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Company

# Scalable, Rideshare Ad Platform for a Leading Telecom Company

We developed a scalable, in-car advertisement solution that helped a leading telecommunications client to create a new monetization avenue and significantly enhance passenger experience during rideshare trips.

## Overview

QBurst delivered a resilient, kiosk-mode tablet application and a full-stack backend to power a new digital advertising ecosystem in rideshare vehicles.

- **New Revenue Stream:** Created a direct, scalable revenue stream for ridesharing companies and drivers by monetizing in-car idle time.
- **Enhanced Engagement:** Increased customer satisfaction and engagement through real-time interactive games, trivia, and location-specific content.
- **Targeted Advertising:** Implemented advanced data capabilities, including TensorFlow for rider detection, to deliver highly targeted and effective advertising campaigns.
- **Streamlined Operations:** The internal admin dashboard provided simple content management, increasing operational efficiency for ad deployment.



## Client Profile

Leading telecommunications company that provides wireless voice and data services to customers in the United States.

## Challenges

- **Resilience & Security:** Building a scalable, resilient tablet application that operates reliably in kiosk mode across a distributed network, preventing unauthorized user access.
- **Content and Ad Management:** Developing a flexible and robust admin dashboard to manage complex ad creatives, content updates, and dynamic ad set assignments.

- **Complex Integrations:** Seamlessly integrating third-party APIs for live content (game scores, weather) and external advertising platforms (SSPs) to support monetization.
- **Real-Time Data Extraction:** Ensuring accurate, real-time tracking of user engagement (data pings) and location data for precise ad attribution and robust analytics.

## QBurst Solution: Android-Based Tablet Application

QBurst delivered an in-car advertisement solution comprising a kiosk-mode Android application, a web-based internal admin dashboard, and a robust, scalable backend infrastructure. The system securely deploys ads and engaging content, while utilizing sophisticated data collection methods to provide value to advertisers.

### Key aspects of the implementation:

- **Kiosk Mode Application:** Developed the tablet application using Android SDK and Java, operating in secure kiosk mode (MDM integration) to ensure continuous ad playback and prevent unauthorized use.
- **Intelligent Backend:** Built the backend using Django and PostgreSQL, deployed on AWS EC2 instances with autoscaling enabled for resilience and high availability across multi-zone deployment.
- **Dynamic Ad Delivery:** The app retrieves driver-specific data and plays user-specific ad sets after checking for successful data fetches. Location/data pings are sent to the backend for engagement tracking.

## Technical Highlights

- **Ad Targeting & AI:** Integrated TensorFlow for advanced features such as rider detection to optimize ad delivery.
- **Data Pipeline & Analytics:** Implemented ETLs to securely export engagement and location data to a Snowflake warehouse for deep analytics.

- **Resilient Architecture:** Utilized Django and PostgreSQL deployed on EC2 instances with autoscaling for multi-zone resilience, monitored by Datadog and New Relic for uptime assurance.
- **Real-Time Content:** Integrated with the Stats Perform API for live game scorecard integration and other third-party services for interactive games and trivia.

## Impact: Improving Customer Satisfaction

- **Added Revenue Stream:** Created a crucial new revenue stream for ridesharing partners and drivers by monetizing in-car idle time.
- **Increased Customer Engagement:** Interactive games, trivia, and engaging content increased customer engagement and satisfaction, leading to higher ratings for drivers.
- **Enhanced Customer Targeting:** Targeted ads based on demographics, location, and other criteria improved the effectiveness of advertising campaigns and brand awareness for advertisers by over 50%.
- **Increased Operational Efficiency:** The internal admin dashboard and scalable backend streamlined operations, making it easier to manage advertisements across multiple vehicles and locations.