

Automating your life with Home Assistant and Open Source

Mike Nelson

WI VMUG Co-Leader

Technology Evangelist @Pure Storage

Why Home Assistant?

- Vendor independence
- Multiple installation options
- Free software (hardware required)
- 4k+ integrations/blueprints/helpers
- Multiple protocols
- Community driven and supported
- Local and/or remote management



How will this help my life??

- Make tasks & routines easier
- Simplify what you do to accomplish X, & Y, & Z
- Explore new ways of automation
- Automations are way cool
- Creative and cool interfaces
- Tinkering

Walk first

- Plan the home
- Install
- Config the basics
 - entity naming should be considered
- Focus on integrations & blueprints first
- Dashboards → Last

Selling it to the SpHouse

- It's the future!
- It is critical for home/people/animal/thing automation & observability
- Think “resale value”
- Everything you need is on one device (kinda)
- Your friends will be jealous

Hardware & Software

- Hardware solutions:
 - Raspberry Pi
 - Green (pre-configured)
 - Yellow (needs build/config)
 - VM, Docker, K8s
 - Old laptops, thin clients – anything with a compute pulse 😊

1st Project.

Office busy light



Credit: Scott Hanselman 2012

Home Assistant
Joe Zimmerman · 50m · 🌐

Now that my mailbox has Ethernet, what should I put in here? I was thinking a POE esp32 with a door sensor minimum. Looking for better ideas. — 🤔 looking for ideas.



Show-Off Saturdays



Plop-plop-fizz • 20h ago

DONE

←

📁

✏️

→

+

🕒 Time at Location
00:00

⏸ Stop Timer?

🌙 Eve Rate

🕒 Day Rate

+

📄

✏️

🗑️

📌 Get Ticket Stamped

🕒 Your Stay

①
hrs

②
hrs

③
hrs

④
hrs

⑤
hrs

⑥
hrs

+

📄

✏️

🗑️

Prices

Concessions

2 Hours - £4.40
3 Hours - £5.40
4 Hours - £7.20
5 Hours - £9.70
6 Hours - £13.00

Evening Rate
5pm->6am - £5.50
Overnight Rate
5pm->10am - £10.00
Blue Badge - Free

Not really an integration but quite a custom set of automations. Uses my location to know when I've entered a specific car park. Starts a timer. Works out whether I need to get my ticket stamped (at work which reduces the fee to a flat £6) and then alerts me as I leave work just in case I forget. Stops the timer (sometimes) when I get back to the car & sends me a summary of my stay. Conditional displays on the hours buttons and also registers whether I entered during the day rate or evening rate.

r/homeassistant

22 Oct 2022
16:36¹⁰



Calendar



Chores



System



Alarm



Rainy
Bicester

16 °C
☂ 77 %

19:00



15°

22:00



14°

1:00



14°

4:00



14°

7:00



14°



Indoor temp



Climate



Energy



Automations



Top 5 Devices Currently Running



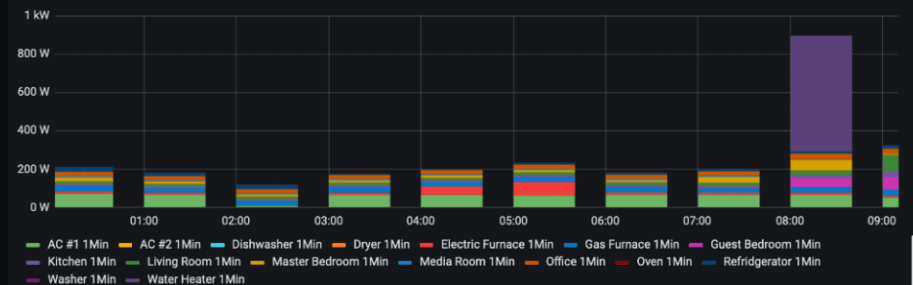
Current Day Power Total

11.1 kWh

Current Day Power Cost

\$1.07

Hourly Power by Device



Last 7 days Power Usage

Last 7 days



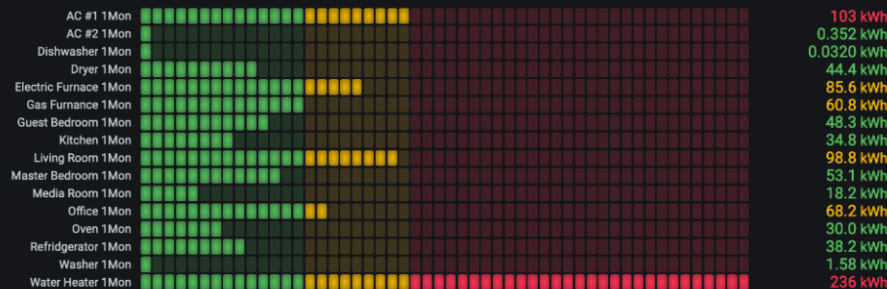
Current Month Total Power Usage

940 kWh

Current Month Bill

\$109.24

Month Power Total



Top 5 Devices Last Week

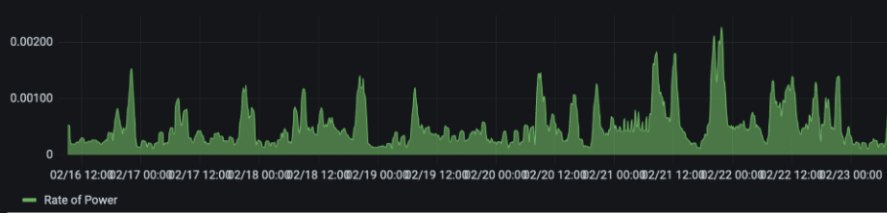
Last 7 days



Device	Power Usage
Water Heater 1D	79 kWh
Electric Furnace 1D	37 kWh
AC #1 1D	34 kWh
Living Room 1D	32 kWh
Office 1D	21 kWh

Power Spikes This Week

Last 7 days



Danny-PC

	CPUload	10.11 %
	LastBoot	4 days ago
	LockWorkstation	<input type="checkbox"/>
	MicActive	Off
	GPULoad	53 %
	ActiveWindow	Overview - Home Assistant - Google Chrome

Home Assistant

	Last boot	4 days ago
	Disk use (percent) /config	30.2 %
	Memory free	1,167.1 MiB

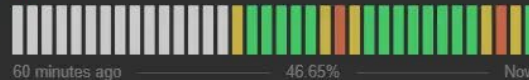
Router

on



Danny-Docker

on



Danny-Server

on



Danny-Docker

Connected



Danny-Server

Connected



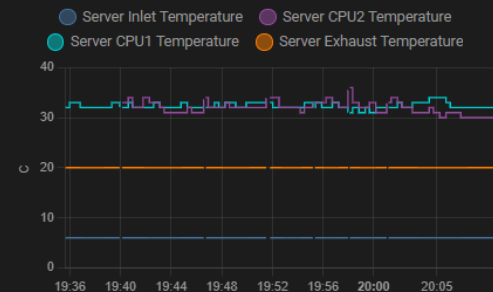
Router

Connected

Dell Server

⚡	Server Power	126 W
🌡️	Server Inlet Temperature	6.0 C
🌡️	Server Exhaust Temperature	20.0 C
🌡️	Server CPU1 Temperature	33.0 C
🌡️	Server CPU2 Temperature	30.0 C
🌀	Server Fans Speed Avg	3,220 RPM

Thermals 24 Hours



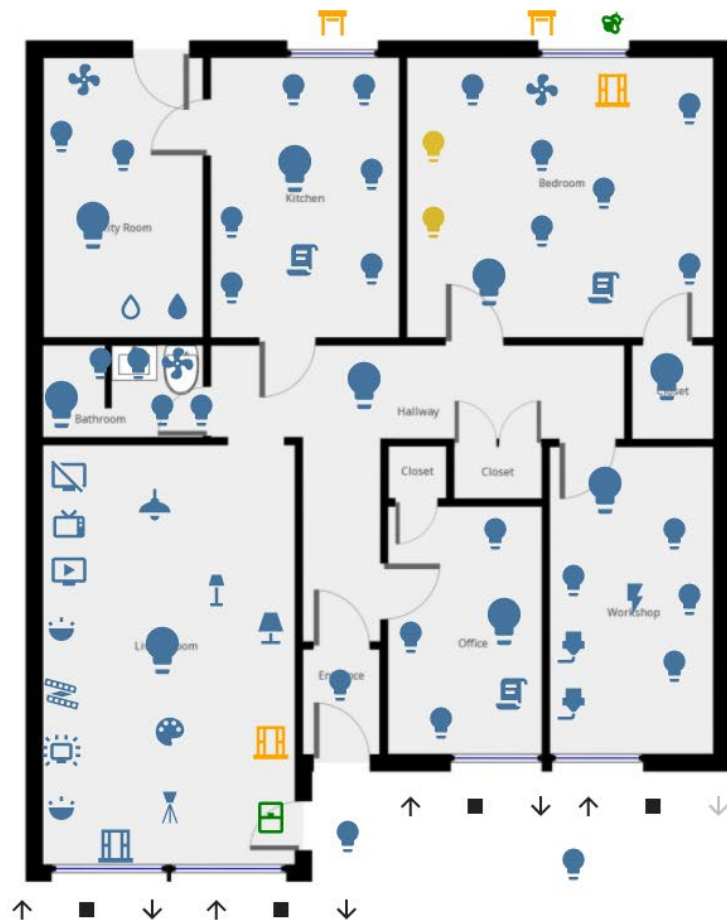
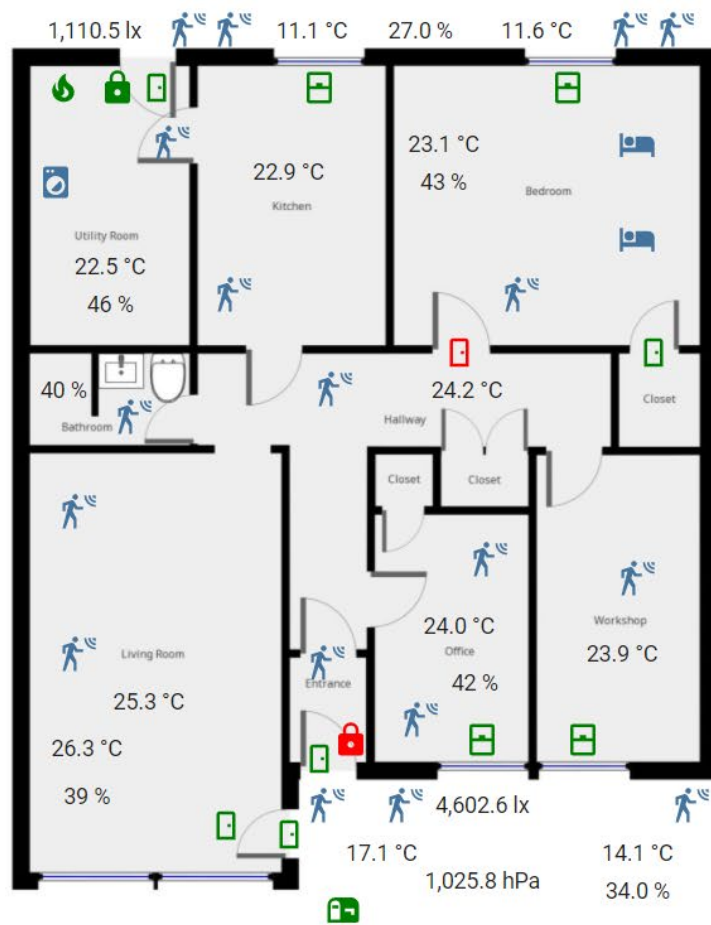
Power 24 Hours





TEST

TEST2



Integrations you maybe gotta have

- LLM Vision / OpenAI Conversation (+ extended), Gemini, Ollama, AILocal
- Wyoming protocol (voice assist)
- Presence simulation (way cool!)
- Adaptive Lighting (way cooler!!)
- Spook
- CalDav
- Zigbee / Z-wave / matter / threads (with dongles)

Add-Ons you maybe gotta have

- Frigate (not for me)
- Advanced SSH & Terminal
- Assist microphone
- OpenWakeWord / piper / etc
- Studio Code server
- NAS or cloud backup – easier now!
- Log viewer

Telemetry & online demo

<https://analytics.home-assistant.io>

<https://demo.home-assistant.io>



Config files

automation:

- alias: Turn on Entry Lights When Motion Detected

trigger:

- platform: state
- entity_id: binary_sensor.foyer_motion
- to: 'on'

condition:

- condition: state
- entity_id: sun.sun
- state: 'below_horizon'

action:

- service: light.turn_on
- target:
- entity_id: light.foyer

Config files

script:

optimize_hvac:

alias: Optimize HVAC

sequence:

- condition: state

 - entity_id: group.family

 - state: 'not_home'

- service: climate.set_temperature

 - target:

 - entity_id: climate.thermostat

 - data:

 - temperature: 64

- delay: "02:00:00"

- condition: state

 - entity_id: group.family

 - state: 'home'

- service: climate.set_temperature

 - target:

 - entity_id: climate.thermostat

 - data:

 - temperature: 72

How will this help me in Tech??

- Automations, monitoring, & alerting of
 - Dev/Prod infrastructure
 - Desktops, servers, apps
 - Things (IoT)
 - People
 - Code
 - TPS reports
- Impress your boss, peers, & the Bob's



Go get It!

Join the community!

Grab a Pi, or some old compute & try it out

Just don't go crazy on the integrations (like someone I know did, you know, a friend 😊)



mikenelson-io



mikenelson.bsky.social