

Low Cost Digital Thermometer and ECG

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Week

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Problem Statement

Emerging countries are in need of a durable, low cost digital thermometer to interface with innovative display technology. This device should incorporate circuitry with a human sensory interface.

Last Week's Goals

- Test thermistors and microcontrollers once they are delivered
- Start brainstorming design options
- Research conductive materials to transfer heat to thermistor
- Decide whether to use wheatstone bridge or design alternate circuit

Accomplishments

- Received thermistors and microcontrollers
- Selected sections of the midsemester paper to begin writing
- Built Wheatstone bridge, and Op-Amp circuits for thermistor testing
- Tested 3.3k Ω and 15 Ω thermistors in Wheatstone bridge circuit
 - Recorded voltages for various temperatures
 - Made Voltage vs. Temperature curves

This Week's Goals

- Test more thermistors
 - Find thermistor with best accuracy in 32°-42°C range
- Decide which circuit (Wheatstone bridge or Op-Amp) works best
- Build temporary prototype
- Finish Midsemester paper, Powerpoint presentation

