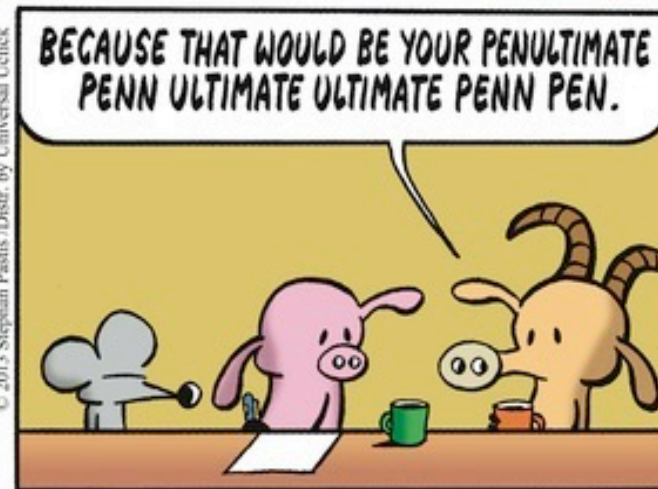
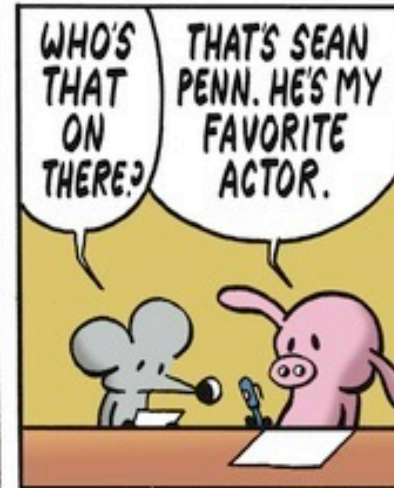
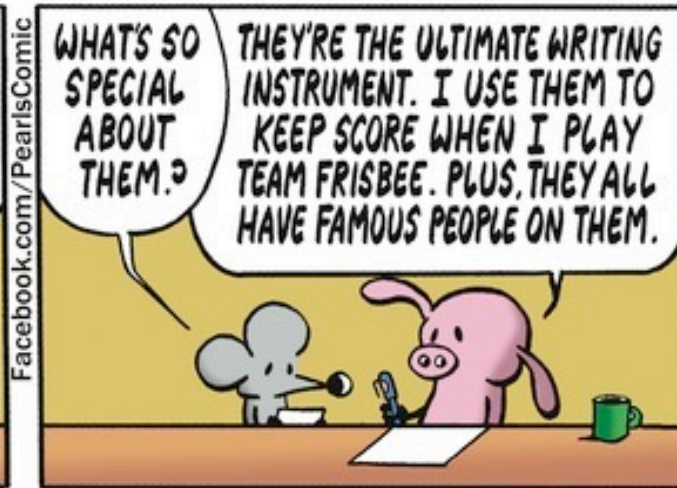
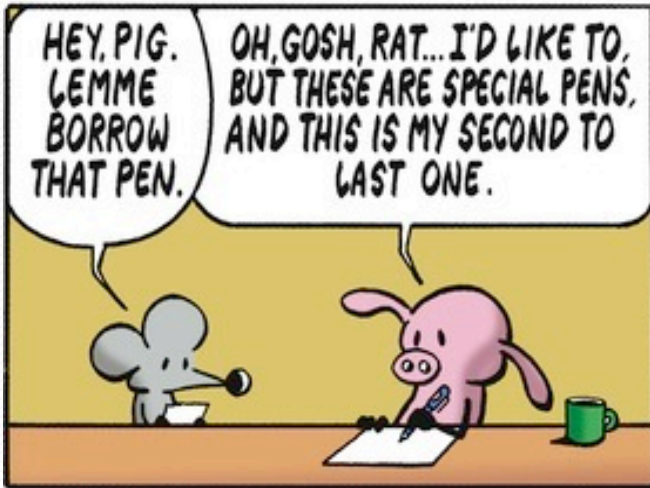


# Building Java Programs

Parting thoughts

# PEARLS BEFORE SWINE

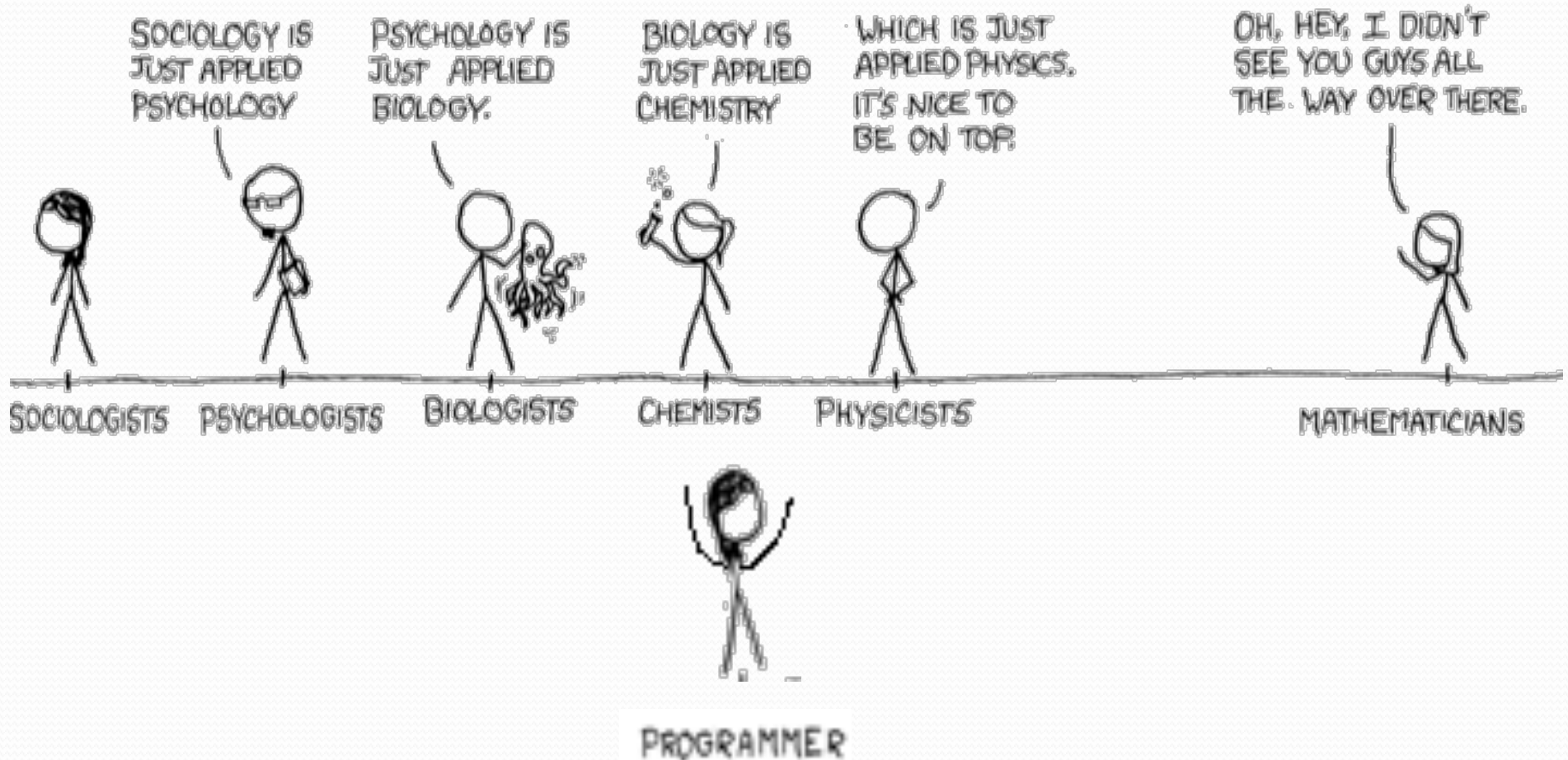
BY STEPHAN PASTIS



Today: penultimate "lecture"  
One of my favorite words: penultimate

# FIELDS ARRANGED BY PURITY

→  
MORE PURE



# Implementing abstractions

## Procedural

- Building block: method
- Steps of computation
  - Task-based

## Object-Oriented

- Building block: class
- Reusable data entities
  - Modeling
- Appropriate for large-scale projects

<http://docs.oracle.com/javase/7/docs/api/>

# Final exam

- Procedural: algorithmic problem-solving
  - Array mystery
  - Reference mystery
  - File processing
  - Array programming
- OO: applying rules, meeting a specification
  - Inheritance mystery
  - Reference mystery
  - Critter
  - Classes and Objects

# What's next?

- Arrays are great, but how else can I organize data?
  - CSE 143 (then 373/332)
- How do I write more complex algorithms?
  - CSE 143 (then 417/421)
- How do computer scientists think about the world?
  - CSE 143 honors section
- Console apps are neat but I hear the web is the future?
  - CSE 154

# What can CS help with?

UW or UW-affiliated projects

<http://www.cs.washington.edu/research/>

<http://www.cs.washington.edu/education/ugrad/academics/capstone.html>

<http://norfolk.cs.washington.edu/htbin-post/unrestricted/colloq/search.cgi>

# Making cool movies



<http://www.cs.washington.edu/research/ap/films.html>



# Shopping



# Getting good deals

## No regrets.



<http://news.cs.washington.edu/2011/11/25/new-york-times-on-oren-etzioni-and-decide-com/>

### Free and Accurate Airfare Predictions

Find out if you should buy now or wait. [Learn More](#)



### Protect Your Airfare with Fare Guard

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# Flying autonomously



[http://www.youtube.com/watch?v=E7X0\\_6o9J10](http://www.youtube.com/watch?v=E7X0_6o9J10)

# Mind control



<http://www.youtube.com/watch?v=qEv820jJgDY>

# Catching the bus

The screenshot shows a mobile application interface for bus tracking. At the top, it displays the carrier 'AT&T', the time '12:38 PM', and a battery icon. Below this is a header with a 'Map' button, the text 'Updated: 12:38 PM', and a refresh icon. The main content area is titled 'E Pine St & Summit Ave' with 'Stop # 11140'. A list of bus routes follows, each with a route number, destination, arrival time, and delay status. The routes are: 49 to University District (12:35 PM, 7 min late, -2), 11 to Capitol Hill, Madison Park (12:35 PM, 14 min late, -2), 10 to Capitol Hill, Broadway (12:35 PM, 12 min late, -2), 10 to Capitol Hill, Broadway (12:39 PM, 1 min delay, NOW), 49 to University District (12:46 PM, 3 min delay, 8), 11 to Capitol Hill, Madison Park (12:53 PM, 2 min delay, 15), and 10 to Capitol Hill, Broadway (18). At the bottom, there is a navigation bar with icons for Map, Bookmarks, Recent, Search, and Details.

Route #	Destination	Time	Delay
49	University District	12:35 PM - departed 7 min late	-2
11	Capitol Hill, Madison Park	12:35 PM - departed 14 min late	-2
10	Capitol Hill, Broadway	12:35 PM - departed 12 min late	-2
10	Capitol Hill, Broadway	12:39 PM - 1 min delay	NOW
49	University District	12:46 PM - 3 min delay	8
11	Capitol Hill, Madison Park	12:53 PM - 2 min delay	15
10	Capitol Hill, Broadway		18

- How do we know where buses are?
- What's the best way to show information to the user?
- How do we create a service that can be accessed through phones, PCs, etc?

<http://onebusaway.org/>

# Improving healthcare



3G 12:07 PM

ODK Collect > eIMCI by D-Tree

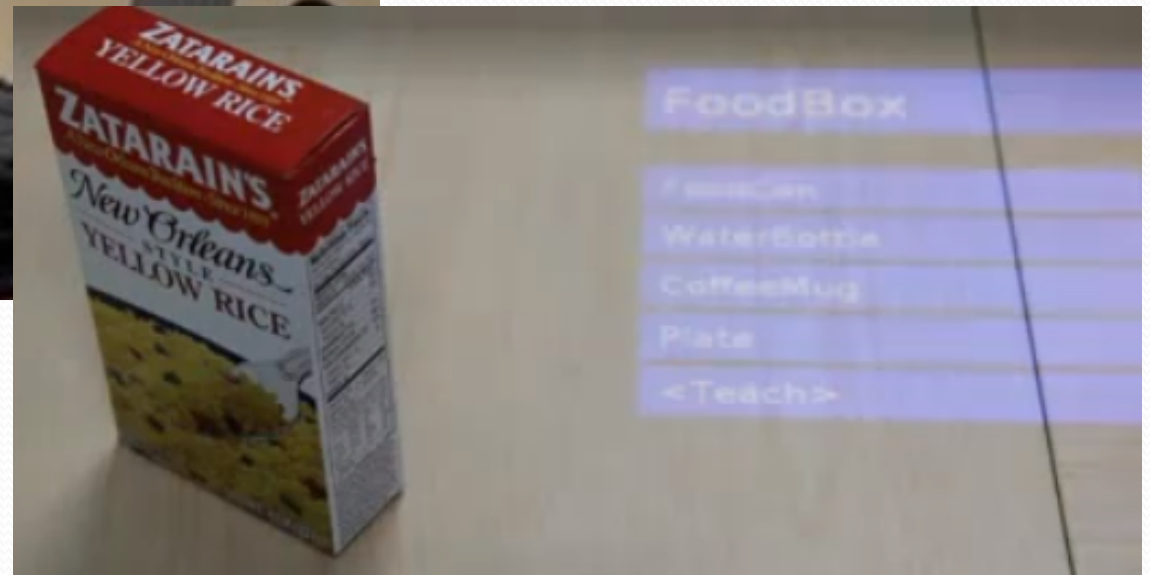
**Ask about main symptoms**

- Cough or difficult breathing
- Diarrhea
- Fever
- Ear problem
- Other/None of the above

<http://change.washington.edu/>

<http://tedxtalks.ted.com/video/TEDxSeattle-Gaetano-Borriello-0>

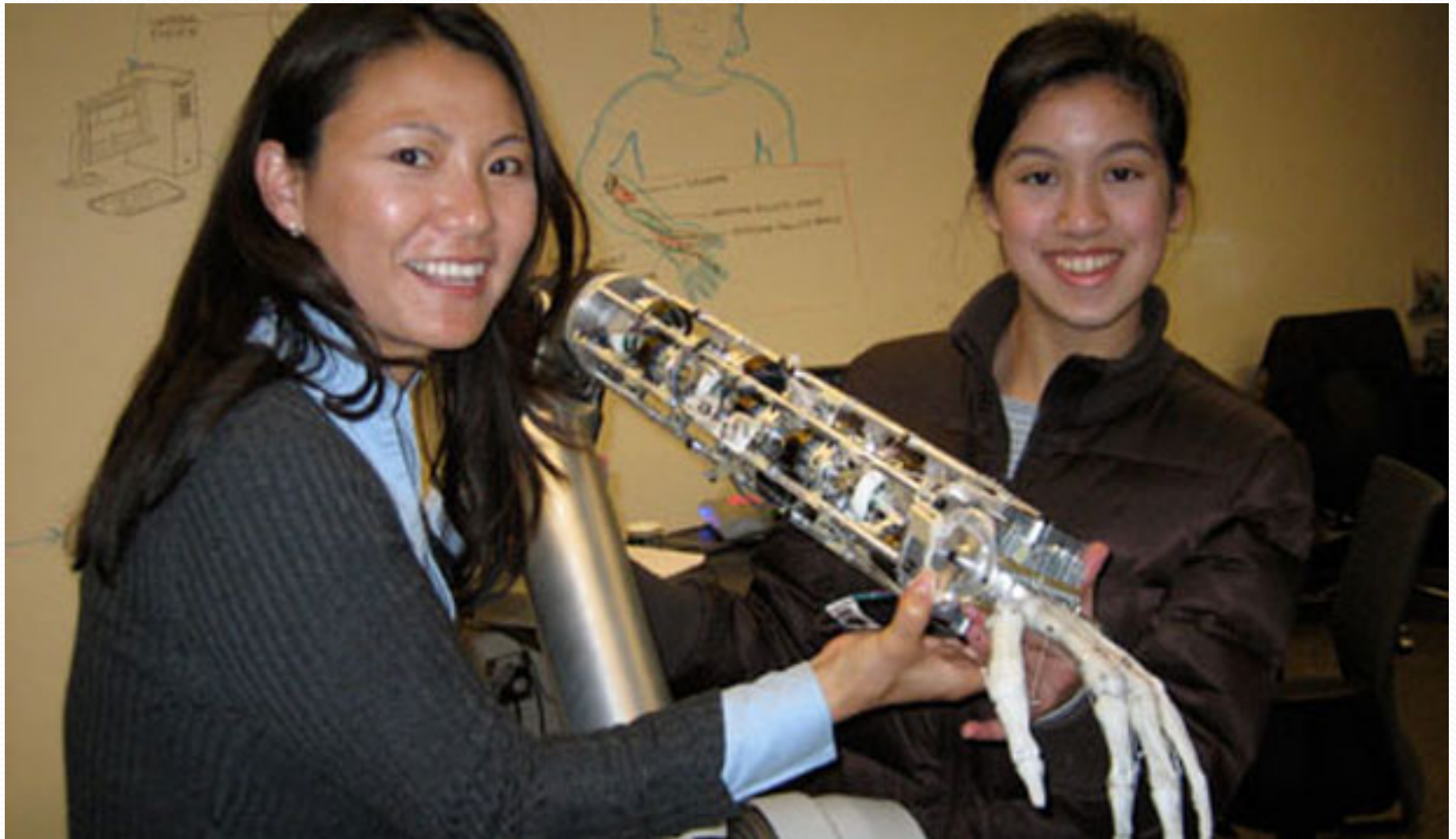
# Seeing without eyes



<http://vizwiz.org/>

<http://www.cs.washington.edu/rgb-dataset/demos.html>

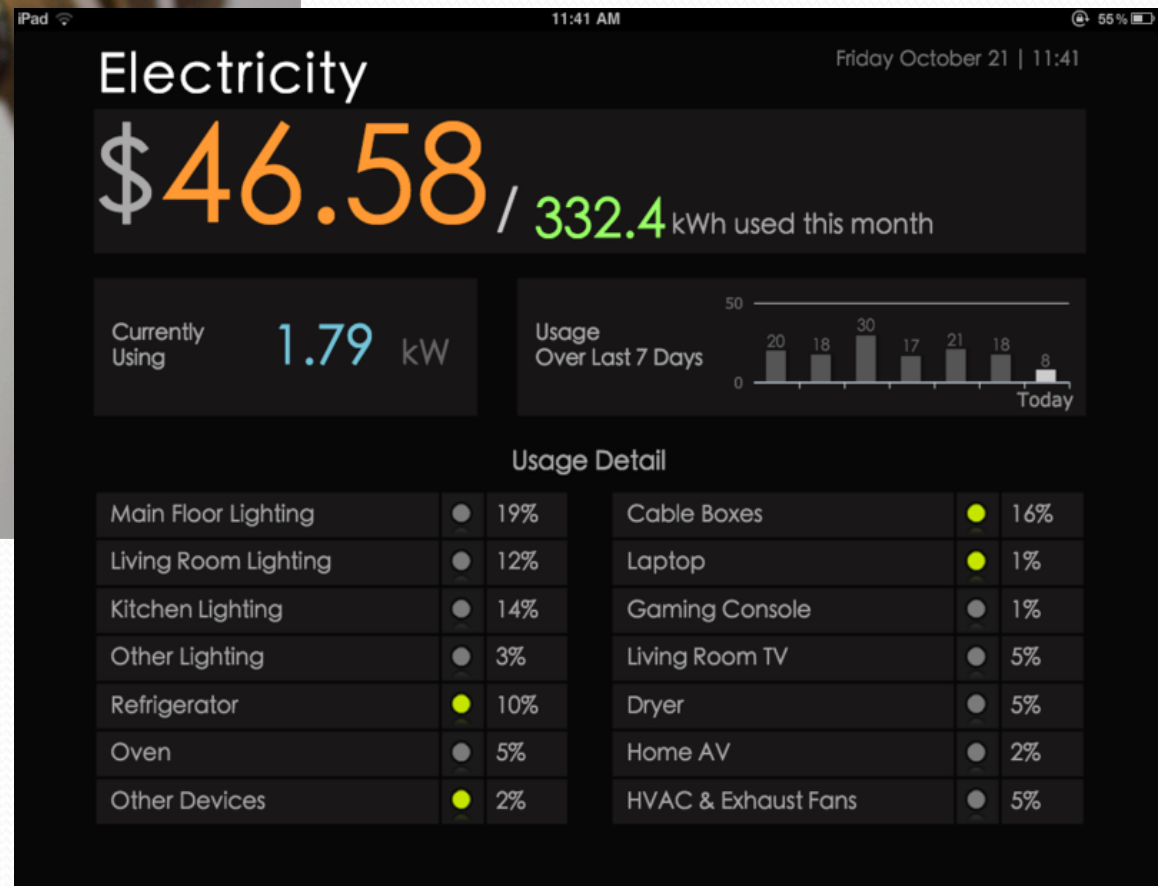
# Enabling movement




<http://neurobotics.cs.washington.edu/>



# Using fewer resources



<http://ubicomplab.cs.washington.edu>



How will CS help you reach  
your goals?