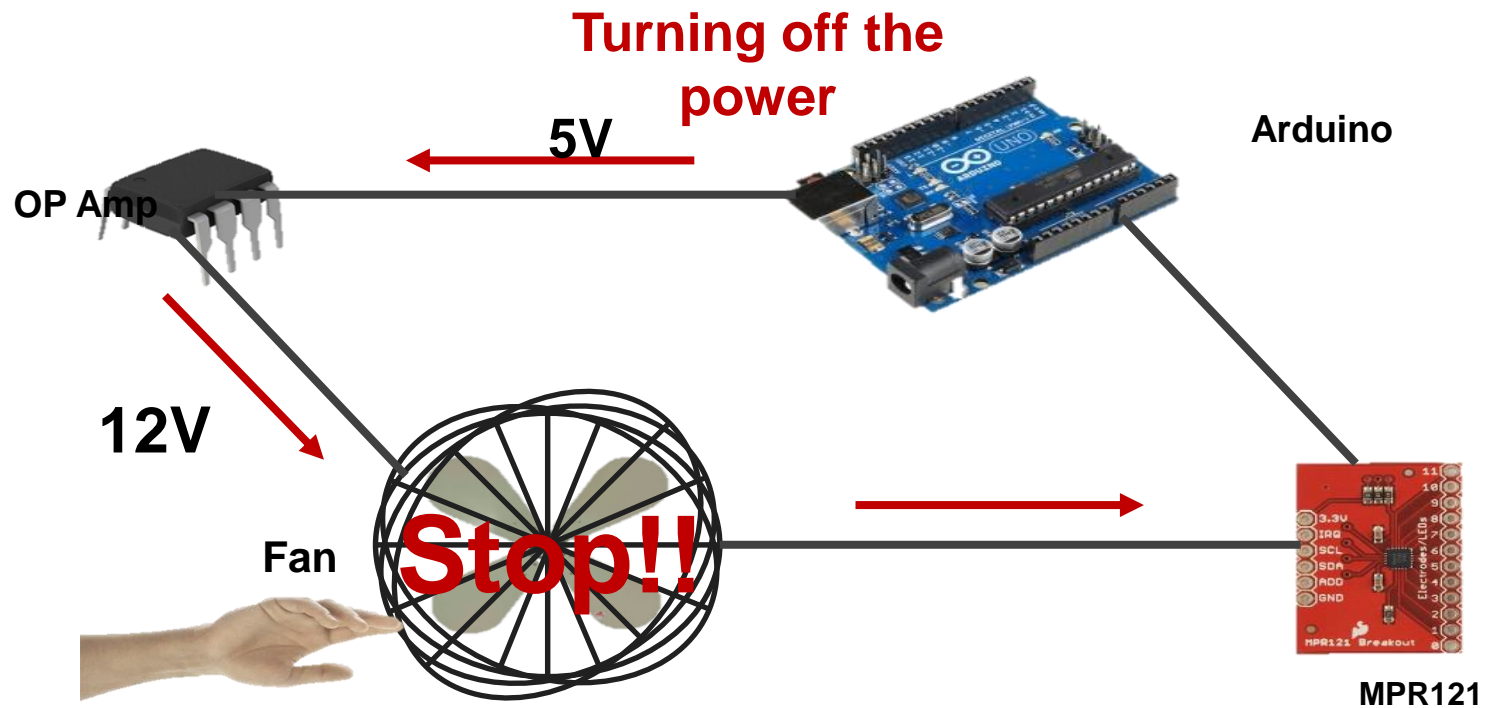# Basic Engineering Design for Electronics Engineering :Design Projects in 2015

Prof. Jewon Kang

Ewha,
Where Change Begins

1. Fan! Please STOP!

- Problem Setup : A moving fan can hurts hands.
- Proposed Solution : Cut off power when hands are on the moving fan using Arduino and MPR121.

Turning off the power

5V

Arduino

OP Amp

12V

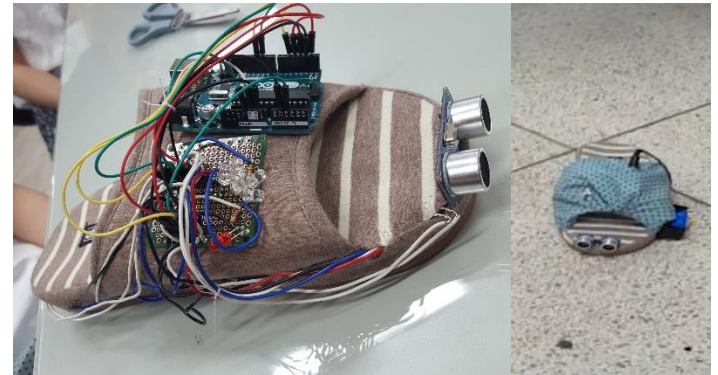**Fan**

Stop!!

MPR121

2. Brightening Slippers

- Problem Setup: It's hard to move in the dark.
- Proposed Solution : Turn on the light when a person put on slippers using Arduino and CDS sensor.
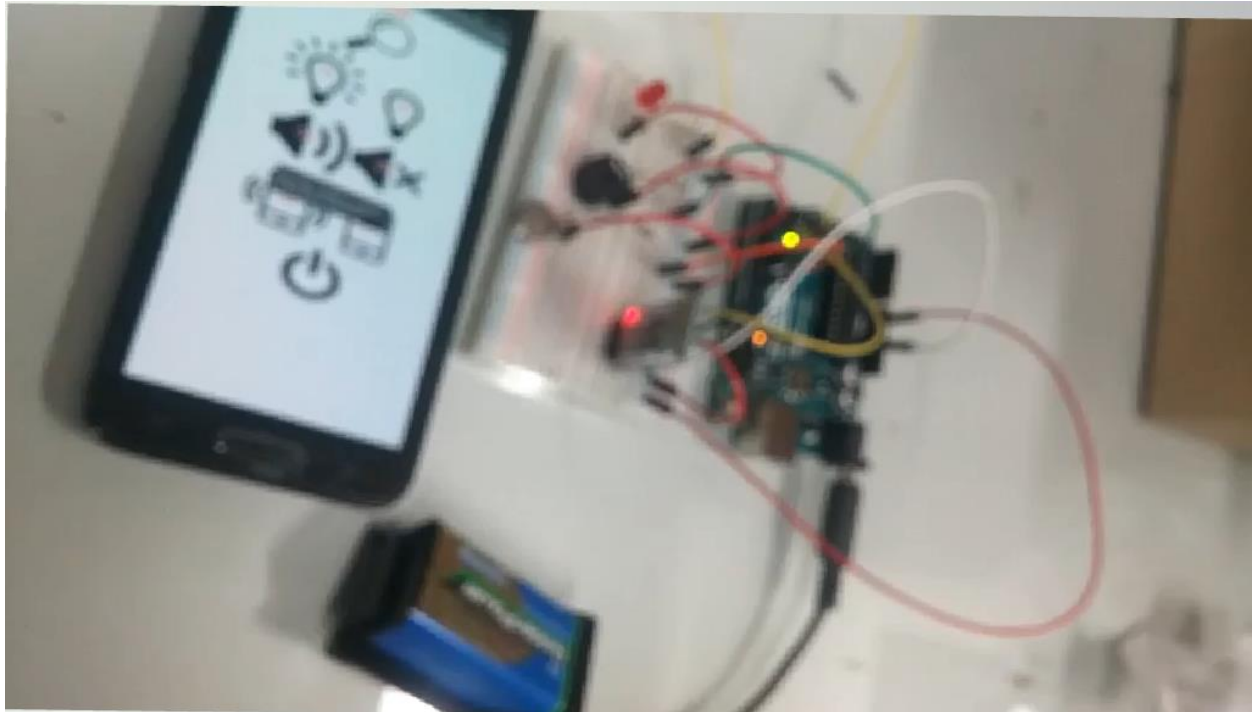

Flasher **Flashlight(LED)**

3. Hide & Seek(Finding Missing Objects)

- Problem Setup: It's hard to find items which are easily lost.
- Proposed Solution : Attach Bluetooth device to the items and find them using phone application.
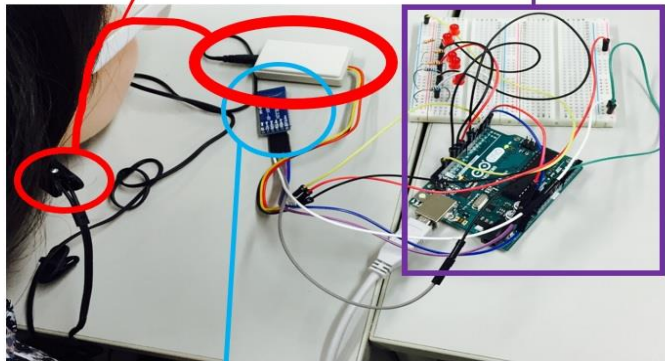
4. Baby Good Night

- Problem Setup: We can't turn off the lights when we fall asleep.

- Proposed Solution : Analyze sleeping states and turn off the lights using biological information.

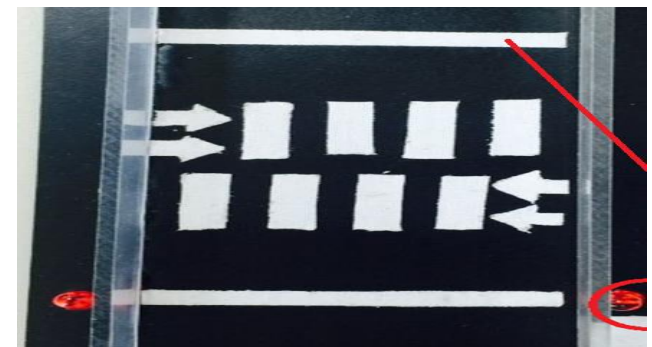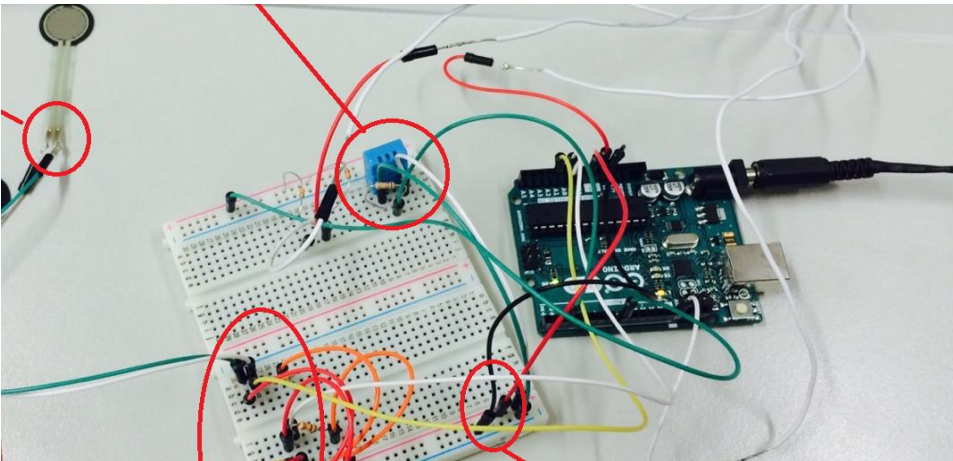Ear-clip Heart rate sensor
아두이노 & 브래드보드
블루투스 씨리얼패스(HC-06)

5. Crosswalk

- Problem Setup: Cars don't stop at a crosswalk.
- Proposed Solution : Warn drivers by turning on LED if the car is too fast.

6. Don't worry, MaMa!!

- Problem Setup: It's hard for parents to take care of babies all day long.

- Proposed Solution : Attach sensors to baby socks, check her sleeping position and temperature, and send these information to parents' smartphones.