
hemdocs Documentation

Release 0.0.1

SEUP

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HEM is the hardware/software platform for managing homegrids.

1.1 HEM Architecture

For information regarding the HEM hardware and architecture [see here](#)

You can also check out the publications for more detailed info. [Check this](#)

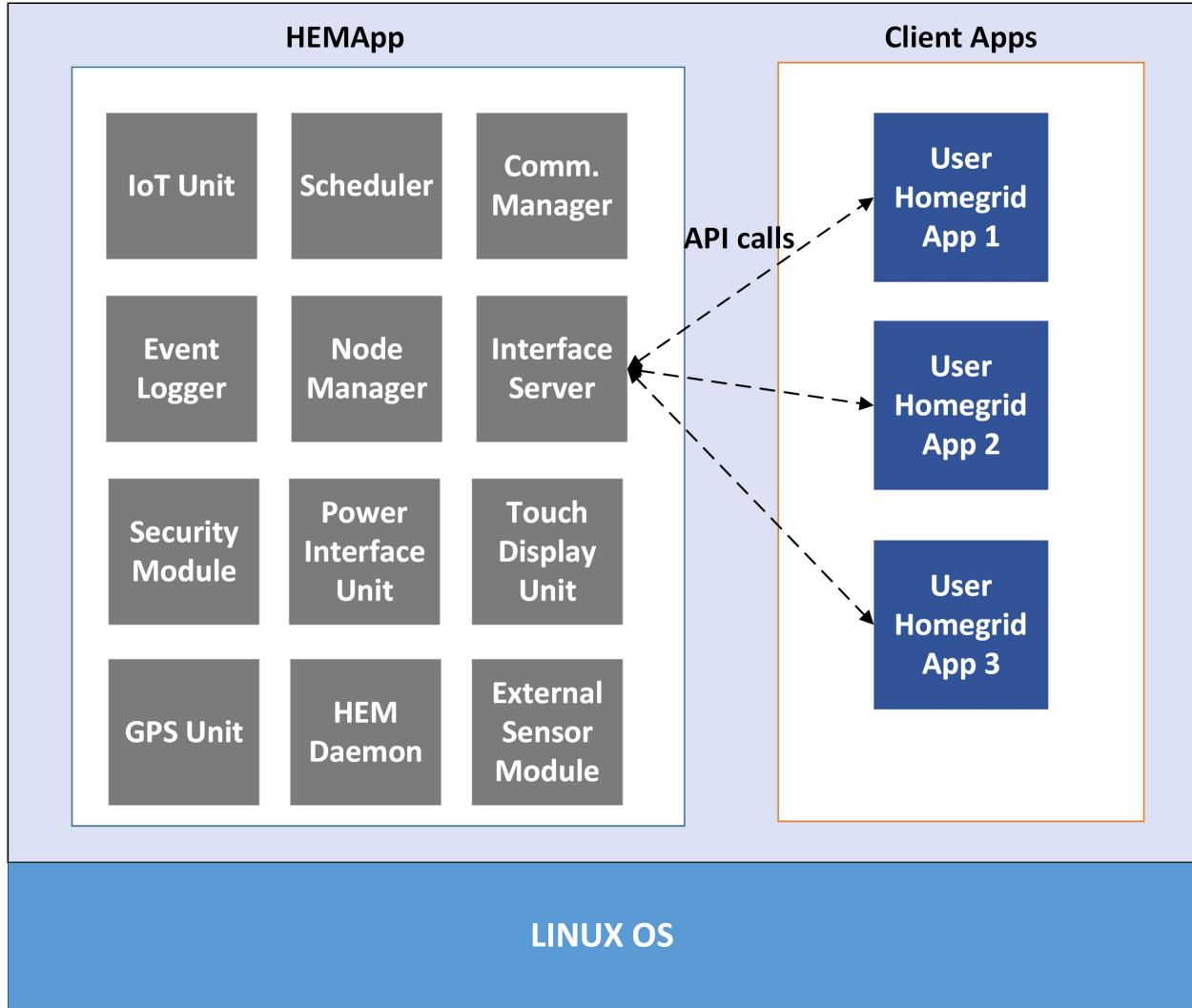
1.2 HEMApp

This is the core software which runs them HEM boards. It's a multi-threaded program written in C and does all the heavy lifting.

1.2.1 Main functions of HEMApp

- Energy Metering
- Data and event logging
- Cellular communication capabilities - GSM/GPRS/3G
- Wired/wireless Internet
- Cloud connected
- Enables energy app deployment
- Support for external sensors
- Relay control
- HEM Daemon (monitors and manages operation of different peripherals and services)

1.2.2 Architecture Overview



1.2.3 Directory and File Structure

The HEMApp repository can be downloaded from GitLab. `hemapp` is the main directory. This includes

- `include`
 - `ac.h`
 - `cJSON.h`
 - `cloudManager.h`
 - `commandParser.h`
 - `dc.h`
 - `fileManager.h`
 - `gsm.h`
 - `homeManager.h`

- home_screen.h
- i2cMux.h
- ledBar.h
- loads_screen.h
- lsquared.h
- nodeManager.h
- relay.h
- rtc.h
- scheduler.h
- settings_screen.h
- sslManager.h
- timeConverter.h
- uart.h
- src
 - ac.c
 - cJSON.c
 - cloudManager.c
 - commmandParser.c
 - dc.c
 - fileManager.c
 - gsm.c
 - homeManager.c
 - home_screen.c
 - i2cMux.c
 - ledBar.c
 - loads_screen.c
 - lsquared.c
 - nodeManager.c
 - relay.c
 - rtc.c
 - scheduler.c
 - settings_screen.c
 - sslManager.c
 - timeConverter.c
 - uart.c
- supportWare

- .gitignore
 - Xinitscript.sh
 - activateAgent.sh
 - config.txt.save
 - connectwifi.sh
 - hem_init.service
 - home.ui
 - init.sh
 - lcdinit.sh
 - loads.ui
 - monitrc
 - networkprobe.sh
 - settings.ui
 - setup.sh
 - wlanName.sh
- .gitignore
 - ChangeLog.md
 - Makefile
 - README.md
 - build.sh

1.3 Software Flow

1.4 Software stack and packages

1.5 Download and Deployment of HEMApp

1.6 Bugs