

Human Centered Computing and Accessibility

**IS 101Y/CMSC 104Y
First Year IT**

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- **Announcements**
 - **Asst 3: median 84, mean 82**
 - » **Appropriate collaboration**
 - » **Correlation between collaboration and grade**
 - **FYI: below 70% (on 12% total pts available)**
 - » **Low asst 3 grades**
 - » **Missing work**
- **Questions?**

Design

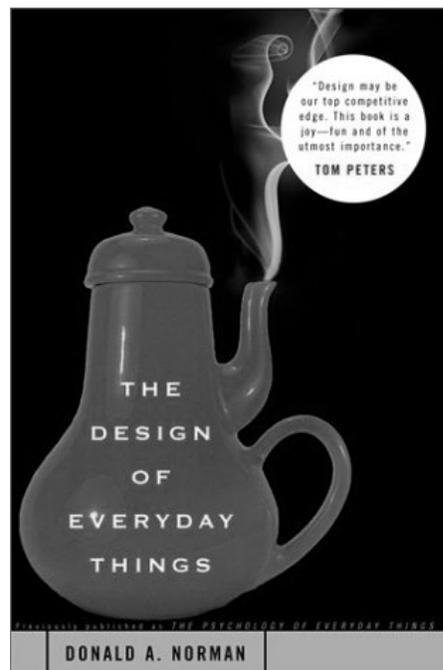
- **“Well-designed objects are easy to interpret and understand. They contain visible clues to their operation.” -- Donald Norman**
- **Principles**
 - **Visibility:** By looking, the user can tell the state of the device and the alternatives for action
 - **A good conceptual model:** consistency in the presentation of operations and results and a coherent, consistent system image.
 - **Good mappings:** It is possible to determine the relationships between actions and results, between the controls and their effects, and between the system state and what is visible
 - **Feedback:** The user receives full and continuous feedback about the results of actions

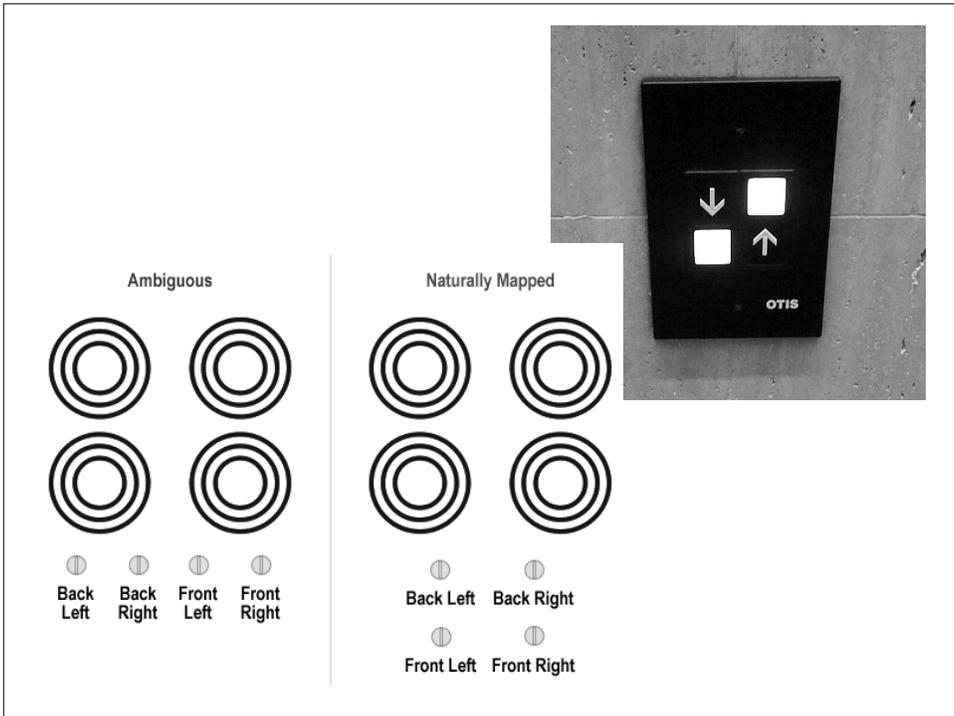
Seven Steps of Action Questions

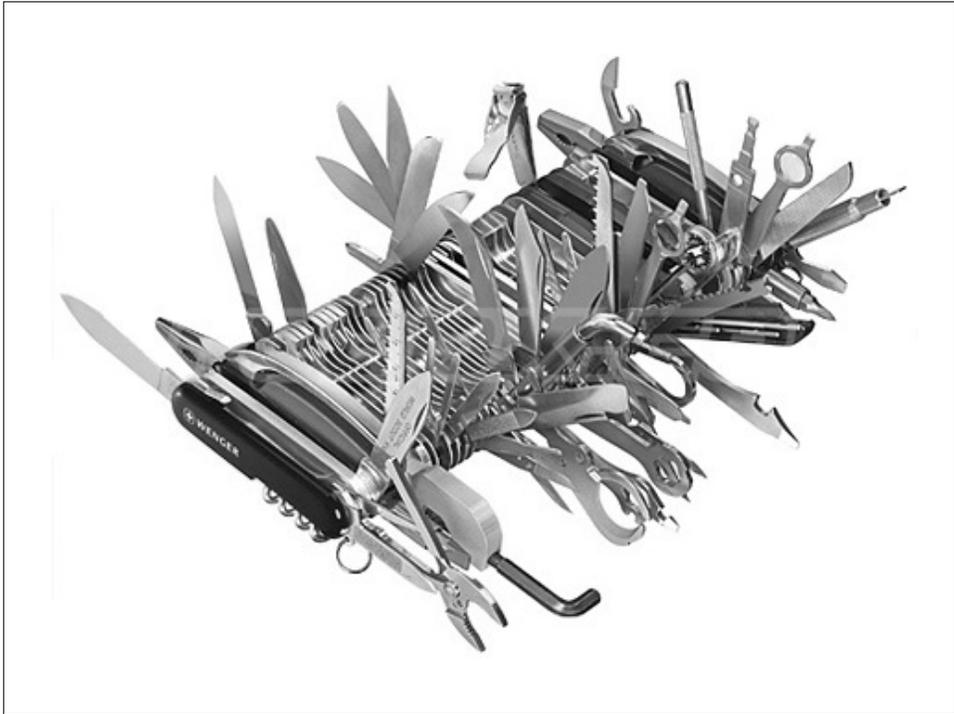
- **How easily can one:**
 - Determine the function of the device?
 - Tell what actions are possible?
 - Determine mapping from intention to physical movement?
 - Perform the action?
 - Tell if system is in desired state?
 - Determine mapping from system state to interpretation?
 - Tell what state the system is in?

Interface

- **The interface of an object is a particularly important design element. It controls how an object interacts with the rest of the system/world, in particular how the object can be controlled.**
- **What are some examples of interfaces?**









Default



Email



URL

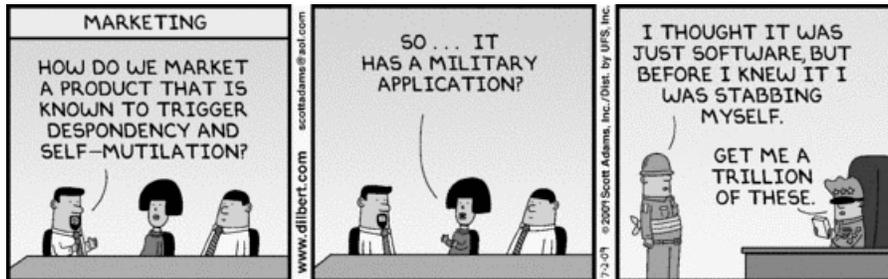


Phone



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"Damn these hooves! I hit the wrong switch again! Who designs these instrument panels, raccoons?"



Norman's Principles

- Use both knowledge in the world and knowledge in the head
- Simplify the structure of tasks
- Make things visible
- Get the mappings right
- Exploit the power of constraints
- Design for error
- When all else fails, standardize

Interface

- **What are characteristics of a good interface?**

Design Process

- **Where does design come from?**

Desk Set

This movie is called “Desk Set”. It was made in 1957 and stars Spencer Tracy and Katherine Hepburn (it was, in fact the last movie this famous pair made together). It’s not actually a very good movie, but it is one of the few that Hollywood has made about a systems analysis project. Spencer Tracy plays Richard Sumner, the systems analyst (however, the term “systems analysis” hadn’t been invented in 1957, so he calls himself an “efficiency engineer”) who has been hired to design a computer system for the reference department of a major newspaper company. The job of the reference department is to answer obscure questions from writers at the newspaper so that the facts they put in their articles are correct. The reference department is run by Bunny Watson (played by Katherine Hepburn) and so she is Richard Sumner’s main customer contact.

Desk Set

1. Reference Department (scene 3)

Background: This scene shows Richard Sumner’s first observation of the Reference Department after being hired to do lead this project.

Length: about 5 minutes, stop when Richard Sumner walks into Bunny Watson’s office.

Desk Set

2. Rooftop Dining (scene 9)

Background: This scene shows Sumner's interview of his customer contact, Bunny Watson. He has suggested that they have the interview over lunch, then takes her to the roof of the building where they eat sandwiches he's bought at a deli. It is wintertime.

Length: about 7 minutes. Stop when Bunny starts asking questions to Richard Sumner.

Desk Set

3. The Electronic Brain (scene 20)

Background: This scene shows the new computer system, called the Emilac, or "Miss Emmy" and her operator in action. The scene starts off with Miss Emmy being prepared for her work by populating her database with all kinds of data. Things go downhill from there, as you'll see. We won't see the very end of the movie, but it ends, of course, with Richard Sumner and Bunny Watson falling in love and living happily ever after.

Length: about 17 minutes, until the phrase "Never Assume"