Module:
CSC1010 Computer Networks

Group:
P3 Group 18

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ELDERLY PERSONAL WEARABLE ALERT

ABSTRACT

In Singapore, a rising number of elderly are living alone, with many of them having no close family or being alienated from them.

Recognizing that this rising demographic may be unable to receive help when they need it most—for example, if they slip and fall, or faint—we created a prototype that could be worn by the elderly and would notify their family members when an incident occurred.

OVERVIEW

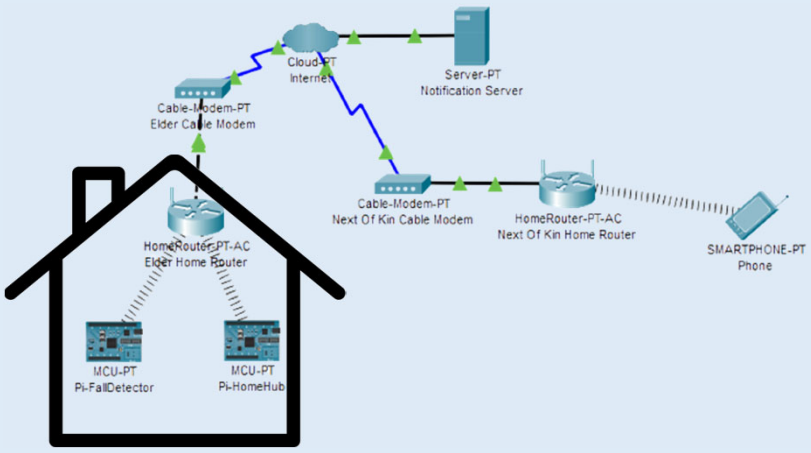
The goal of the project is to create a fall detection gadget that may be worn by the elderly.

When a major fall is detected, the gadget sends a message to a hub device at home, informing the user's next-of-kin of the possible serious fall and allowing quick action to be taken.

ARCHITECTURE

Technologies Involved

- Raspberry Pi
- SenseHat
- Wi-Fi
- MQTT
- Pushbullet
- Python



FEATURES

- Fall detection using SenseHat accelerometer and gyroscope data
- Check for user responsiveness using button input on fall detection
- Send notification to next-of-kin's mobile phone if user is unresponsive

EXPANDABILITY

- Can be scaled up to multiple Raspberry Pi devices detecting falls in a larger deployment settings (e.g. Nursing Home)
- Low hardware costs ensures financial viability in wide deployments
- Easy to setup and use