RFC: Driver Performance Analytics Dashboard

Overview

This RFC proposes the development of a Driver Performance Analytics Dashboard to help Ubur's operations team monitor and optimize driver performance across the platform.

Background

The operations team currently lacks a unified view of driver performance metrics, making it difficult to identify high-performing drivers, spot concerning trends, and make data-driven decisions about driver management. Currently, this analysis requires manual data extraction and processing across multiple systems.

Business Requirements

Data Requirements

The dashboard should utilize the following data from our Snowflake warehouse:

- Driver profile information
- Ride history and metrics
- Payment data
- Real-time location data

Key Metrics to Track

1. Driver Performance Metrics
    - Completion rate of rides
    - Average rider rating
    - Total revenue generated
    - Number of rides completed
    - Average response time to ride requests
2. Temporal Analysis
    - Daily/weekly/monthly ride patterns
    - Peak hours performance
    - Driver activity hours
3. Geographic Analysis
    - Heat map of pickup locations
    - Common route patterns
    - Areas with high demand but low driver presence

Feature Requirements

1. Interactive Filtering
    - Date range selection
    - Geographic area filtering
    - Driver status filtering (Active/Inactive/On Trip)
2. Performance Rankings
    - Top performers by revenue
    - Top performers by rider satisfaction
    - Most reliable drivers (completion rate)
3. Alert Indicators
    - Drivers with declining ratings
    - Unusual patterns in ride cancellations
    - Low activity drivers
4. Data Export
    - Ability to download filtered data as CSV
    - Scheduled report generation

Technical Requirements

1. User Interface
    - Clean, modern interface using Streamlit
    - Responsive design for different screen sizes
    - Intuitive navigation between different metric views
2. Data Processing

    - Real-time data updates
    - Efficient query optimization for large datasets
    - Proper handling of missing or incomplete data

Success Metrics

- Dashboard adoption rate among operations team
- Reduction in time spent on manual reporting
- Improvement in driver performance metrics after dashboard implementation
- User satisfaction with dashboard functionality

Timeline

- Development and Testing: 2 weeks
- Initial Release: Week 3
- Feedback Collection and Iterations: Weeks 4-6

Future Enhancements

1. Predictive Analytics
    - Driver churn prediction
    - Demand forecasting
    - Revenue optimization suggestions
2. Advanced Features
    - Custom metric creation
    - Advanced data visualization options
    - Integration with communication systems for driver outreach