Building Java Programs

Final review, parting thoughts

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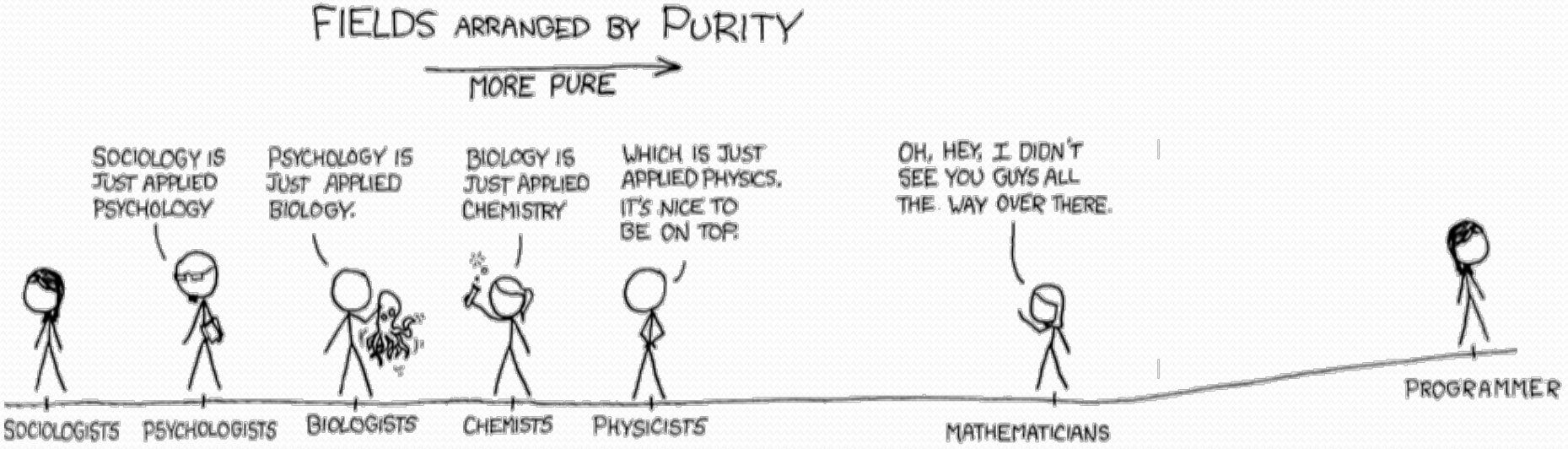

http://blog.codesushi.com/2008/06/xkcd/ with apologies to XKCD

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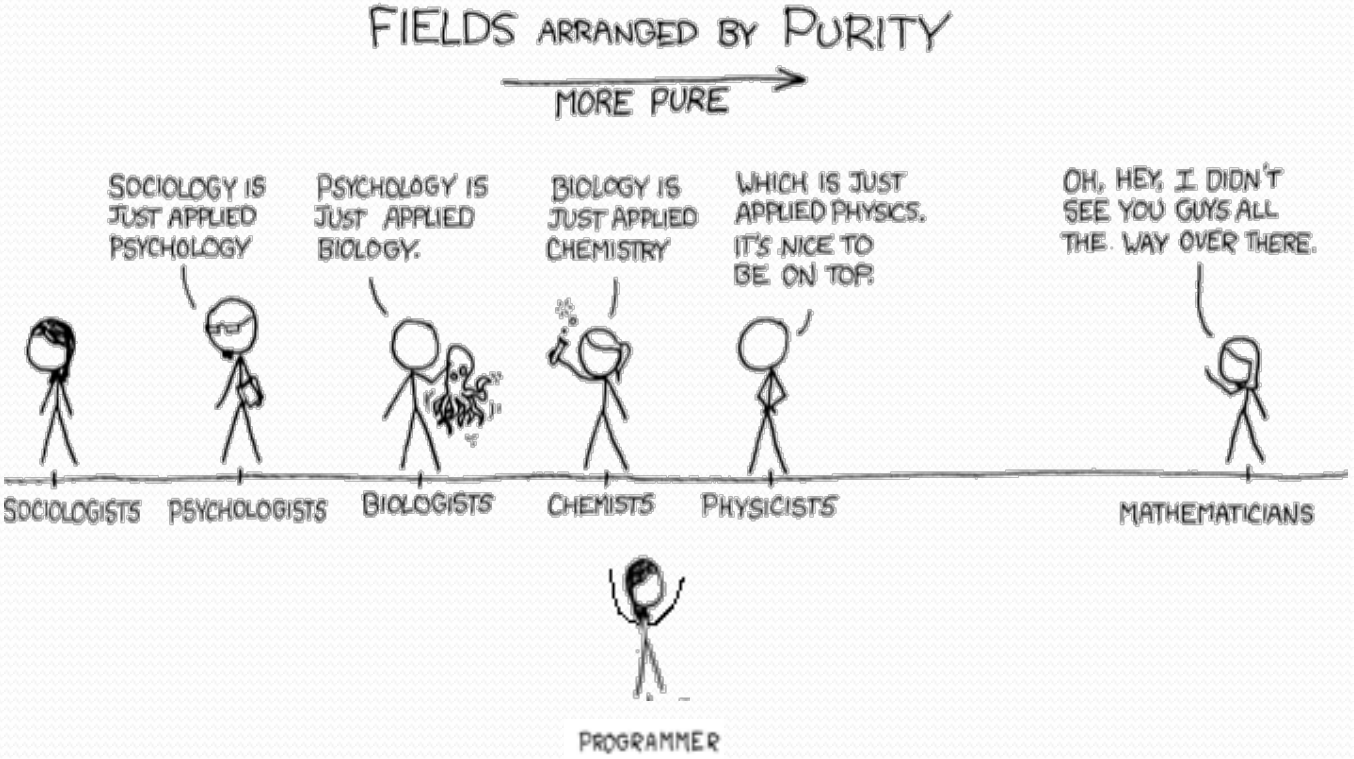

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Evaluating programs

- Correctness – does it do what's desired?
- Reliability – does it consistently do what's desired?
- *Efficiency – does it do what's desired quickly? (see 143)*
- Maintainability – is it easy to read and add to?
- Reusability – is it generalized?

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Creating abstractions

Procedural

- Building block: method
- Steps of computation
  - Task-based
- Small-scale projects

Object-Oriented

- Building block: class
- Reusable data entities
  - Modeling
- Large-scale projects

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Final exam

- Procedural: algorithmic problem-solving
  - Array mystery
  - Reference mystery
  - File processing
  - Array programming

- OO: applying rules, meeting a specification
  - Inheritance mystery
  - Critter
  - Classes/objects

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What's next?

- Arrays are great, but how else can I organize data?
  - CSE 143
- How do I write more complex algorithms?
  - CSE 143
- 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 190M

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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

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Making cool movies

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

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Shopping

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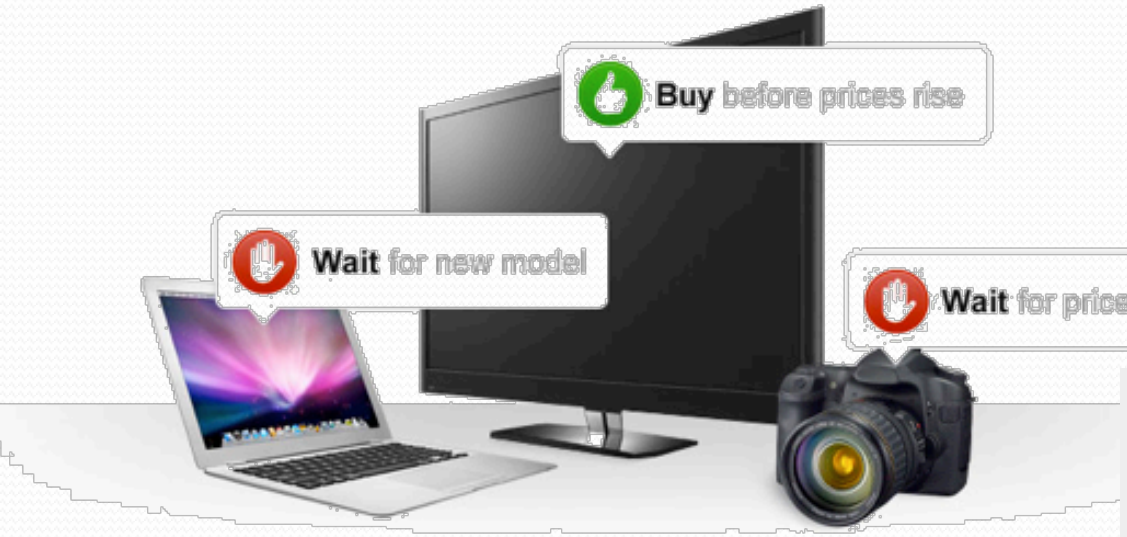
Getting good deals

No regrets.



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

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Flying autonomously

http://www.youtube.com/watch?v=E7X0_6o9J10

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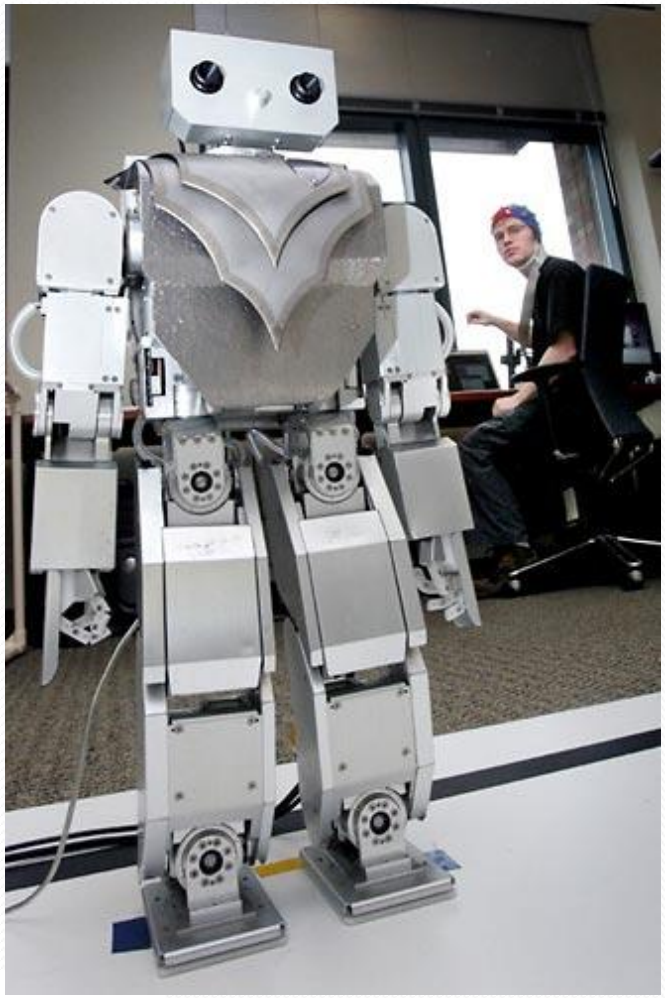
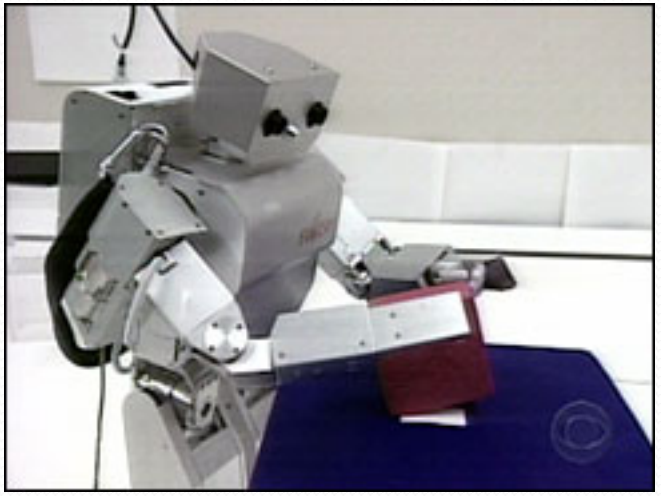
Mind control





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

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Catching the bus

- 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/

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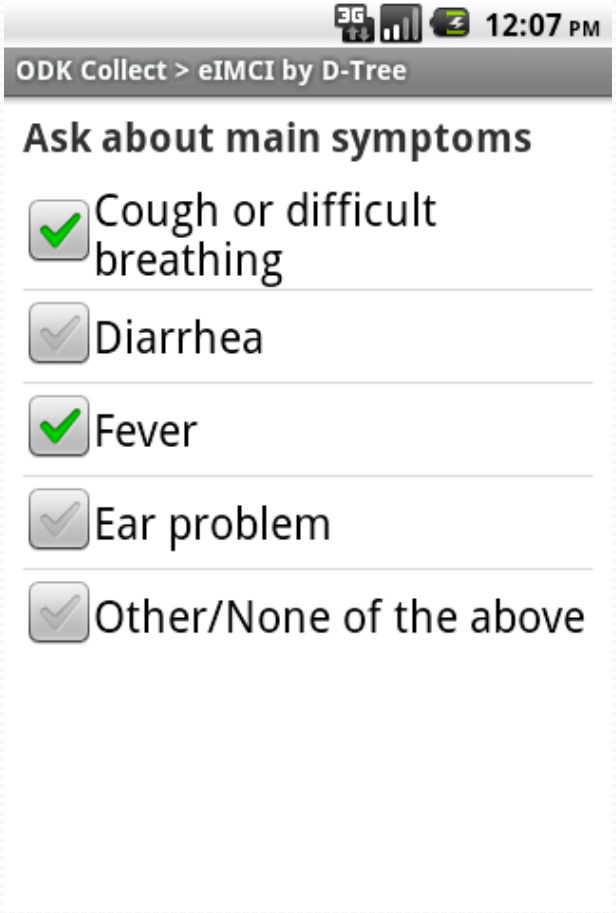
Improving healthcare



http://change.washington.edu/

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

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Seeing without eyes

http://vizwiz.org/

http://www.cs.washington.edu/rgbd-dataset/demos.html

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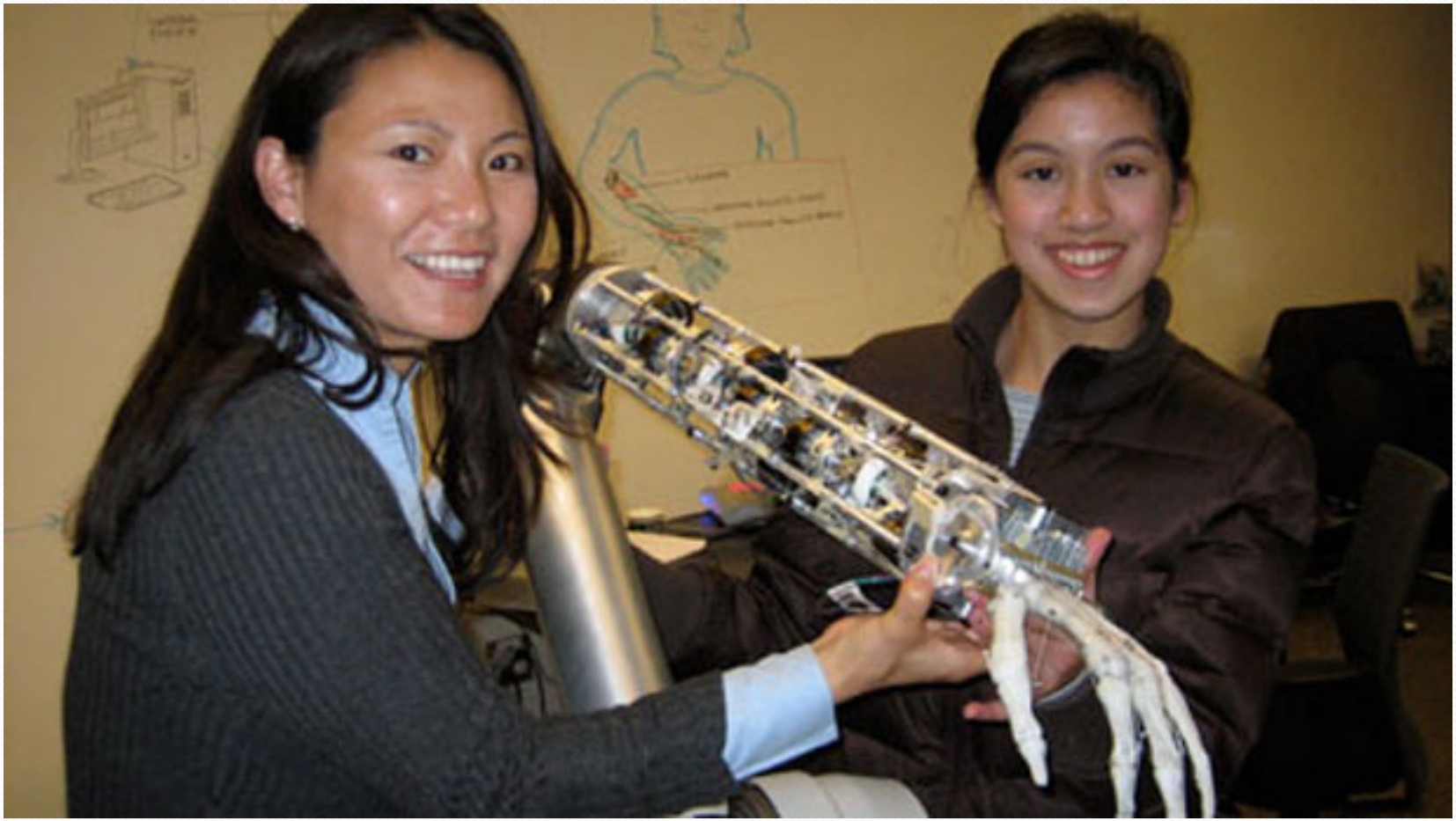
Enabling movement



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

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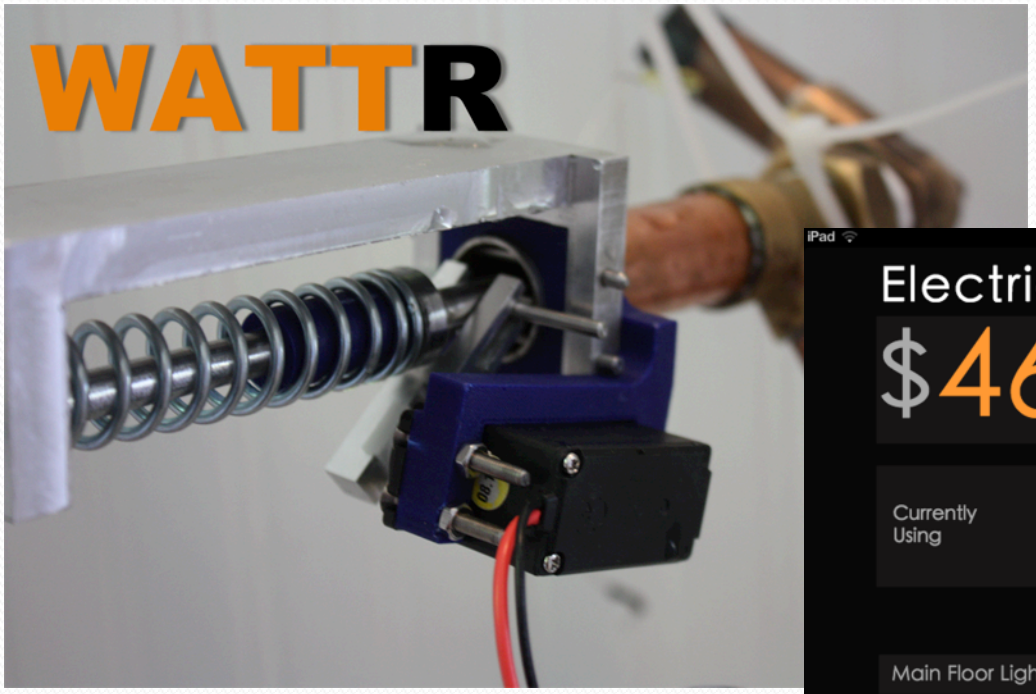
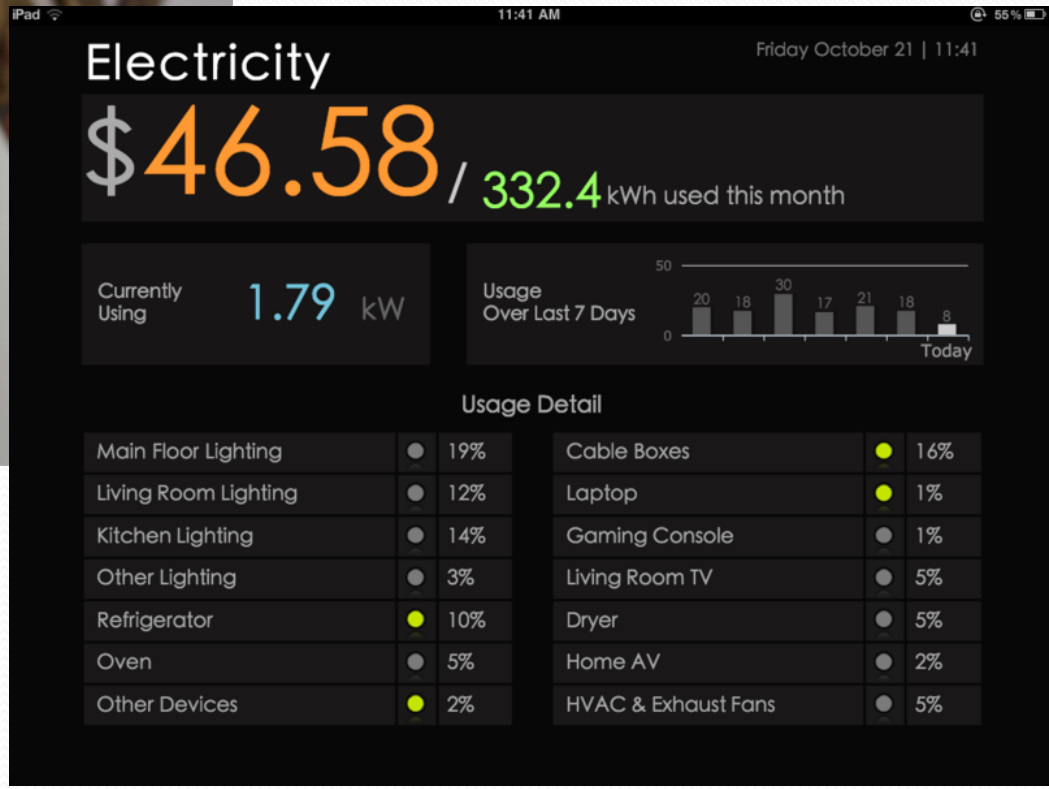
Using fewer resources





http://ubicomplab.cs.washington.edu

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