Usability

Press Play: Interactive Device Design | May 16, 2010

The human mind is exquisitely tailored to make sense of the world. Give it the slightest clue and off it goes, providing explanation, rationalization, understanding. .. Poorly designed objects can be difficulty and frustrating to use. They provide no clues—or sometimes false clues. They trap the user and twart the normal process of interpretation and understanding. Alas, poor design dominates.

Donald Norman, Design of Everyday Things

Useful concepts in Usability

Affordances

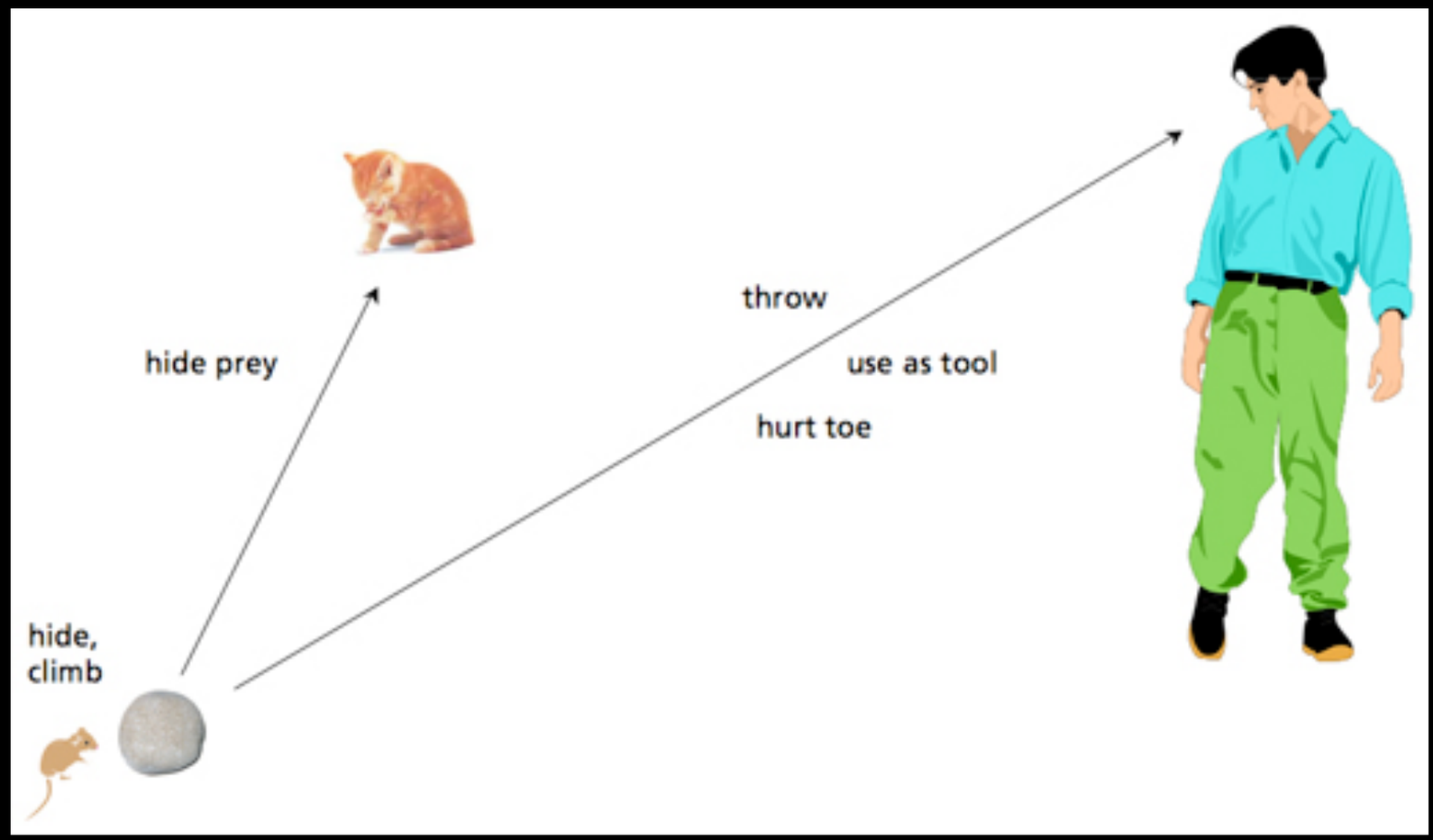
http://jareddonovan.com/blog/?cat=10

The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill.

--J.J. Gibson

Useful concepts in Usability

Affordances



http://www.macs-eu.org/images/affordance-animals.jpg

Useful concepts in Usability

Perceived Affordances

Affordances provide strong clues to the operation of things. Plates are for pushing. Knobs are for turning. Slots are for inserting things into.

—Don Norman

Useful concepts in Usability

Conceptual Model

A good conceptual model allows us to predict the effect of our actions.

Conceptual models need not be very complex. However, when the model presented is inadequate or wrong, we can have difficulties.

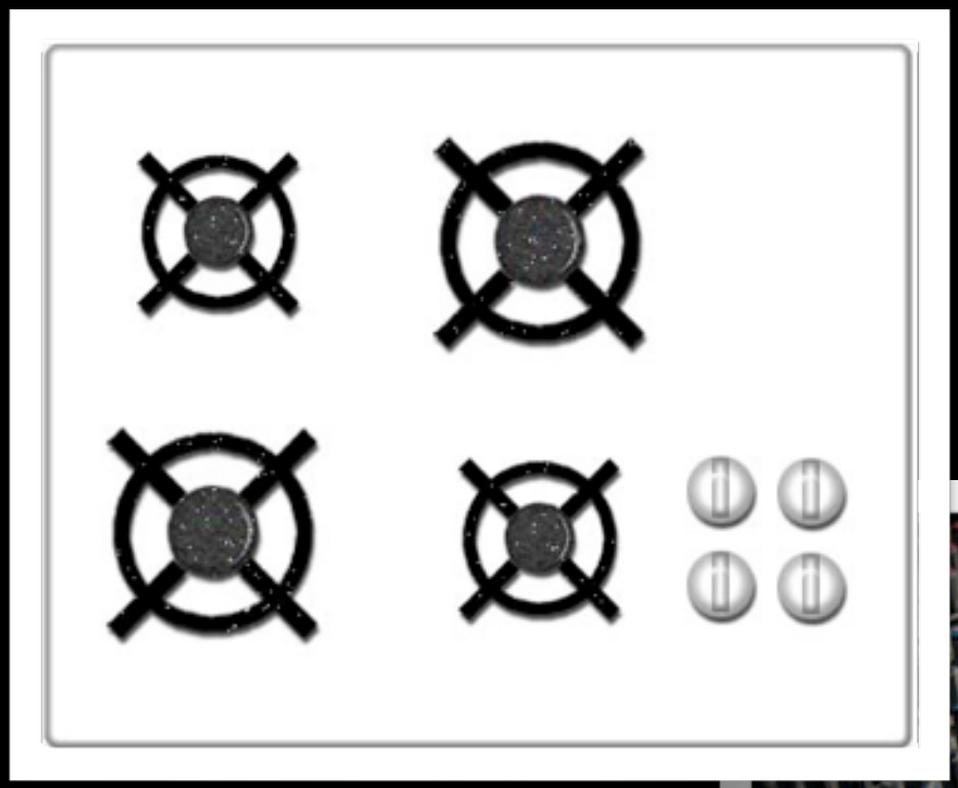
Useful concepts in Usability

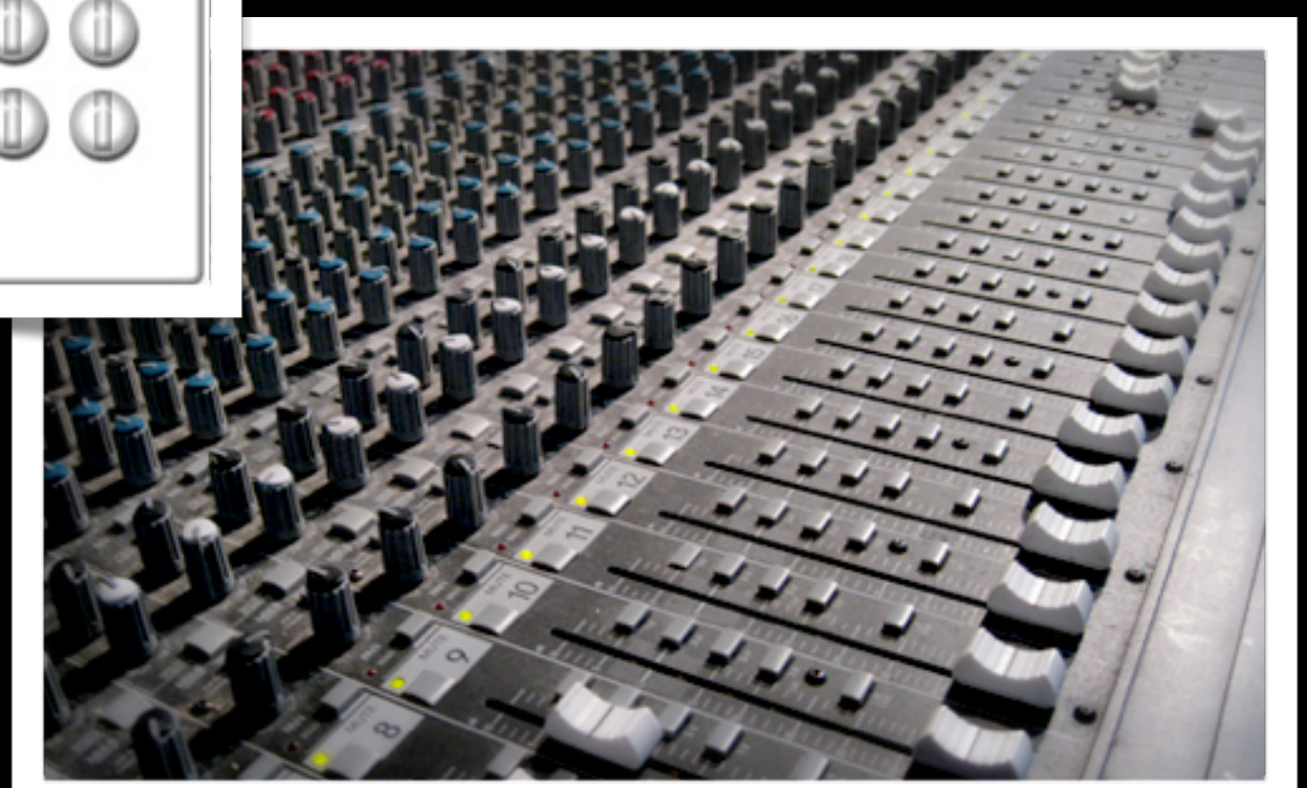
Visibility

	Knowledge in world	Knowledge in head
Retrievability	whenever visible or audible	Not easily retrievable.
Learning	Learning not requred	Requires learning
Efficiency of Use	Slower due to need to find and interpret info.	Can be very efficient
Ease of first use	High	Low
Aesthetics	Can be cluttered	Can be more elegant

Useful concepts in Usability

Mapping





Useful concepts in Usability

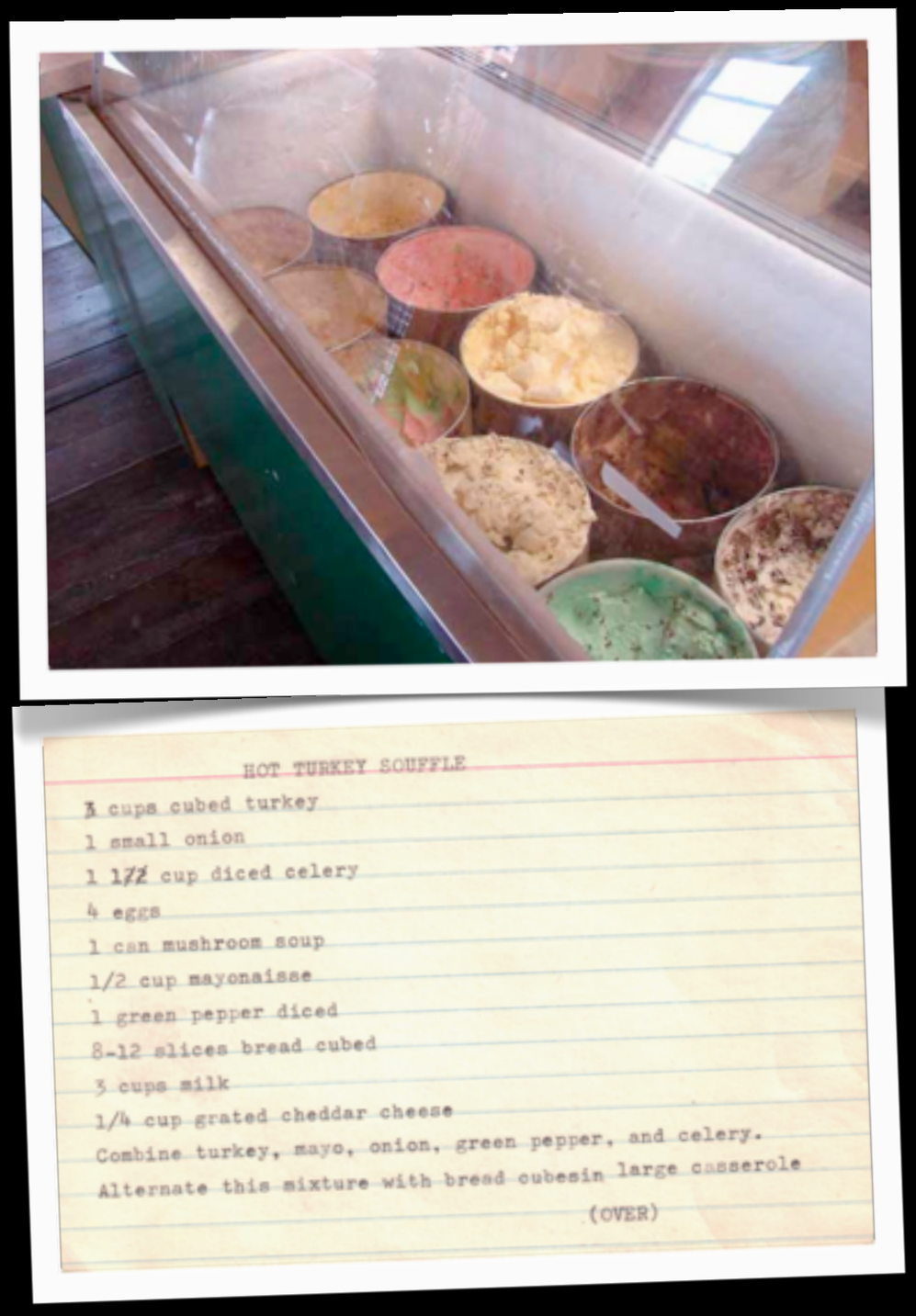
Slips vs. Mistakes

- Slips result from automatic behavior, when subconscious actions that are intended to satisfy our goals get waylaid enroute

- Mistakes result from conscious delibarations, incorrectly derived conclusions of how things relate

Useful concepts in Usability

Task Structure



HOT TURKEY SOUFFLE

3 cups cubed turkey
1 small onion
1 1/2 cup diced celery
4 eggs
1 can mushroom soup
1/2 cup mayonaisse
1 green pepper diced
8-12 slices bread cubed
3 cups milk
1/4 cup grated cheddar cheese
Combine turkey, mayo, onion, green pepper, and celery.
Alternate this mixture with bread cubesin large casserole

(OVER)

- Breadth in Task Structure increases complexity.
- Shallow Task structures (like choosing from many ice cream flavors) or Narrow Task structures (like performing a recipe) are easier.

Useful concepts in Usability

Feedback

- Feedback gives people information about what they did, and what result follows.
- A lot of feedback use to come for “free” but now we have to design it in!

Principles of Design
For Usability

1. Make things visible.

2. Provide good conceptual models

3. Use good mappings

4. Provide lots of feedback

Methods for Usability Research

Informal Techniques

1. Observe your user in their natural context.

2. Interview people and find out what works and doesn't

3. Make lo-fi prototypes and talk through them with people

4. Test the real device out as it is being developed

In-class Activity

“Sketch” the interface for your MP3 player in detail.

Have your partner “try it out”