Project 4: Analog Sensor Processing

Questions?

Project 3

- Finish demos
- Catme surveys are due on Tuesday
  - Everyone should have received email already

Project 4: Analog Sensor Processing

- Each group has two Sharp distance sensors
- Connect to your circuit board & then to the Arduino
- Code: read the raw sensor state
- Collect data and analyze

Serial Interaction with your Arduino

Exchanging characters between your laptop and your Arduino

- Windows users: download and install RealTerm
- OSX users: screen is already installed for you
- Linux: download and install ckermit

http://www.cs.ou.edu/~fagg/classes/ame3623/downloads.html

Component 1: Circuit

- Connect sensor to circuit board:
  - Power
  - Ground
  - Signal
- Run a jumper from signal to analog input line on the Arduino
- Use breadboard power and ground

Component 2: Test Function

- Initialize serial port and analog input port
- Loop:
  - Read the raw sensor value
  - fprintf() the sensor value

Component 3:
Data Collection and Analysis

- At least 5 samples each for: 5, 6, 8, 10, 14, 20, 30, 40, 60, 80 cm.
- Two plots:
  - Sensor value as a function of distance (cm)
  - Sensor value as a function of 1/distance (1/cm)

Next Time

Serial communication