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An analysis of User's Mobile Usage behavior

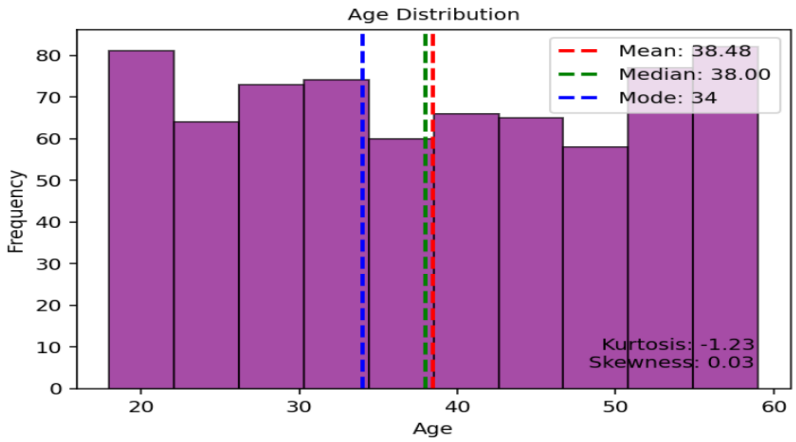
Introduction

In today's age of rapid technology advancements, understanding how people use their phones can give us valuable insights into how they interact with their devices daily. This analysis delves into data gathered from devices including information like how much time users spend on apps each day, how long the screen stays on; how much battery is consumed, data usage patterns, and the number of apps installed. Moreover, factors such as age and gender demographics, as well as specific device details, like model and operating system gives a detailed picture of user preferences and device usage. Through detailed visualizations, we aim to reveal patterns in smartphone usage, enhance our understanding of how different age groups engage with their devices, and explore correlations among these variables.

Data Visualisations and Statistical Analysis

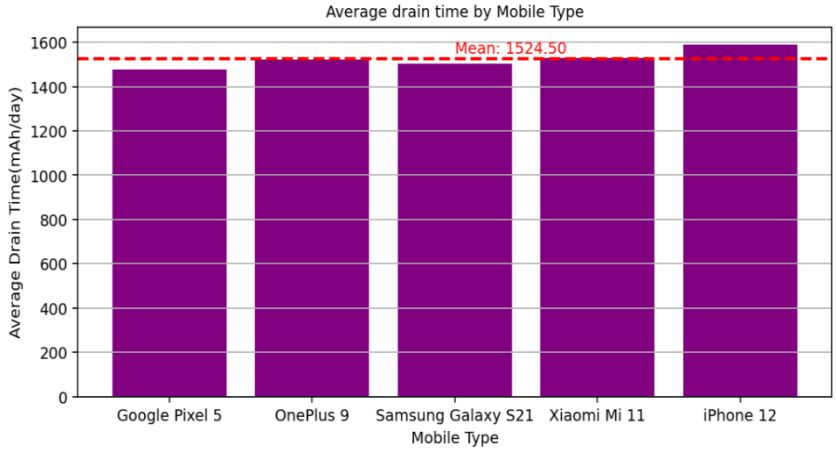
Histogram (Age Distribution)

The histogram depicts the age distribution of mobile users. We observe that the ages are concentrated between 20 and 40 with a peak around 34(mode). The graph reveals that the average age (mean) is 38.48, while the median age is 38, suggesting a slightly right-skewed distribution. The mode, which is the most frequent age, is 34, reinforcing the idea that a significant portion of the population falls within this age range. The kurtosis of -1.23 indicates a flatter distribution than a normal distribution, implying a wider range of ages within the population. The skewness of 0.03 is close to zero, indicating a nearly symmetrical distribution. This means that there are roughly equal numbers of individuals on both sides of the mean.



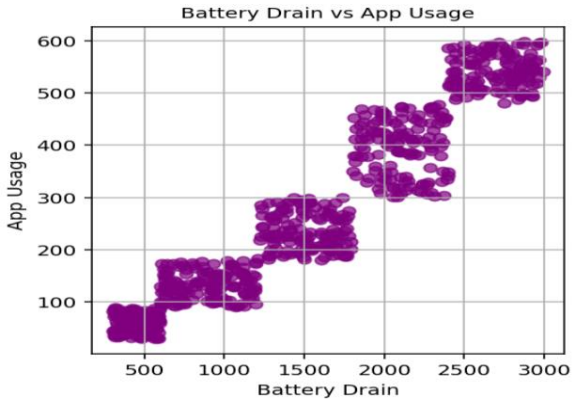
Bar Graph (Average Drain Time by Mobile Type)

The bar graph provides a visual comparison of the average battery drain time for each type of mobile in the dataset. It's evident that battery performance varies across these devices. While the Google Pixel 5 and Samsung Galaxy S21 demonstrate relatively efficient battery usage, the iPhone 12 seems to drain its battery faster than the average. The OnePlus 9 and Xiaomi Mi 11 fall closer to the mean, suggesting a moderate battery performance.



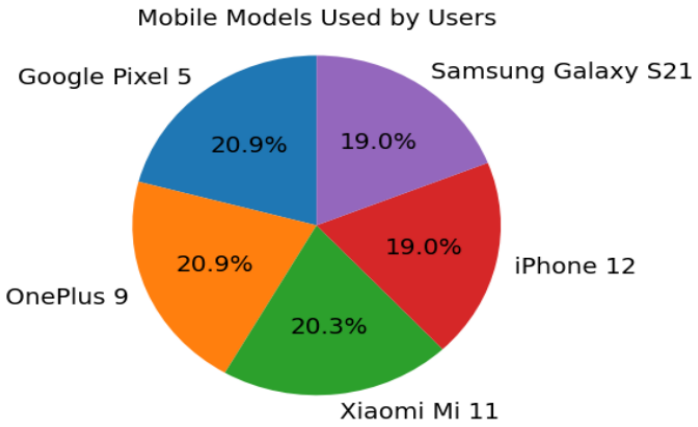
Scatter Plot (Battery Drain vs App Usage)

The scatter plot reveals a clear correlation between battery drain and app usage as points are clustered in such a pattern. As app usage increases, the battery drain also tends to increase. This suggests that the intensity of app usage is a very significant factor in determining battery life. The clustering of points indicates that different types of apps or usage patterns might have varying impacts on battery drain. For example, a light app like calculator may have little impact on battery drain as compared to big apps like TikTok, Instagram and some other heavy apps.



Pie Chart (Mobile Models Used by Users)

The pie chart illustrates a clear overview of the mobile phone models used by our users in the dataset. It's interesting to note that the Google Pixel 5, OnePlus 9, and Xiaomi Mi 11 are the most popular models, each accounting for approximately 20% of users. The Samsung Galaxy S21 and iPhone 12 follow closely behind, with around 19% of users each. This suggests that these models are popular choices among our users and indicates that our dataset includes a nearly even distribution of various mobile phone models.



Heatmap of correlations (Kendall)

Heatmap using Kendall method reveals a strong positive correlation between all variables except age. While the correlation between age and other variables is weak, it could simply mean that age is not a strong predictor of user behavior in this specific dataset.