

## PROJECT OVERVIEW

We designed a novel energy monitoring platform tailored to the needs of the healthcare industry, and then prototyped and patented our solution.

## REQUIREMENTS

Through user interactions and research, we identified the unique needs of the healthcare industry, and used this to drive our technical design process.

**EASY INSTALL:** Since hospitals are open all the time providing care to patients, it is difficult to find time to install new devices. We designed our device so that it can be installed just like a normal faceplate without shutting off mains power to the outlet.

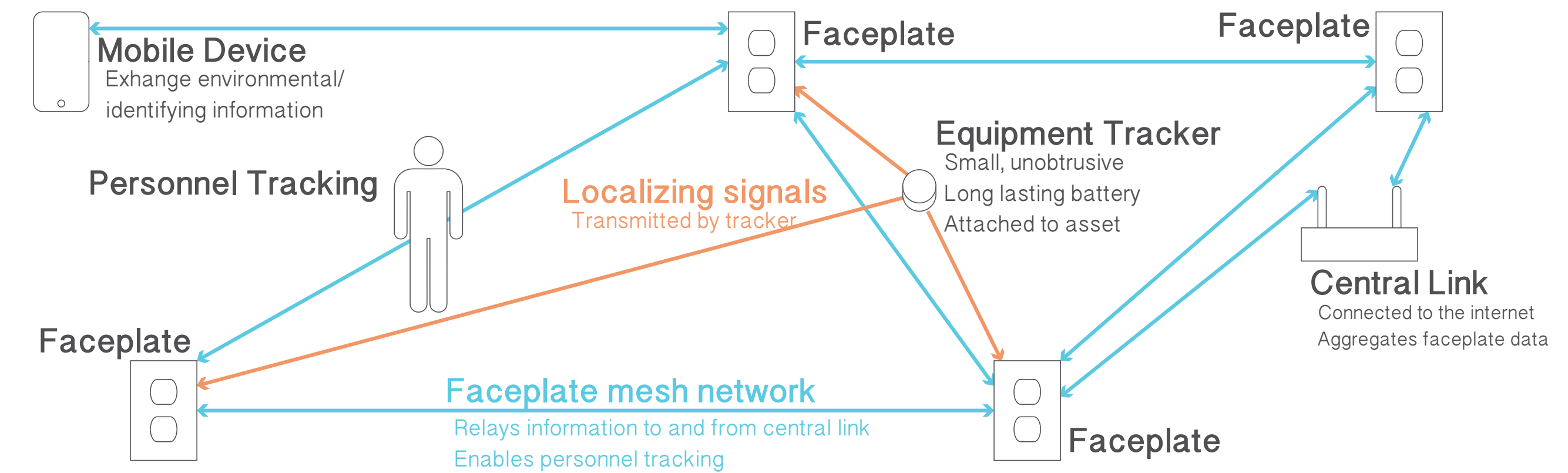
**UNOBTRUSIVE:** Since hospitals are high activity facilities, devices that are bulky can get in the way. We designed our device to be outwardly the same size as a standard faceplate.

**CONNECTED:** Data is not useful unless it can be accessed and analyzed. We made our device connected so that data can be easily viewed and processed.

**FLEXIBLE:** We designed our device to be a platform that can measure power as well as other environmental factors. This flexibility allows Ivani to integrate their presence sensing technology and track people and objects in a hospital.

## SYSTEM OVERVIEW

Once installed in a facility, faceplates will automatically network together. They can share data with each other and the internet to locate assets and personnel.



**FACEPLATE:** Our solution looks like a traditional outlet from the outside.

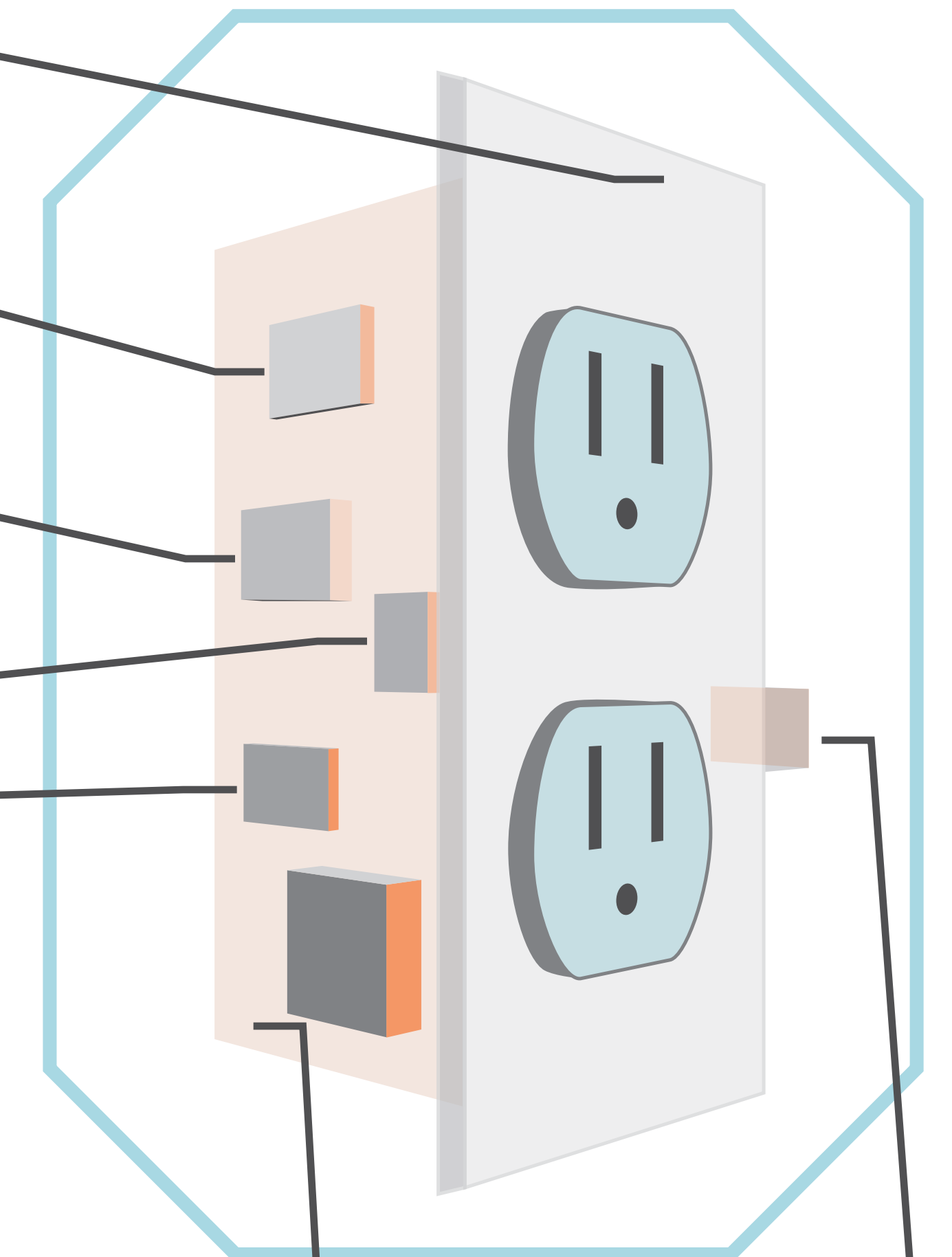
**ENVIRONMENTAL SENSORS:** Sensors can measure things like room temperature and light.

**MICROPROCESSOR:** An onboard computer uses our algorithm to calculate power draw.

**MAGNETOMETER:** Using a compass to measure magnetic fields allows us to collect current flow data.

**WIRELESS COMMUNICATION:** Networking makes it easy to collect data and mesh with Ivani's presence sensing technology.

**PROTOTYPE:** We patented a custom outlet faceplate that can be installed without disconnecting mains power. It measures power consumption among other environmental factors and wirelessly transmits this data.



**POWER SYSTEM:** Our solution powers itself directly by clipping onto the outlet once it has been installed.

### Team



Mac-I Crowell



Evan Dorsky



Saarth Mehrotra



Erin Pierce



Victoria Preston

### Advisor



Mark Somerville

### Liaisons



Matt Wootton



Justin McKinney