Android App Data Collection

Overview

The app uses an Android API called **android.app.usage** which provides various app usage data that we can use to calculate the desired data. We collect data and monitor any changes in app usage statistics every 5 seconds. The Utelem app is able to collect statistics for every app on the user's phone.

Data Collected
- *App name:* Actual app name
- *Package name*: A unique package name
- *Start time:* The time at which an app is opened
- *End time:* The time at which an app is closed
- *Total time:* The total time a user spent in one session (difference of start and end times)
- *Launch count:* How many times a user opened the app from the beginning of the year

Note: The data collection period is one year, starting from the beginning of the year.

Organization

LoginActivity.java
- Login logic is handled within this file, most of it being in the attemptLogin() method.
- Contains logic for login persistence.

displaydata.java
- This file handles the logic for starting and stopping the data collection service with a toggle button.

MyService.java
- This file contains the logic for data collection and buffering.
- Both Start and End time are calculated using the getLastTimeUsed() method provided by the API.
- Usage statistics of an app are checked within a 5 second interval to monitor any change and update the data accordingly. This is done in CollectData().
- An array called statsList contains the usage statistic data collected from apps.

Ustats.java
- This file has methods that implement the UsageStatsManager API and allows the app to collect data.

BootReceiver.java
- This file is used to handle to on boot logic so that the phone will start collecting data when the user turns their phone back on.

Privacypolicy.java
- This file deals with the privacy policy.

Compare.java
- This file represents the app usage statistics we're collecting, and is used in MyService.java.
- A list of these objects is sent to the server.

MySingleton.java
- This file contains methods that are called when server requests are made.