Design Document

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1 Design Consideration

1.1 Assumptions

The following requirements were assumed for the app:

- Allow the user to be able to monitor the battery usage.
- Create a list of applications that are currently running or in the background.
- Users should be able to order the applications in the list alphabetically.
- The system should provide a graphical view for the battery usage data (showing battery percentage).
- The system should trigger and alarm the user when battery level is below a certain value (10% should be a good number).
- The app should be easy to use and learn for different users.

1.2 Constraints

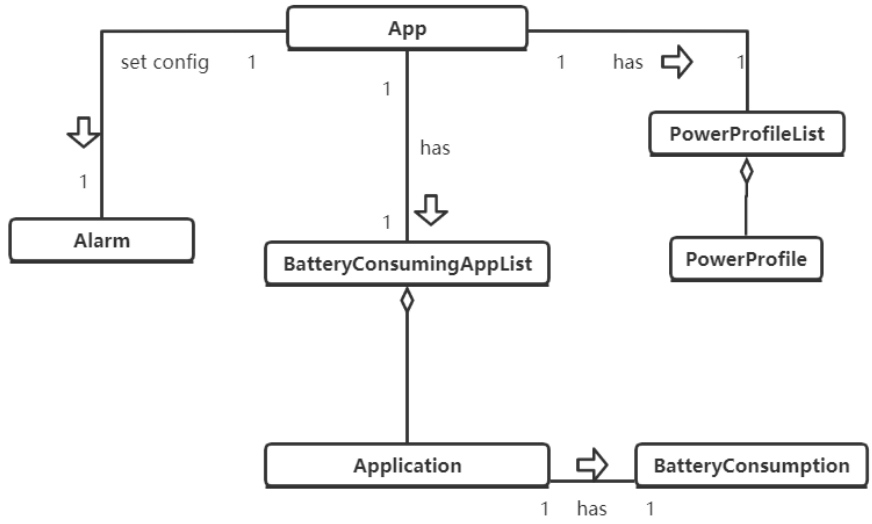
The system assumes that the user has granted PACKAGE_USAGE_STATS permissions. The system will prompt the user for permissions, but it will then assume that permissions are approved.

1.3 System Environment

We assume the system is running on an Android Nexus 6, using API 30 - Android 11. However, the system should work on any device running API 21 - Lollipop, or higher.

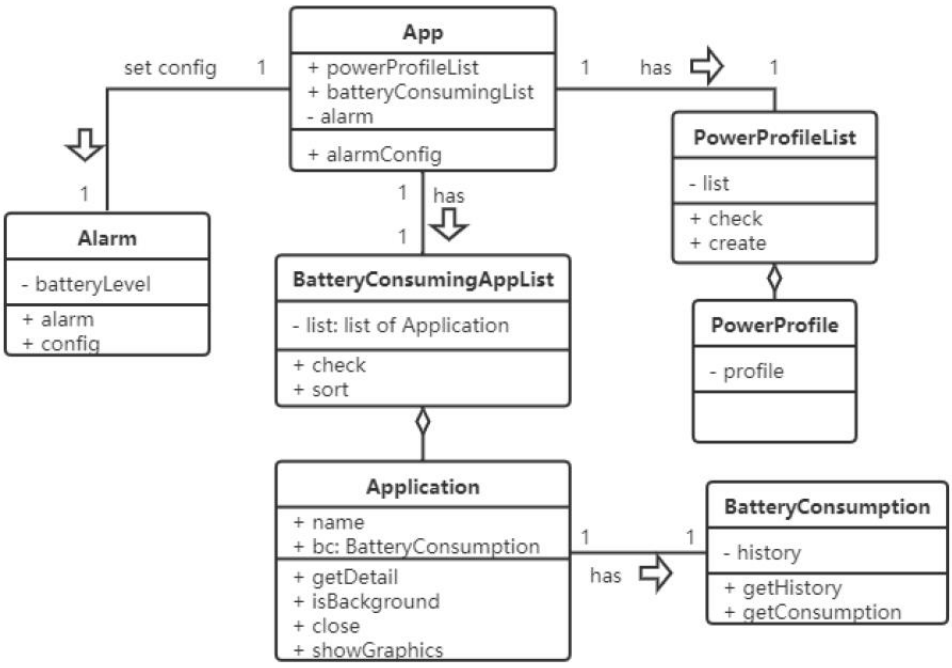
2 Architectural Design

2.1 Component Diagram



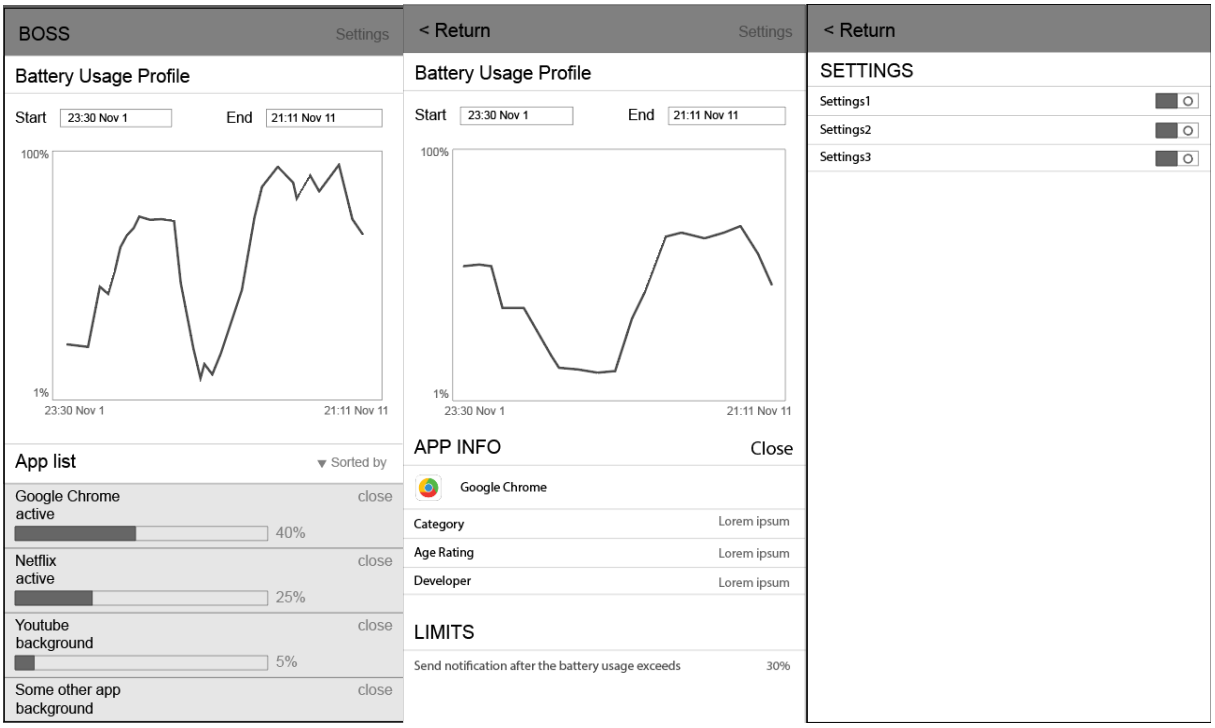
3 Low-Level Design

3.1 UML Diagram (with original requirements)

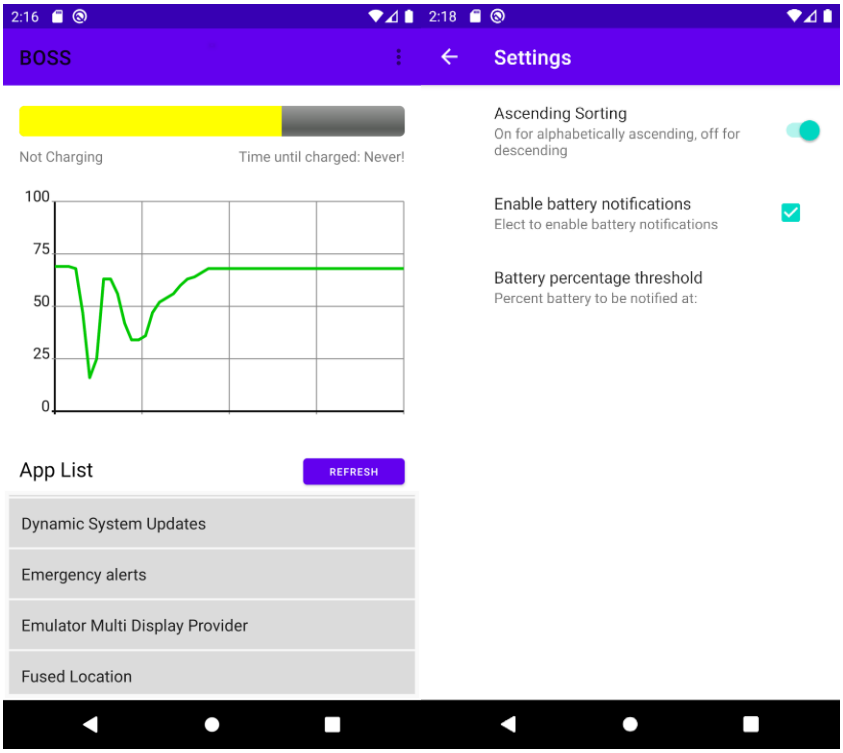


4 User Interface Design

4.1 Initial UI (Before change in requirements)



4.2 Final UI


2:16
BOSS
Not Charging
Time until charged: Never!
100
75
50
25
0
App List
REFRESH
Dynamic System Updates
Emergency alerts
Emulator Multi Display Provider
Fused Location
2:18
Settings
Ascending Sorting
On for alphabetically ascending, off for descending
Enable battery notifications
Elect to enable battery notifications
Battery percentage threshold
Percent battery to be notified at: