Tufts UNIVERSITY
School of Engineering

IoT for Musculoskeletal Injury

Haiting Chan (ECE)
Lena Chang (HF)
Jordan Nagy (CS)
Spencer Perry (CS)
Ashton Stephens (ECE)

Problem

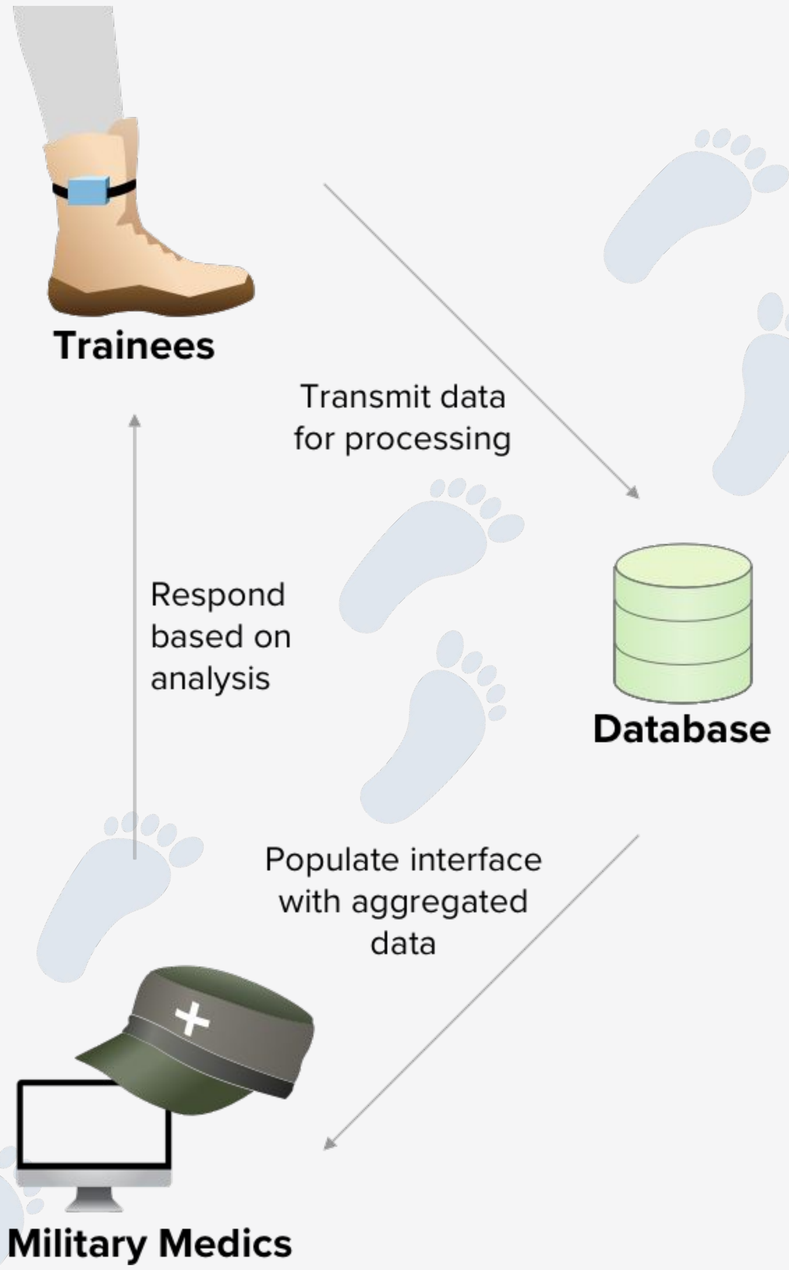
- Musculoskeletal injuries from overuse are the leading cause of discharge for military trainees
- Soldiers are unlikely to inform medics about injuries

Objective

- Detect potential musculoskeletal injuries as they occur
- Monitor soldier health to help medics mitigate risk and injury

Background/Research

- Gait: the way one walks
  - Gait metrics can be tracked to indicate changes in health
- IoT: Internet of Things
  - Allows for many sensors to connect to a small computer chip and transmit data
- Use Case: Military Setting
  - Medics would be user of UI



Results

- Wearable sensor with custom case to gather gait data
- Data aggregated and processed to calculate gait metrics
  - Stride Length
  - Stride Time
  - Gait Asymmetry
- User Interface for medics to interpret gait and load data and monitor soldier wellbeing

Next Steps

- Develop shoe insert with pressure sensors to gather load data to fit with current UI capabilities
- Further test the wearable components to withstand a training environment

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