Title

# Waze's Data Team Hypothesis Testing Project

## Overview

The main purpose of this project is to perform hypothesis testing (significance testing), and determine if there is a statistically significant difference in the average amount of rides between Android users and iPhone users.

## Objective

This project aims to perform descriptive statistics to understand the variables we mainly focus on, and then to perform the hypothesis testing by conducting a two-sample t-test.

## Results

- The observed difference of average amount of rides between iPhone and Android users is 1.62% percentage points (~67.86 vs. ~66.23 respectively), which shows iPhone users is higher in the mean rides.
- The result from the hypothesis is that with the p-value of 14.3%, and compared to the significance level of 5% we first set before performing the test, it shows that there is no statistically significant difference since the p-value is higher than the significance level threshold.
- In other words, we fail to reject the null hypothesis which is there is no difference in the average amount of rides between Android and iPhone users.
- Specifically, users from both devices (Android and iPhone) have the same average number of rides, despite the descriptive statistics showing that the average number of rides from iPhone users is higher than the Android users.

## Next Steps

- Since this hypothesis testing shows insignificance, we might choose to conduct another hypothesis test based on different variables, such as the **retained** and **churned** users.
- We might recommend the UX/UI team to slightly design differently in our Waze app for both iPhone and Android operators, and further analyze the user behavior to monitor the churn rate if the changes might affect it. And by that, we might perform the test to determine.