

## Our Vision

Seniors age 65 or older are at a disproportionally high rate of falling. As a result, 1/3 of these seniors will fall at least once a year. Falling can be amplified by the Long Lie, involuntarily lying on the ground for at least an hour. And the Long Lie has been seen in 30% of seniors who fell. Half of seniors who experience the Long Lie will die within 6 months. With our fall detection device we aim to remove the Long Lie by getting help to the falling seniors asap.

## Abstract

- Eldetect is a medical alert system specifically designed to ensure that seniors can receive the help they need in case of a fall. Eldetect services can help seniors to preserve independence without relying on constant monitoring by others.

## Group Members

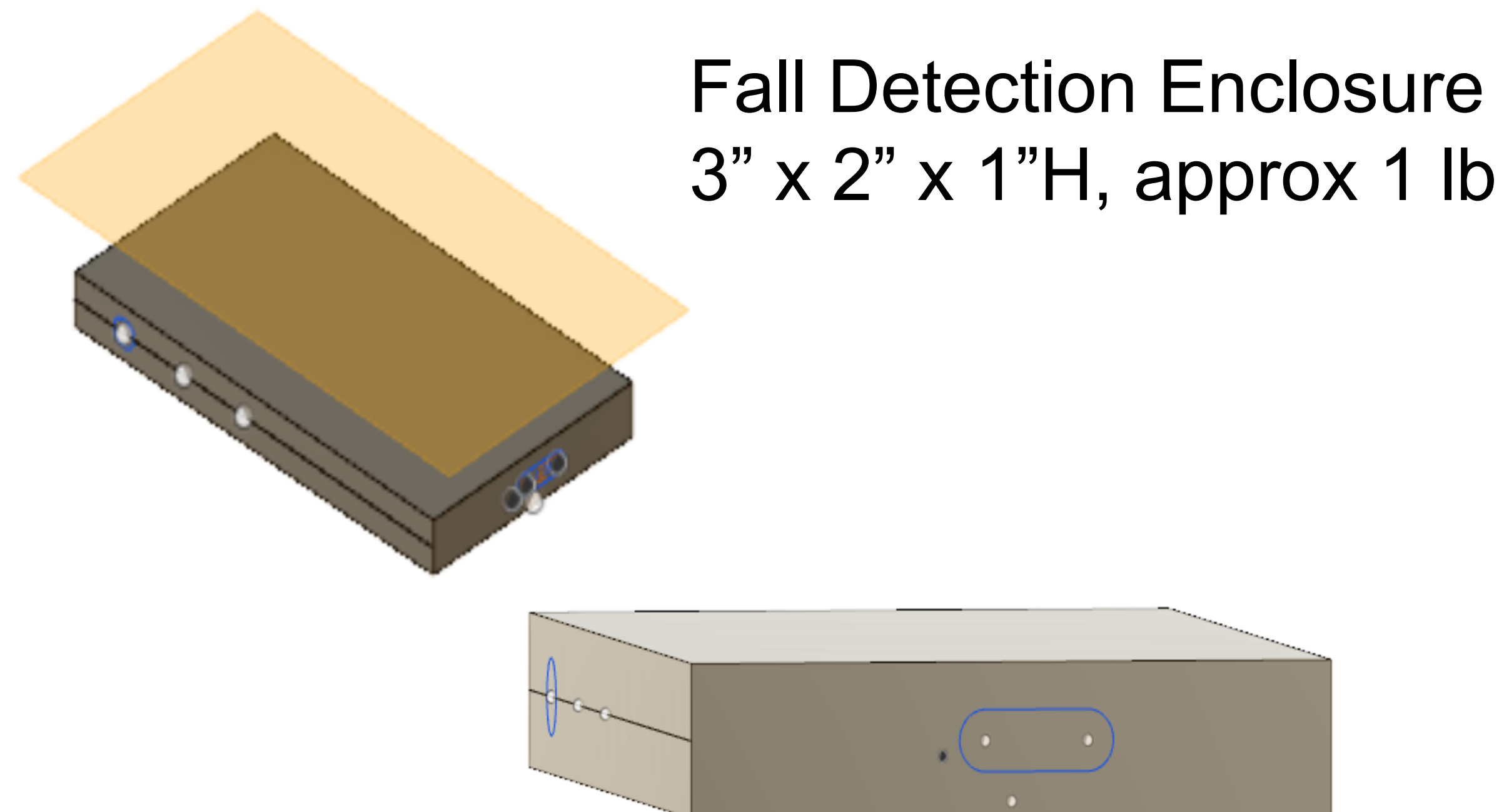
Michael Freeny [mfreeny@uh.edu](mailto:mfreeny@uh.edu)  
Andrew Ojeda [aaojeda@uh.edu](mailto:aaojeda@uh.edu)  
Briana Pierre [bpierre@uh.edu](mailto:bpierre@uh.edu)  
Timothy Torrico [ttorrico@uh.edu](mailto:ttorrico@uh.edu)

## Advisors

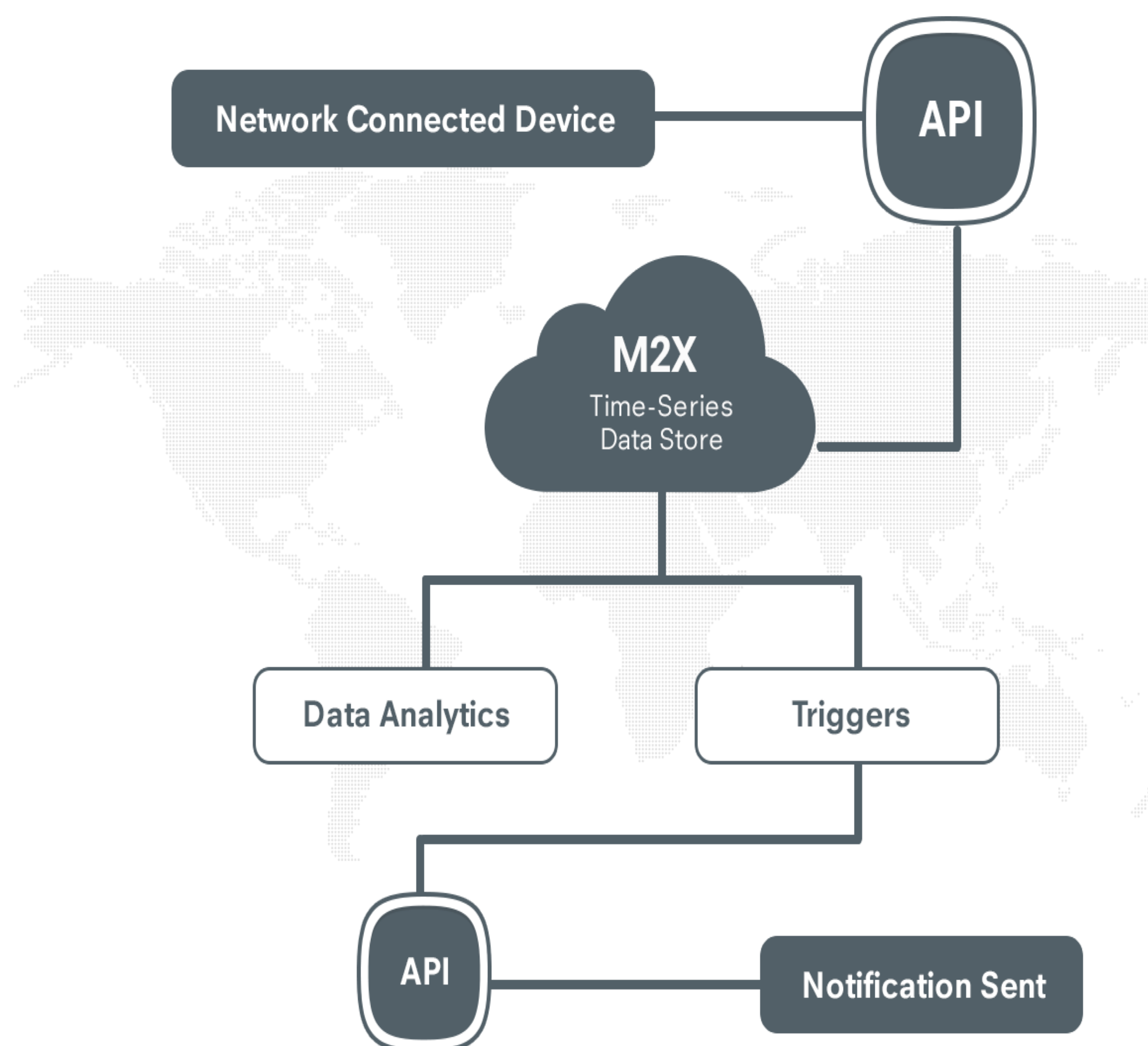
Professor Gundrum

Jessica Autrey  
Business Development Lead for AT&T  
Foundry for Connected Health

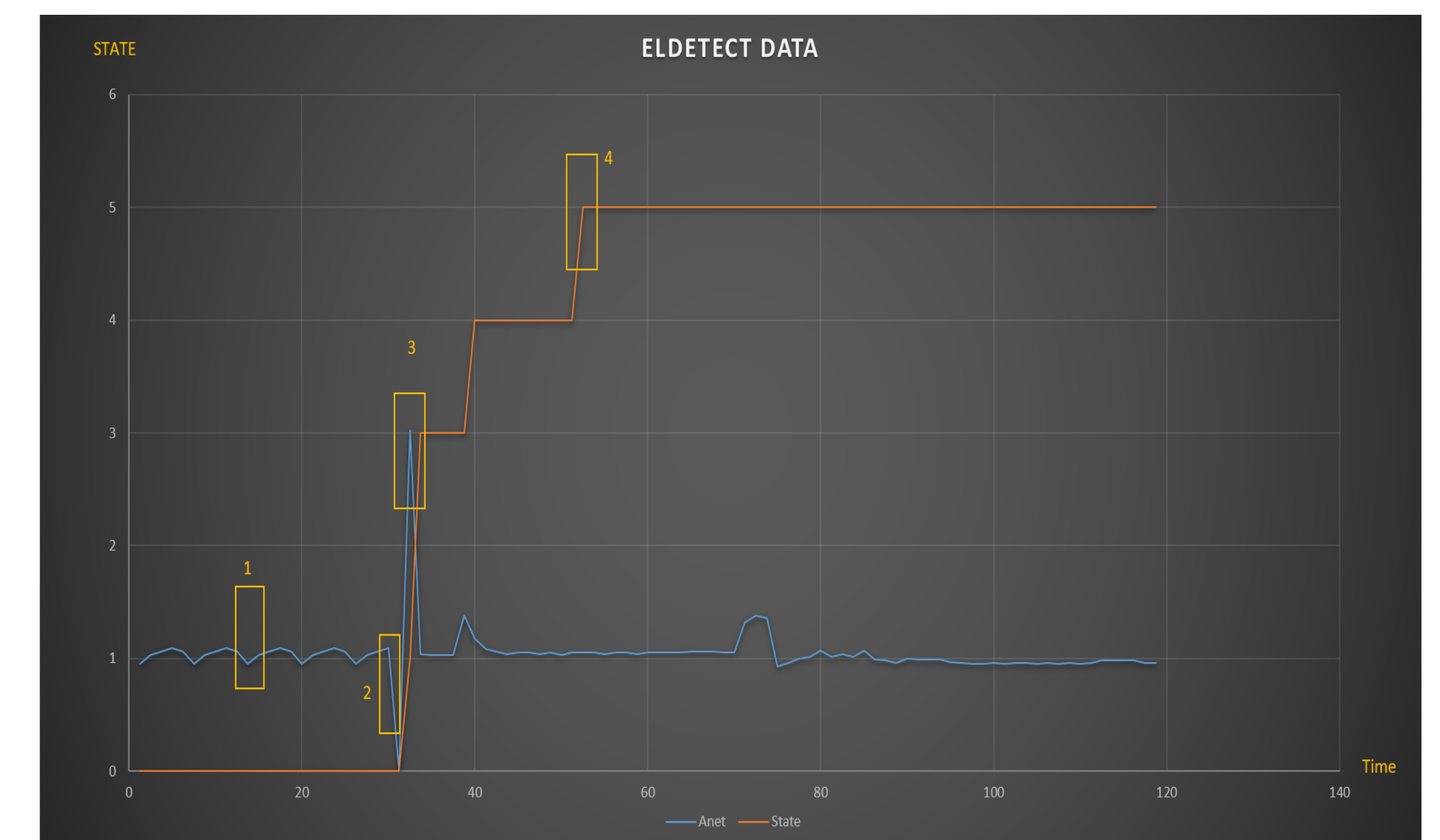
## Diagrams



## Infrastructure



## Accelerometer Data



- Anet is the average net velocity of the X, Y, and Z axis.(1g, gravity)
- 1. Initial status, 2. Weightlessness/Free fall, 3. Impact, 4. State 5 Fall detected; alert sent.
- Our 5 state algorithm detects a fall then notifies the caregiver.

## Conclusion

- Statistics show that 1 out of 3 seniors will fall at least once per year. (approx 33% of total senior population). 1/3 of those who fell experience a Long Lie (approx 11% of total senior population). Half of those will die within 6 months (approx 5.5% of total senior population). With our fall detection device, we plan to prevent 5.5% of seniors who fall, experience the Long Lie, and die within 6 months.
- Within 5? Minutes after the fall is detected, the caregiver is notified to check on the senior to assure that the senior receives the help they need within an ample timeframe.