

Ventus Smart Ventilation Control System

PROGRESS

	John	Khanh	Tri	Vu
Google Firebase				
Cloud Functions				
Add Firebase API for MCU	🕒			
Firestore Database				
Data Structure	✓	✓		
Android App				
App UI / UX				✓
User Authentication		✓		
Vent Temp Adjustment				✓
Room Temp Adjustment				✓
Sensor Updates		✓		
Scheduling	🕒			
MCU Firmware				
Firebase API	🕒			
Modes of Operation		🕒		
Temperature Polling			🕒	
Humidity Polling			🕒	
Power Management			🕒	
Vent System				
Enclosure				🕒
Servo Feedback			🕒	
Servo Linkage				🕒

WHY USE SMART VENTS?

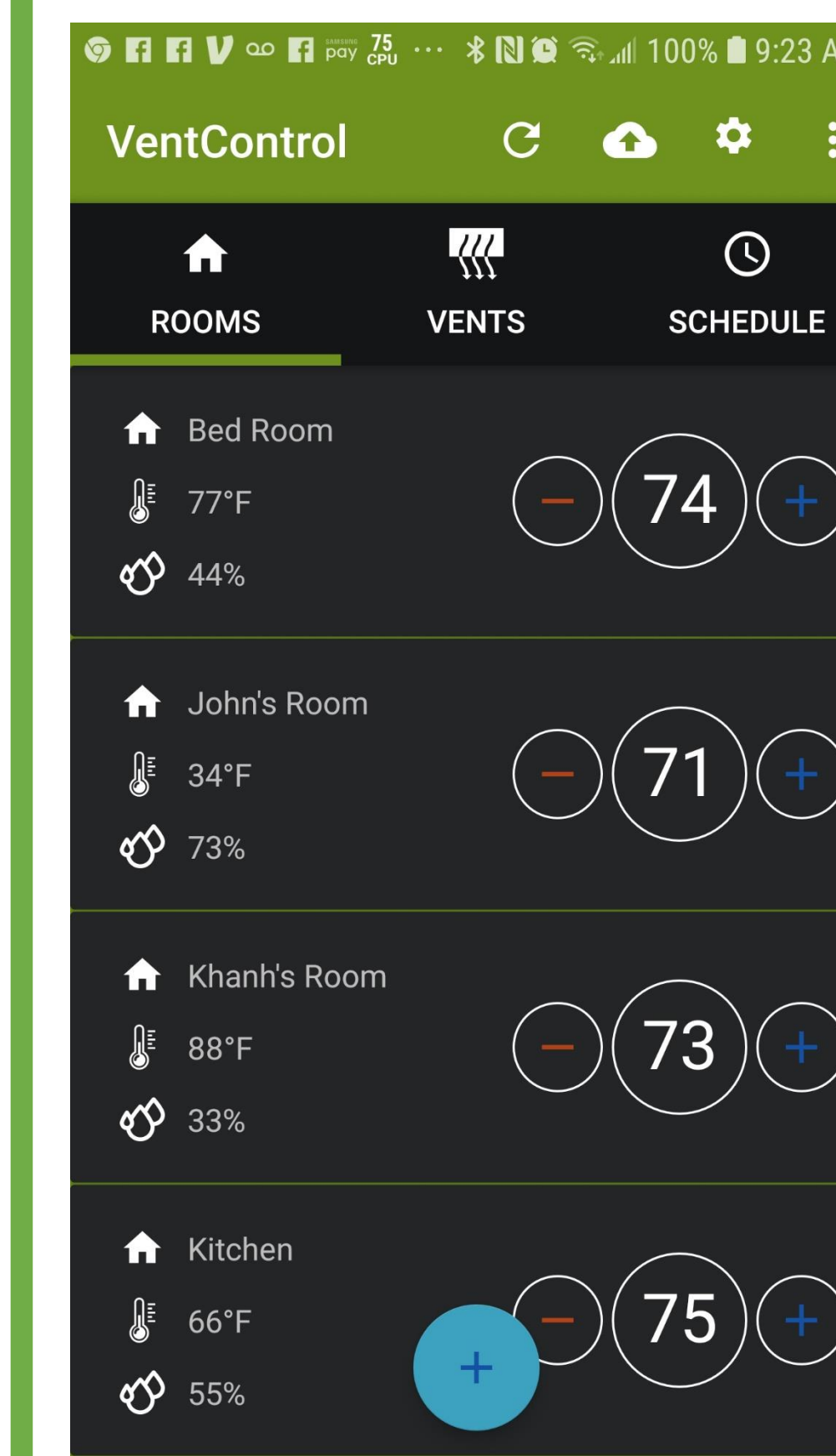
Ventus Smart Vents allow customers to control the temperature in each room of their homes.

- Reduce energy costs
- Precise temperature control
- Monitor heating/cooling losses
- Improved comfort
- Airflow efficiency

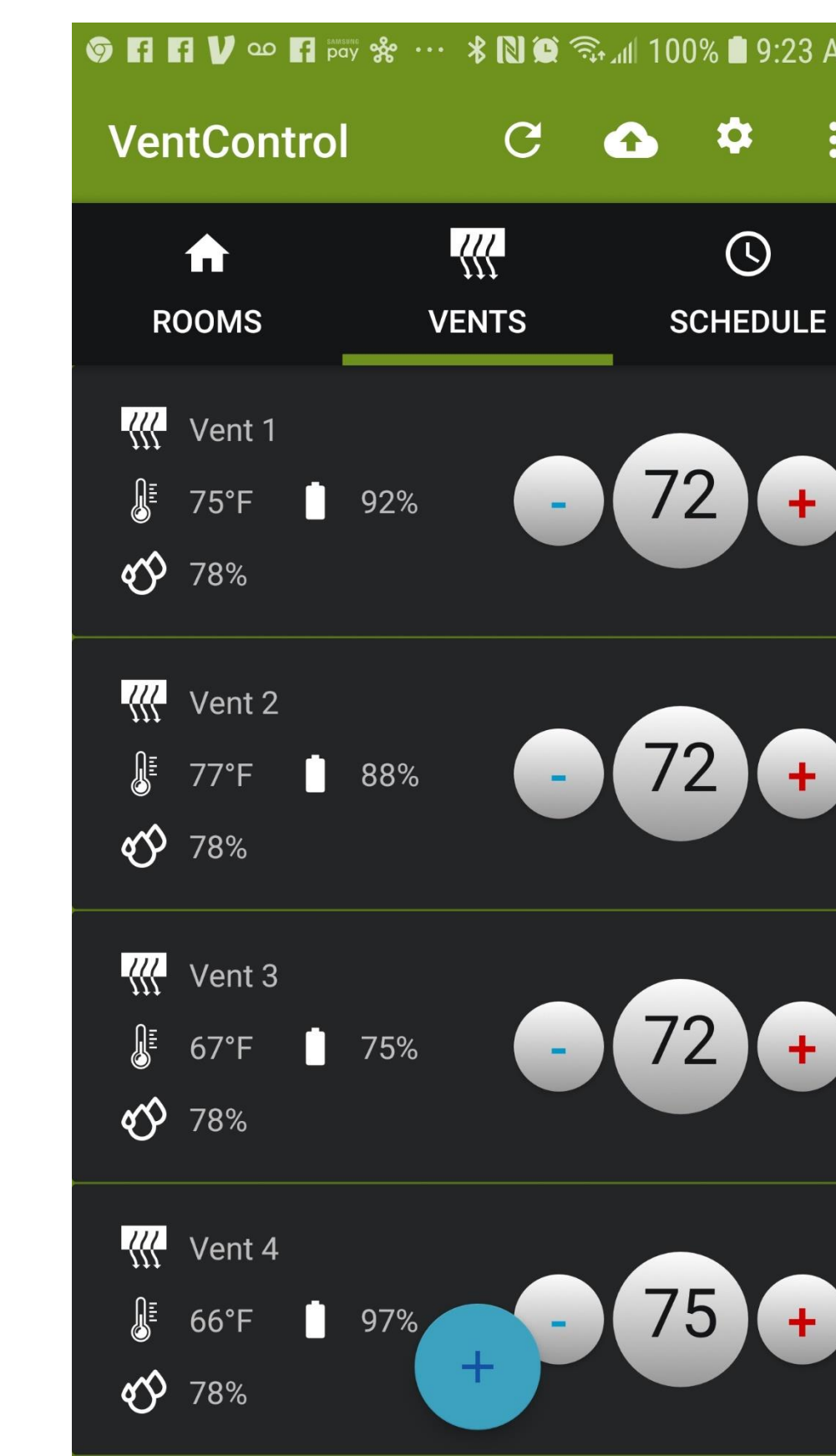


MOBILE APP

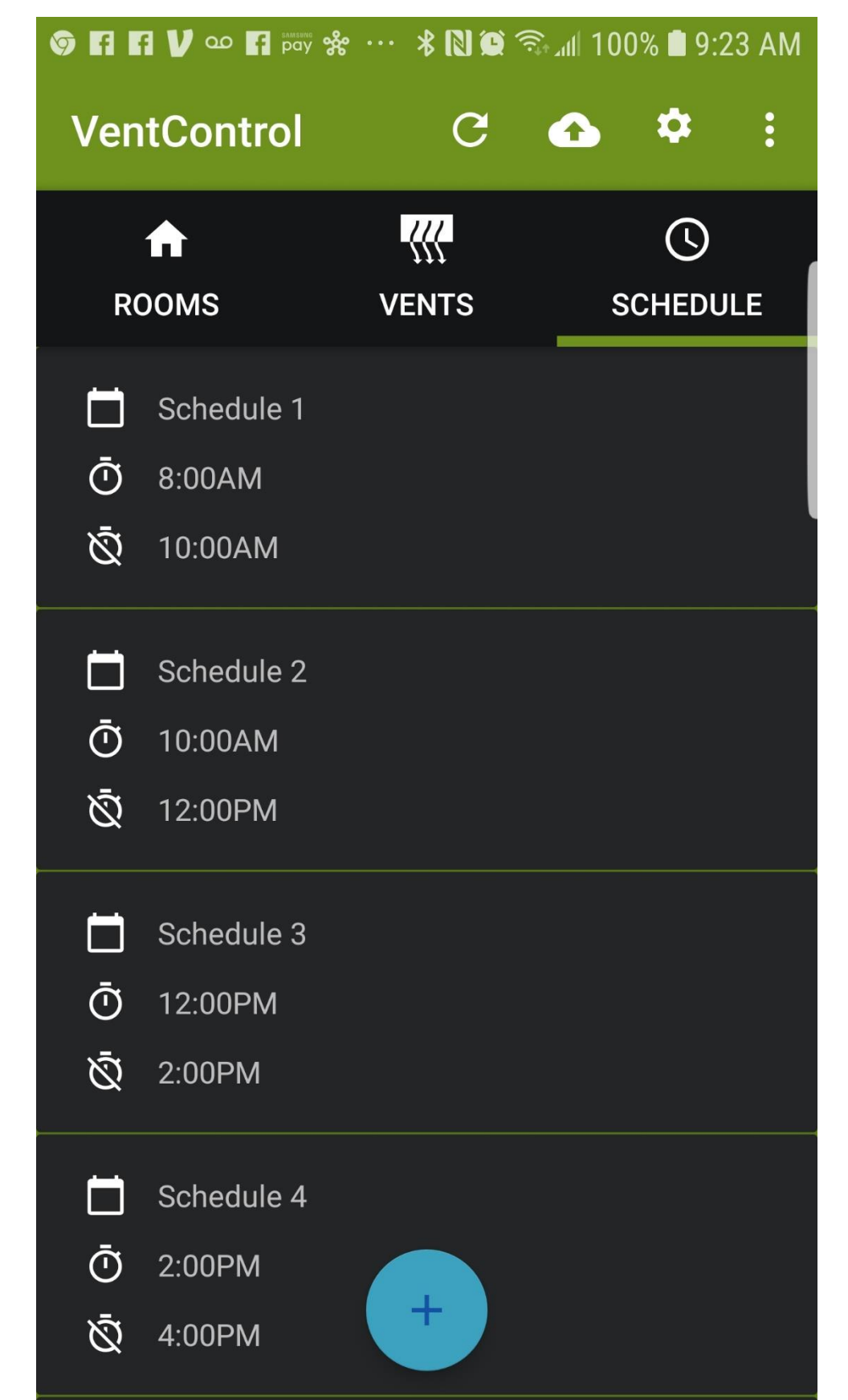
Room Control



Device Control

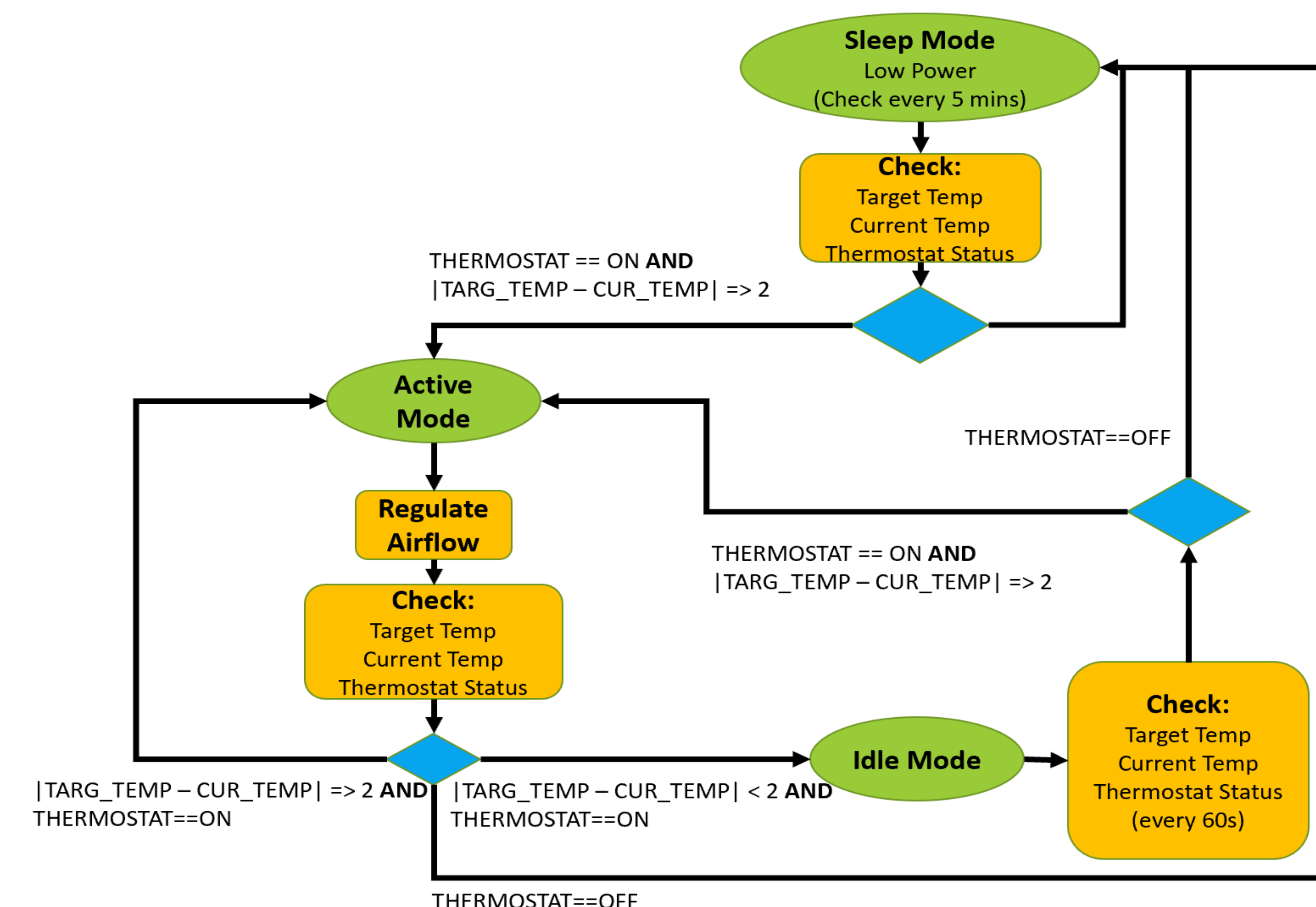


Scheduling

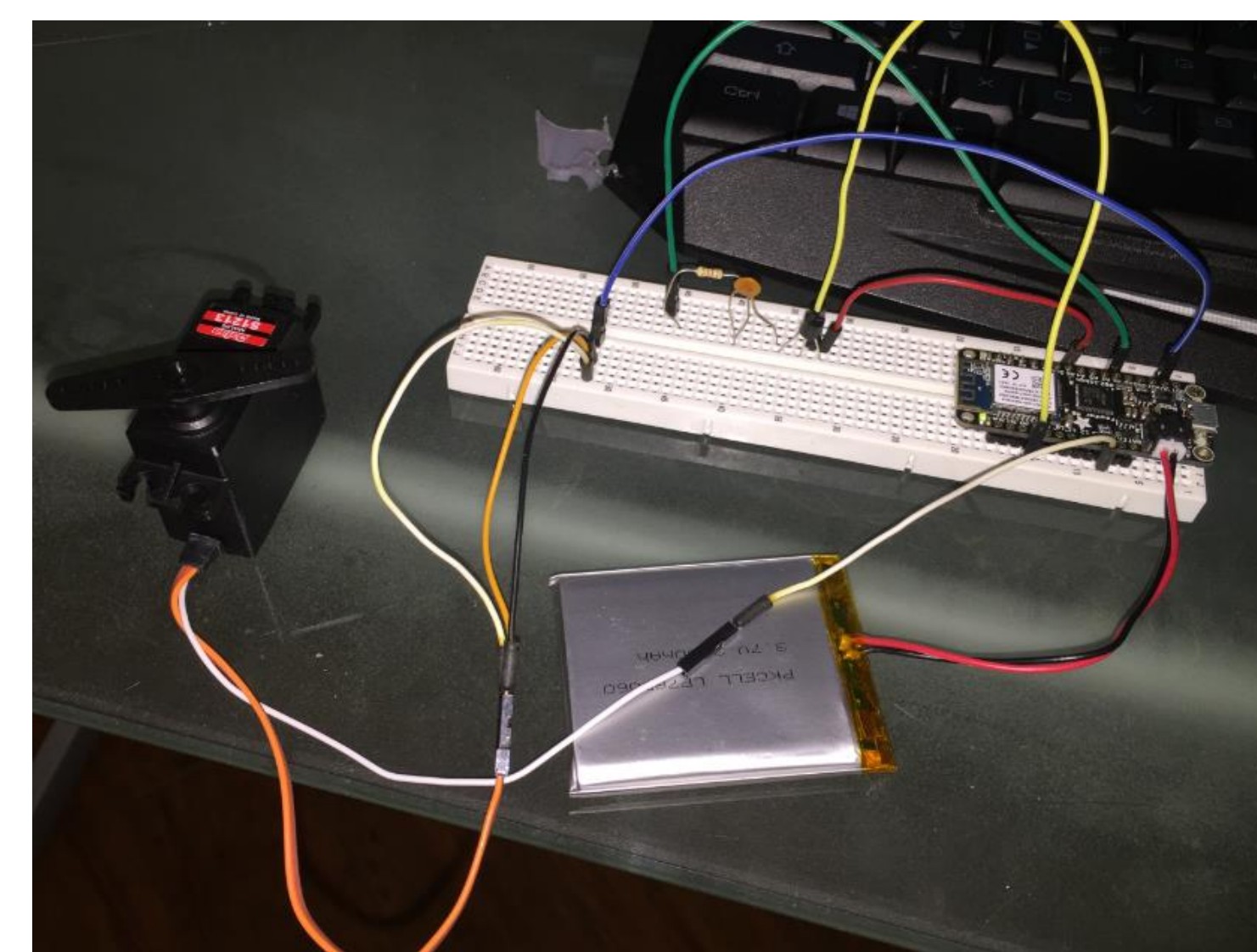
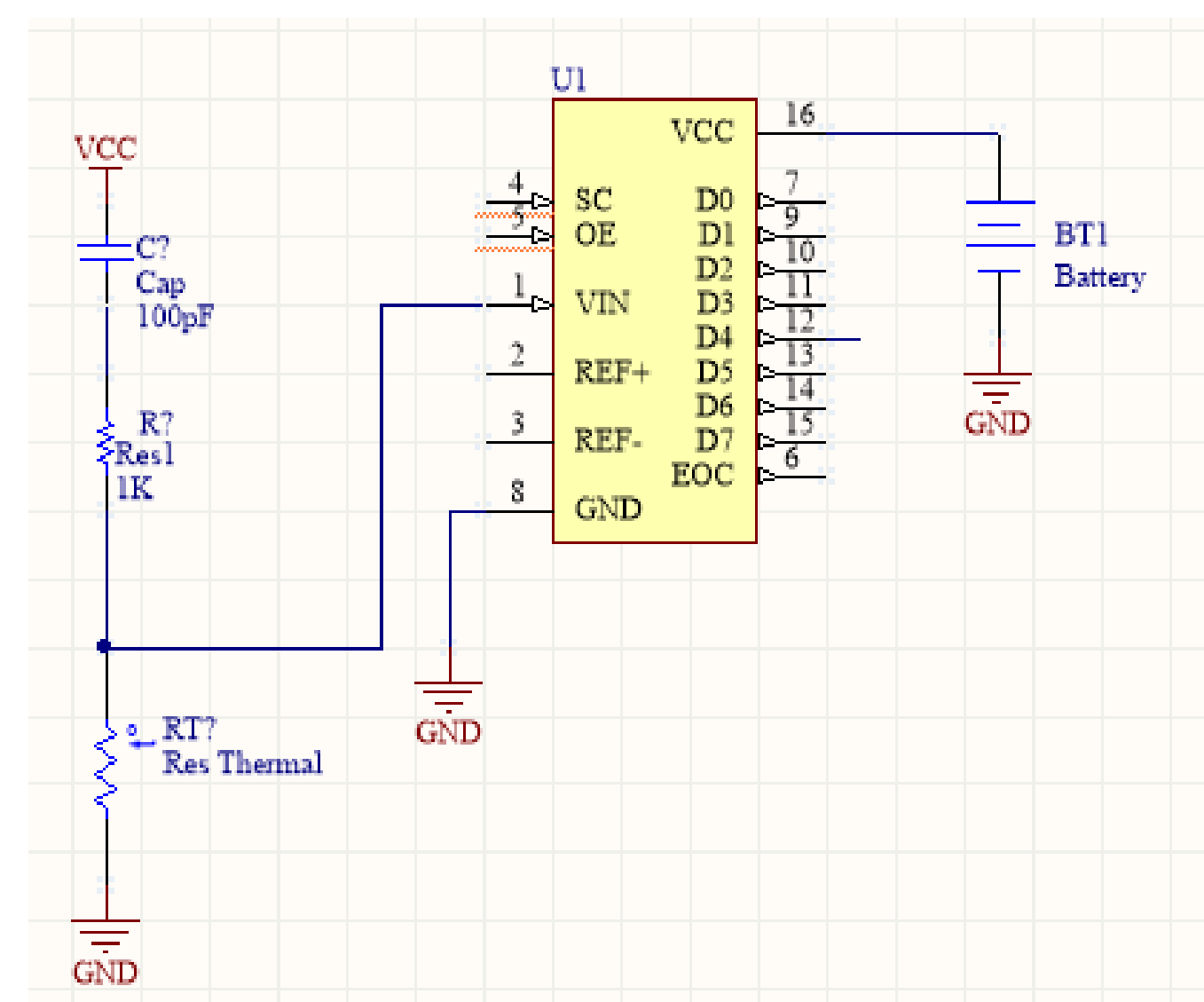


HOW IT WORKS

The opening of vents are modulated to reduce or increase airflow into each room while controlling the thermostat to set the desired temperature.



HARDWARE



- Microcontroller: Feather M0 WiFi
- Temperature: TMP36 Sensor
- Analog Feedback Servo
- Air Conditioning Vent

GOOGLE FIREBASE PLATFORM

- Real-time updates and notifications
- Highest level of security
- Easy to use interface
- Customizable settings
- Flexibility of the cloud



THE TEAM



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Tri Pham
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Glenn Healey
Professor