

GitHub Link

AIoT Bedroom

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YouTube Link

Aim



AI and IoT technology to improve Elderly's life by enhancing bedroom/sleeping environment

Objective



- Cozy bedroom
- Wipe out the threads for Elderly
- Reduce labour cost for elderly care

Background & Motivation



- Sudden Death in sleep
- Imperfect of sleeping environment
- Lack of labour for elderly care
- ~33% Elderly people living alone



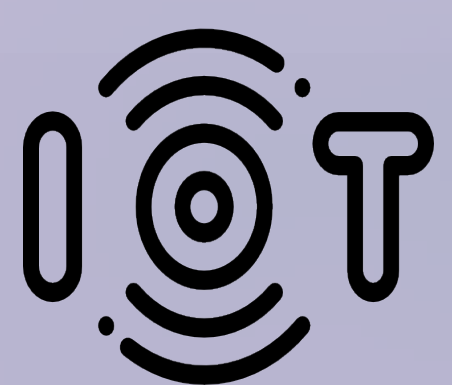
Methodology



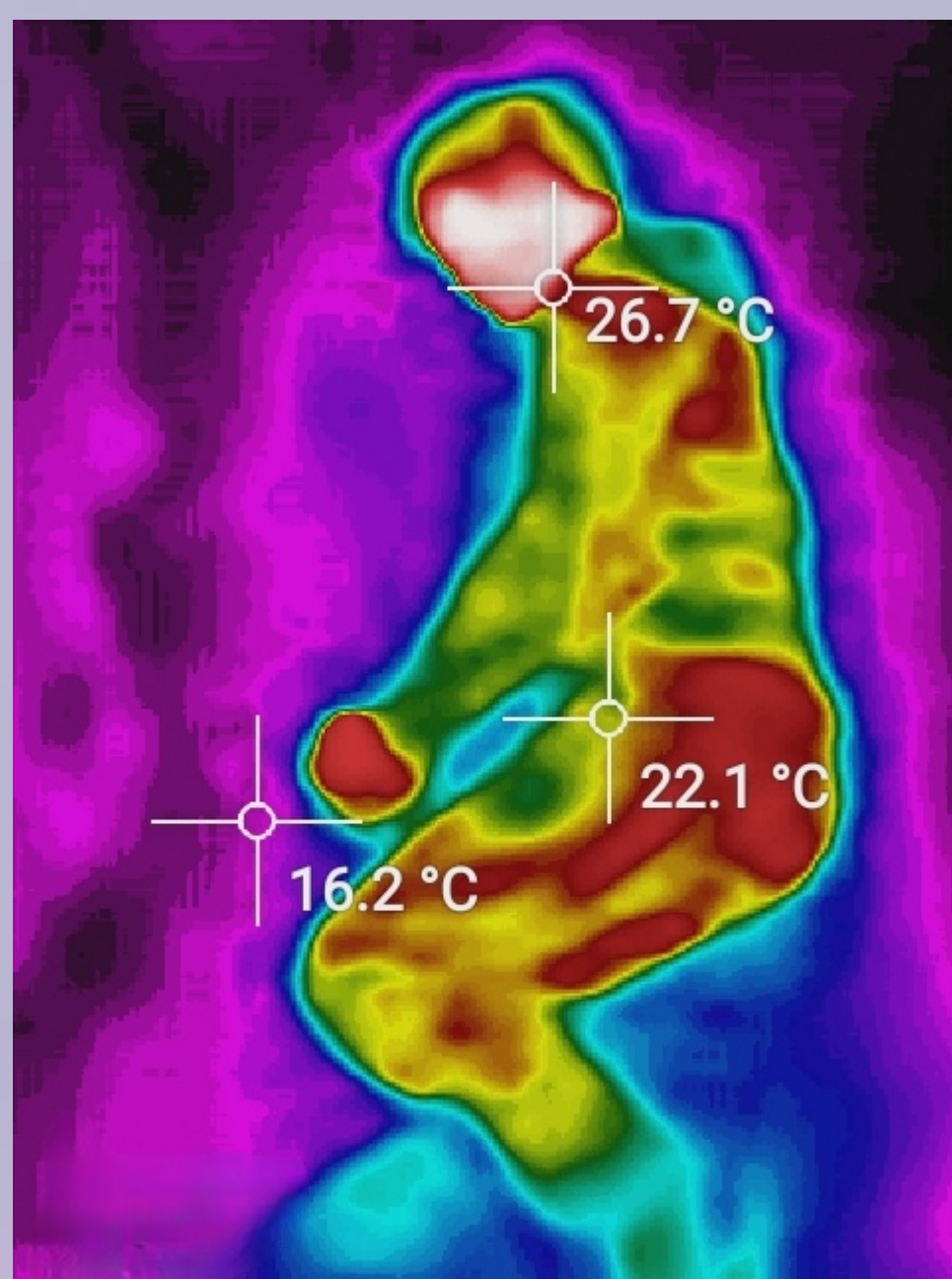
- Detect the status of Person
- Control Devices by the status
- Fit within elderly's preferences



- Object detection
- Gesture analysis
- Thermal analysis



- IR camera
 - Temperature
 - Object information
- Other home IoT devices
 - Lights
 - Air-conditioner
 - Music box



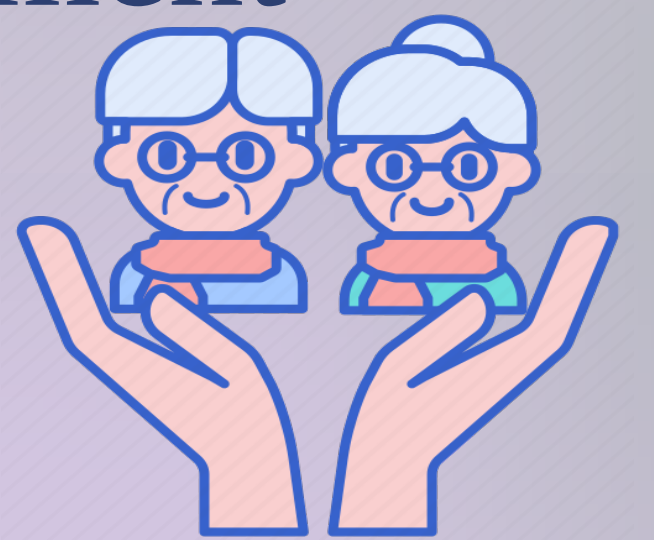
Application

Actions	Case1(When)	Case2(When)
Call ambulance	High fever/Hypothermia	Fall out of bed and fainted
Control air-con	Optimal body temperature	Optimal bed temperature
Care service	Not able to sleep	Possible diseases

More To Go



- Safe and Cozy environment
- Continuous monitor
- Healthy sleep
- Can customize for different cases



Location

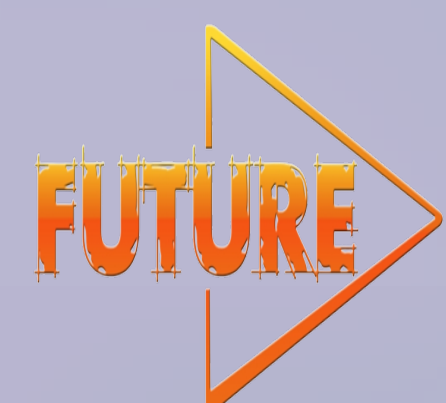


- Nursing Home
 - Reduce number of nurse required
 - Less cost than hiring a nurse
- Homes
 - Take care of solitary elderly
 - Take care of elderly when they are sleeping(cannot be cover by human)

Conclusion



- Ensure bedroom safety
 - 40% of household injuries
- Suit elderly's situations
- All automatic
- Cater elderly's needs
- Non-stop care
- Extend the system



- Include other living spaces
 - E.g. Living room, corridors, etc.
- Continuous revenues
 - Care-on-Call service, etc.
- ✓ To Support continuous update