



Designing User Experiences for Internet-Connected Devices

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Today

- Lecture & discussion: making information visible
- Questions about lasers, IA3

Last time: metaphors

Organizational metaphors

- The Factory
- Public Utility
- Back to Nature
- The Vapor
- Parallel Universes
- The Inescapable Prison

Interaction metaphors

- Terminals everywhere
- Invisibility
- Animism
- Prosthetics
- Enchanted objects

Last time: metaphors

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Design materials







Information processing as design material

HEAT

11

A close-up photograph of a control panel. A thick yellow flexible hose is attached to a valve handle on the left. To the right is a circular gauge with a black face and markings. A red label is positioned above the gauge, containing the following text:

WANT IT OUT
Do not burn gas
terminally
valve openest.
control
SHORT
OUT HEAT
ANTICIPATOR
BURN

Ne pas faire
les brûlures
souape de
la commande de
UN COURT-CIRCUIT
GRILLERAIT L'ANTICIPATEUR
DE CHALEUR

9288 E5

60 70 80
50 90

90
80
70
60
50

WHITE-RODGERS
HEAT PUMP THERMOSTAT

80
TEMP COOL

F



HUNTER

Honeywell

Set

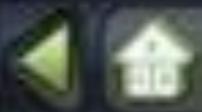
Hold

Run



Heat Off Cool

Fan
Auto On



Main Floor



Thu, Oct 28 5:30 PM



Status

Zone Temperature

72°

System Idle

Following Schedule
"Away"

Cooling

Heating

Heat to:

72°



Home



Sleep

Hold Options

Outdoor Temperature

51°



Help



Menu

Auto
Zone ModeAuto
Fan ModeAuto
Air Cleaner

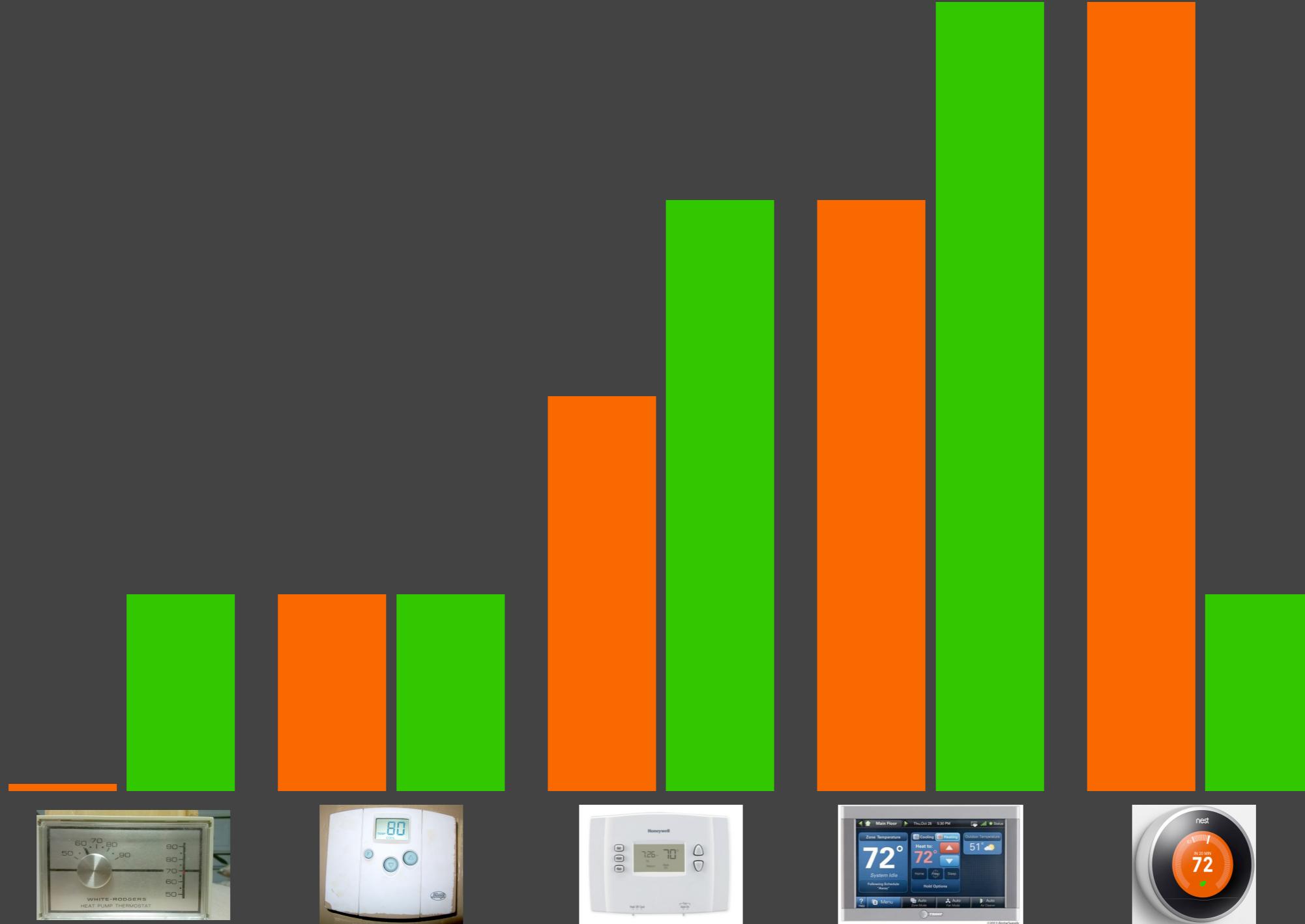
nest

IN 20 MIN

72



- Information processing capability
- Necessary user interaction

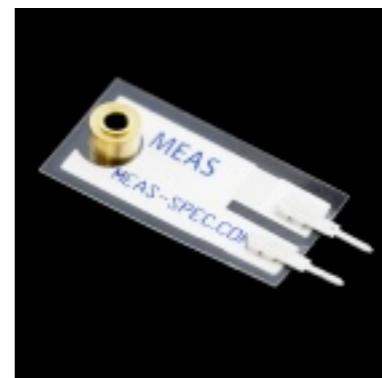
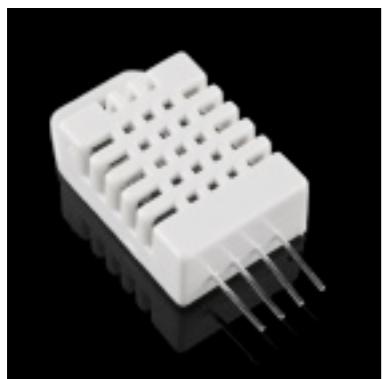


Central question:
*does adding computation
make for better UX?*

Getting information into objects

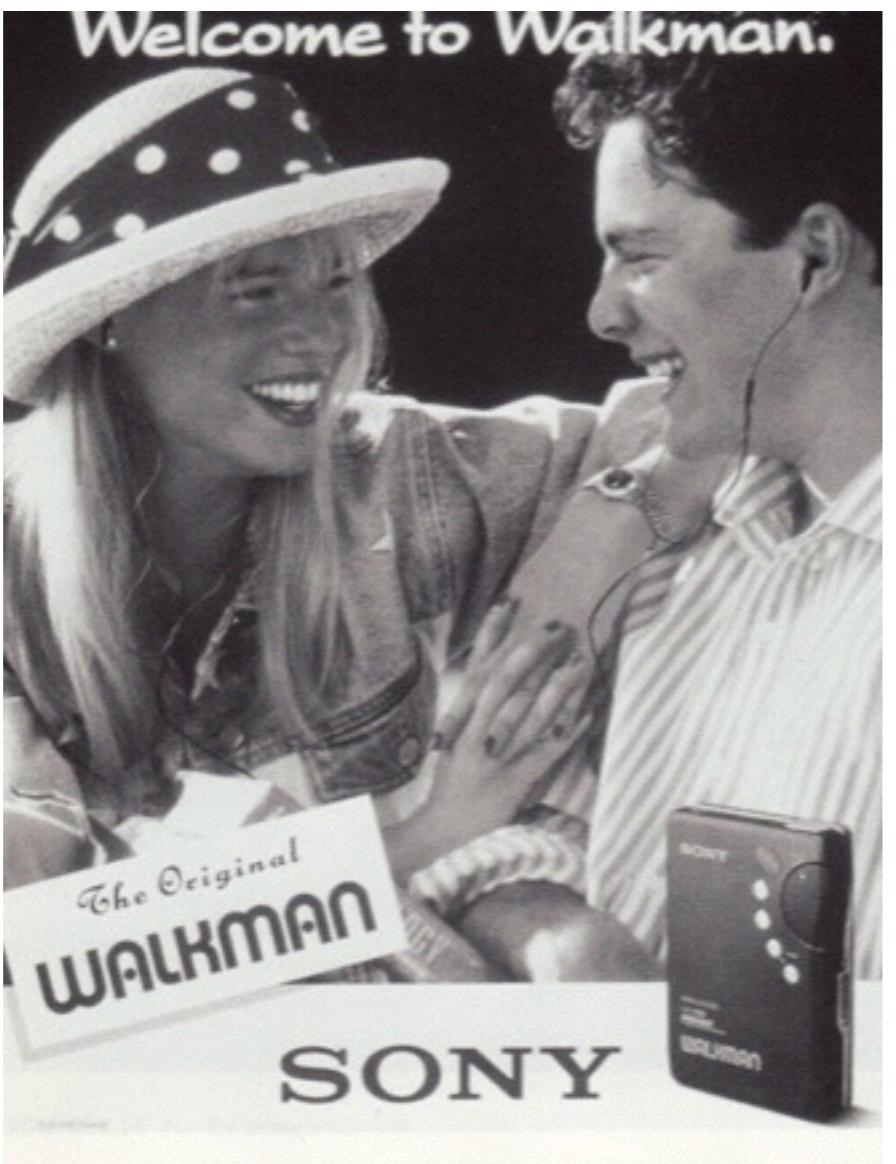
Capabilities

- Physical phenomena can be turned into information



Capabilities

- Physical phenomena can be turned into information
- Information can be turned into physical phenomena



Capabilities

- Physical phenomena can be turned into information
- Information can be turned into physical phenomena
- Digital information maintains state

nest

IN 20 MIN

72



Capabilities

- Physical phenomena can be turned into information
- Information can be turned into physical phenomena
- Digital information maintains state
- Digital information can be copied & transmitted

nest

IN 20 MIN

72



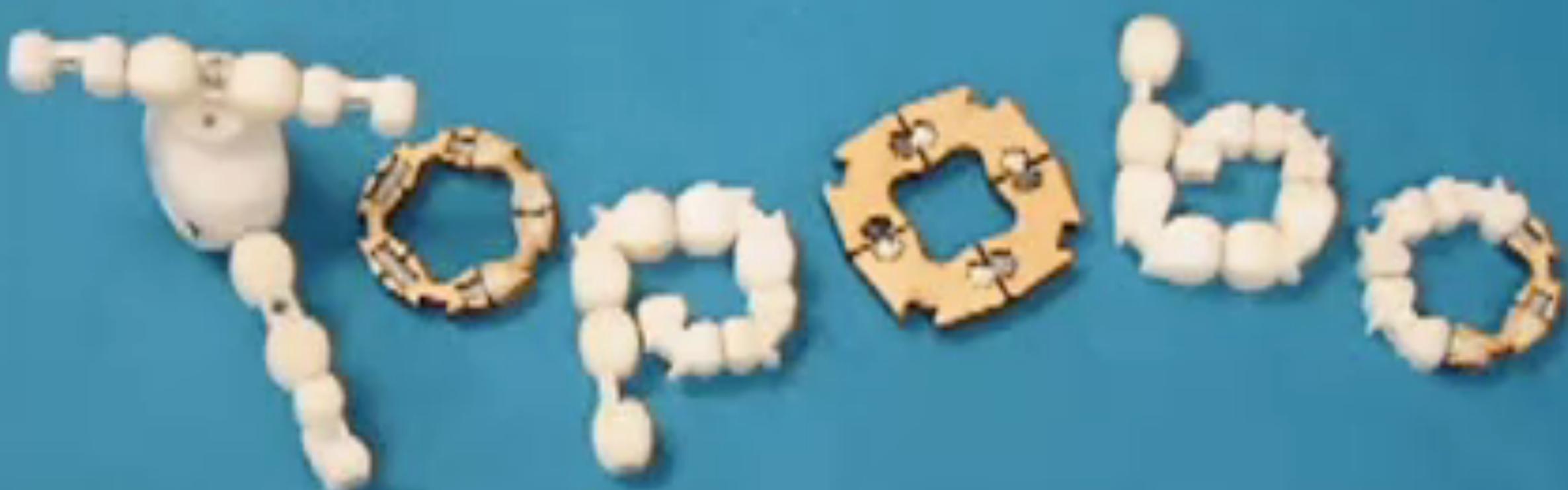
Capabilities

- Physical phenomena can be turned into information
- Information can be turned into physical phenomena
- Digital information maintains state
- Digital information can be copied & transmitted
- Information processing is fast

Possibilities

- Information processing enables new behavior





Possibilities

- Information processing enables new behavior
- Information is malleable



IOS 1



IOS 8



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Possibilities

- Information processing enables new behavior
- Information is malleable
- Information processing can manipulate knowledge

Constraints

- Information processing requires electricity

Constraints

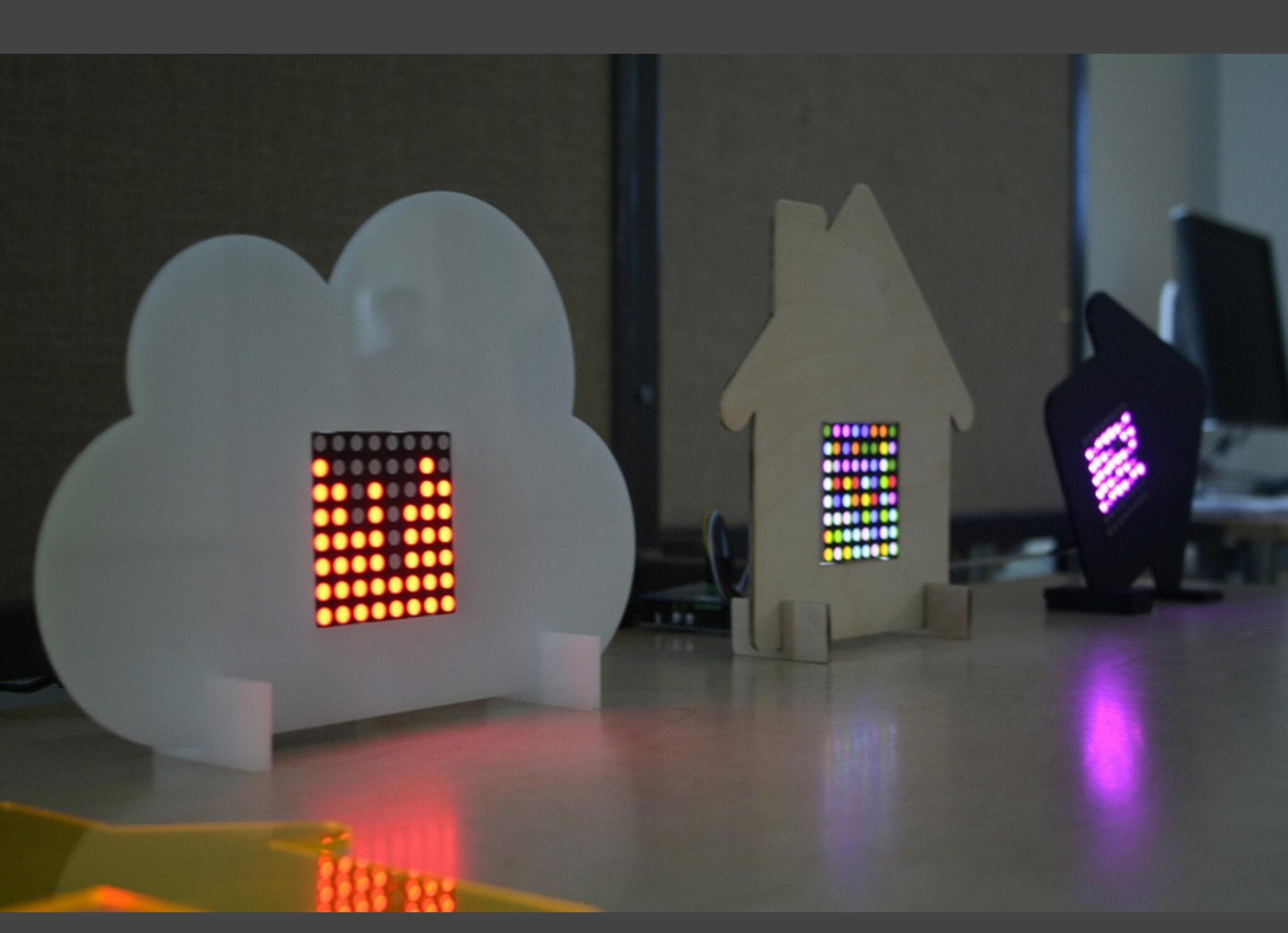
- Information processing requires electricity
- Information processing capability is “chunky”





Working with information: ambient displays

GAUDI
LIVE WIRE





Low-Cost Water Flow Sensor and Ambient Display



Coming up

- Thursday: extra credit 1 due
- Tuesday: no class (classes on Monday schedule), but I will be in lab for extra office hours
- Next Thursday
 - reading assignment (posted on web page now)
 - IA3 due
 - GP1 assigned

3D printing tutorial