Understanding and Analyzing ‘Safety’ in Body Sensor Networks

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Setting Up The Problem

• Our end goal: **analysis**
  – Check **properties** of the **system**

• Which properties?
  – **Safety**

• Which system?
  – **Sensing-only** body sensor networks (BSNs)
    *There’s lots of issues here even without closed-loop*
How does STAMP apply to BSNs?

• Must first examine personal health management control loop
Issues to consider

• Subsystem design problem
  – Limited knowledge about whole loop
• Inference vs. Control
  – Control $\implies$ Inference
• ‘Interface’ design problem
• Plug-and-play (open systems)
  – Medical systems must be assembled from pre-designed components
• Systems dynamics
Intended Deliverables (Directions)

- **Models**
  - For understanding, communication, discussing ‘safety’
  - For design
- **Analysis techniques**
  - For design
  - For regulation