**Problem Statement**

The dataset being examined focuses on analysing user actions concerning mobile app usage among various demographics and device setups. App developers, marketers, and mobile device manufacturers all need to comprehend this data for their respective interests. The reason for gathering this data is focused on addressing the following important issues:

1. Users’ involvement: by analysing the time of use of the apps and the screen time, we aim to identify the models on how different demographic groups are committed to mobile applications. This can help understand which types of content or functionality guide a higher involvement.
2. Resource Optimization: Battery and data usage data helps uncover insights into how different user behaviours impact device performance. This helps develop strategies to optimize app and device design for more efficient resource management.
3. Comparison of the platform: Given the differences between Android and iOS, the analysis seeks to compare user behaviour on different operating systems and devices. This will clarify whether certain platforms require specific improvements depending on the user behaviour trends. Targeted Marketing and Development: By categorizing users into behaviour classes, stakeholders can create targeted marketing strategies and app features tailored to specific segments of users, thus improving user retention and satisfaction.

Overall, this dataset provides valuable insights that can lead to improving user experience with mobile applications, optimizing device performance, and developing targeted strategies that cater to defined user segments.

**Column Understanding and Data Types**

| **Column Name** | **Description** | **Data Type** |
| --- | --- | --- |
| User ID | A unique identifier for each user, facilitating individual record tracking**.** | Integer |
| Device Model | The specific model of the mobile device used (e.g., iPhone 12, OnePlus 9). | Categorical |
| Operating System | The operating system the device runs (e.g., Android, iOS), allowing for platform analysis. | Categorical |
| App Usage Time (min/day) | Average daily duration (in minutes) that users spend using apps, providing insight into user engagement levels. | Integer |
| Screen On Time (hours/day) | Average time (in hours) that the device screen is active each day, indicative of overall device use. | Float |
| Battery Drain (mAh/day) | Average battery consumption per day (in milliamp hours), crucial for evaluating energy efficiency. | Integer |
| Number of Apps Installed | Total number of applications installed on the user's device, highlighting user behaviour regarding app collection. | Integer |
| Data Usage (MB/day) | Average daily data consumption (in megabytes), important for understanding network resource utilization. | Integer |
| Age | The age of the user, aiding in demographic analysis and understanding behaviour across different age groups. | Integer |
| Gender | User's gender (Male or Female), permitting analysis of behavioural trends between genders. | Categorical |
| User Behaviour Class | A numeric classification that categorizes users based on their app usage patterns (1-5). This segmentation facilitates targeted analysis. | Integer |

**Data Types Overview**

* Integer: Represents whole numbers, utilized for counting attributes such as user ID, battery drain, number of apps, and age.
* Float: Represents decimal values, particularly useful for more accurate measurements, such as screen-on time.
* Categorical: Denotes distinct classifications or categories, such as device models, operating systems, and genders, essential for comparative and segmentationanalysis.