Habits and Patterns:

We want to find the habits or patterns of one home of using all the appliances for all time ranges. So we simplify this question to how many times do one home use one appliance in each hour.

图示

描述已自动生成

Figure1  Habits and patterns flowchart

The numbers and colors in heatmap will show the times that the home used this appliance in that hour so we can find some patterns.