Namma Yatri Data Analysis:

Namma Yatri is a community-focused, zero-commission ride-hailing service application operating primarily in Karnataka, specifically Bengaluru and Mysore, serving as a direct competitor to major platform's like Rapido, Ola and Uber.

Namma Yatri maintains a public ‘Open Data’ dashboard that displays real-time analytics 24/7, including the number of trips, driver earnings and active searches. This public sharing of operational metrics is the direct inspiration of this project.

Project Overview:

This project involves data analytics execution using Excel for data exploration, SQL for data analysis and Power BI for visualization. The workflow moves from querying raw data to understand the customer journey from the initial point search to final ride end and culminates in building an interactive dashboard.

Key Objectives:

1. Analyze Users Funnel & Conversion
2. Operational KPI Tracking
3. Geospatial & Temporal Analysis
4. Visualizing KPIs and data views

User Journey Map:

Stage 1: Intent (Search)

The user opens the app and enters a **Pickup point** and a **Drop-off point**. This records that a user have expressed intent to travel between two points.

Stage 2: Evaluation (Estimated)

The user clicks **Confirm Location** to view the estimate of price. User may leave here if they find the estimated fare too high.

Stage 3: Commitment (Quote/Driver Search)

The user accepts the estimate and clicks **Request Ride**. The app begins searching for available drivers. This indicates the user is willing to pay the estimated price and is actively seeking a driver.

Stage 4: Assignment (Driver Found)

The system successfully matches the user with a driver, or a driver accepts the ride request. In high-traffic areas (like Bengaluru), users often drop-off here if no driver accepts the ride quickly.

Stage 5: Fulfillment (The Ride)

This stage involves three critical checks to ensure the ride actually happens:

- **Customer Commitment:** Did the customer cancel?
- **Driver Commitment:** Did the driver cancel?
- **Authentication (Start):** The user gives the OTP to the driver to start the ride.

Stage 6: Completion (End ride)

The destination is reached and the driver marks the trips as **Ended** in the app. This is considered a Successful Trip.

Key Performance Indicators (KPIs):

High-Level Volume Metrics:

1. Total Completed Trips: The total number of rides that were successfully finished.
2. Total searches: The total number of times users opened the app and entered a From and To locations to check availability.
3. Total Estimates: The number of users who proceeded from the search screen to viewing the fare estimate.
4. Total Quotes: The number of users who accepted the estimate and actually requested a ride.

Efficiency Metrics:

1. Conversion Rate: The percentage of total searches that results in a successfully completed trip.
2. Search-to-Estimate Rate: The percentage of users who search for a location and actually view the price.
3. Quote Acceptance Rate: The percentage of users who saw the estimate and proceeded to request a driver.

Financial & Operational Metrics:

1. Total Driver Earnings: The total amount of money earned by drivers
2. Average Fare per Trip: The average revenue generated per completed ride.
3. Average Distance per Trip: The average distance traveled per completed ride.

Quality Metrics:

1. Driver Cancellation Rate: The number of trips where the driver accepted the request but subsequently canceled.

2. Customer Cancellation Rate: The number of trips where the user requested a ride but canceled before it started.

Overview of Schema:

ASSEMBLY

---

id (Primary Key)

assembly

PAYMENT

---

id (Primary Key)

method

DURATION

---

id (Primary Key)

duration

TRIPS

---

tripid (Primary Key)

faremethod (Foreign Key) → *PAYMENT.id*

loc_from (Foreign Key) → *ASSEMBLY.id*

loc_to (Foreign Key) → *ASSEMBLY.id*

duration (Foreign Key) → *DURATION.id*

driverid

custid

distance

fare

TRIP_DETAILS

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tripid (Primary Key)

tripid (Foreign Key) → *TRIPS.tripid*

loc_from (Foreign Key) → *ASSEMBLY.id*

searches

searches_got_estimate

searches_for_quotes

searches_got_quotes
customer_not_cancelled
driver_not_cancelled
otp_entered
end_ride

Inserting Data into MySQL:

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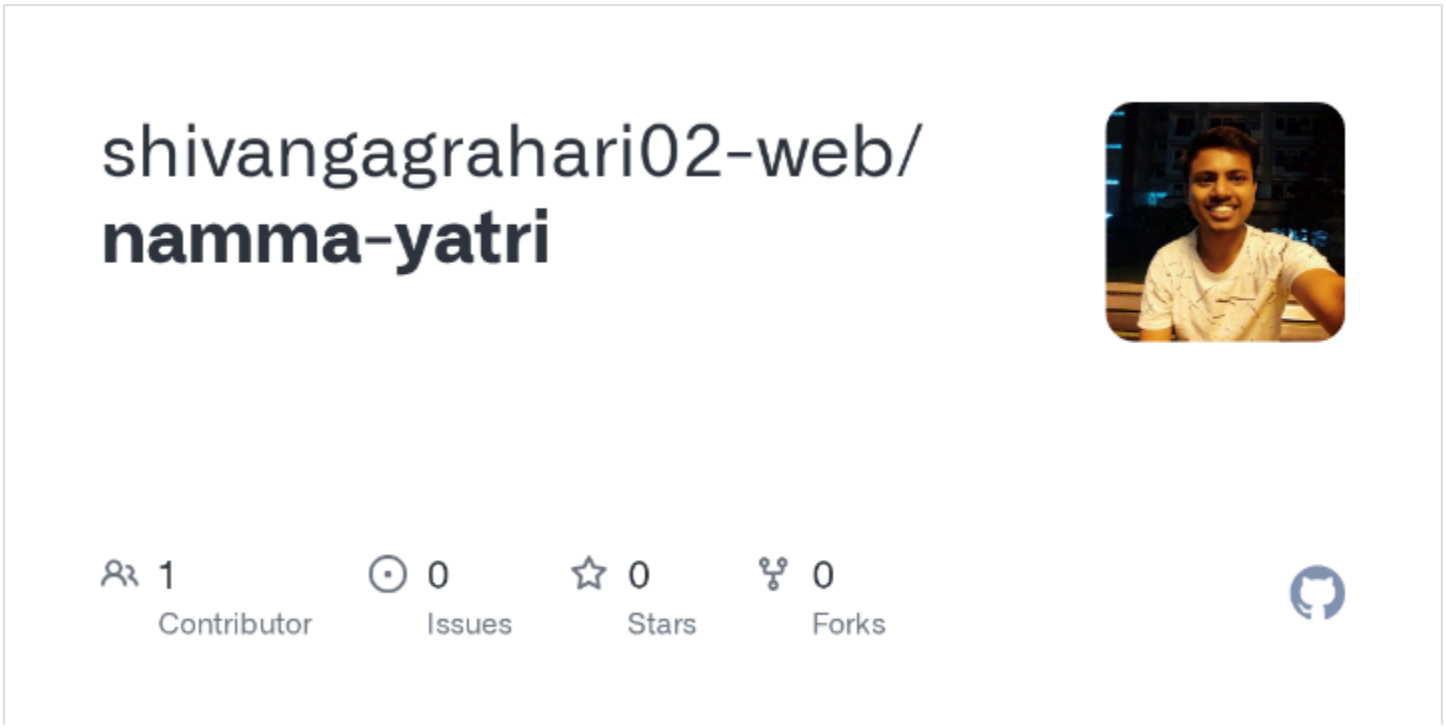

SQL Querying:

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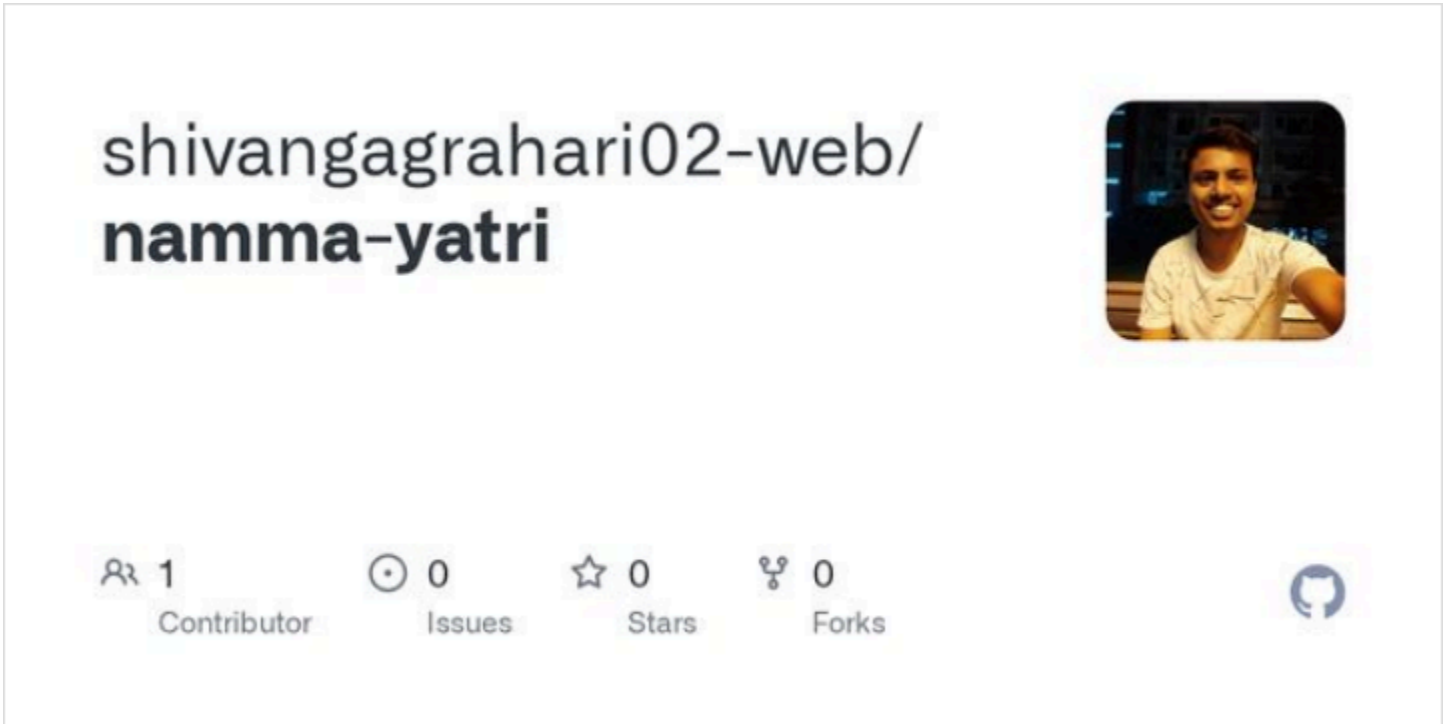

Power BI Dashboard snippet:

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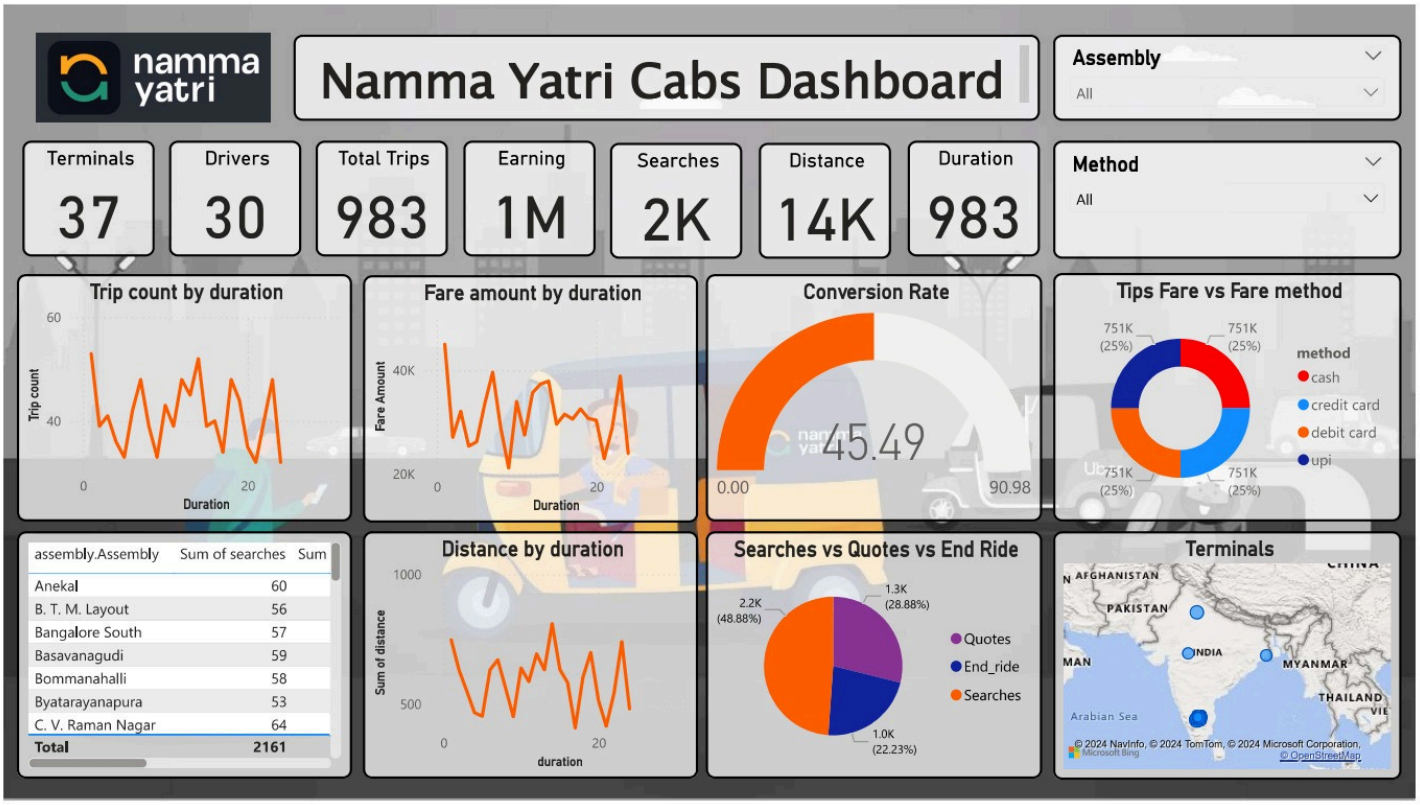

Insights of EDA and Visualization:

This analysis utilized a single-day snapshot of 2,161 raw search logs and 983 completed trips to evaluate platform efficiency, user conversion funnels and driver utilization patterns.

Performance Analysis

- Overall Conversion Rate: The platform achieved **45% conversion rate**, meaning nearly half of all user intents resulted in a successful transaction.
- Search-to-Estimate Retention: **81%** of users who searched for a location proceeded to view a fare estimate. This indicates strong initial intent, with a **19% drop-off** occurring immediately after location entry. Only **1,758** users saw estimates, fewer proceeded to search for drivers.

Demand & Supply Patterns:

- Peak Duration: The highest volume of trips occurred during **Duration 0-1**, indicating a concentrated demand window that requires ensured driver supply.
- High Volume Routes: The route from **Location 35 to Location 5** was identified as the highest frequency pair. **Location 1** appeared frequently as a hotspot for both high driver cancellations and customer cancellations, suggesting specific pain point in that zone.

Financial Analysis:

- Total earning observed around 1M+ fare value for the day.
- Average Trip Performance: The average fare per trip was calculated at **₹764**, with an average trip distance **14km**
- Payment Preference: **Credit card** was identified as the dominant payment method for the highest-value rides, including the single highest fare of **₹1500**.

Operational Insights:

- **Driver count (30)** against **trip volume (983)** suggested high utilization per driver. This can increase cancellation probability or waiting time during peak demand.

Conclusion:

The **45% conversion rate** is the primary health metric. while the **search-to-estimate ratio (81%)** is healthy, the **drop-off** in the letter **half of the funnel** highlights the need to optimize driver acceptance rates.

The data indicates that user willing to check prices, but valid rides are lost either due to pricing or lack of driver assignment.

Demand is not uniformly distributed. The analysis of **Duration 1** and the **Location 35-5** route suggests that a **static supply model is inefficient**.

Dynamic Driver incentives should be deployed specifically for high-demand routes and during the identified peak duration window to maximize completed trips.

Quality Control Location 1 requires an on-ground investigation. Being the first in cancellations (both driver and customer side) implies an **infrastructural or matching**

algorithm issue specific to that geofence. Resolving friction int his single location could materially improv the overall daily cancellation rate.