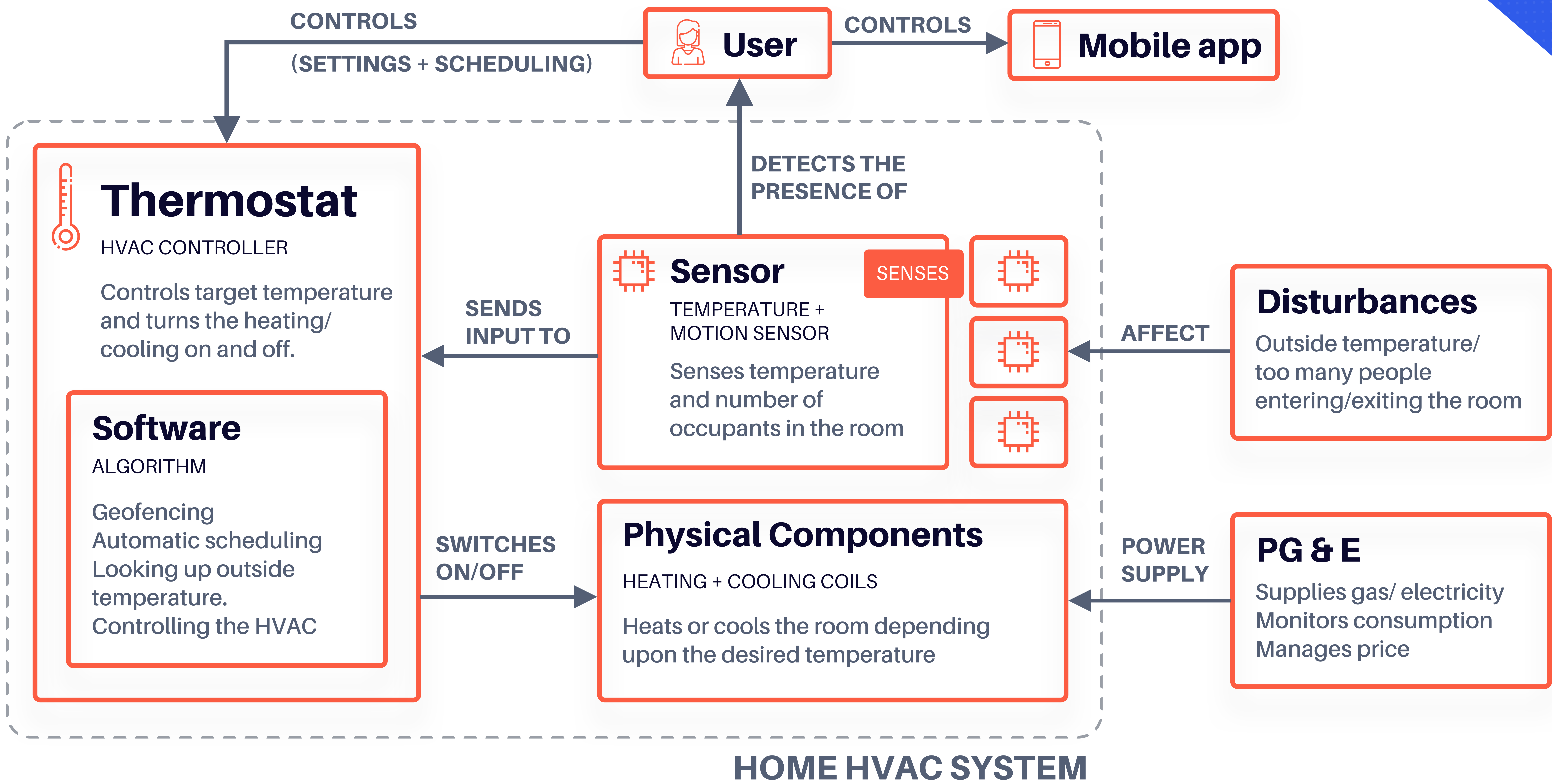
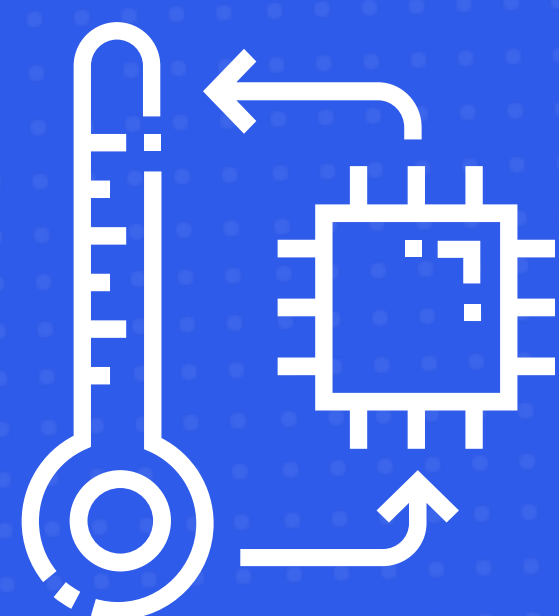


Home HVAC System

A SYSTEMIC VIEW

Home Thermostat

SYSTEMS : ASSIGNMENT 10
Tue, 7 Apr 2020



How it works

TURNING ON/OFF

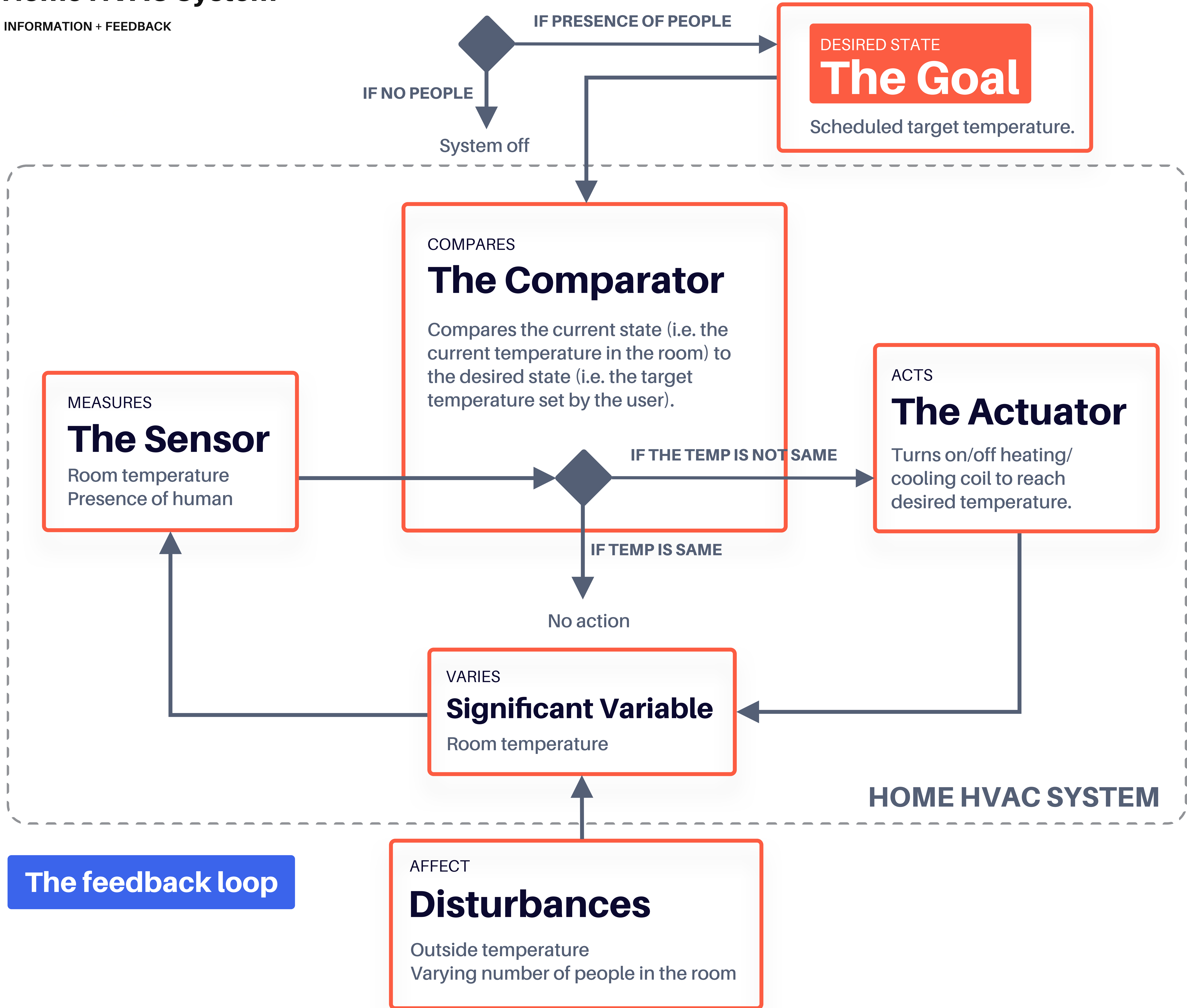
The sensor detects the presence of the user in the room and turns heating/cooling on/off depending upon the desired temperature that is set. Once the goal is reached it turns it off again.

SENSING VARIATION

The sensor also detects a change in room temperature when more people enter/exit and turns heating/cooling on/off to adjust the current temperature.

Home HVAC System

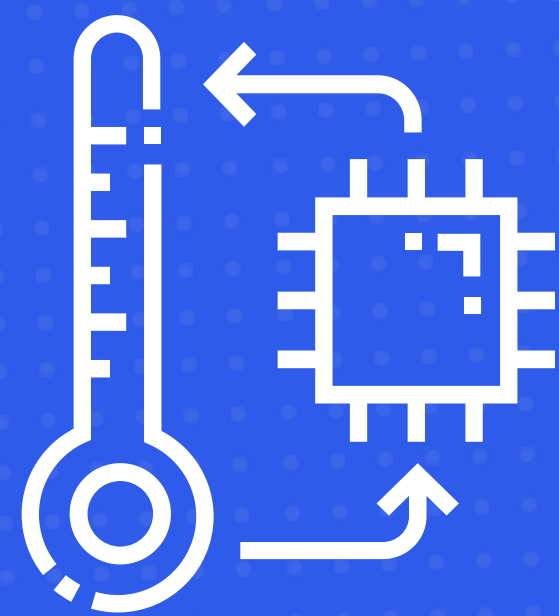
INFORMATION + FEEDBACK



The feedback loop

Home Thermostat

SYSTEMS : ASSIGNMENT 10
Tue, 7 Apr 2020



Presence of people

TURNING ON/OFF

The HVAC system detects the presence of people through a motion sensor present in each room, a geofence system on the user's phone and the schedule set by the user.

It turns on only when there are people in the room to save electricity and remains on till the desired temperature state is reached.

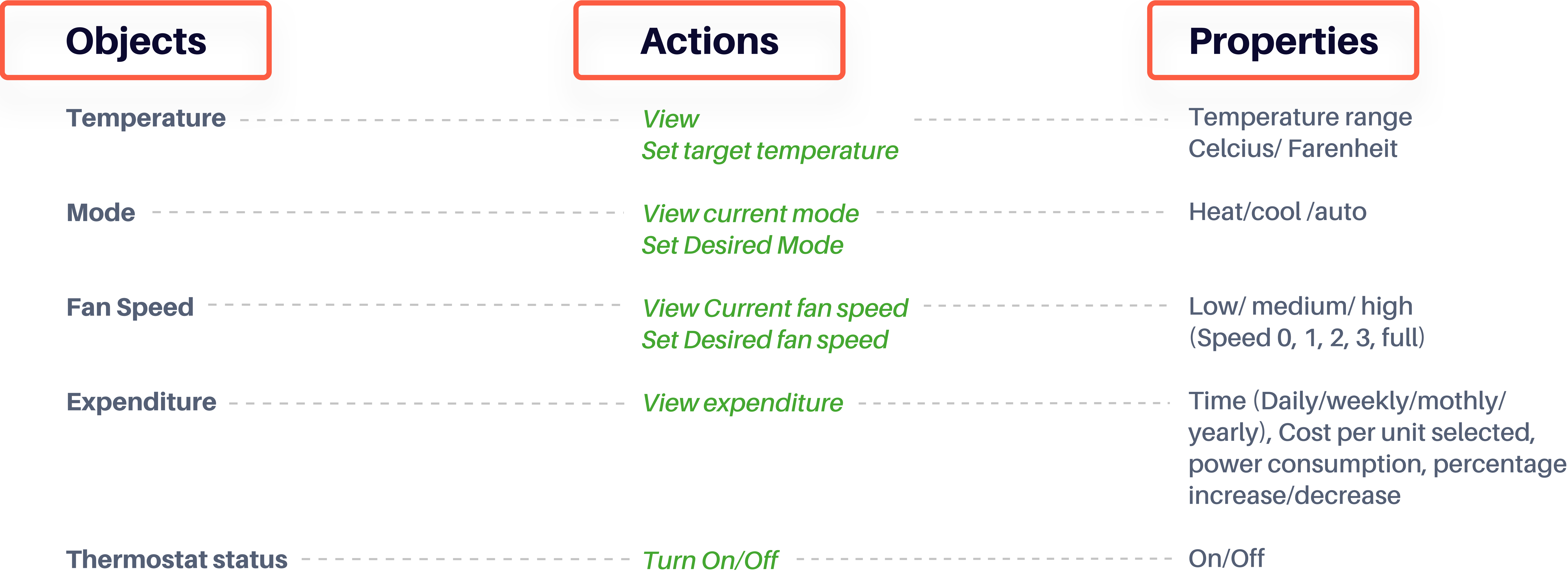
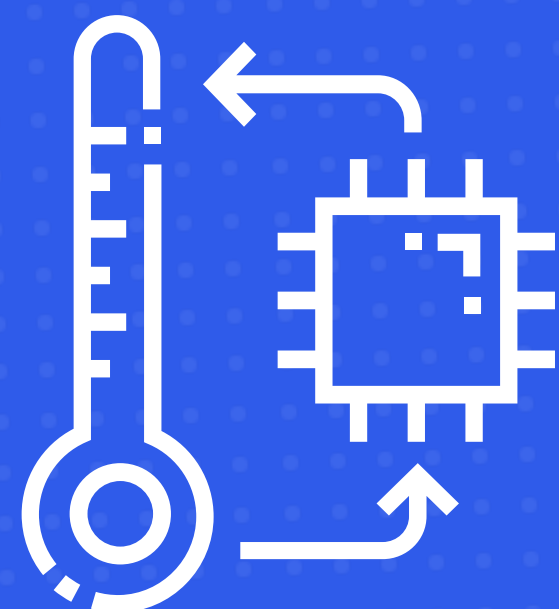
Home HVAC System

USER CONCEPTUAL MODEL

USER CONCEPTUAL MODELS

Home Thermostat

SYSTEMS : ASSIGNMENT 10
Tue, 7 Apr 2020



Task flow 1

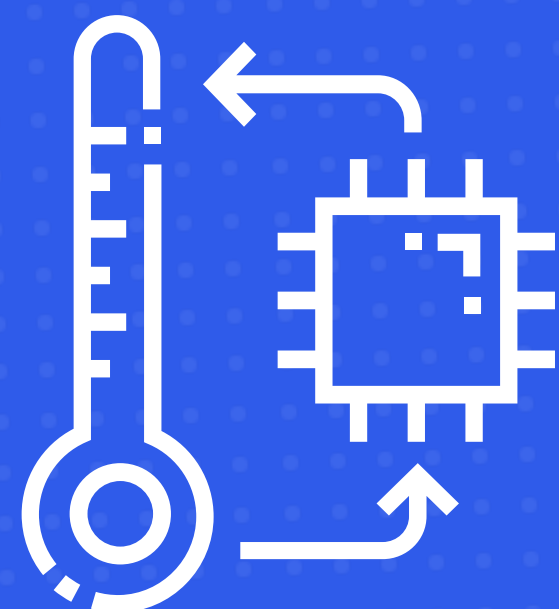


Task flow 2



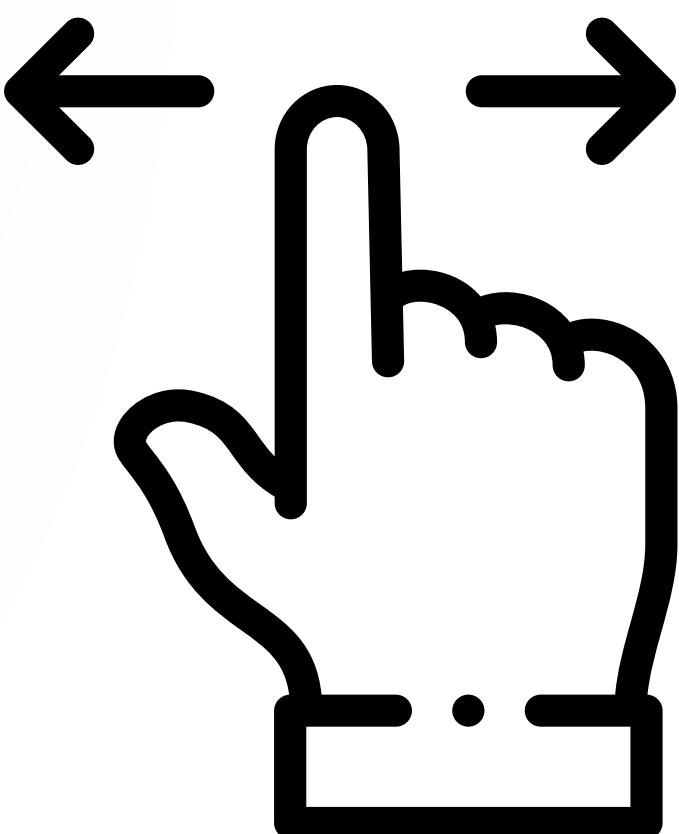
Task flow 3



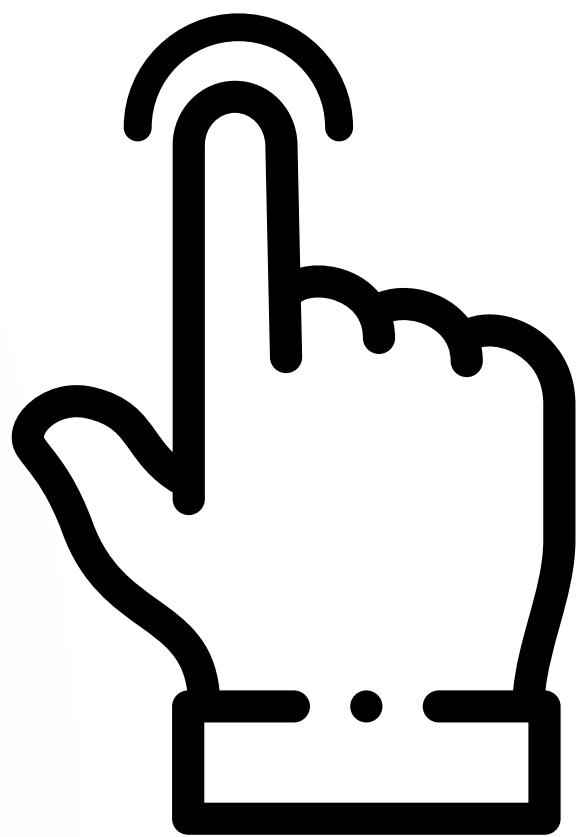


Displays whether it is heating or cooling.

TO ADJUST THE TEMPERATURE OR FAN SPEED

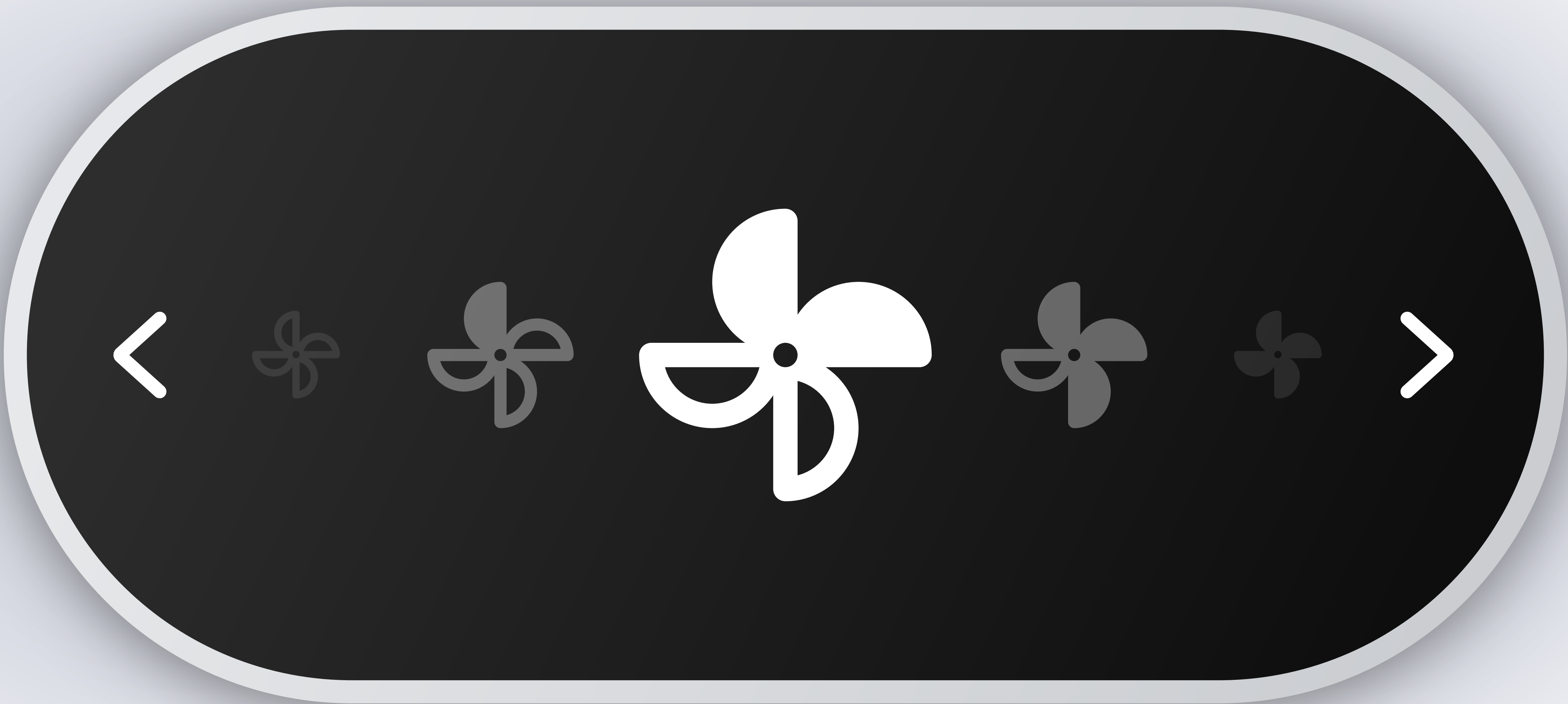


OPTION 1
Swipe left or right to increase/decrease the target temperature/fan speed.



OPTION 2
Tap on the left/right arrows to increase/decrease the target temperature/fan speed.

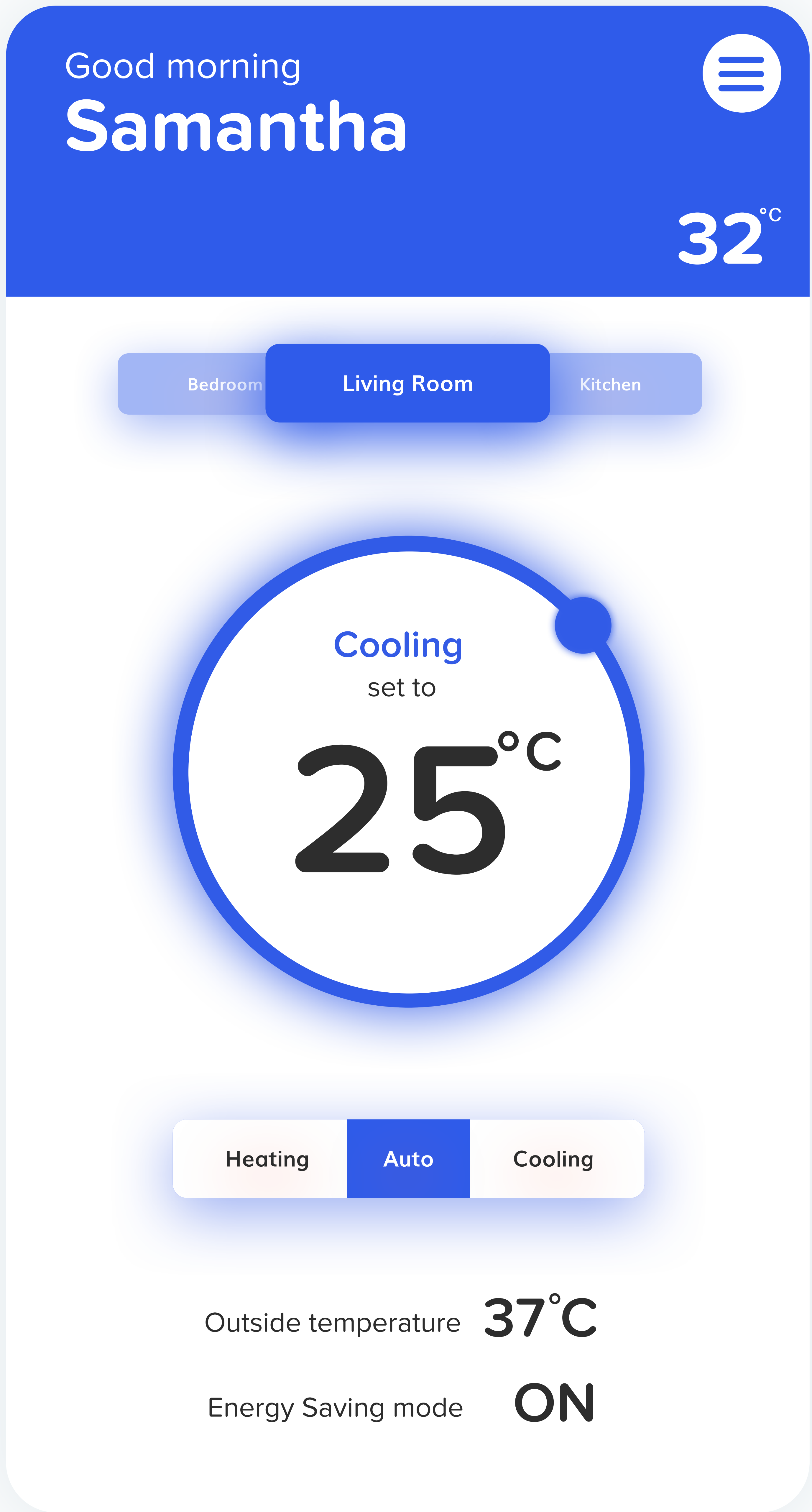
ADJUSTING THE
TARGET TEMPERATURE



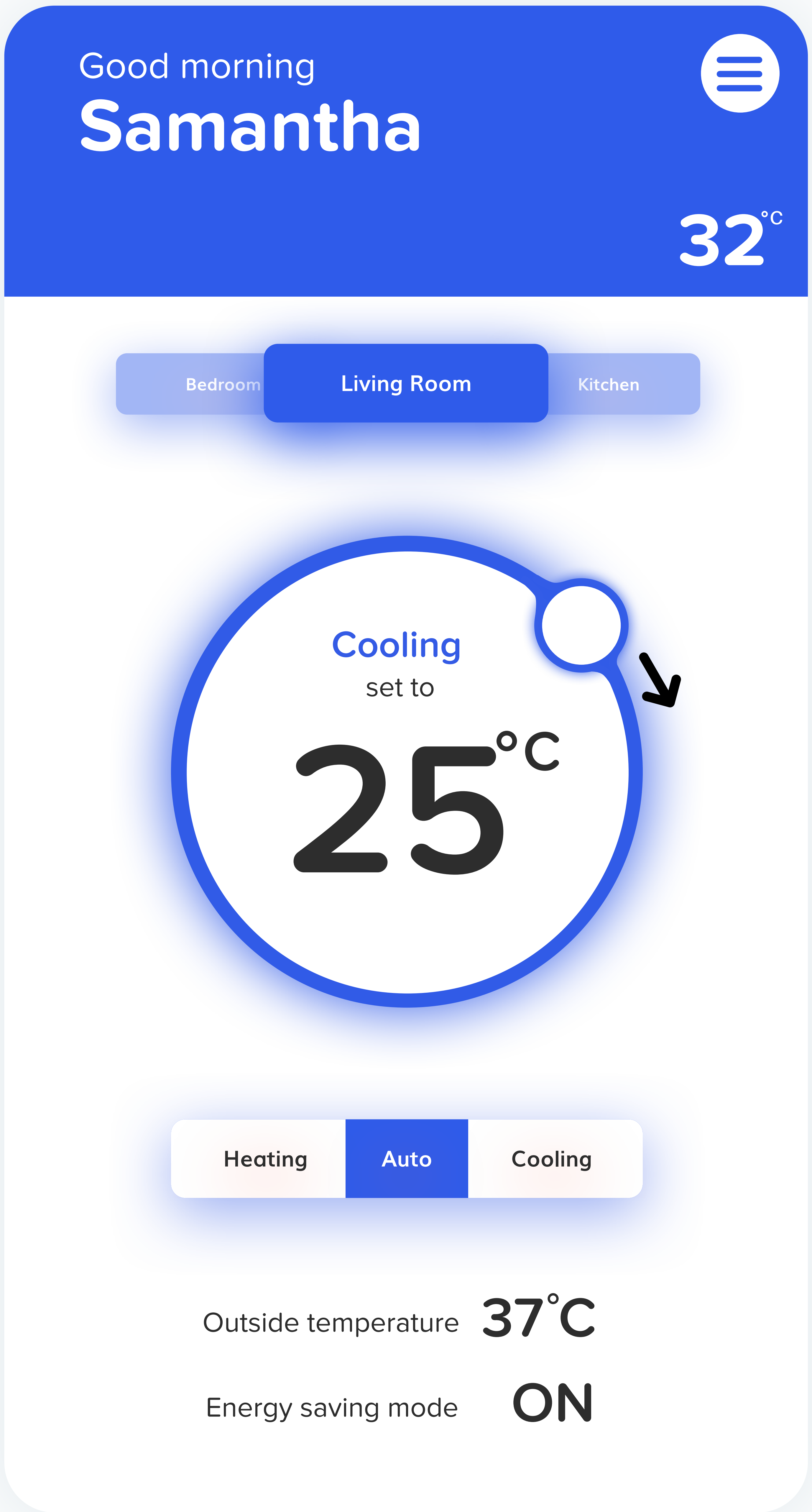
ADJUSTING THE
FAN SPEED

Tap on the fan icon on the home screen to enter the mode to adjust fan speed. Once the user selects a particular speed, it automatically goes back to the home screen after 3 seconds.

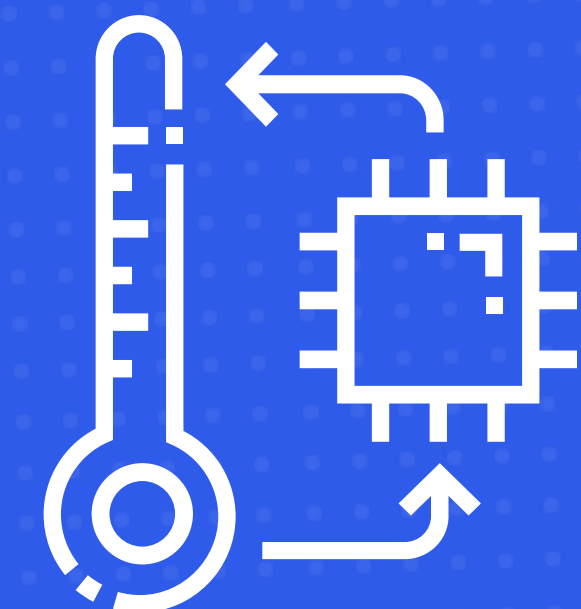
ADJUSTING THE **DESIRED TEMPERATURE**
AND **SELECTING THE MODE**



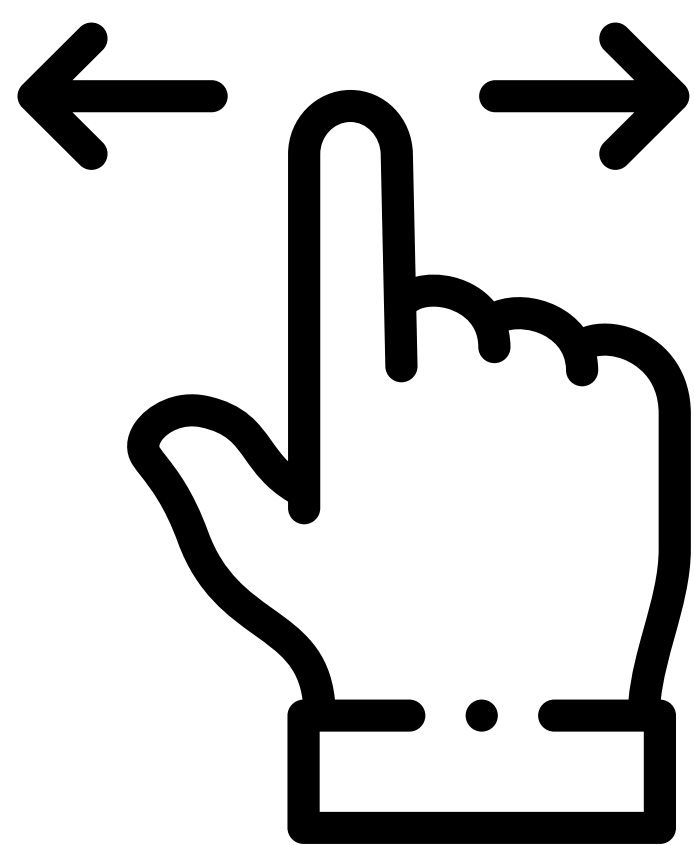
IDLE STATE



ACTION STATE

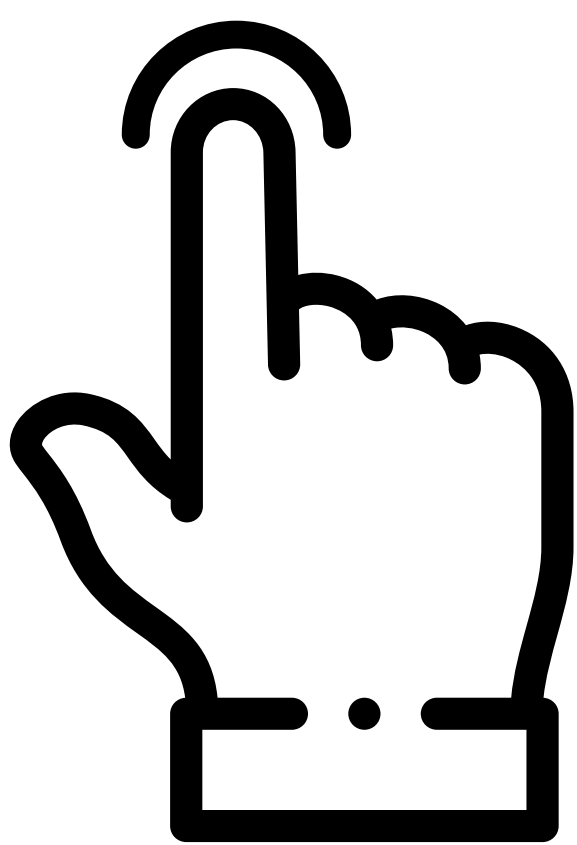


TO SELECT ROOM



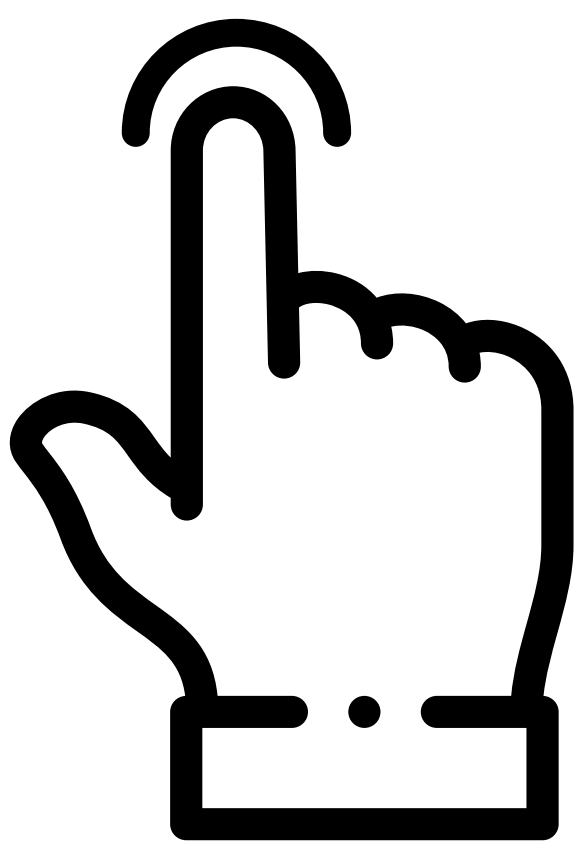
Swipe left and right where the current room is displayed.

TO ADJUST THE TEMPERATURE

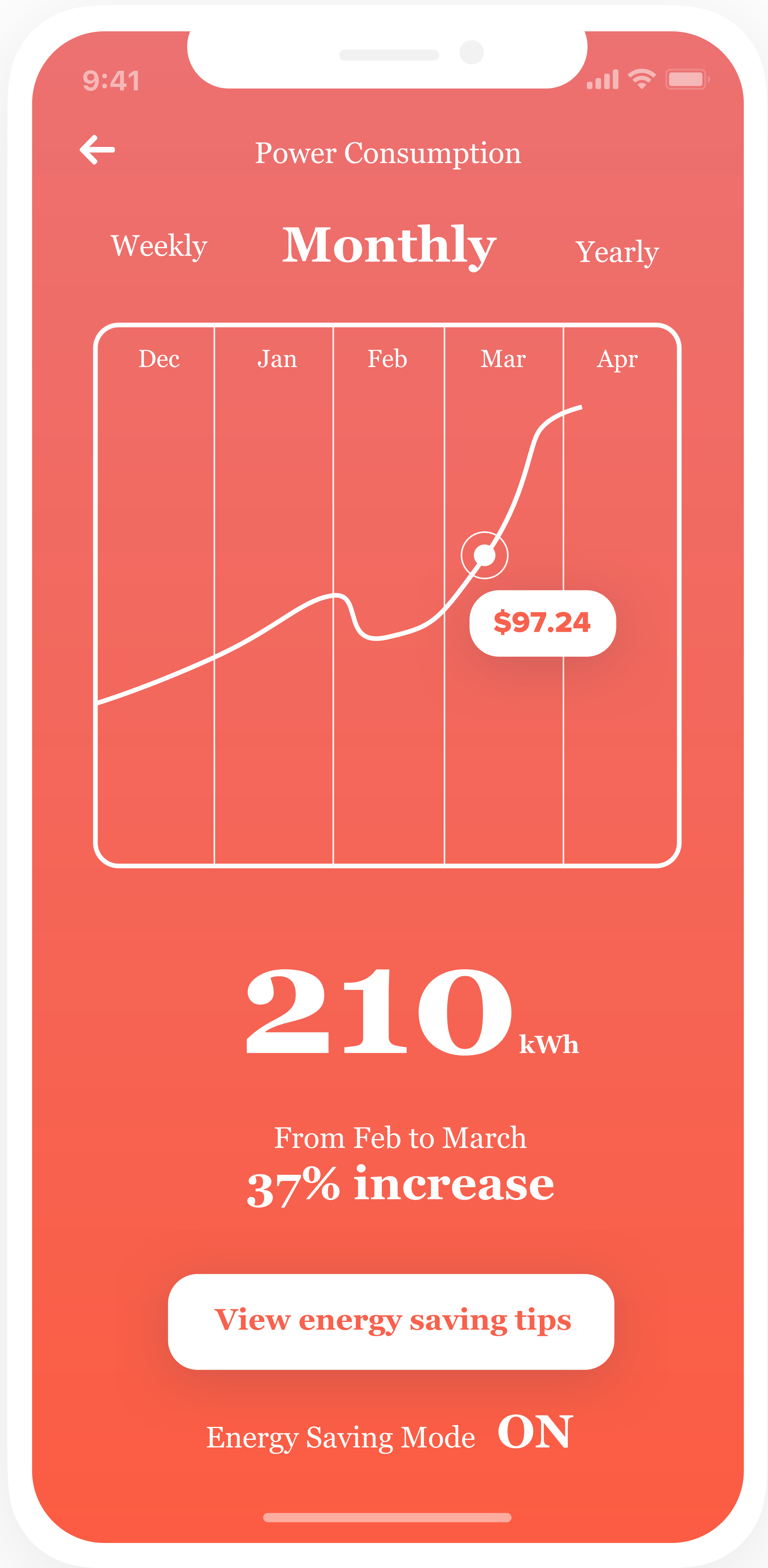
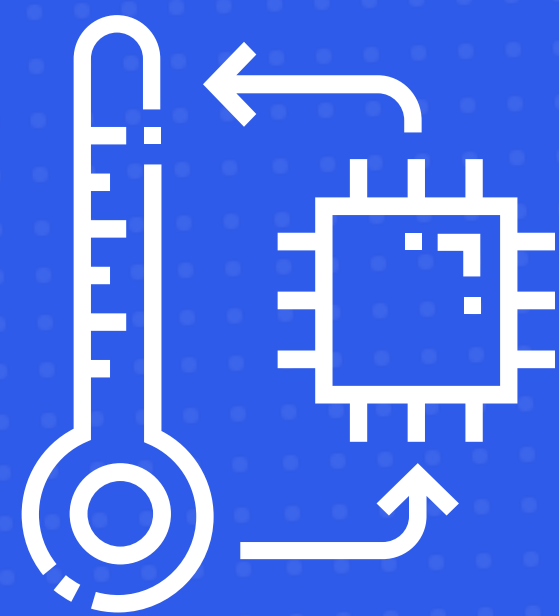


Tap on the circular adjuster and drag it till the desired temperature is displayed in the center.

TO CHANGE THE MODE

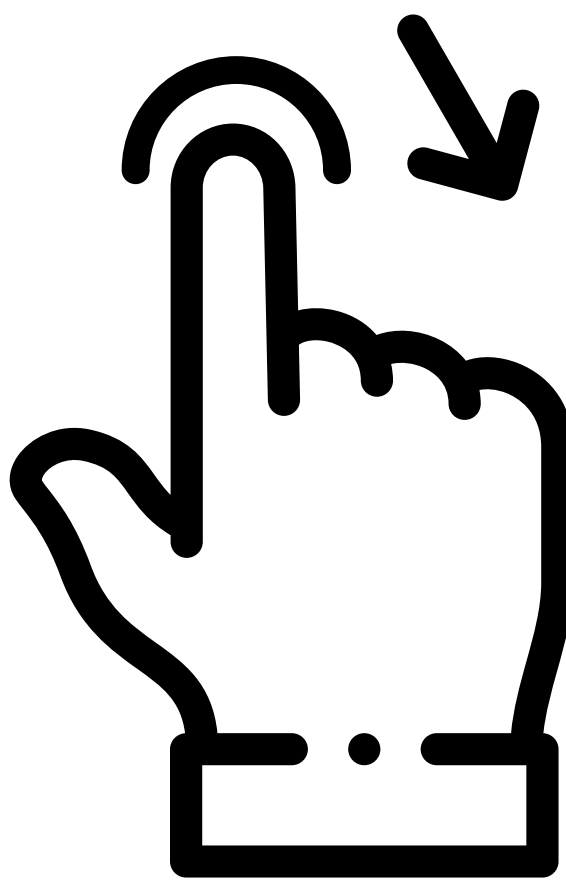


Tap on the desired mode heating/ cooling/auto in the bar below. (Pre decided temperature is auto selected.



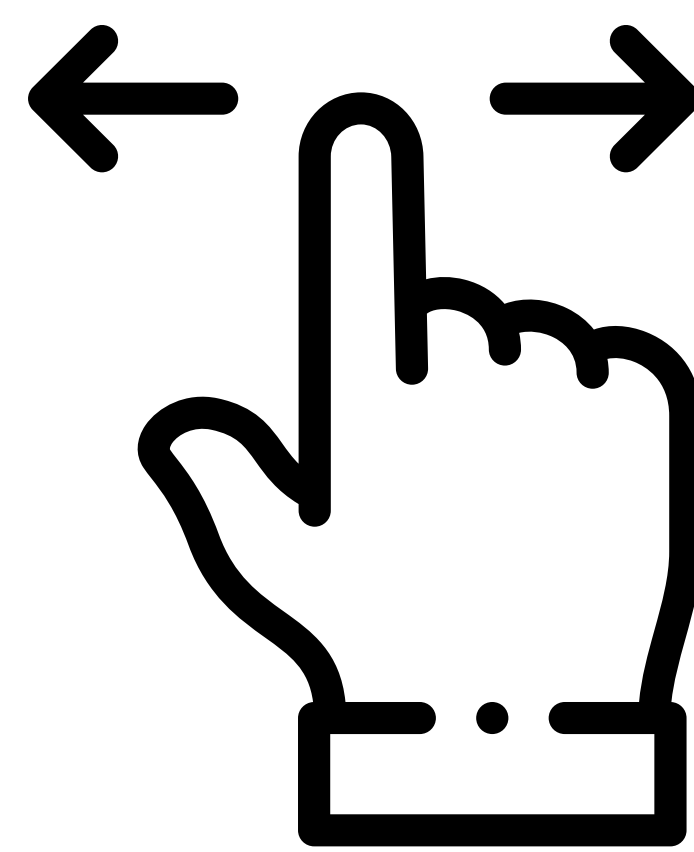
VIEWING THE
ENERGY CONSUMPTION

TO VIEW EXPENDITURE



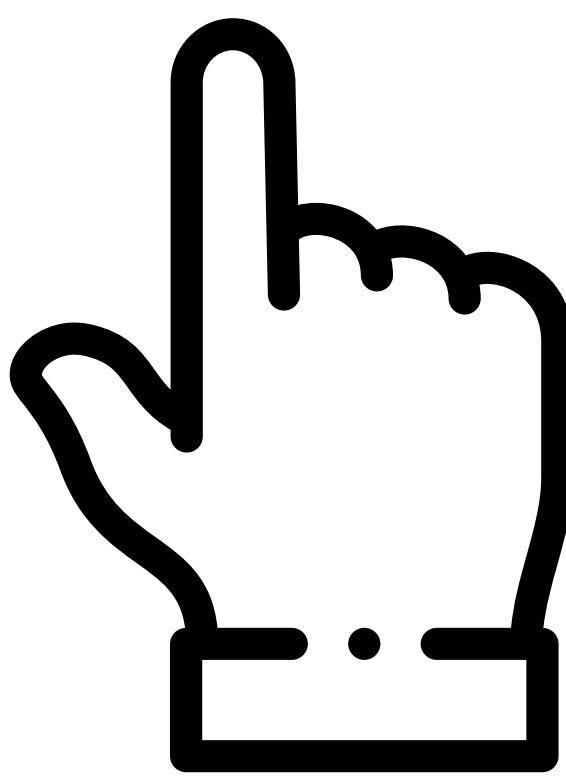
The graph shows monthly expenditure.
Tap and drag on the graph to view
expenditure at any point of time.

TO SELECT VIEW BY



Slide left and right to toggle between
daily/ weekly/ monthly and yearly.

TO TURN HIGH USAGE
NOTIFICATION ON/ OFF



Tap on the ON button to toggle
between on/off.