

USER CENTERED DESIGN VOCABULARY

This material is partially based on the slides developed by Gregory Abowd, Jim Foley, Diane Gromala, Elizabeth Mynatt, Jeff Pierce, Colin Potts, Chris Shaw, John Stasko, and Bruce Walker and on Don Norman's class.

Today's Questions

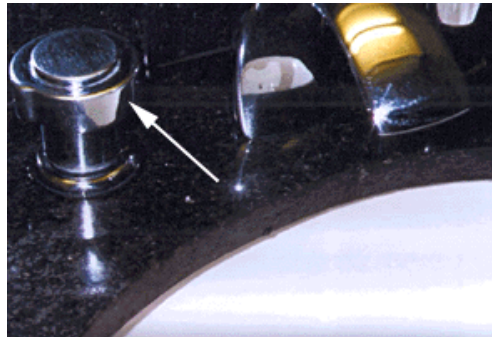
- What do affordance and signifier mean?
- How can I use these theoretical definition in practice?
- How are these concepts related with user/human center design?
- What are conceptual models and system images?
- Are these concepts related one with the other?
- Can they influence the quality of your design? If yes, how?

What do you do when you interact with an object the first time?

Affordances

- **Affordances** are relationship between an object and an entity
 - Relationships: possible actions
 - Entity: person
- Example:
 - A door can be opened
 - A touch screen can be swiped
 - A chair?

Affordance of this Handle?



Is it an example of good design?

Affordances

- Affordances **enable interactions** between entities and objects
- Anti-affordances prevent or reduce interactions
- The presence of an affordance is determined by the properties of the object and of the abilities of the entity who is interacting with the object

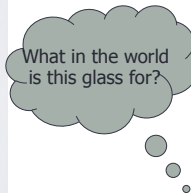
How do you open this drawer?



Signifiers

- Signifiers “signify” that an action can be performed / how to perform
 - A “crash bar” on a door signifies that pushing on it will open the door
 - What signifies that a touch screen can be swiped?
- Missing signifier

Lack of Signifiers - Example



Now with a signifier!



Signifiers are often the means to carry out affordances

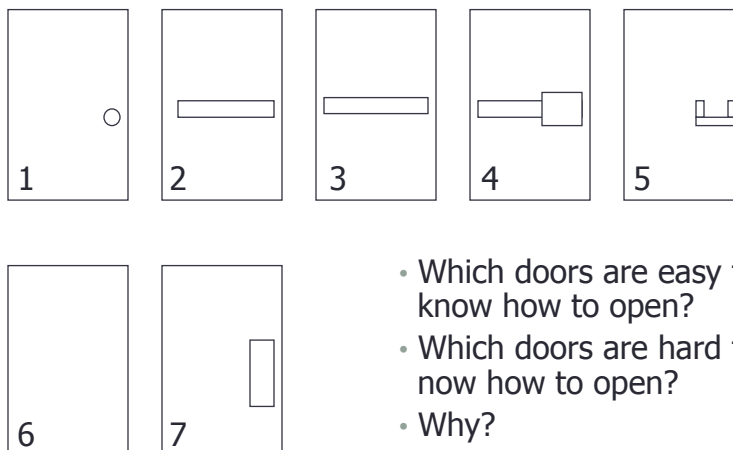
- Button is for pushing
- Door handle is for
- Scroll arrow is for ...
- Icon is for ...

But not always

- Arrow is signifier; door knob affords turning
 - We know only by convention that knobs can be turned



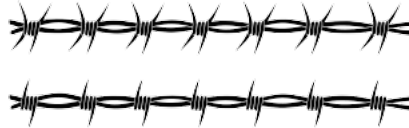
Door Opening Signifiers



- Which doors are easy to know how to open?
- Which doors are hard to know how to open?
- Why?

Affordances or signifiers?

- Barbed wire



- High voltage/Keep away sign



- Traditional door knob



Conceptual Models

- People build their own models of how things work
 - Thermostat at home
 - Turn up real high to get warmer faster?
 - What is conceptual difference between an iPhone or Android Phone and Mac OS or Windows?
- Designer can help user foster an appropriate conceptual model
 - Appearance, instructions, behavior...

Chinese Puzzle Tea Pot



<https://www.youtube.com/watch?v=01DIRqLD3sQ>

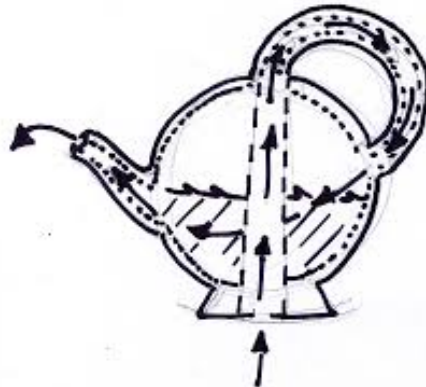
Example 1



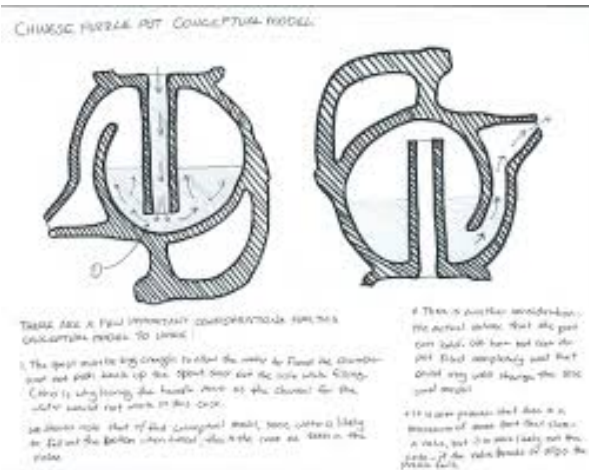
Chinese Puzzle Pot
Assumption of HOW DOES IT WORK?



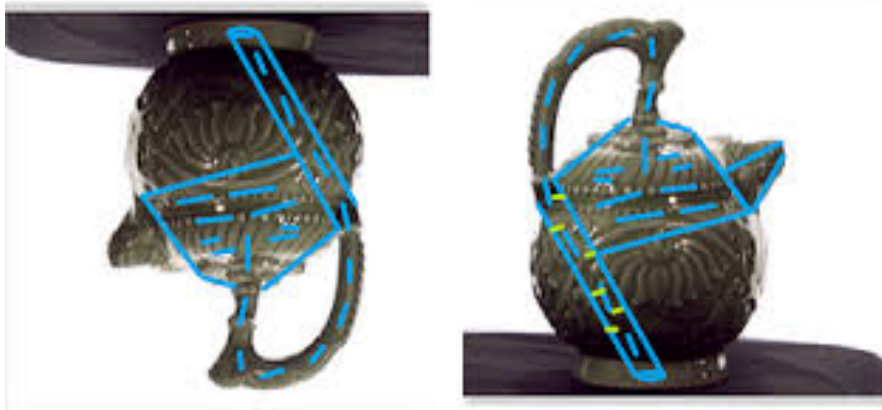
Example 2



Example 3



Example 4



Example 5

