

OpenTRV Code Stack

Outline 2018/02

Basic OpenTRV Code Structure

Application

Device declarations, custom + glue logic, sleep loop, polling, stats collection

OTRadioLink repo
(contains several
sub-libraries)

- Valve support (eg abstract model)
- Sensor and actuator support
- Radios
- Base (eg RTC, sleep and timing support)
- Config and h/w setup support

Hardware

MCU, GPIO, sensors, etc

Valve Abstraction / Stack

C++ class **AbstractRadValve** (and thus an Actuator) is given a target between 0% and 100% open. The % open figure is also sent to any boiler controller listening, and a $\geq 50\%$ value is construed as a call for heat by the boiler.

Typical layered model in code:

- Model to compute target temperature given occupancy and room history
- Model to compute % open given target and current temperatures
- Driver for (eg) brushed motor with end-stop feedback
- Low level h/w driver controls power to motor via H-bridge(s)