In the United States, there are more than 8.4 million people who walk in their sleep. Many of these people are young children. Consequently, our system proposes to alert a caregiver when their child leaves home while sleepwalking. This will be accomplished by monitoring exits in their home. Due to its local Bluetooth network, the RestNet system is portable. RestNet consists of the following devices: the RestWatch, two RestHubs, and the RestApp.

**RestNet Devices**
- **RestWatch (Wearable)**
  - Bluetooth
  - Accelerometer (Adxl)
- **Door RestHub**
  - Bluetooth
  - Accelerometer (Adxl)
  - Sound alarm
- **Intermediate RestHub**
  - Bluetooth
  - Accelerometer (Adxl)
  - Sound alarm
- **RestApp**
  - User input
  - Phone alarm
  - Home screen notifications

**RestWatch**
- Small coin-cell battery
- No speaker

**RestHub**
- Large battery
- Small speaker

**PCB Design**

**Home Installation**

**Conclusion**
As a team, we are proud of the work done on this home security system for sleepwalkers. Not only was a complete device system fabricated, but also it is currently fully functional. If a sleepwalker leaves their home, the RestNet system will alert their parent via an alarm on the RestApp. Consequently, RestNet has fulfilled the expectations of our design sponsor, Dr. Robert Rennaker of the Texas Biomedical Device Center.

Catherine Davis: cxd120230@utdallas.edu

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