Title

Exploratory Data Analysis and Key Insights for Retention Strategies

Project Overview

The Waze data team initiated this project to analyze user churn patterns and develop strategies to improve user retention. By conducting thorough exploratory data analysis (EDA) on user behavior data, we aim to identify key factors contributing to churn and provide actionable insights for proactive intervention. This report summarizes the findings from our EDA, highlighting critical insights and proposing next steps to mitigate user churn and enhance overall user satisfaction.

Key Insights

App Usage and Churn:

- Users with higher app usage (more driving days) exhibit significantly lower churn rates. Notably, no users who used the app for 30 days churned.
- Conversely, users with minimal app usage (no driving days) showed a high churn rate of approximately 40%.

Driving Distance and Churn:
A positive correlation exists between distance driven per driving day and churn. Users driving longer distances are more likely to churn.

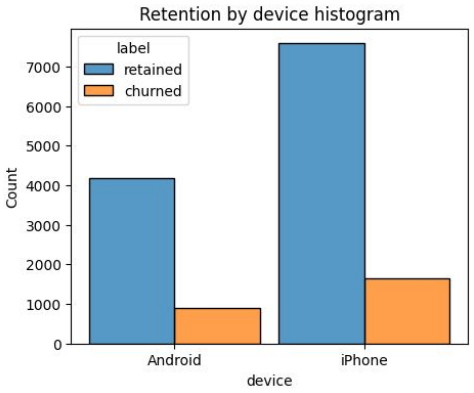
Data Distribution and Outliers:

- Most numerical variables exhibit right-skewed or uniform distributions. Right-skewed distributions indicate a majority of users with lower values and a few with exceptionally high values.
- Several variables, including `driven_km_drives`, `activity_days`, and `driving_days`, contain improbable or impossible outlier values, suggesting potential data quality issues.

User Tenure:
Users of all tenures, from new to long-term (up to 10 years), are relatively evenly represented in the dataset.

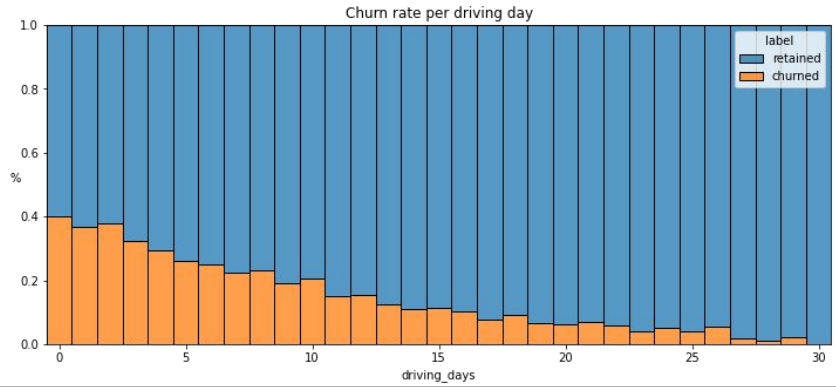
Device Type:
The ratio of churned to retained users is consistent across both iPhone and Android devices.

Details



The churn rate is highest for people who didn't use Waze much during the last month.

The proportion of churned users to retained users is consistent between device types.



Next Steps

Data Validation:
Investigate and resolve discrepancies in `sessions`, `driving_days`, and `activity_days` data to ensure accuracy and consistency.

User Profiling:
Collaborate with the Waze team to develop detailed user profiles, particularly focusing on long-distance drivers, to understand the reasons behind their higher churn rate.

Advanced Statistical Analysis:
Conduct deeper statistical analyses to quantify the impact of various variables on user churn and develop predictive models.

Feature Engineering:
Create new features that may help to better understand the data.