

Class 1 Agenda

- Introductions
- Class overview
 - Big picture
 - Course logistics
- [Break]
- Fantasy device group project
- Distribute parts

Intro to Physical Computing

Jeff Feddersen, ITP/NYU

(required class)

Purpose

Support/Expand/Enable creative expression...

...with technology...

...focused on physical, embodied interaction.

Method

“...with technology”



Programming Microcontrollers and Circuits

to be Cool*

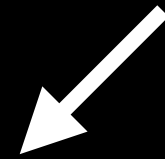
“Enable creative expression...”



“...focused on physical, embodied interaction.”

Circuits

Programming Microcontrollers and **Circuits** to be Cool*



- Electrical properties (voltage, resistance)
- Basic components and simple circuits
- Breadboard prototyping
- Testing and measuring
- Handling higher power

Microcontrollers

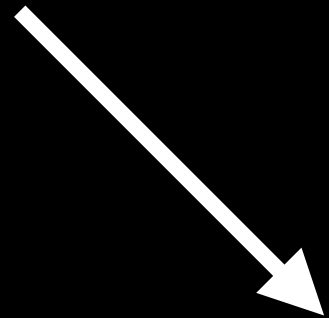
Programming **Microcontrollers** and Circuits to be Cool*



- Small cheap single-task computers
- Can sense and output voltages
- Fast (compared to us)

Programming

Programming Microcontrollers and Circuits to be Cool*



- Simple Development Tools
- Programming basics
 - Pseudocode
 - Variables, memory
 - Structure, control flow

to be Cool*

Programming Microcontrollers and Circuits **to be Cool***

to be Cool*

Programming Microcontrollers and Circuits **to be Cool***

*Up to you



Voice

Metaverse



Brett Victor's
“Pictures under glass”









Airline



Light

Sound

Motion

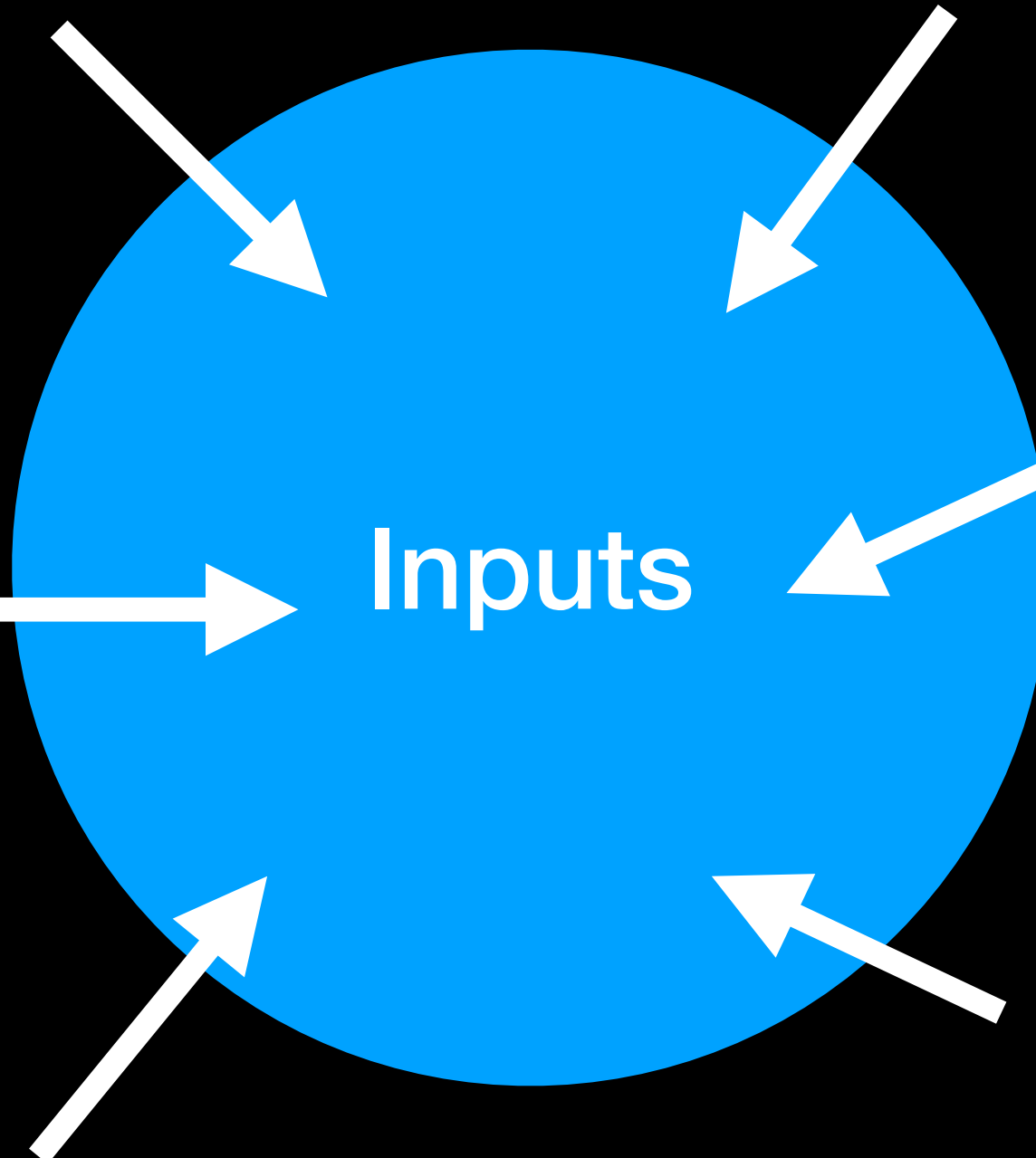
Smell

etc...

Temperature

Pressure

Inputs





Processing

Light

Sound

Motion

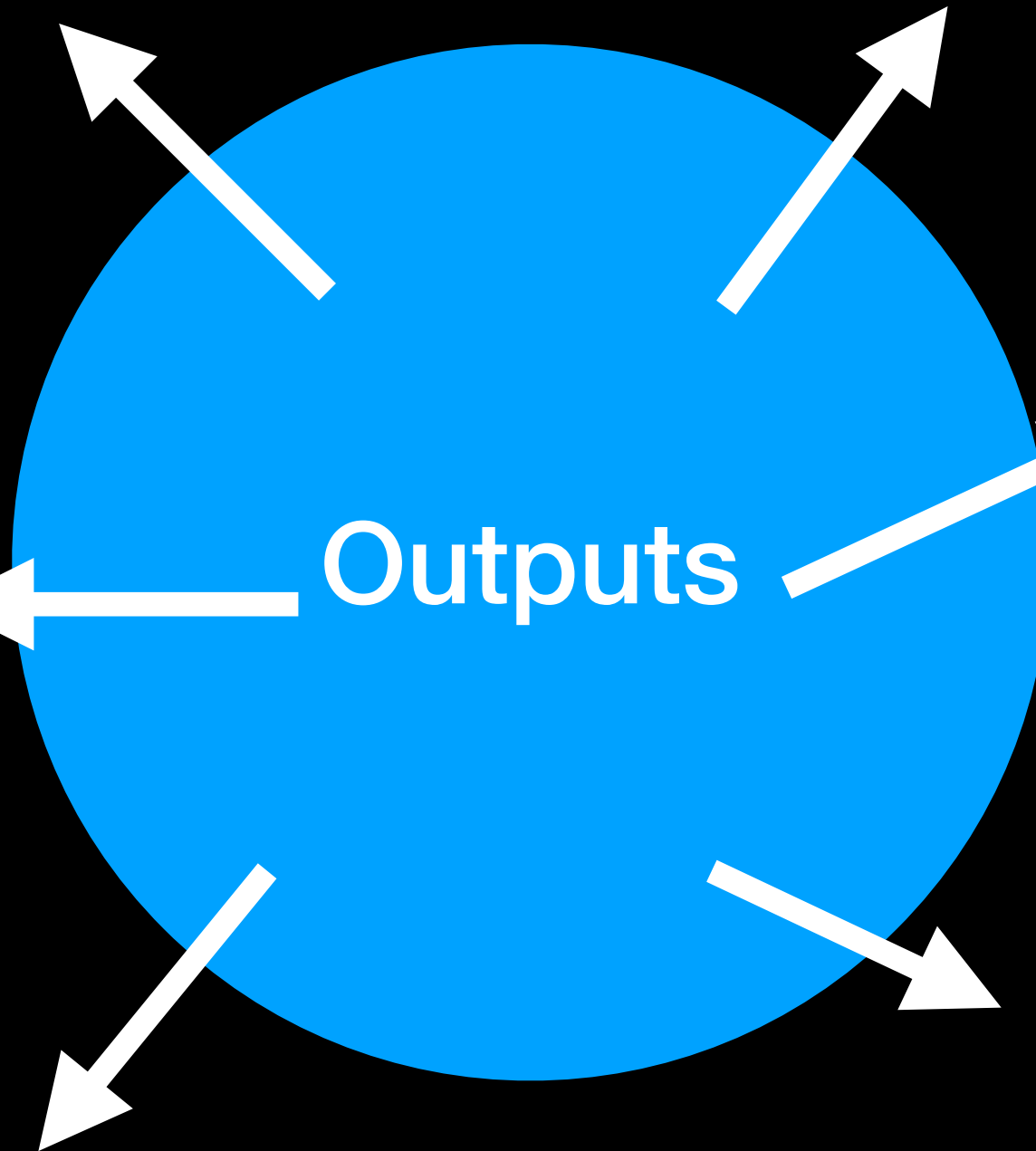
Smell

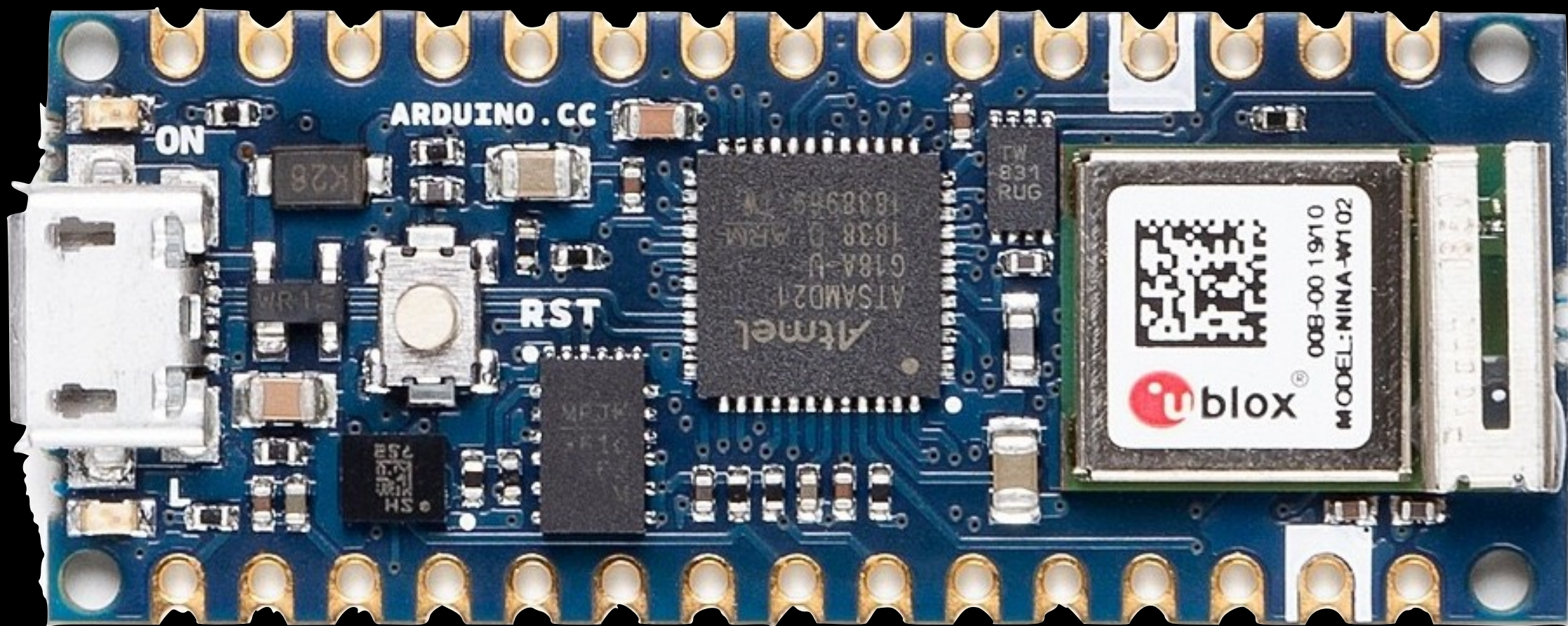
etc...

Temperature

Pressure

Outputs





Light

Sound

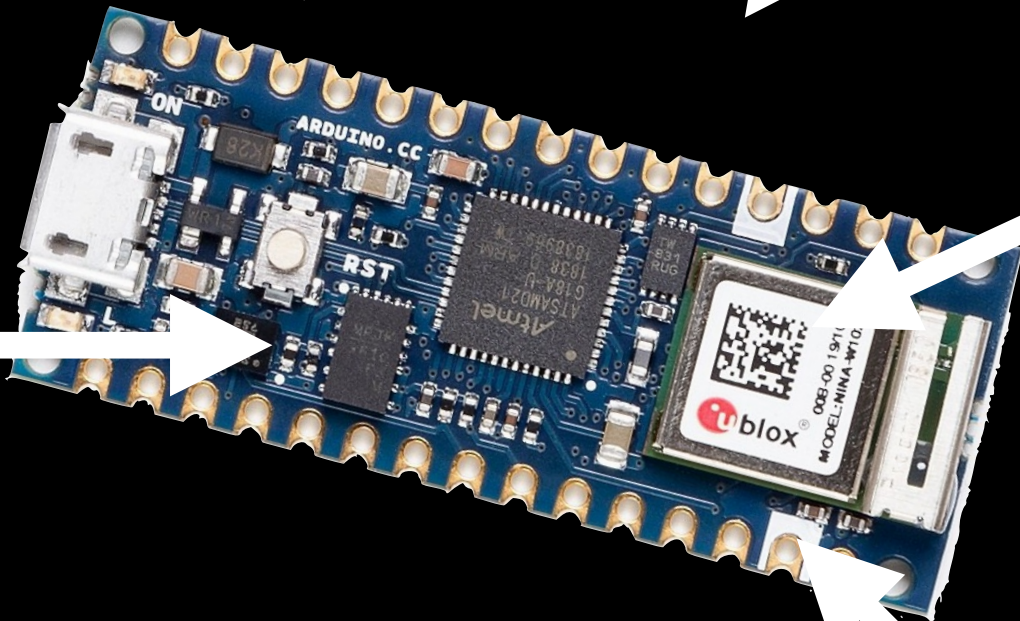
Motion

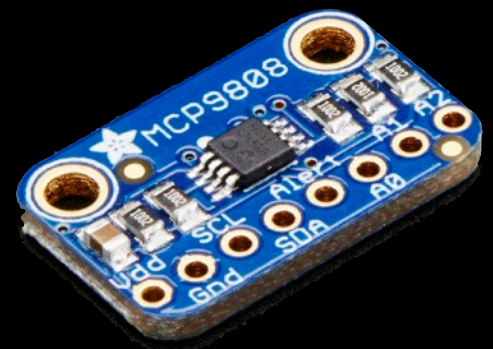
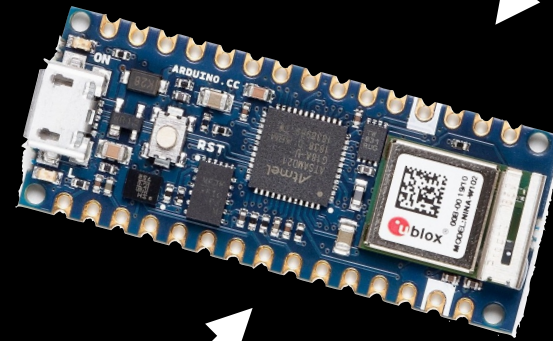
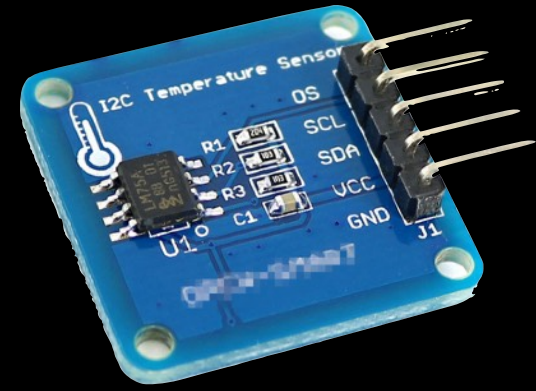
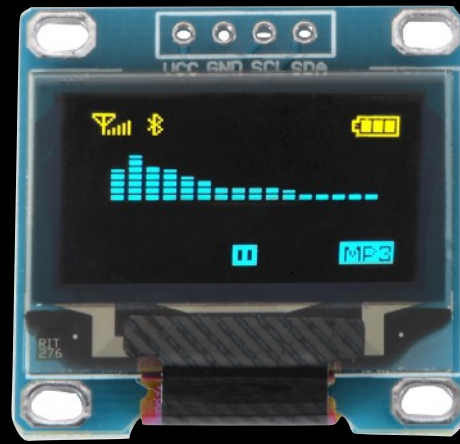
Smell

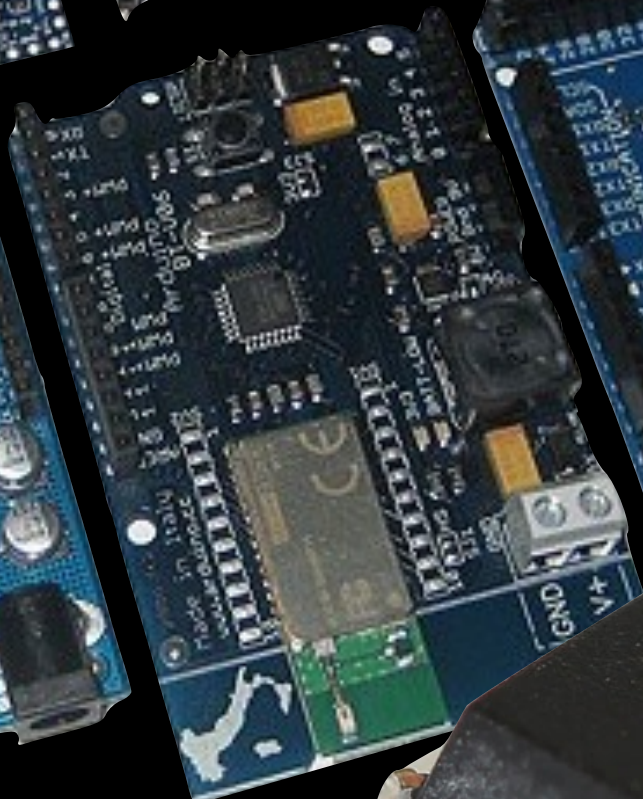
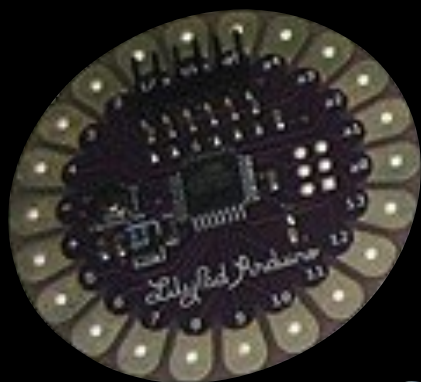
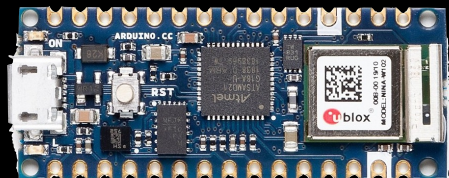
etc...

Temperature

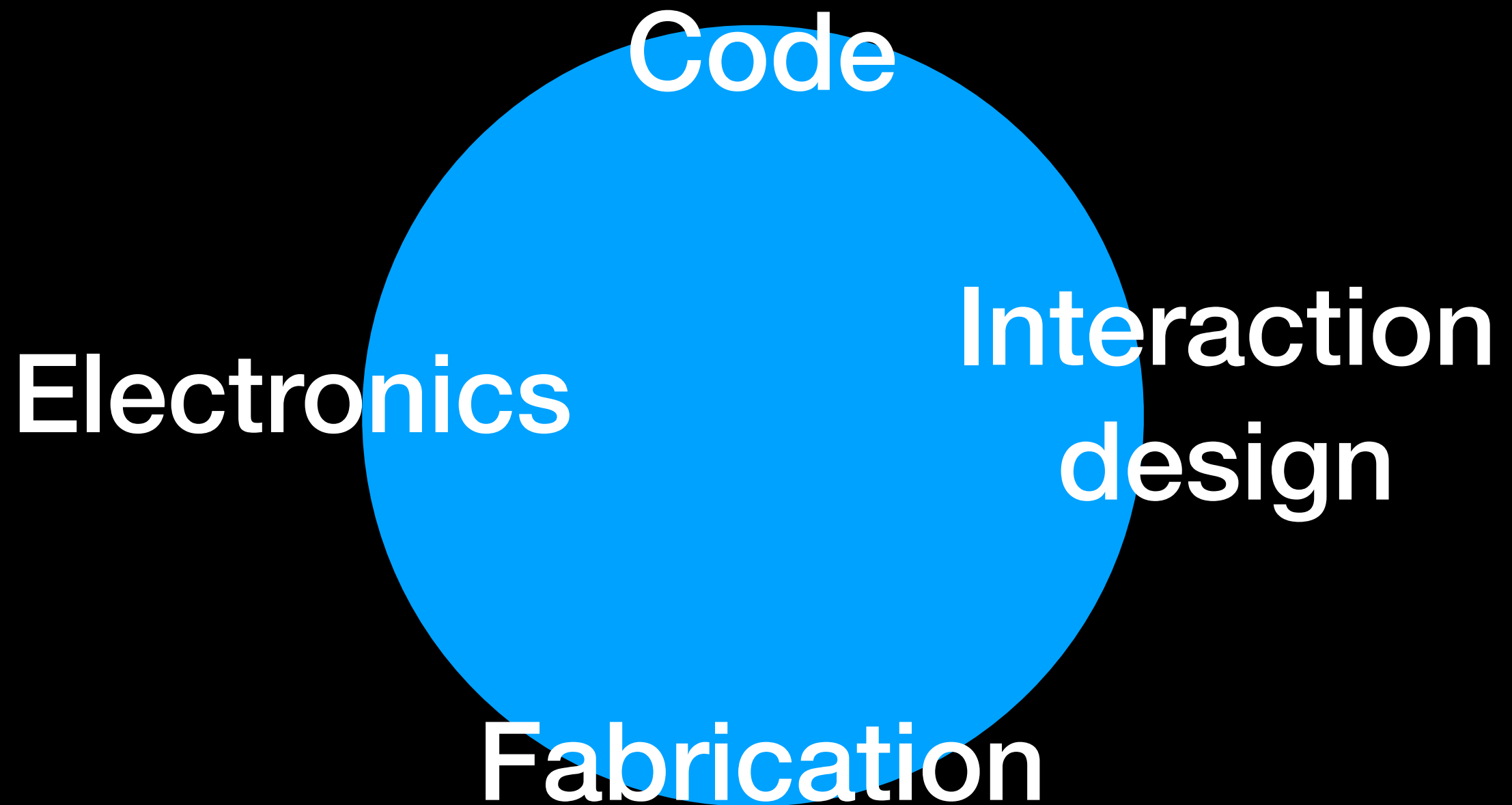
Pressure







- Methods for handling larger projects
- Fabrication
- Play testing and User Testing
- Presenting and documenting



Fantasy Device

Physical Interaction
Goal/purpose

Resources

Syllabus

<https://itp.nyu.edu/physcomp/>
Schedule, assignments, labs, videos

Residents

Especially Tora, Phil, Elias, David, and Yonatan.
Help Sessions Mondays and Thursdays 3:30 - 5:00PM

Drop-in Office Hours

Mine, other professors, residents.

Other students

If you can, do your homework at ITP and learn by osmosis!