# Baby Monitor

## An Internet-Of-Things Device

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# Outline

- Overview: From Problem to Architecture
- Software: languages, protocols, libraries used
- Hardware: electrical schematic
- Science: acceptable body temperatures

# Overview

*Kept aware of baby's conditions*
*Decides about corrective measure*

**Parent**
upstairs, downstairs, elsewhere

*Notify of abnormal temperature*
*OK to turn on heater or fan?*

SMS

*Y or N (to turn on heater or fan)*

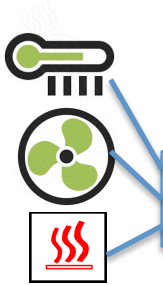
http

*Browse device stats and graphs*
*Directly control device*

http

Baby Server

Baby Device



Arduino

*Monitor temperature*

serial

Raspberry-Pi

*Update temperatures*

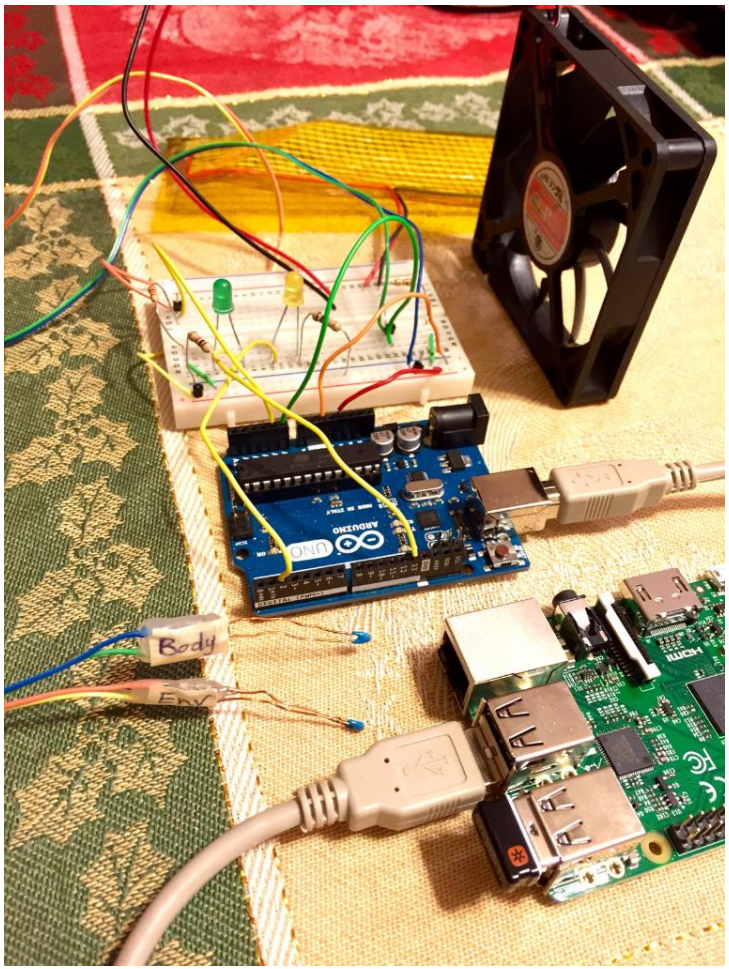
http

*Turn fan or heater On / Off*

**Baby**
outside, inside, with sitter

*Body and Environment Temperature fluctuate*

# Hardware



# Software

- Arduino
  - Programmed in Arduino-C, runs Standard Firmata
- Raspberry-Pi
  - Programmed in Python
  - BreakfastSerial.py module to control Arduino
  - Requests.py to send http requests
  - Bottle.py module to run local web-server
- Baby Server
  - Programmed in Python
  - Bottle.py module to run local web-server
  - Requests.py to send http requests
  - Twilio.py to communicate with Twilio http-SMS gateway