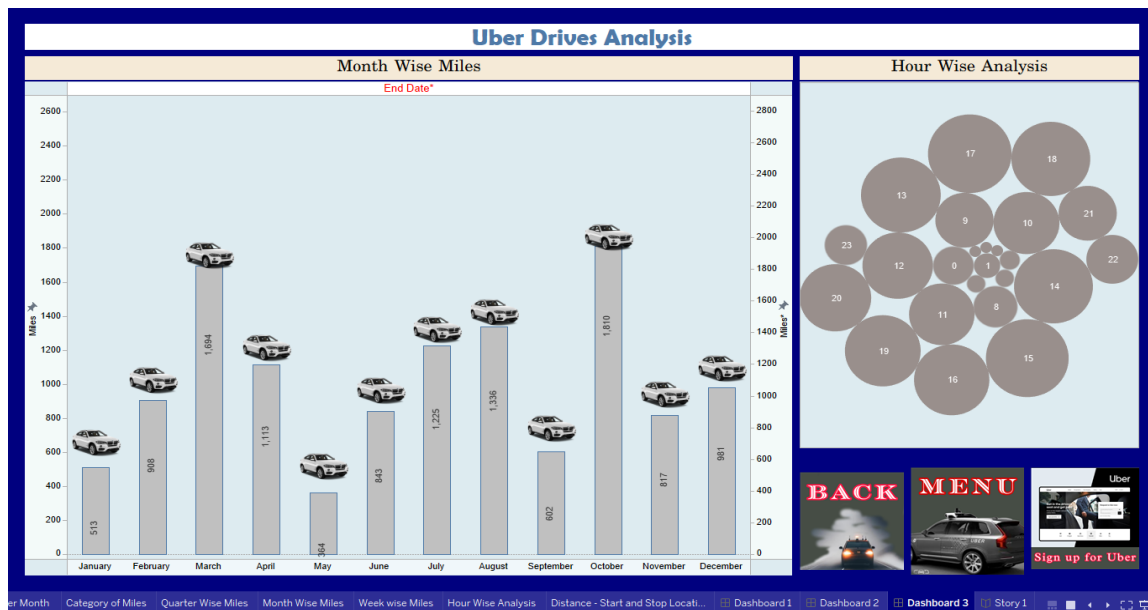About Dashboard & Story Disscussion added in **Conclusion. (**Page-8)

➢ **Dashboard 1**

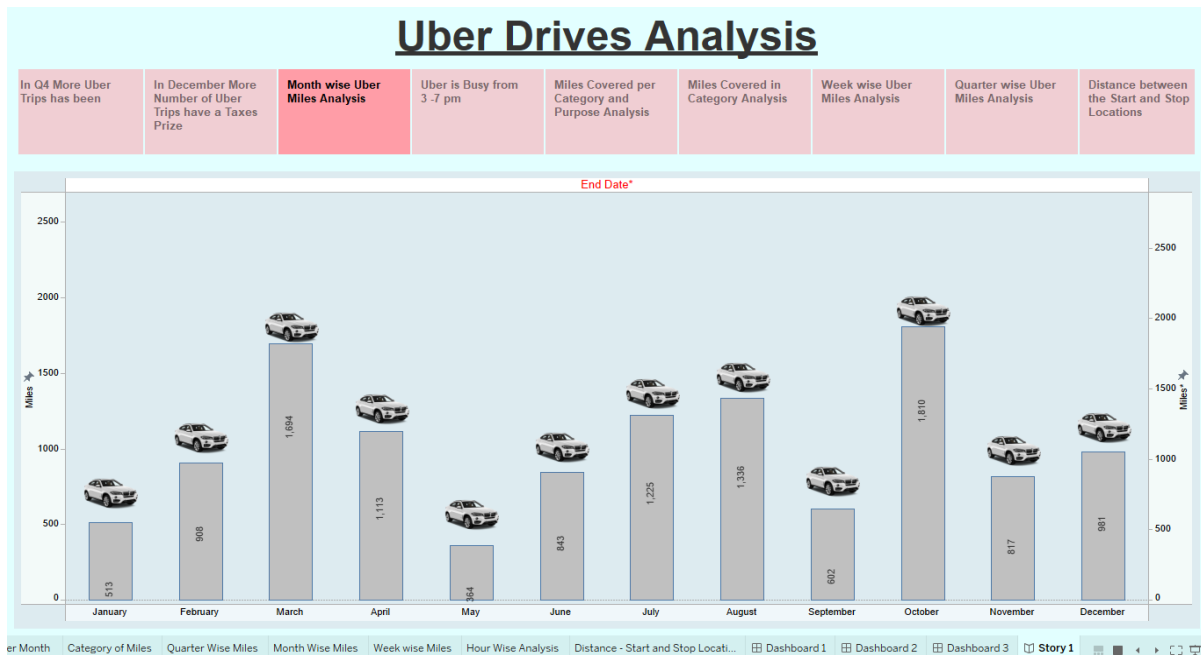

(Figure : 5)

➢ **Dashboard 2**

(Figure : 6)

➢ **Dashboard 3**

(Figure : 7)

➢ **Story**

(Figure : 7)

Tableau Public Link :

- ❖ **Dashboard Link -**
  https://public.tableau.com/views/VoyageVistaIlluminatingInsightsfromUberExpeditionaryAnalysis/Dashboard1?:language=en-GB&:display_count=n&:origin=viz_share_link
- ❖ **Story Link -**
  https://public.tableau.com/views/VoyageVistaIlluminatingInsightsfromUberExpeditionaryAnalysis-Story/Story1?:language=en-GB&:display_count=n&:origin=viz_share_link

Advantages & Disadvantages :

Advantages and Disadvantages of taking Uber trips:

S.No	Advantages	Disadvantages
1	**Convenience :** Easy and quick access to rides with the Uber app.	**Surge Pricing :** Prices can significantly increase during peak hours or high demand, leading to higher costs.
2	**Cost-Efficient :** Often cheaper than traditional taxis in many locations.	**Safety Concerns :** Safety incidents with some Uber rides have been reported.
3	**User-Friendly App :** Intuitive app for booking, tracking, and managing rides.	**Driver Ratings :** Some drivers may have low ratings or provide subpar service.
4	**Wide Availability :** Uber operates in numerous cities globally.	**Uncertain Wait Times :** Wait times can vary, especially in less populated areas or during busy times.
5	**Cashless Transactions :**	**Regulatory Issues :** Uber may face legal and regulatory challenges in some regions.

	Payments are typically made through the app, reducing the need for cash.	
6	**Ride-Sharing Options :** Choices include standard rides, shared rides, and premium options.	**Privacy Concerns :** Uber collects user data, raising privacy issues for some users.
7	**Driver Accountability :** Riders can rate and provide feedback on drivers, promoting better service.	**Cancellation Fees :** Cancelling rides too close to pickup time may incur fees.
8	**Accessibility :** Uber offers wheelchair-accessible and car seat options in some locations.	**Limited Coverage :** Service may be limited or unavailable in some areas.
9	**Reduced DUI :** Provides a safe alternative to driving under the influence.	**Vehicle Quality :** Vehicle conditions may vary, affecting comfort and cleanliness.
10	**Environmental Benefits:** Encourages carpooling and reduces private car usage.	**Surge Pricing :** During peak times, prices can be significantly higher than usual.

Applications :

In our **Naan Mudhalvan** program, we introduced Tableau as a mandatory subject. After installing Tableau , we initiated discussions on our designated topic, which was **Voyage Vista : Illuminating Insights from Uber Expeditionary Analysis.**

In this endeavor, I will delve into a dataset sourced from the **Smartinterz** website, specifically focusing on Uber trips and distances logged in the year 2016. The core aim of this analysis is to glean actionable insights into Uber's operational dynamics throughout that particular year. Through meticulous exploration of the dataset, my objective is to pinpoint recurring patterns and emerging trends. Ultimately, the purpose is to generate information of substantial value, serving as a navigational compass for decision-making processes. By conducting this comprehensive examination, I seek to paint a holistic picture of Uber's operational terrain during the year 2016. The insights unearthed during this analysis will not only enrich our understanding of Uber's strategies and performance during that timeframe but also serve as a strategic compass, guiding potential enhancements and refinements in their services.

Conclusion :

With Smartinterz's assistance, we conducted an analysis of 2016 Uber trips and distances data. This endeavor yielded valuable insights, allowing us to accumulate a substantial amount of knowledge from the dataset.

We have observed the Uber collections of 2016. They are as follows:

Observed Uber Collections	Using Tableau Graphs
Many people sign up to ride with Uber for various reasons, but I've discovered that the primary motive for undertaking long journeys is often driven by business necessity.	Bar graph & Bubble chart
Breaking down the year 2016 into four quarters and analyzing the miles traveled on Uber, it becomes evident that the fourth quarter recorded the highest number of miles covered.	Bar graph & Pie chart
In Uber's records for the year, December boasted the highest number of monthly trips. However, when it comes to measuring distance, October outpaced all other months, registering for a greater distance covered.	Highlight Table & Bar graph
According to the weekly survey, in a year consisting of 53 weeks, the 13th week stands out with the highest travel distance, while the 1st week records the least distance traveled.	Area Chart
Determine the least frequently booked time on Uber, and designate it as the peak/busy period. This time slot sees the highest concentration of trip bookings, while other times of the day experience fe wer bookings.	Bubble Chart

All Visualizations/ Graphs Uploaded in Tableau Public. (Page-4)

Future Scope :

In this section, we delved into Tableau and conducted group discussions. Through these discussions, we identified the need for Uber Taxi service. We sought input from our team on how to advance this service further. Here are the summarized responses gathered from our team members.

- **Enhanced Safety Measures :**
    Stay updated with advanced safety technologies, like biometric driver identification and advanced driver assistance systems, to ensure the safety of passengers.
- **In-Car Entertainment and Connectivity**:
    Equip vehicles with entertainment and connectivity options to enhance the passenger experience, such as Wi-Fi, streaming services, and touchscreen displays.

- **Regulatory Compliance :**

    Stay informed about evolving regulations related to transportation services and ensure your business complies with local laws.

- **Mobile App Innovation :**

    Continuously enhance your mobile app with features like augmented reality for finding pick-up points, real-time traffic updates, and AI-driven personalization.

- **Customer-Centric Approach**:

    Focus on delivering excellent customer service and soliciting feedback to continuously improve your service.

- **Sustainability Initiatives :**

    Promote eco-friendly practices such as carbon offset programs, green vehicle choices, and reduced emissions to attract environmentally conscious customers.

    Remember that innovation and adaptability are key to the long-term success of a taxi service in a rapidly changing transportation landscape. Continuously seek feedback from customers and monitor industry trends to stay competitive and relevant in the future.

Appendix :

A. Source Code (Dashboard) :

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      var vizElement = divElement.getElementsByTagName('object')[0];
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          vizElement.style.width='100%';
          vizElement.style.height=(divElement.offsetWidth*0.75)+'px';
      } else if ( divElement.offsetWidth > 500 ) {
          vizElement.style.width='100%';
          vizElement.style.height=(divElement.offsetWidth*0.75)+'px';
      } else {
          vizElement.style.width='100%';
      vizElement.style.height='927px';}
      var scriptElement = document.createElement('script');
      scriptElement.src = 'https://public.tableau.com/javascripts/api/viz_v1.js';
      vizElement.parentNode.insertBefore(scriptElement, vizElement);
    </script>
```

………