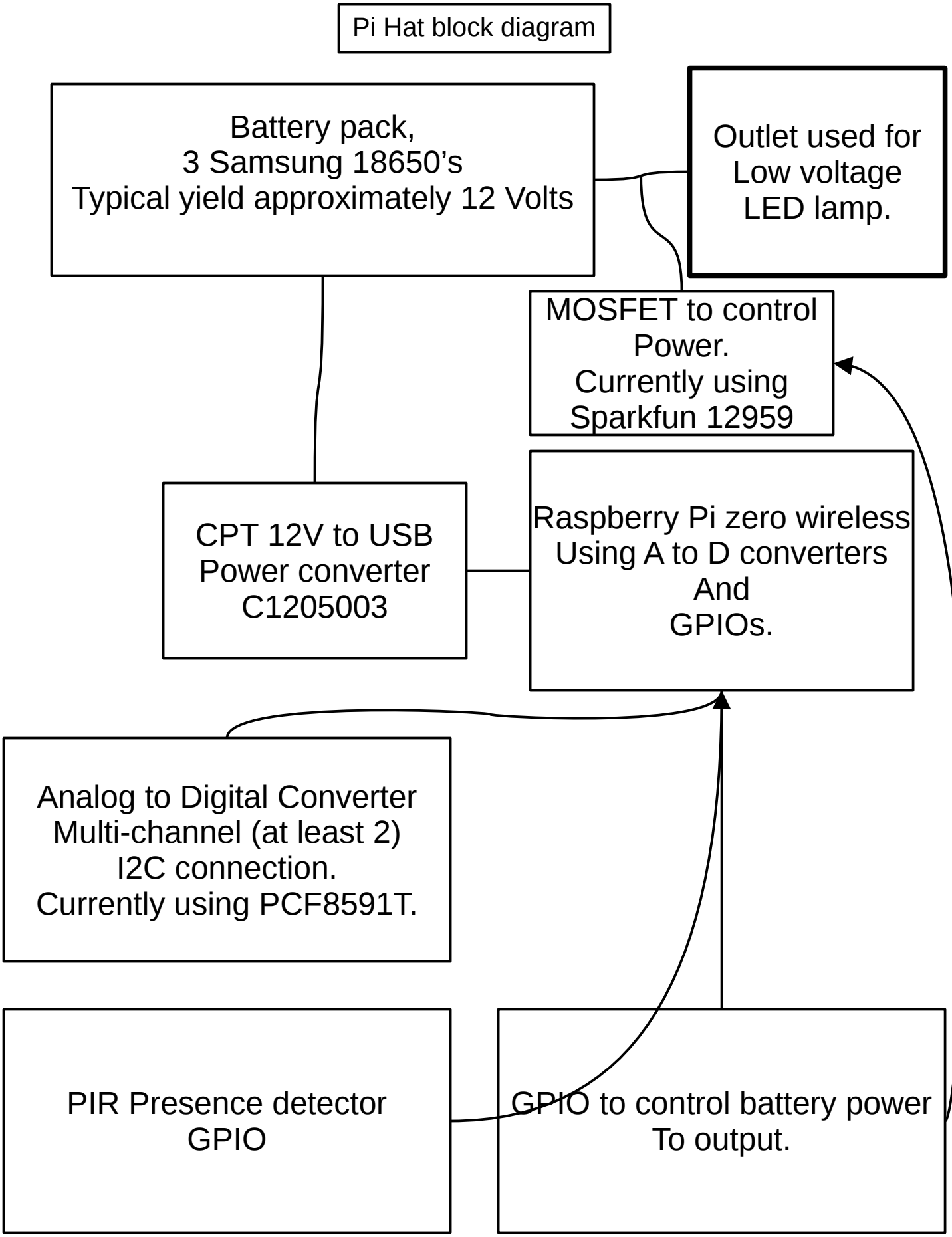
Pi Hat block diagram
Battery pack,
3 Samsung 18650's
Typical yield approximately 12 Volts
Outlet used for
Low voltage
LED lamp.
MOSFET to control
Power.
Currently using
Sparkfun 12959
CPT 12V to USB
Power converter
C1205003
Raspberry Pi zero wireless
Using A to D converters
And
GPIOs.
Analog to Digital Converter
Multi-channel (at least 2)
I2C connection.
Currently using PCF8591T.
PIR Presence detector
GPIO
GPIO to control battery power
To output.

Pi functions used.

Pi function	Label on connector	Description
GPIO	GPIO 4	Output → Turns output to low voltage lamp off and on.
GPIO	GPIO 17	Input → PIR presence detector
A to D Converter	SDA1, SCL1 (I2C devices) PCF8591T	Ain 0 is the “ambient light level” Voltage to sensor is supplied from Pi’s 3.3 V, so scaling is not required.
A to D Converter	SDA1, SCL 1 (I2C devices) PCF8591T	Ain 1 is battery voltage level scaled to 0-3.3V DC with voltage divider.