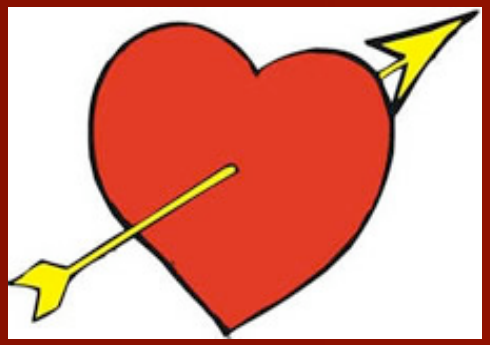
# Heart Savers
# Project Proposal



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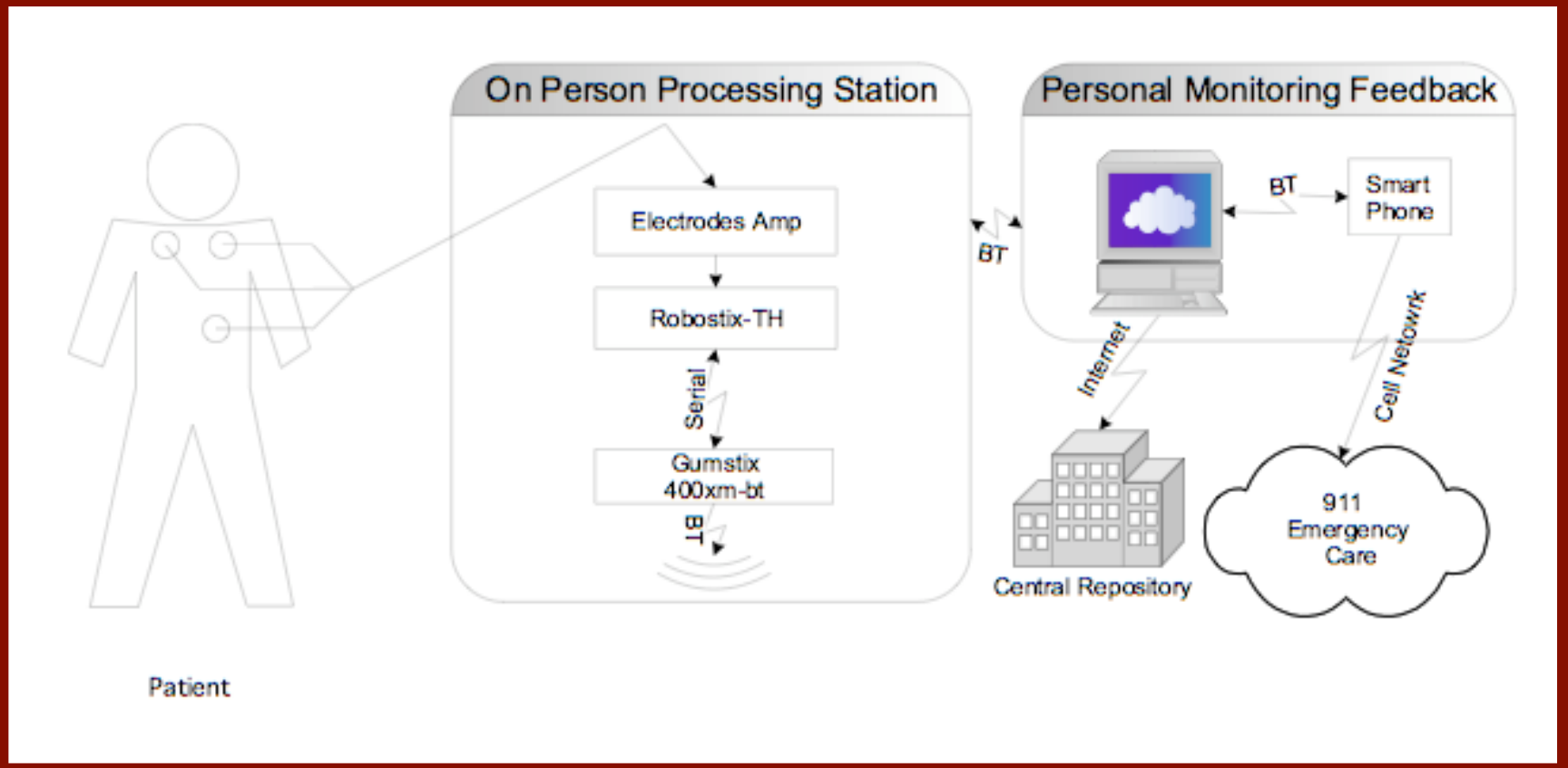
# Project Overview

- Now
  - Doctor's office or hospital -short visit
  - Holter monitor - continuous home monitoring
    - Asymptomatic – Don’t know when having a problem
- Later
  - Wearable ECG monitor that fits into daily life
    - Using 3 electrodes instead of 12
  - Detect arrhythmia (irregular, faster, or slower)
  - Patients of all types

# Architecture

- Each Component modeled as a state machine



# Use Cases

- Bootstrap
- Teardown
- Person at rest
- Person under physical stress
- Person at risk of physical harm
- Query
- Reliability

# Risk Assessment

- Measuring and Quantizing signal
  - Noise in measuring signals
  - Survivability with 2 out of 3 contacts
- Simulating danger conditions
  - Recreating arrhythmia through sample data
- Interference with Bluetooth Signal
- Dealing with data acquired
  - What data do we need to keep?

# Electrode Reading Failure

- One electrode failed
  - Robostix switches to two electrode reading
  - Gumstix notifies user interface devices
  - Phone and Computer log event
- Two or Three electrodes failed
  - Robostix notifies gumstix
  - Gumstix pauses monitoring and notifies UI
  - UI trys to grab user attention
  - After x time, devices switch to off state