CSE 510: Advanced Topics in HCI

HCI as Design I

James Fogarty
Daniel Epstein

Tuesday/Thursday
10:30 to 12:00
CSE 403

“Do the Work” vs “Understand It”

HCI practice includes both

- CSE 440 teaches an intense project sequence
- Interjects higher-level understanding

Today will focus on conceptual material

Thursday will focus on a typical design process

Highly abridged presentation of this material

Ideation Rules

Defer judgement.

Encourage wild ideas.

Build on the ideas of others.

Stay focused on the topic.

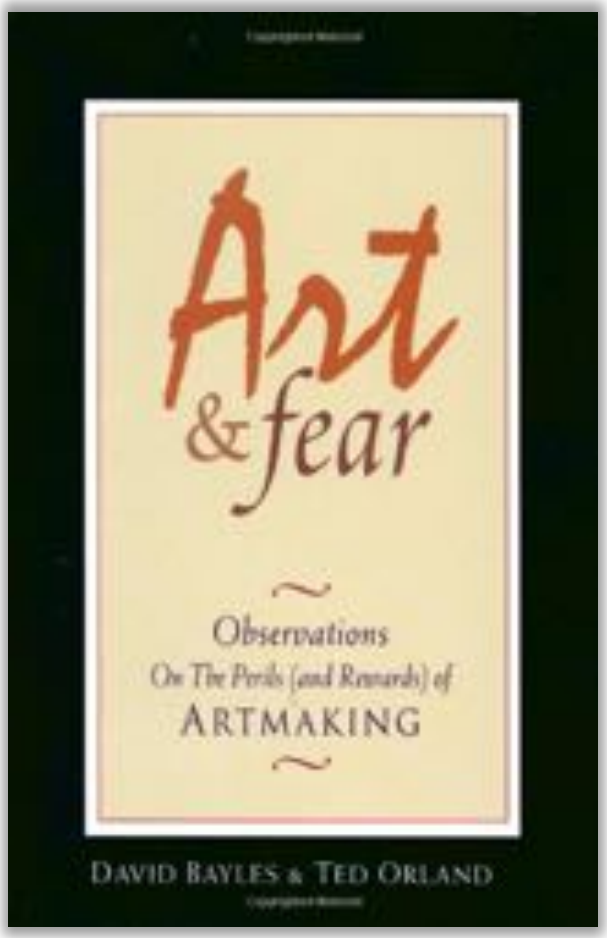
One conversation at a time.

Be visual.

Go for quantity.

From IDEO: https://openideo.com/blog/seven-tips-on-better-brainstorming

Quantity versus Quality



One class told they will be graded on quality, another on quantity

Bayles and Orland, 2001

Quantity versus Quality

The quantity class produces better pots. Why?

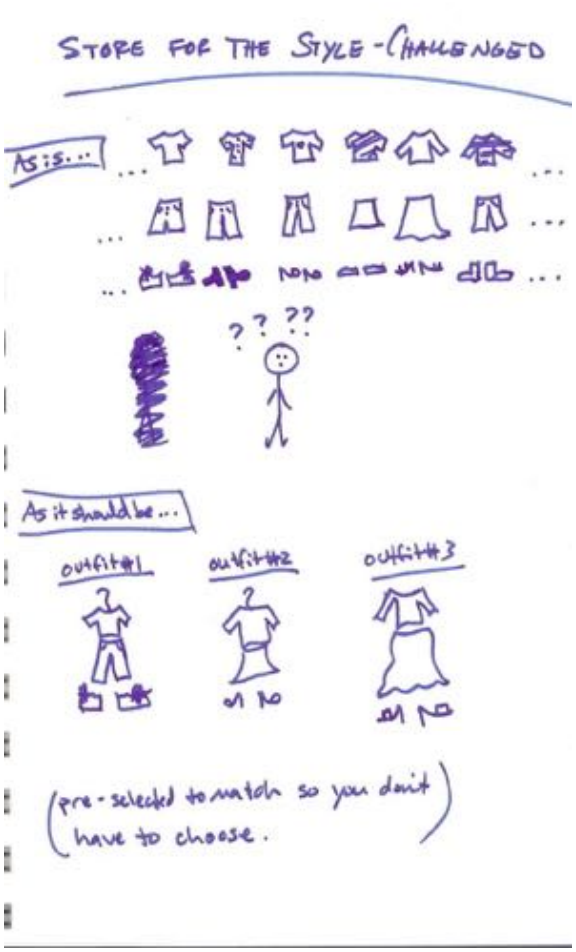
"While the quantity group was busily churning out piles of work—and learning from their mistakes—the quality group had sat theorizing about perfection, and in the end had little more to show for their efforts than grandiose theories and a pile of dead clay"

Bayles and Orland, 2001

Sketching User Experiences

Sketching


Movies
Art of War
Bittersweet Motel
Godzilla
The Cell


STORE FOR THE STYLE-CHALLENGED
As is...
As it should be...
outfit#1
outfit#2
outfit#3
(pre-selected to match so you don't have to choose.

Sketching

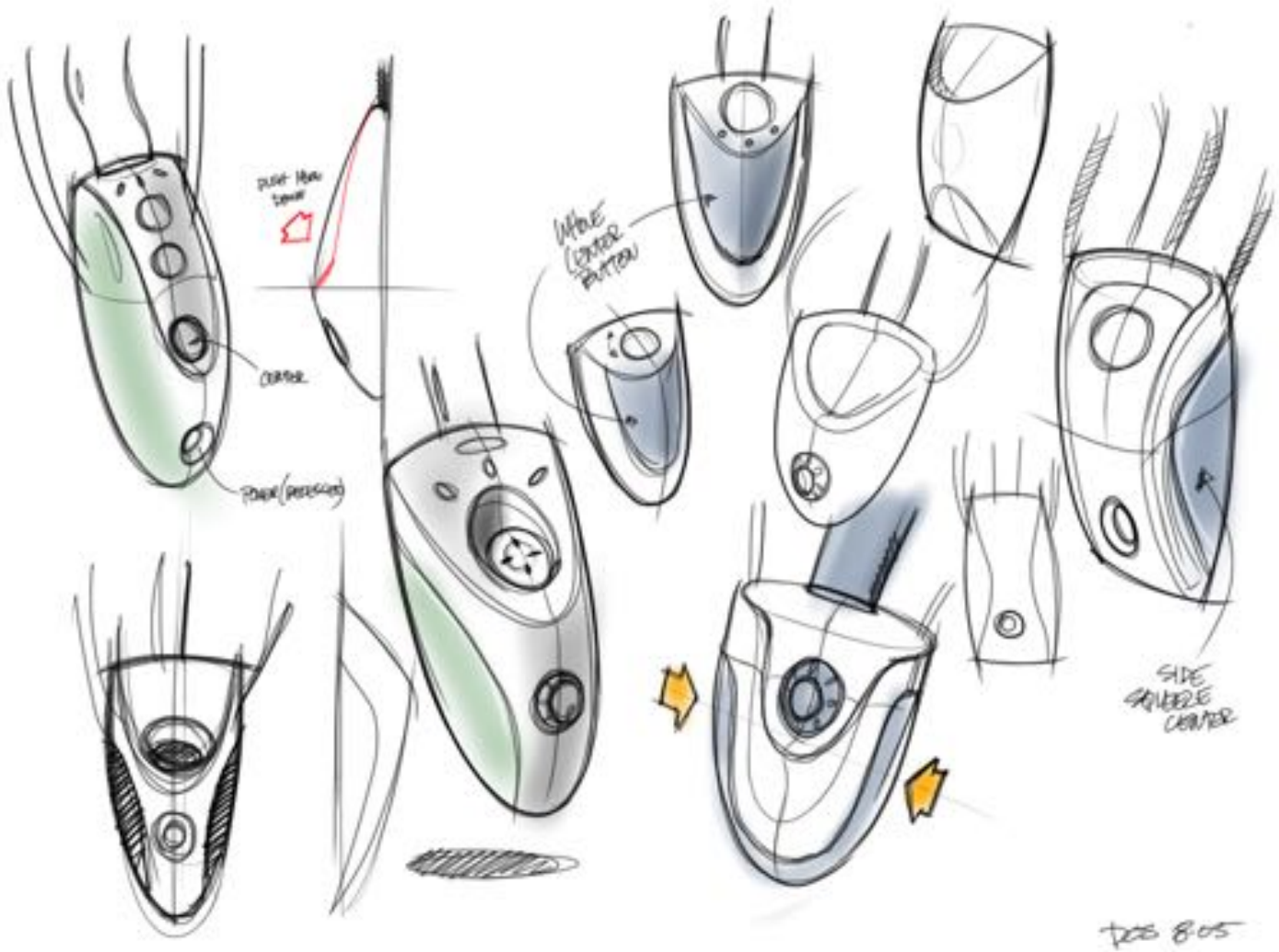
A process that enables you to

think through ideas and

convey design ideas to others

very early in the design phase

Quintessential Activity of Design



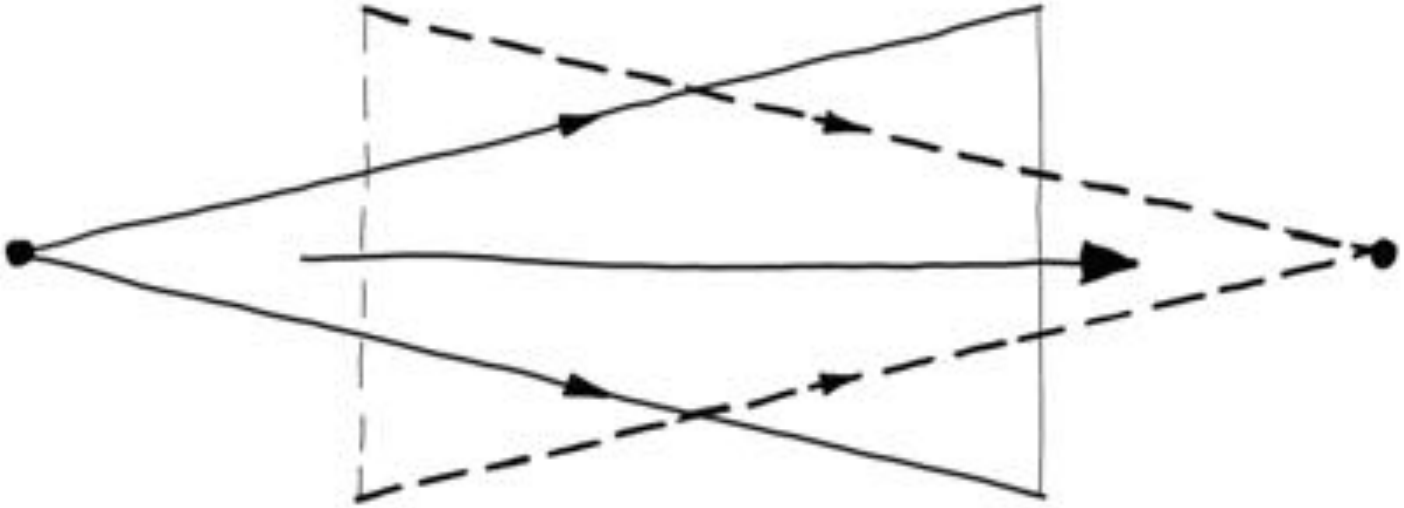
Design as Choice

Elaboration

palette of choices

Reduction

heuristics to choose



Design as Choice

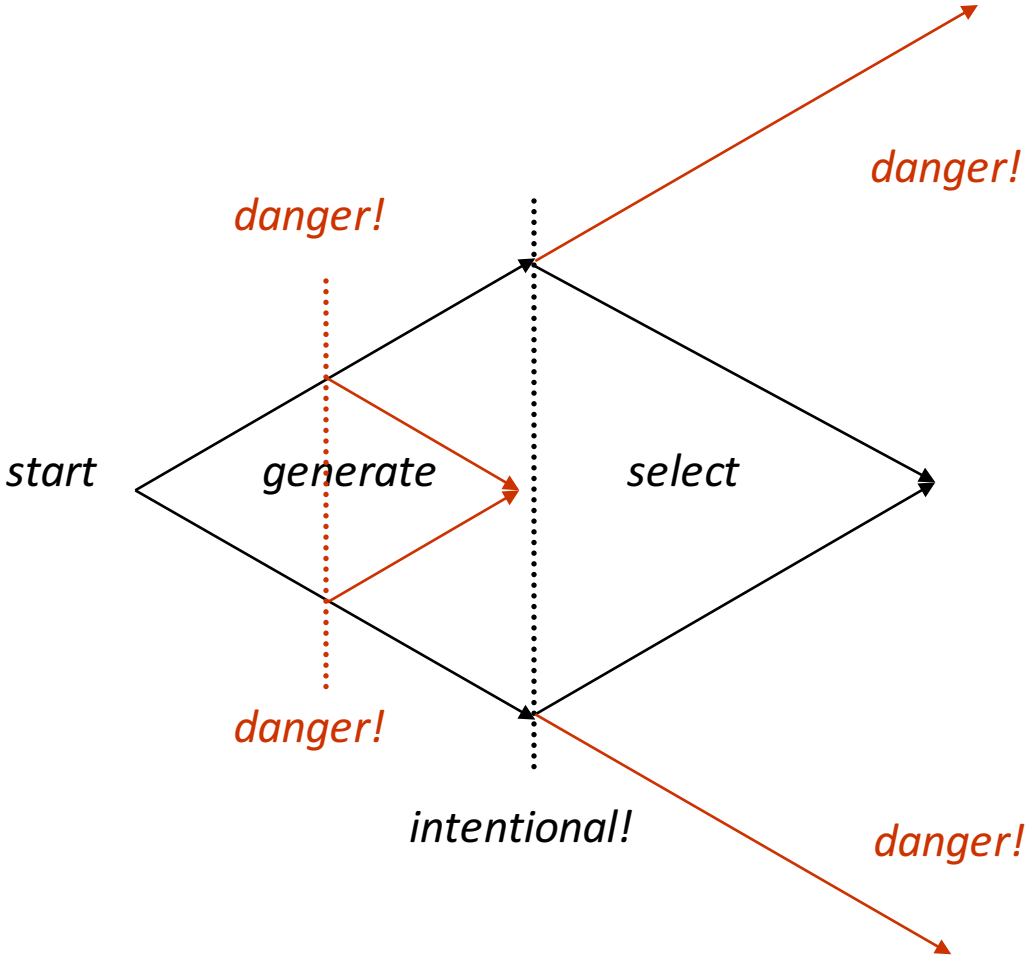
Two openings for creativity

- Palette of choices
- Heuristics used to choose

Why is your contextual inquiry so important?

- What you learn directly informs both of these, shaping everything you do this entire quarter

The Design Diamond



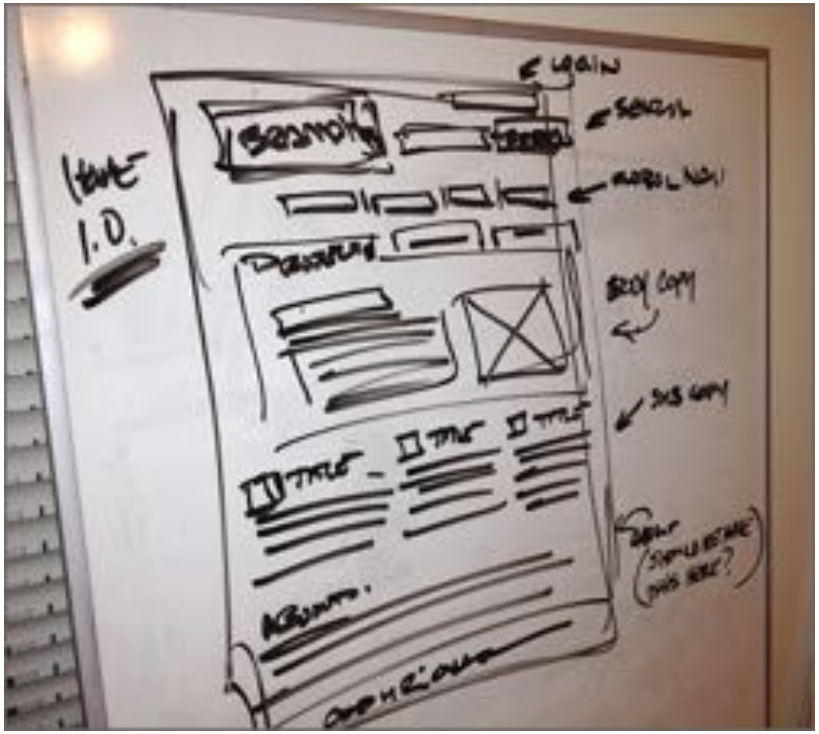
Properties of Sketches

Quick
Timely
Inexpensive
Disposable
Plentiful
Clear Vocabulary

Distinct Gesture
Minimal Detail
Appropriate Refinement
Suggest and Explore
Ambiguous

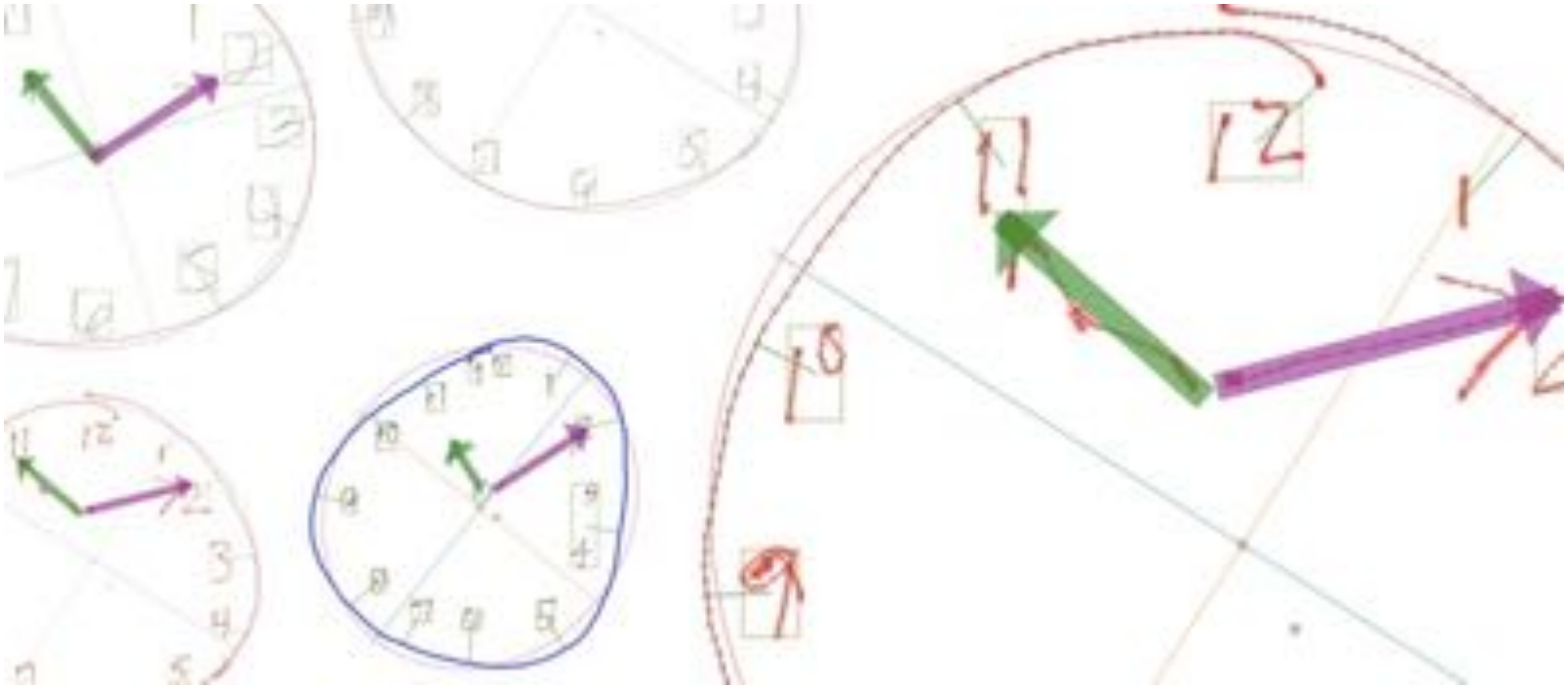
Quick

A sketch is quick to make,
or at least gives that impression



Timely

A sketch can be provided when needed



Inexpensive

Cost must not inhibit the ability to explore a concept, especially early in design

Disposable

If you cannot afford to throw it away,
then it is not a sketch

Investment is in the process,
not the physical sketch

But they are not "worthless"

Plentiful

Sketches do not exist in isolation

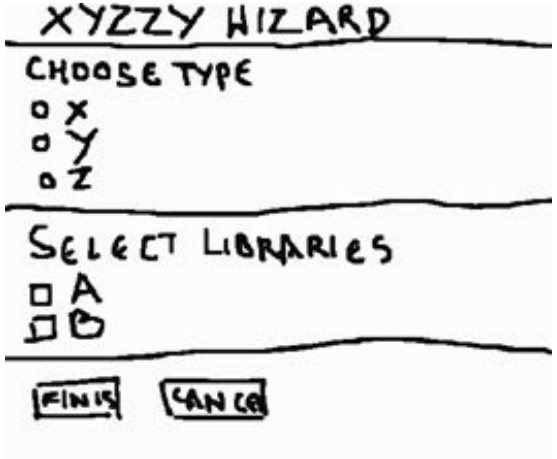
Meaning and relevance is in the context of a collection or series

Clear Vocabulary

The way it is rendered makes it distinctive that it is a sketch (e.g., style, form, signals)

Could be how a line extends through endpoints

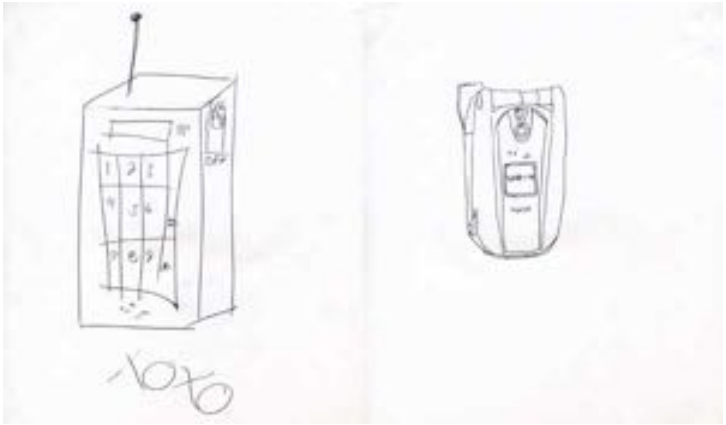
Physical sketches have their own vocabulary



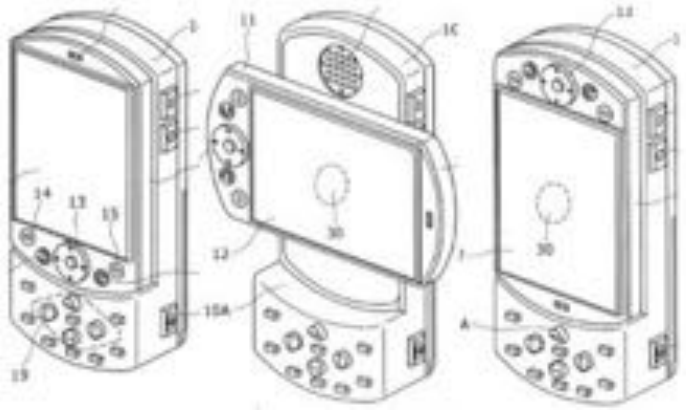
Distinct Gesture

Fluidity of sketches gives them
a sense of openness and freedom

Opposite of engineering drawing,
which is tight and precise

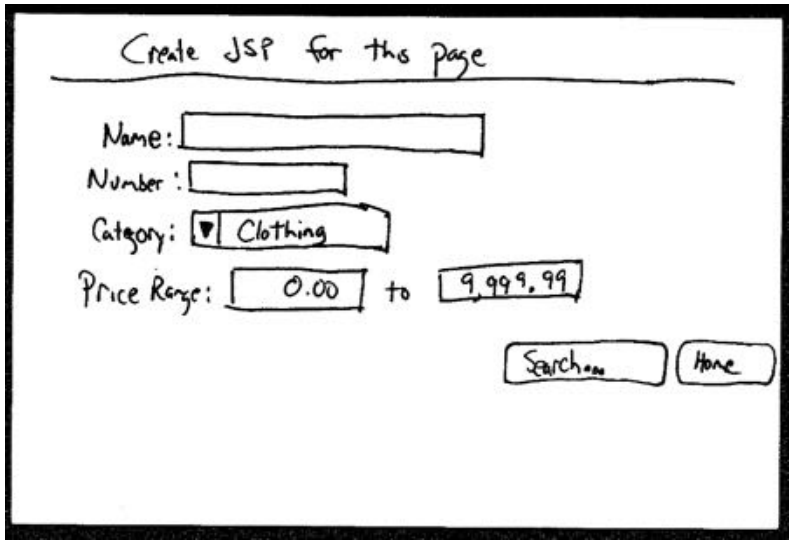


vs.



Minimal Detail

Include only what is required
to render the intended purpose or concept

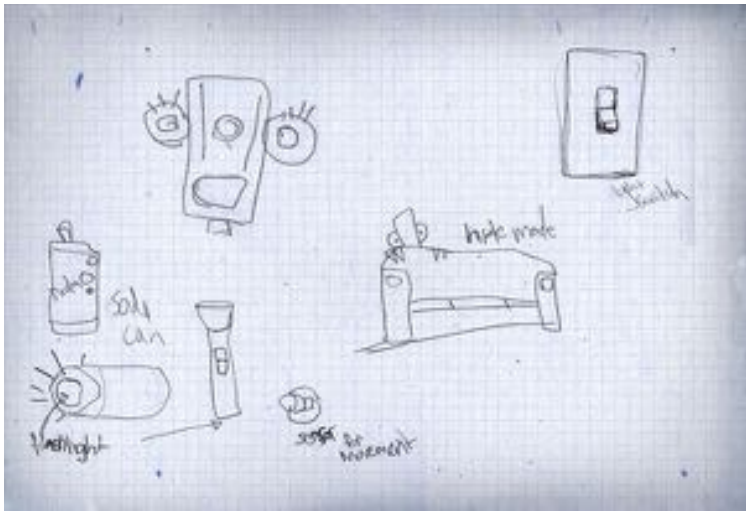


Minimal Detail

Appropriate Degree of Refinement

Make the sketch as refined as the idea

If you have a solid idea,
make the sketch look
more defined



If you have a hazy idea,
make the sketch look
rougher and less defined

Suggest and Explore Rather than Confirm

Sketch should act as a catalyst
to the desired and appropriate behaviors,
conversations, and interactions

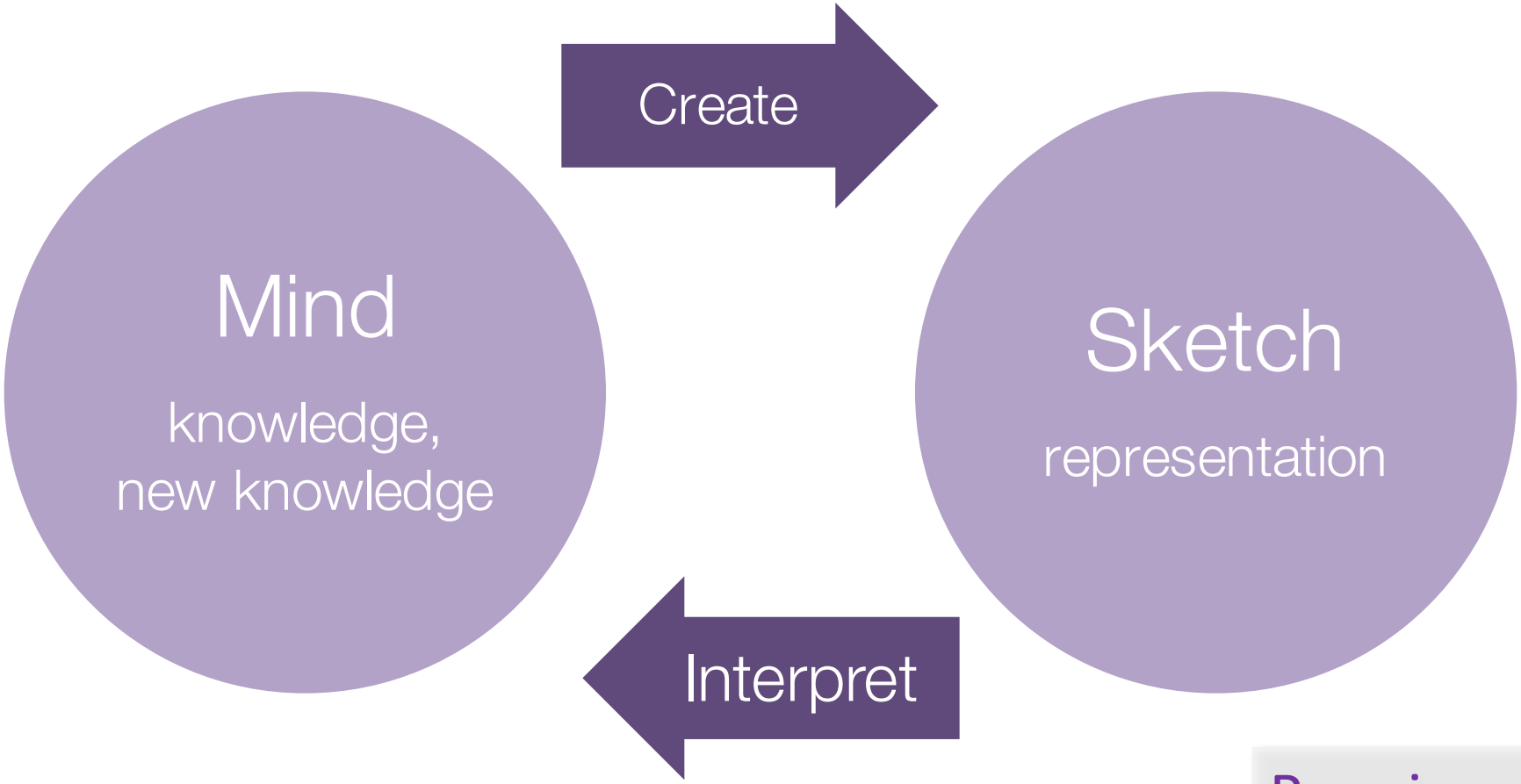
Ambiguity

Intentionally ambiguous

Value comes from being
able to be interpreted
in different ways, even by
the person who created them

Sketches have holes

Sketching as Conversation



Requires ambiguity

Sketch vs. Prototype

Sketch	Prototype
Invite	Attend
Suggest	Describe
Explore	Refine
Question	Answer
Propose	Test
Provoke	Resolve
Tentative, non committal	Specific Depiction

The primary differences are in the intent

Sketching the Mouse

Making the Macintosh:
http://www-sul.stanford.edu/mac/index.html

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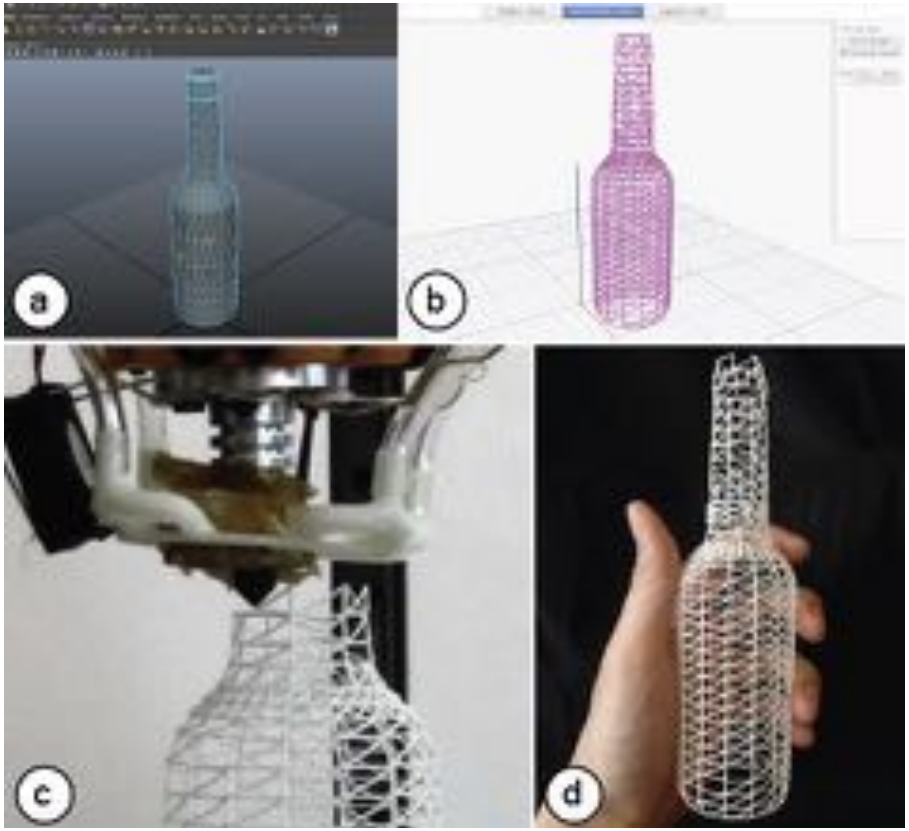
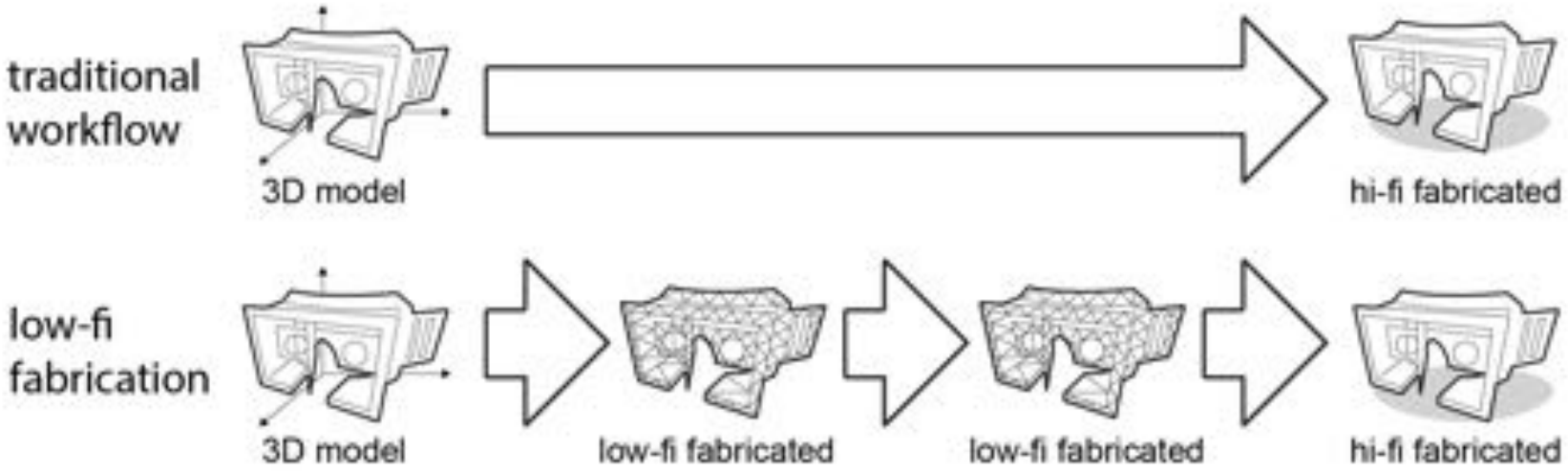
Physical Sketching

Physical Sketching



Mueller, WirePrint, UIST 2014

Physical Sketching



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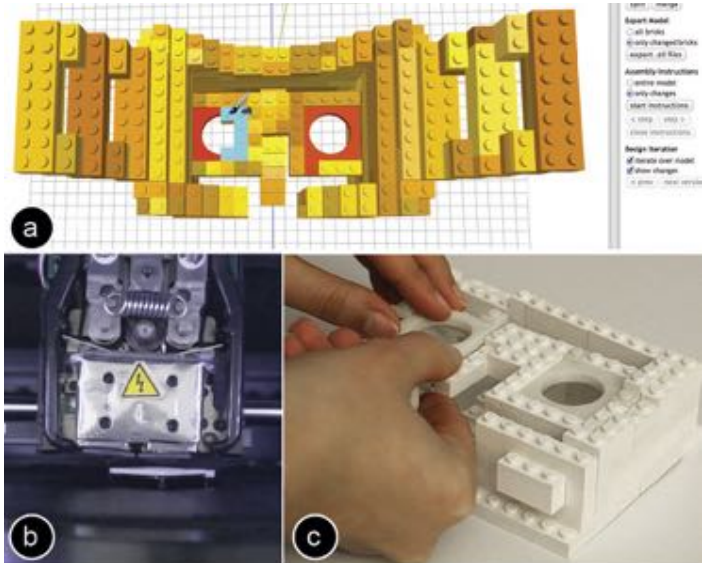
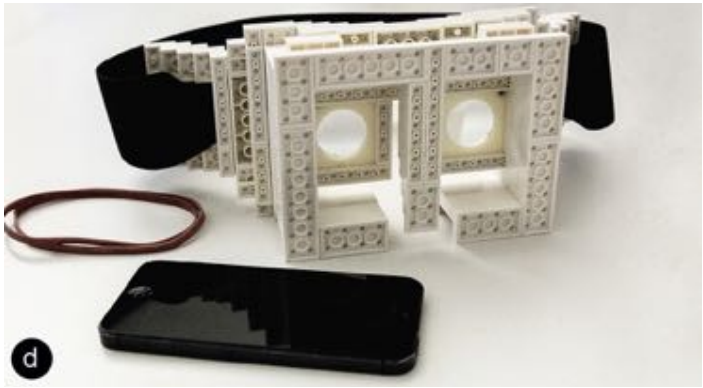
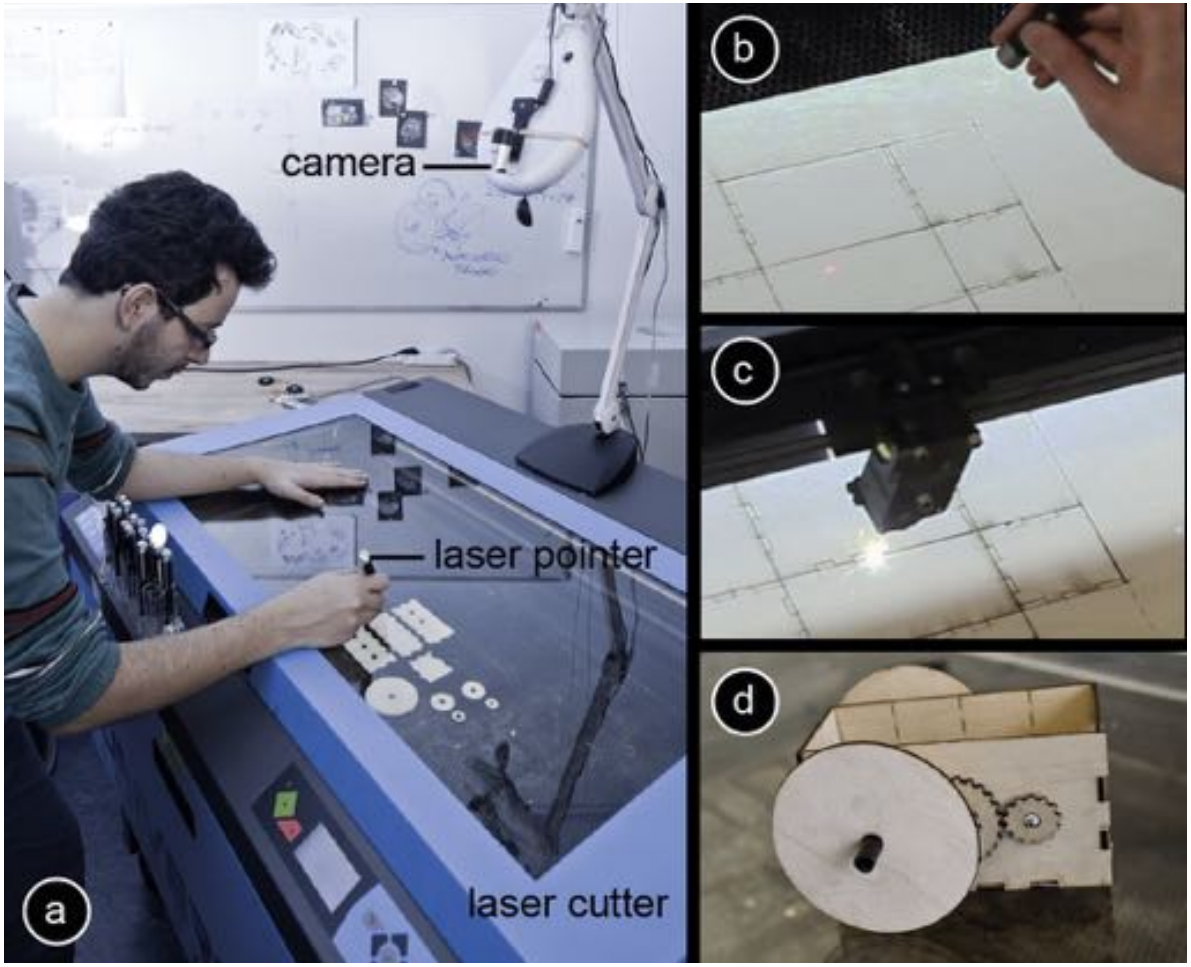




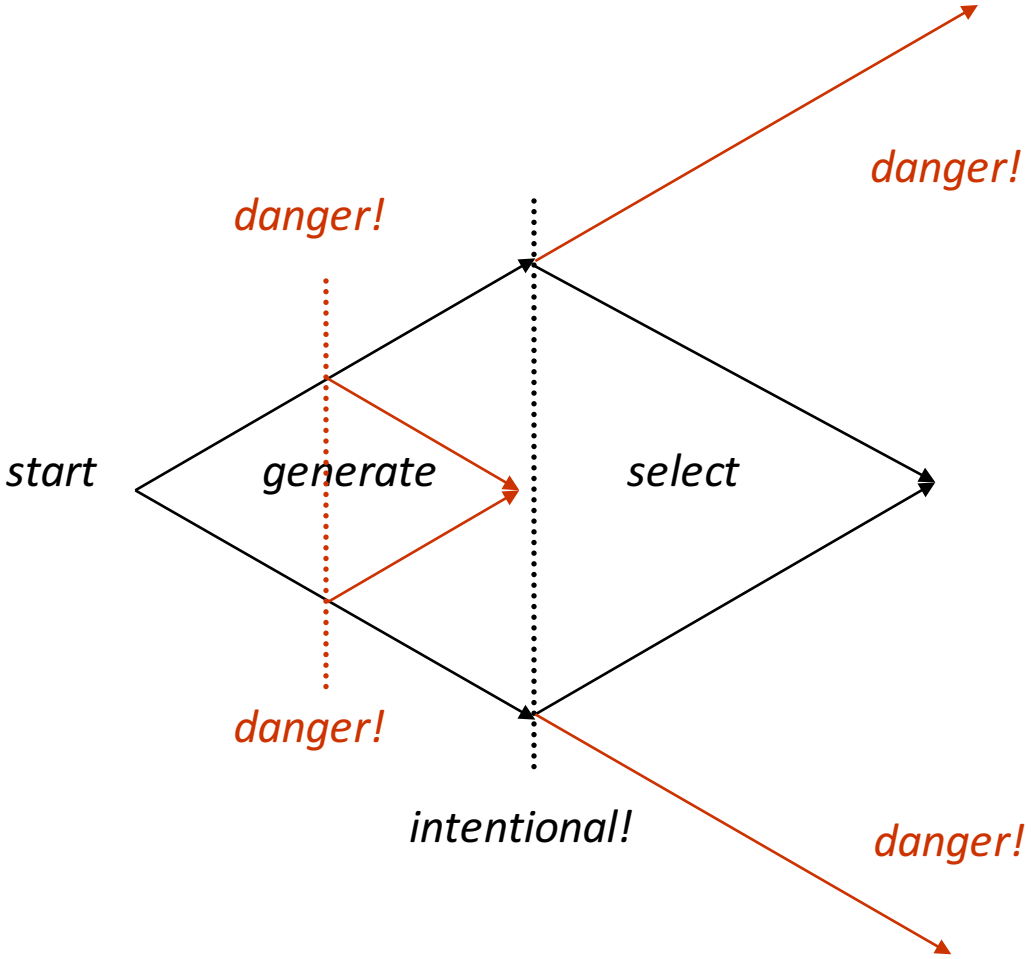
Mueller, Fabrickation, CHI 2014

Physical Sketching



Mueller, Constructable, CHI 2012

Idea Oscillation



Critiquing Sketches is Important

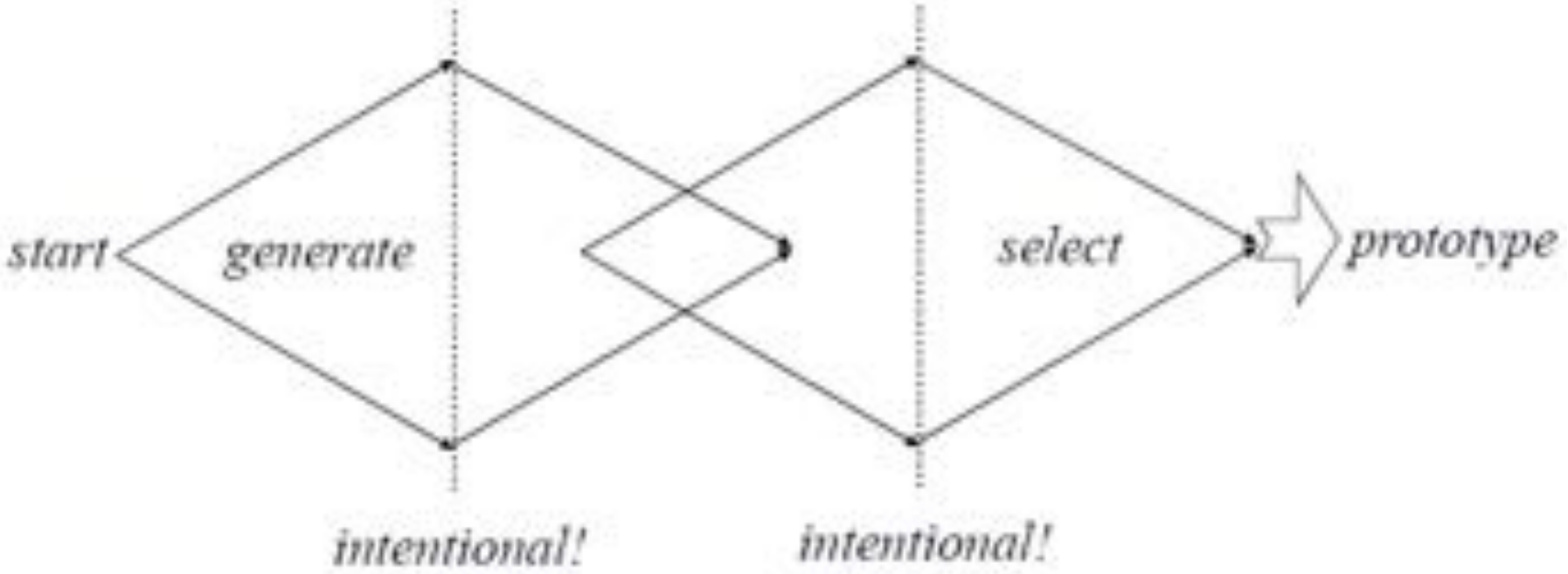
Ideas are both good and bad

- Both are useful in design
- By making clear what is a bad design, we can avoid actually implementing it
- Bad ideas help you justify your good ideas

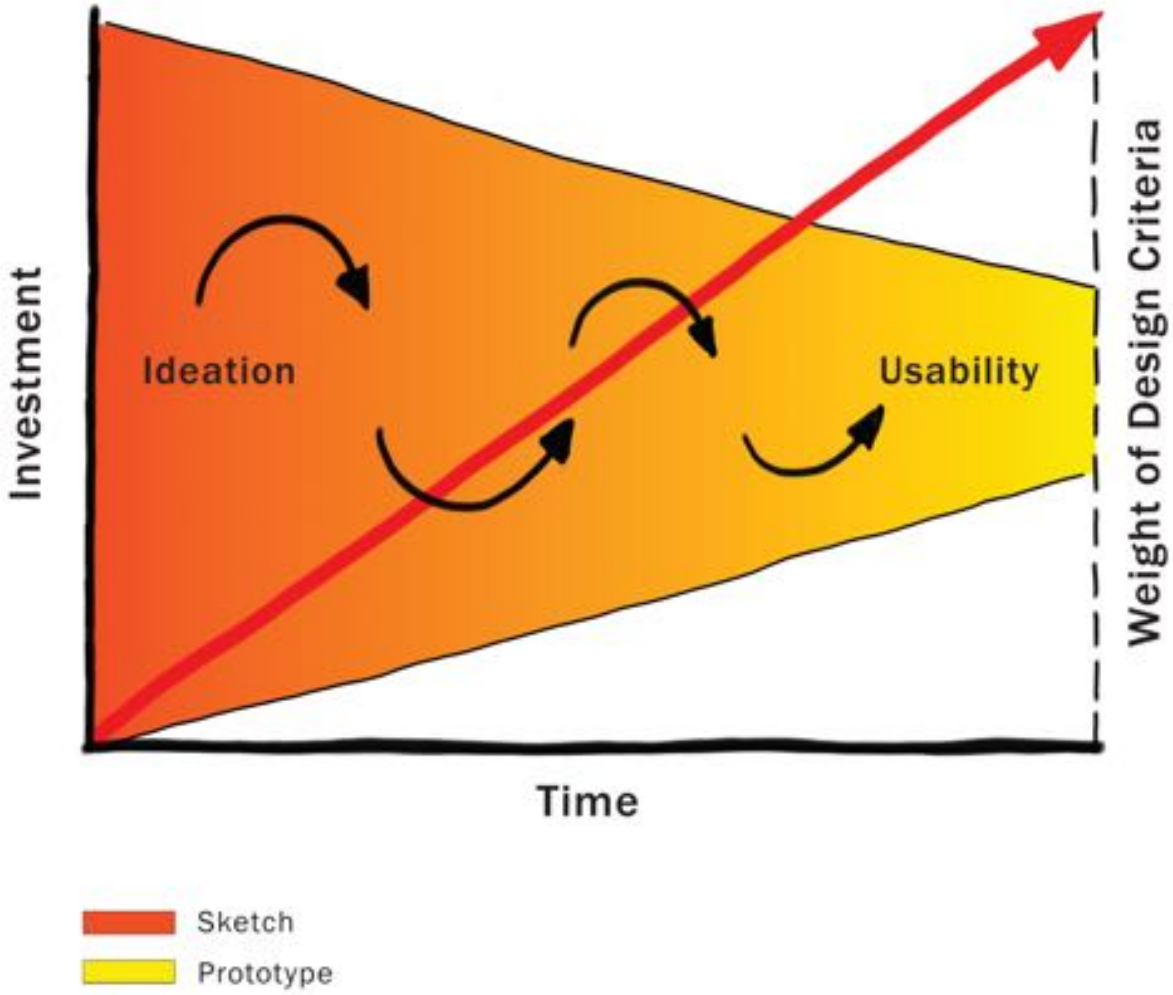
Feedback can turn a good idea into a great idea

Sketching generates too many ideas to implement

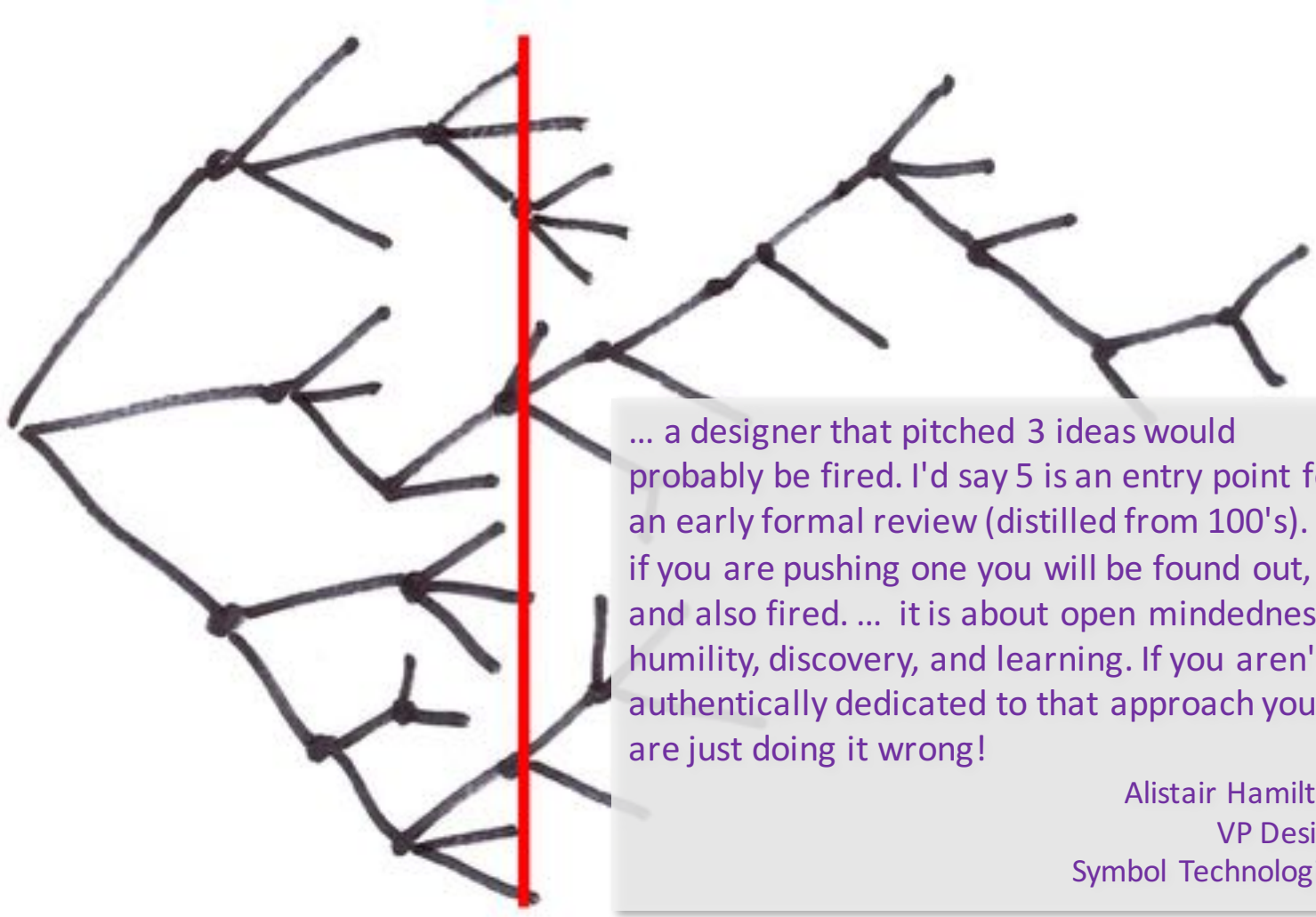
Idea Oscillation



Iteration Toward a Design



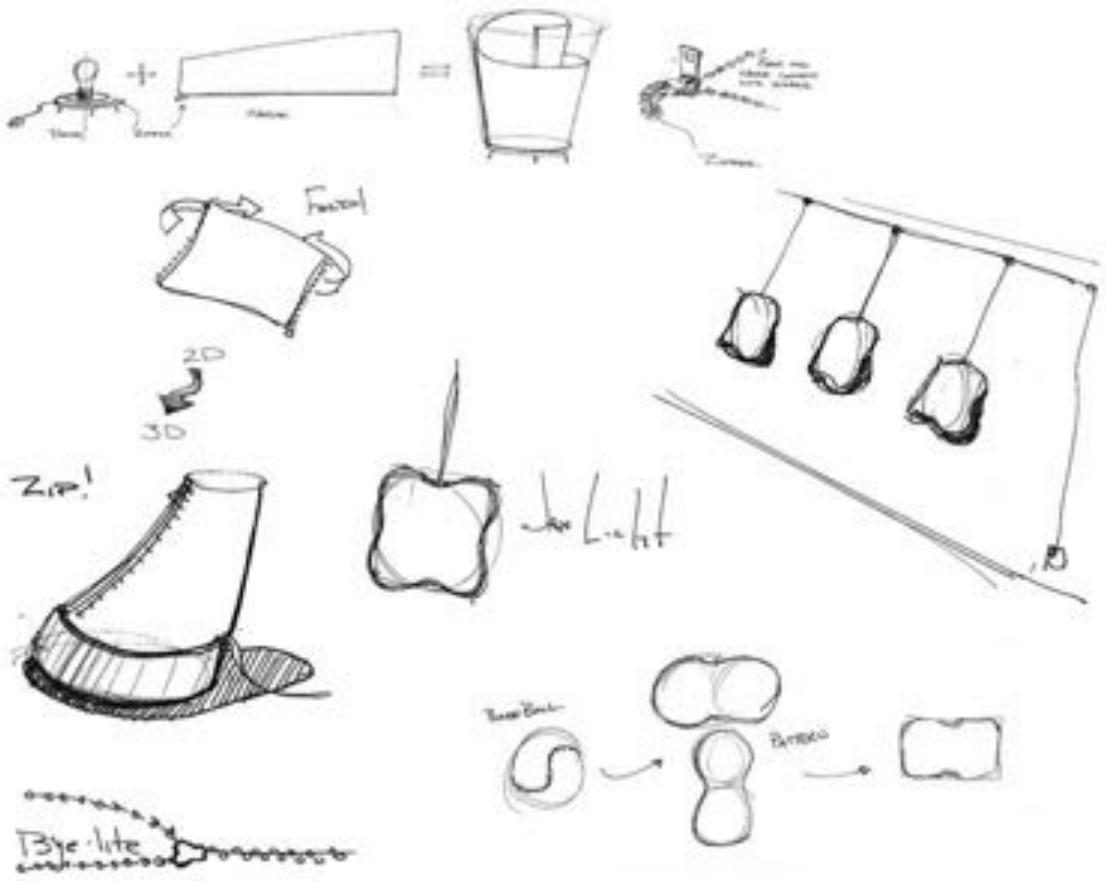
Exploration of Alternatives



… a designer that pitched 3 ideas would probably be fired. I'd say 5 is an entry point for an early formal review (distilled from 100's). … if you are pushing one you will be found out, and also fired. … it is about open mindedness, humility, discovery, and learning. If you aren't authentically dedicated to that approach you are just doing it wrong!

Alistair Hamilton
VP Design
Symbol Technologies

Is this a sketch? Why or why not?



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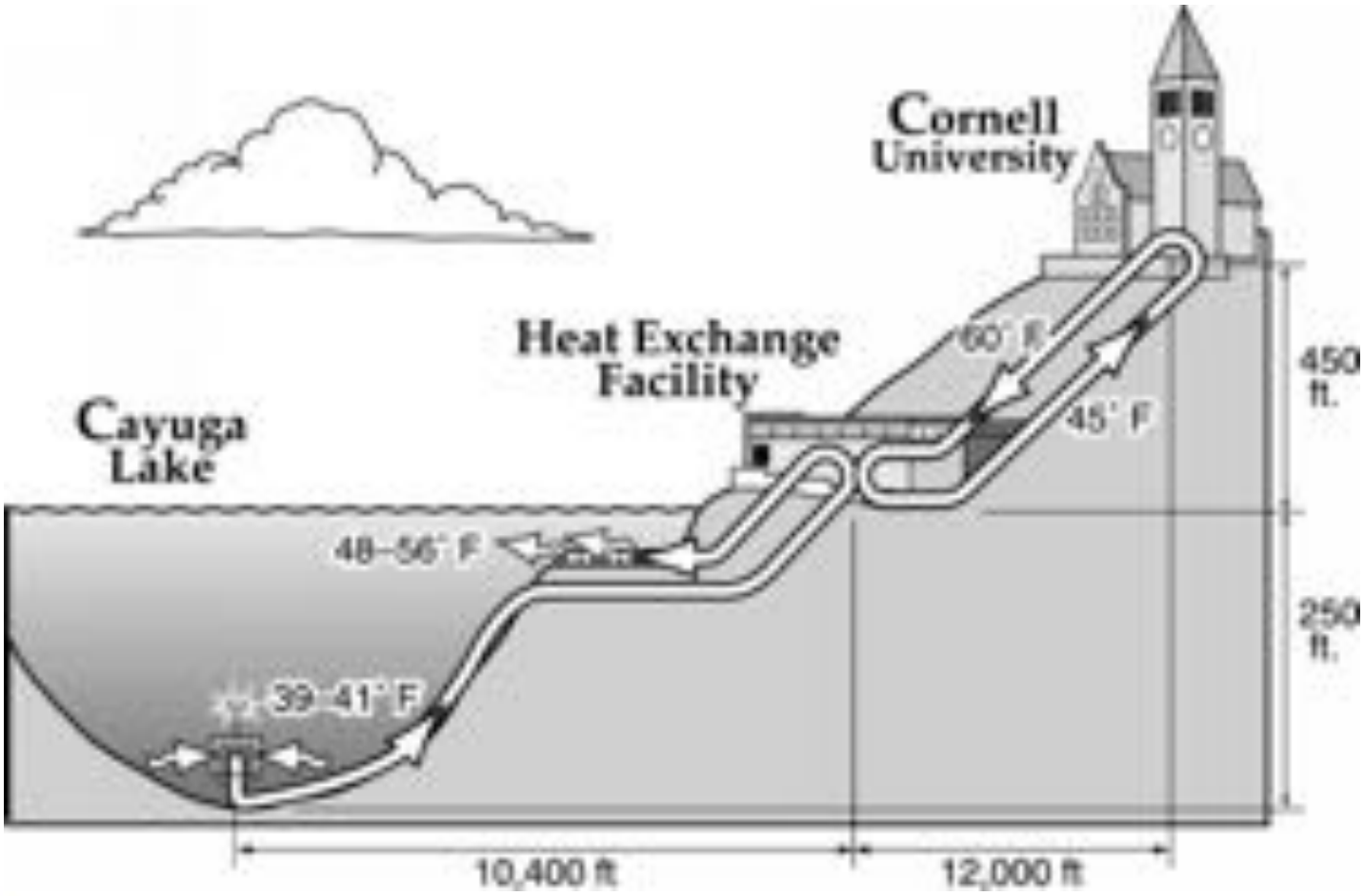

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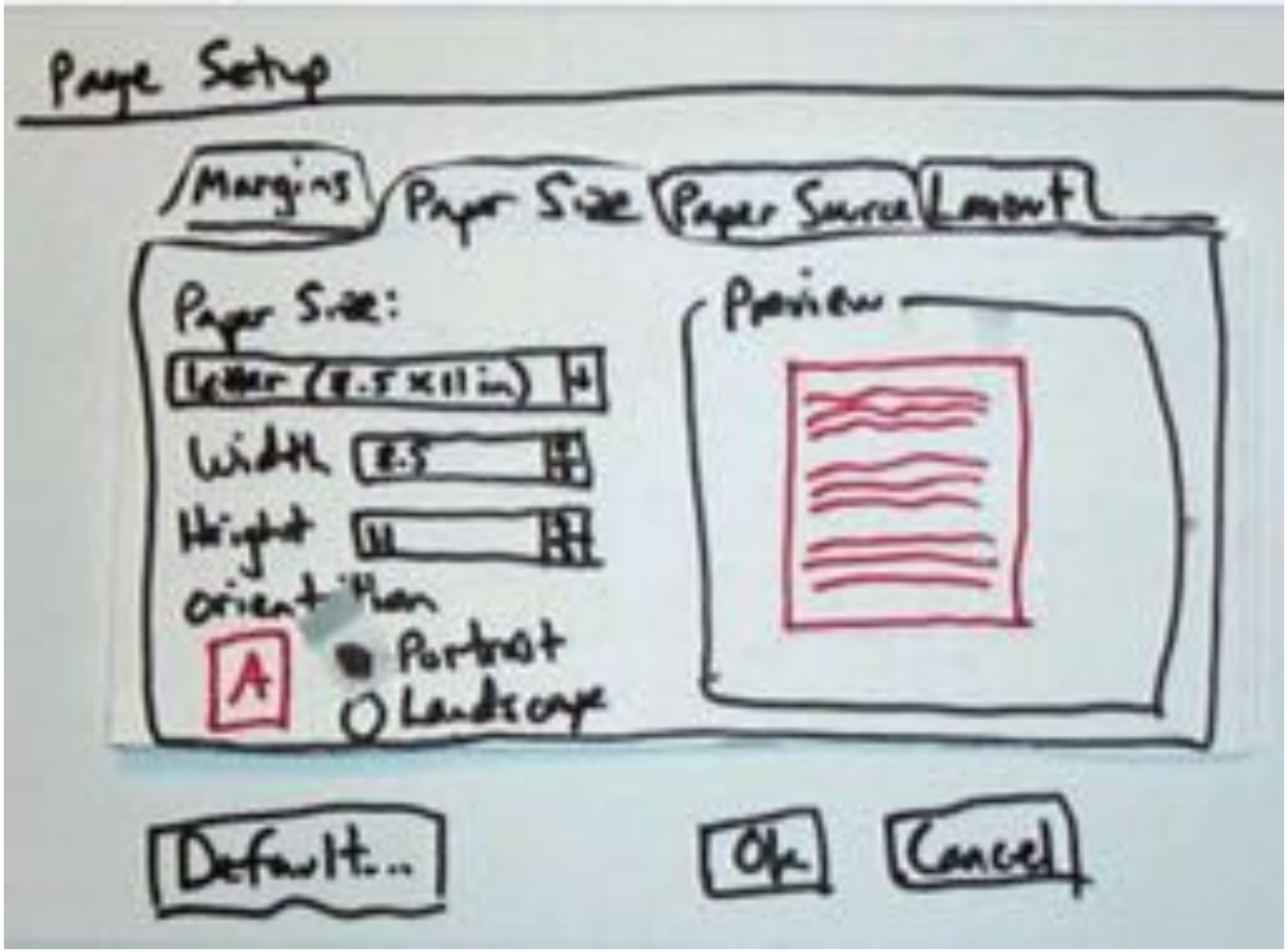

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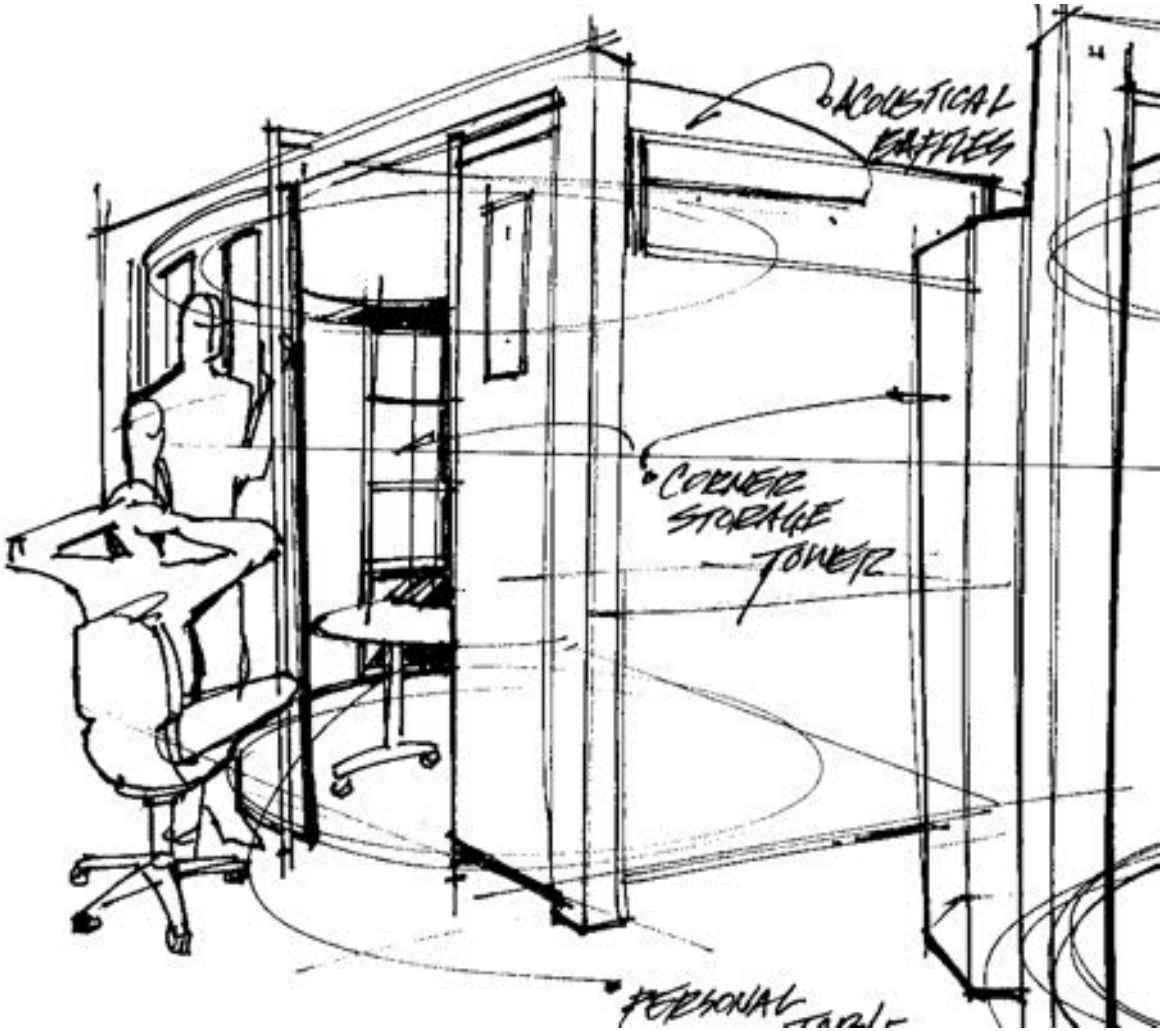
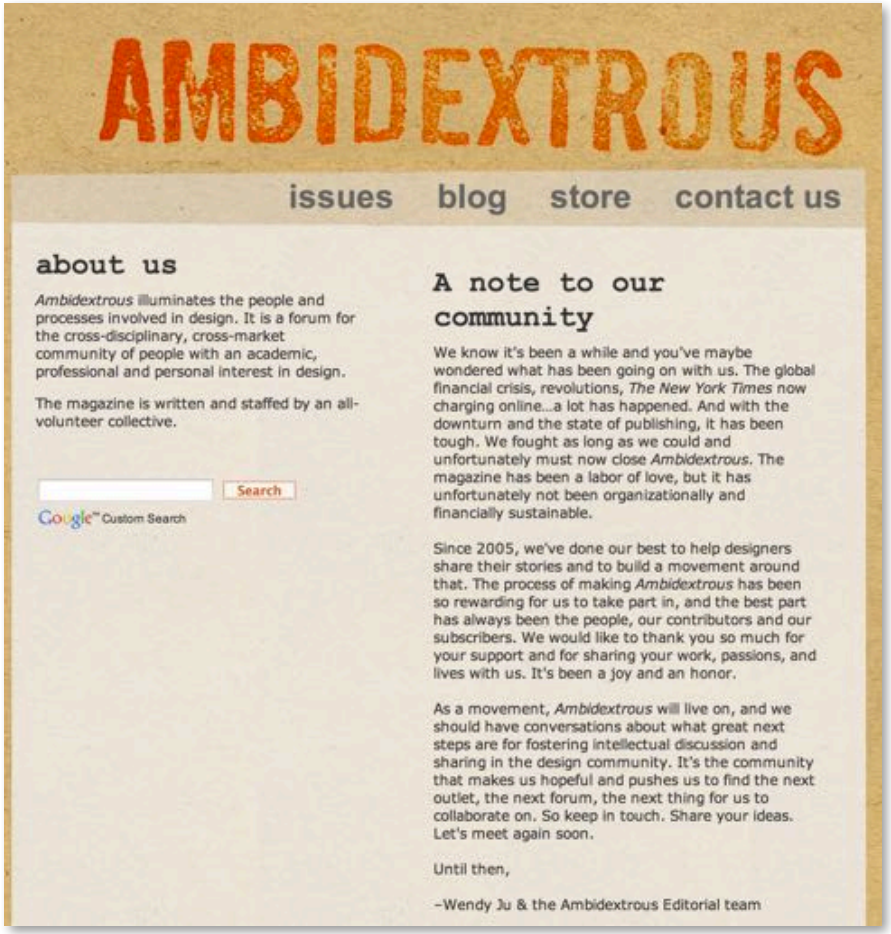


Is this a sketch? Why or why not?

Some Evidence

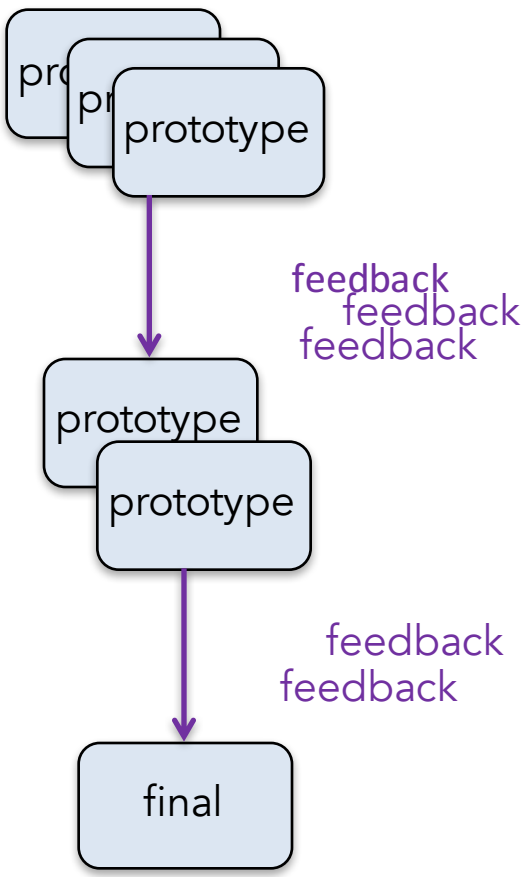
Task:

Create a web banner ad for Ambidextrous magazine.

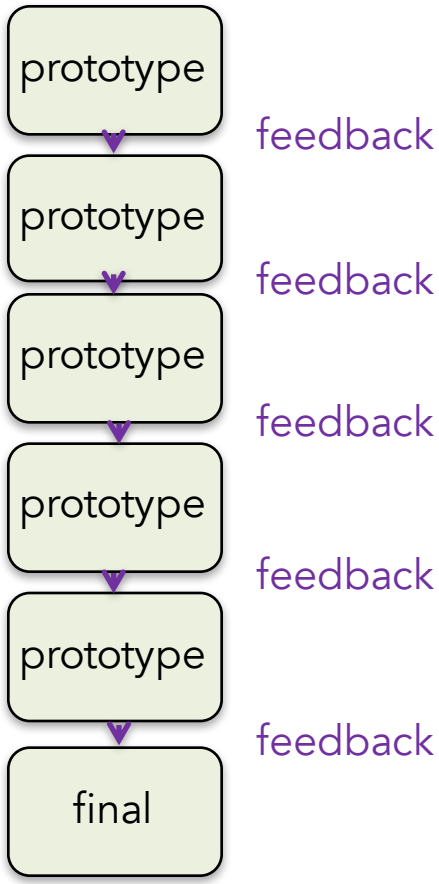


Dow et al. TOCHI 2010.

Feedback in Parallel or Serial



Parallel condition



Serial condition

University of Washington

Dow et al. TOCHI 2010.

Procedure

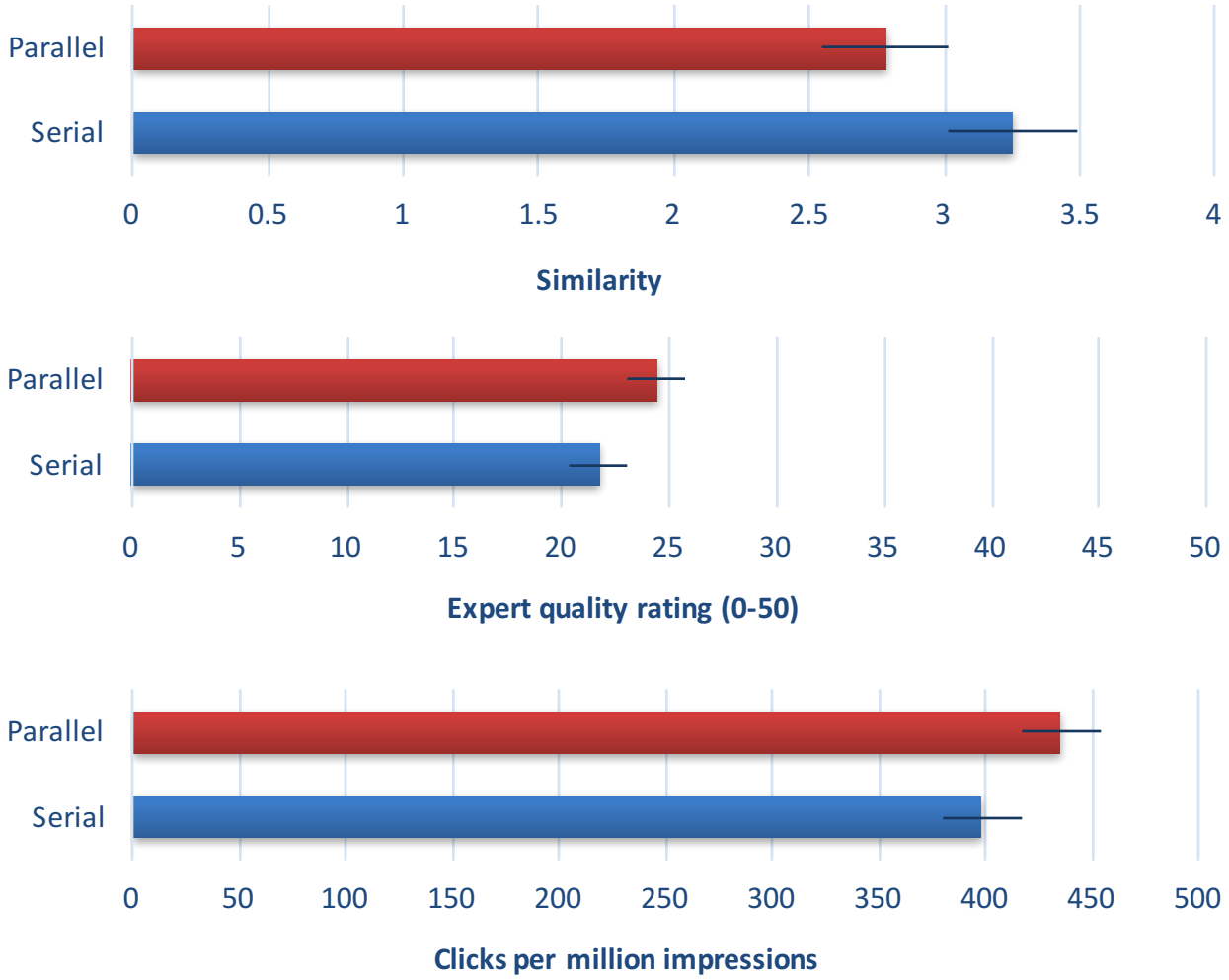
serial
prototyping
condition

parallel
prototyping
condition

University of Washington

Dow et al. TOCHI 2010.

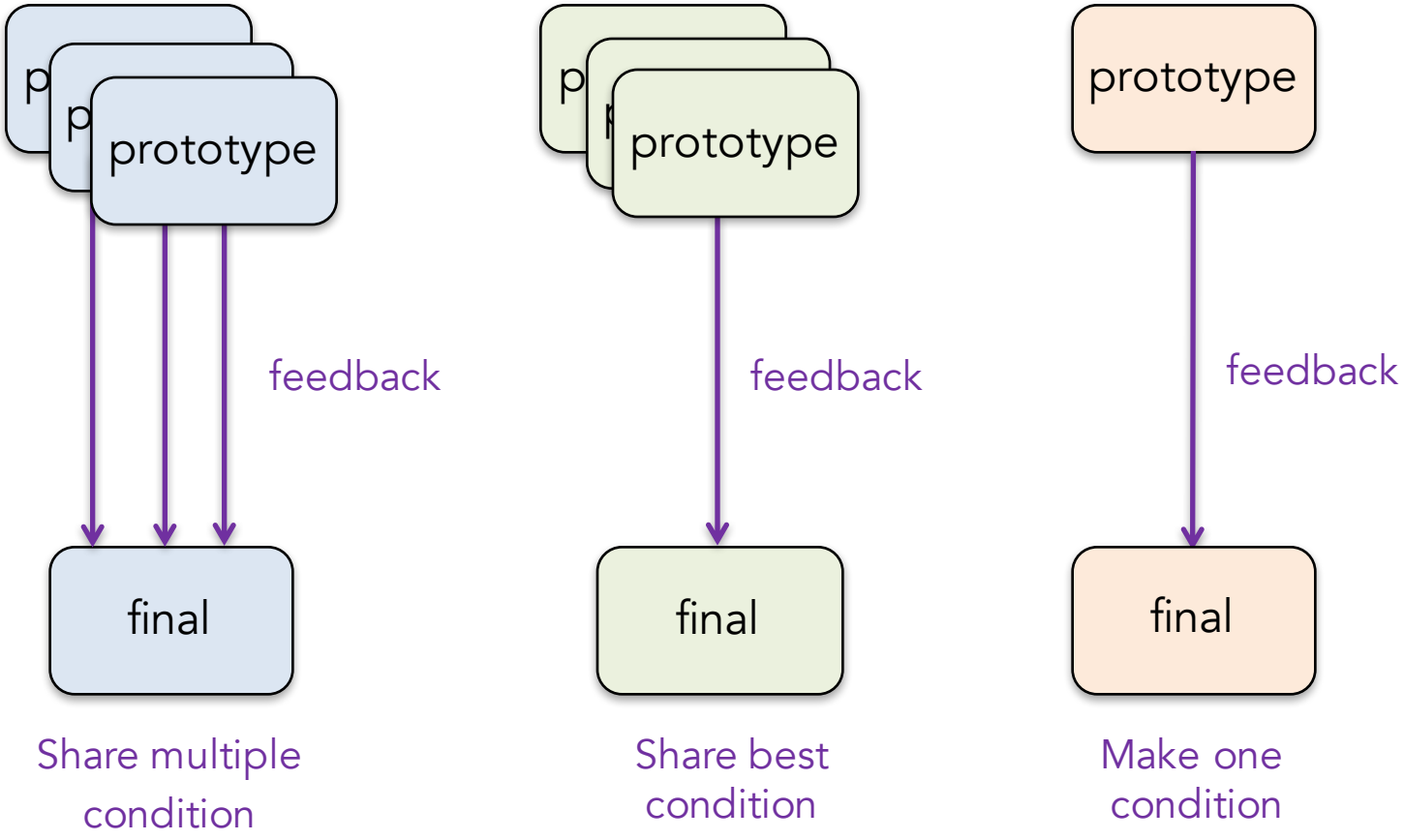
Parallel: more diverse, better, more clicks



University of Washington

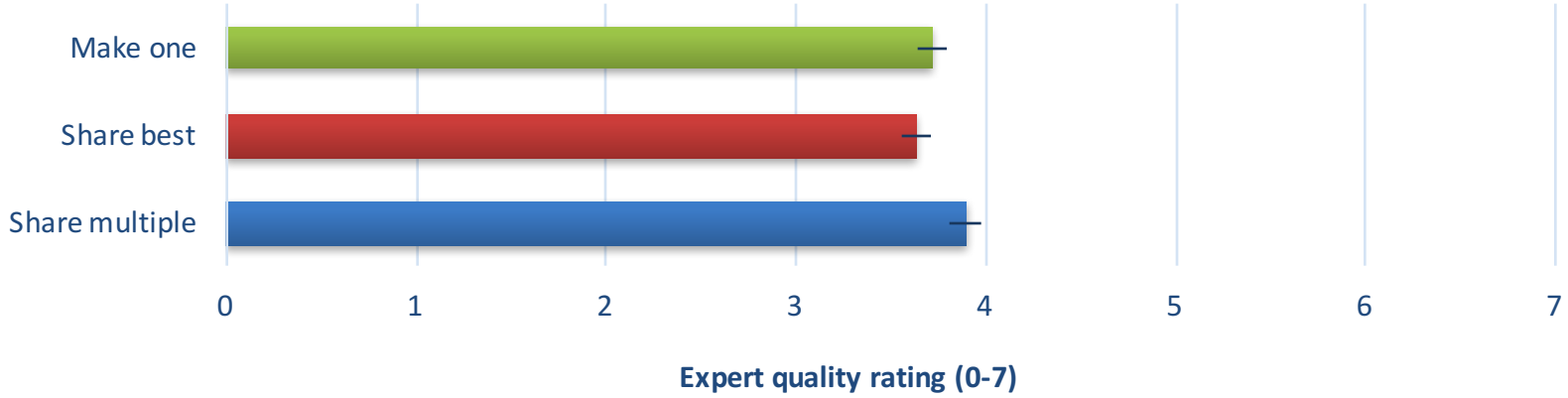
Dow et al. TOCHI 2010.

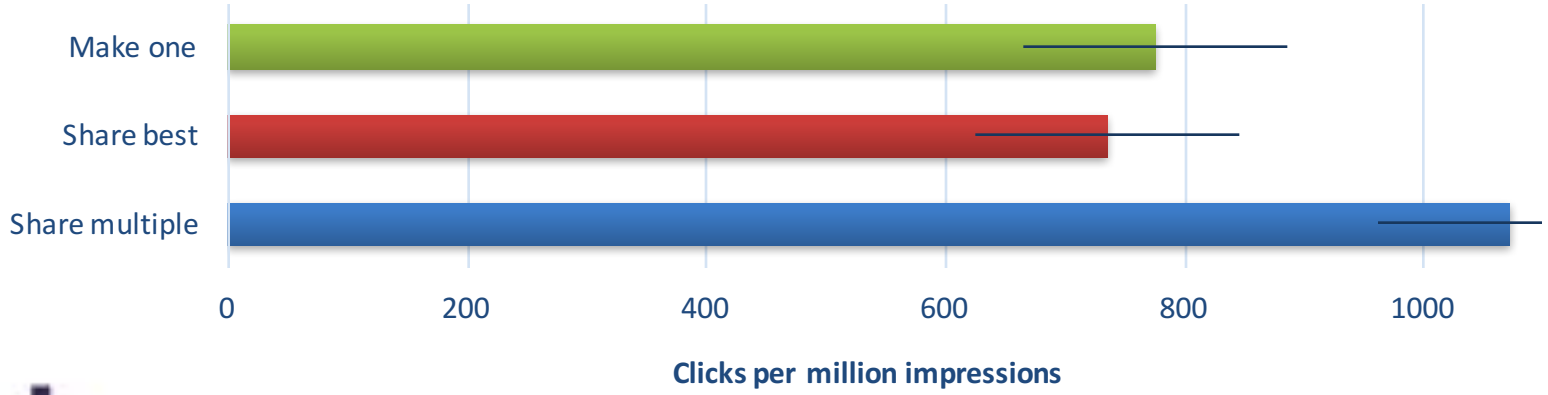
Share one or share your best?



Dow et al. TOCHI 2010.

Share Multiple: better, more clicks





University of Washington

Dow et al. TOCHI 2010.

Some Evidence

Greater divergence in designs

- Prevents sticking with the first idea
- Allows mashing ideas together

Alternatives facilitate feedback

- Enable comparison
- Can improve tone of critique

Sketching and the Design Diamond

The design diamond is fundamental to understanding effective iteration in design

- Much of your education, including in CSE, has taught you to focus on having the right answer
- Here it matters what you do long before the end

Most ideas get thrown out, including yours

- Better ideas are great criticism, and frequently would never have come about otherwise

What Is This Course?

Time for a Door Quiz:

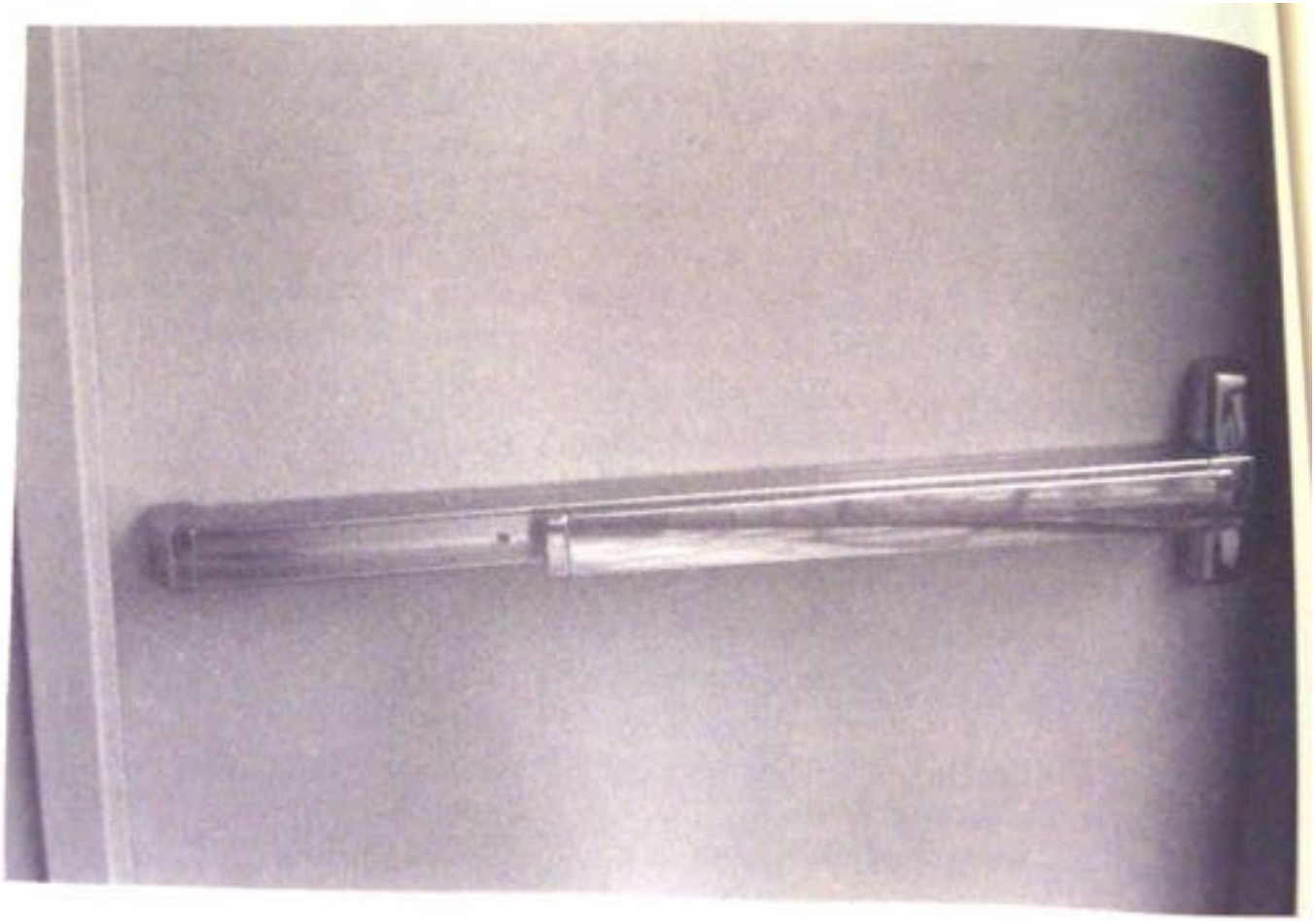
Say out loud what action you use to open the door

Push

Pull

Door Quiz

Door Quiz



Door Quiz

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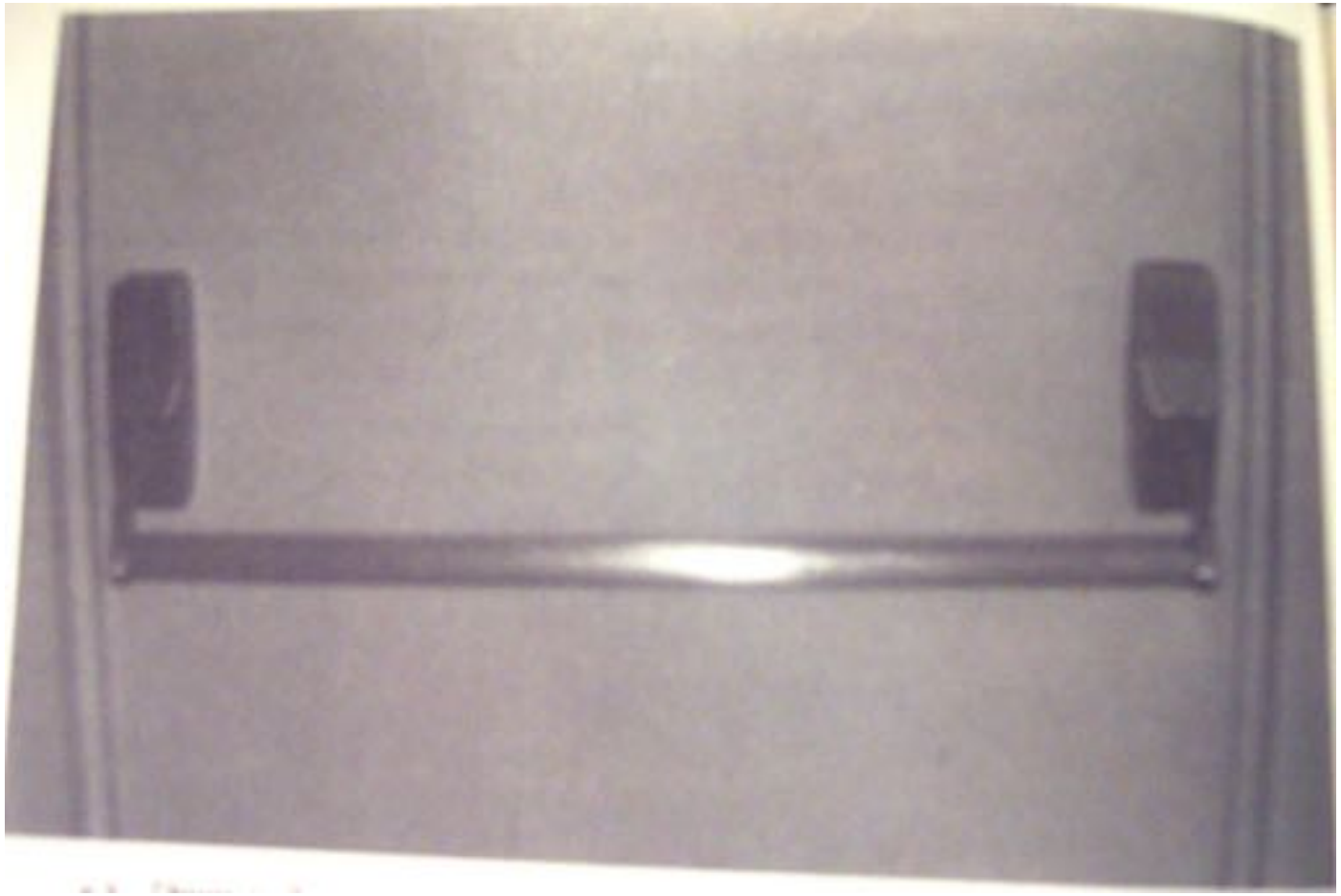
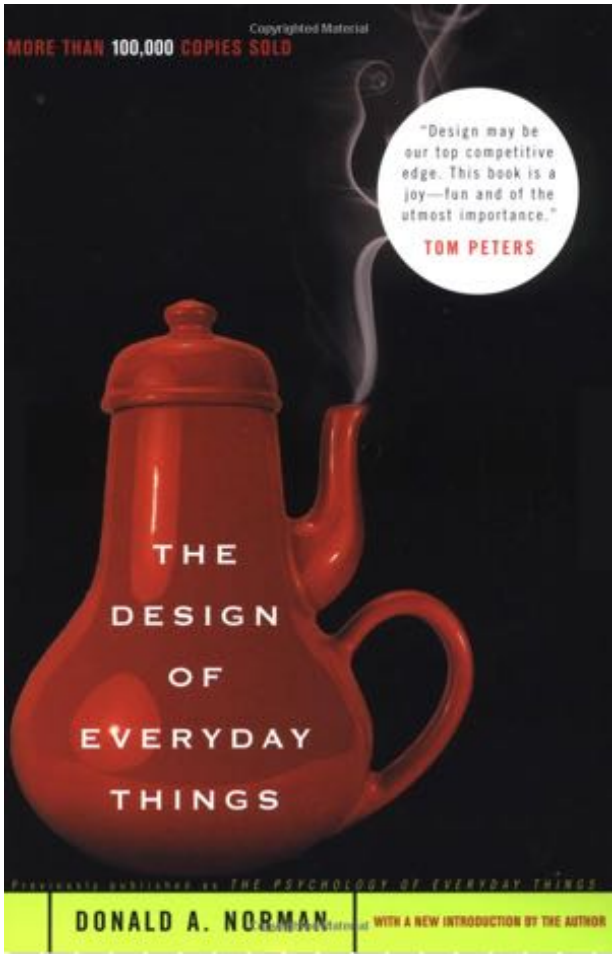


Door Quiz

What is so Special about Computers?

Nothing! It is about good designs and bad designs

- We all make push/pull decisions many times per day
- We all encounter doors that do this badly
- We all see signs that do not change what we do



What is so Special about Computers?

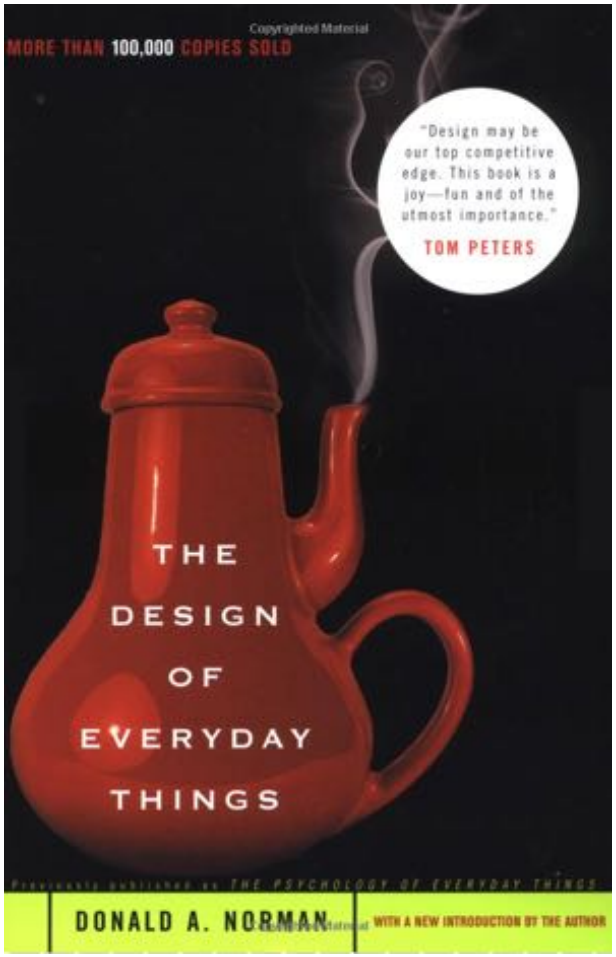
Yet we blame ourselves

Absolutely everything we encounter in the made world was designed

- Too often poorly designed

Read this book

- Be warned you cannot unread it, you become angry



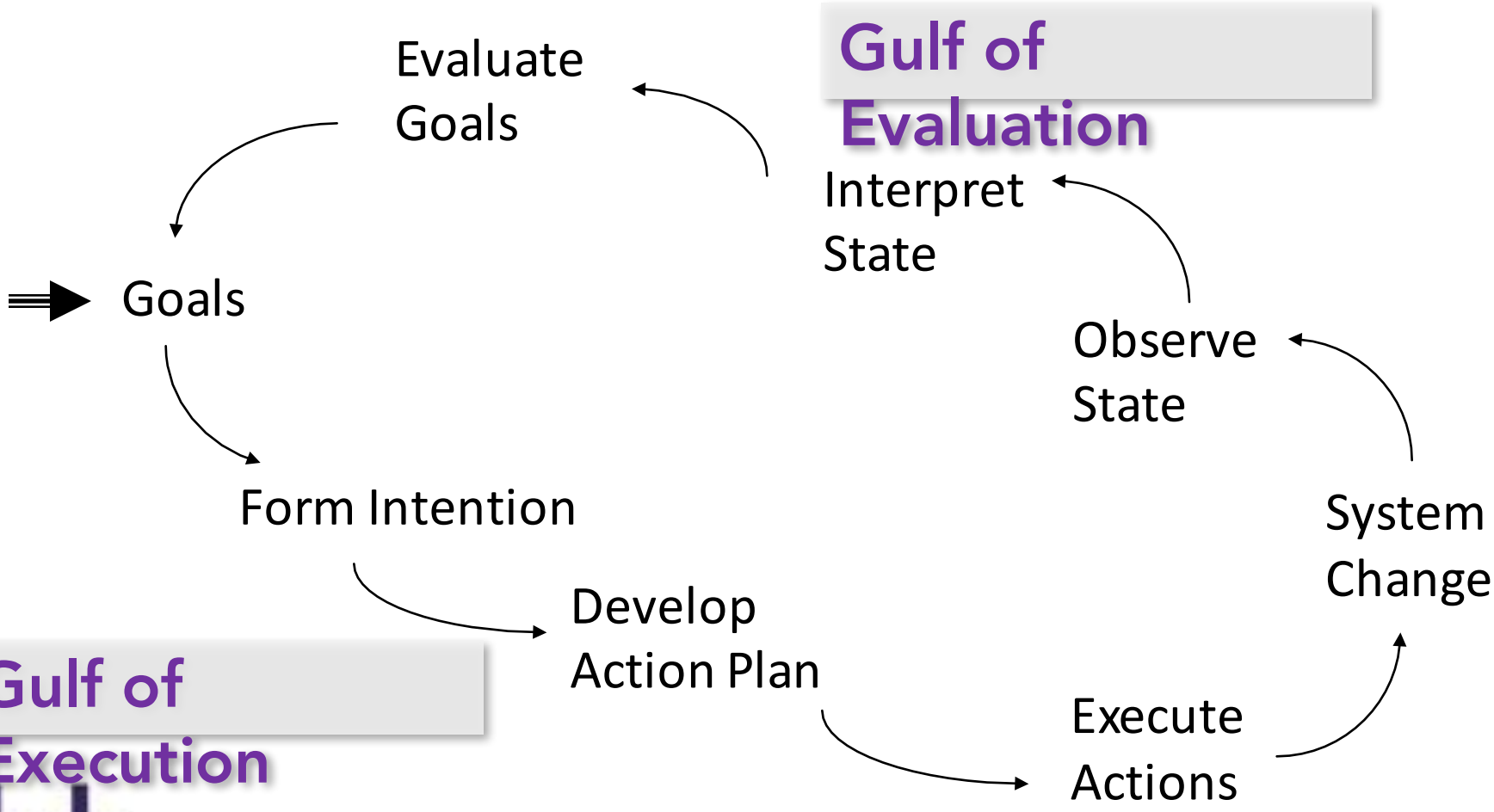
Norman's Execution-Evaluation Cycle

1. Establish the goal.
2. Form the intention.
3. Specify the action sequence.
4. Execute the action sequence.
5. Perceive the system state.
6. Interpret the system state.
7. Evaluate the system state with respect to the goals and intentions.

Turning on the Light

1. Establish the goal
   - Increase light in the room
2. Form the intention
   - To turn on the lamp
3. Specify the action sequence
   - Walk to the lamp, reach for the knob, twist the knob
4. Execute the action sequence
   - [walk, reach, twist]
5. Perceive the system state
   - [hear “click” sound, see light from lamp]
6. Interpret the system state
   - The knob rotated. The lamp is emitting light. The lamp seems to work
7. Evaluate the system state with respect to the goals and intentions
   - The lamp did indeed increase the light in the room [goal satisfied]

Norman's Execution-Evaluation Cycle



Bridging the Gulfs

Gulf of Execution: "How do I do it?"

- Commands and mechanisms need to match the goals, thoughts, and expectations of a person

Gulf of Evaluation: "What does it mean?"

- Output needs to present a view of the system that is readily perceived, interpreted, and evaluated

People build mental models to anticipate and interpret system response to their actions

- What can I do?
- How do I do it?
- What result will it have?
- What is it telling me?

Cooper's Mental Model Terminology

Implementation Model

How it works

(aka Design Model, Designer's Conceptual Model)

Manifest Model

How it presents itself

(aka System Image)

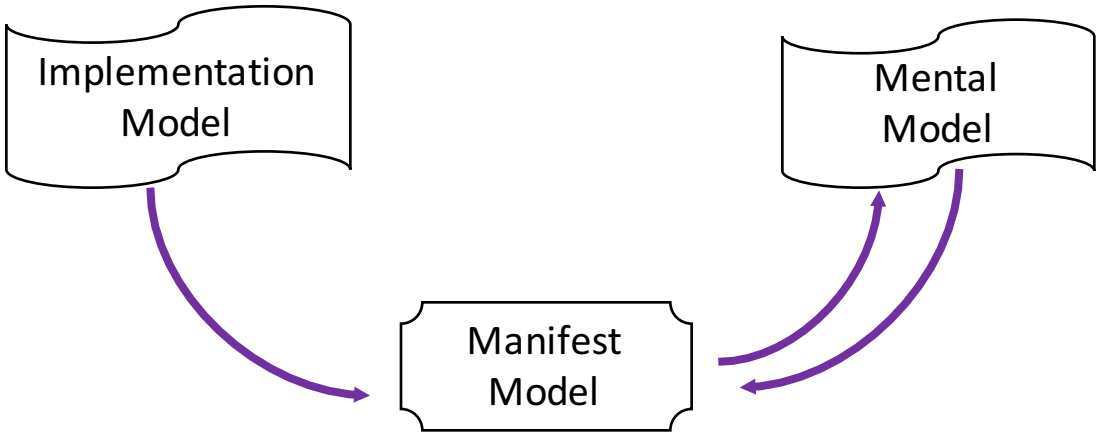
Mental Model

How a person thinks it works

(aka User Model, User's Conceptual Model)

These terms are sloppy and ambiguous out in the world

Manifest and Mental Models



Designer projects their model into an artifact

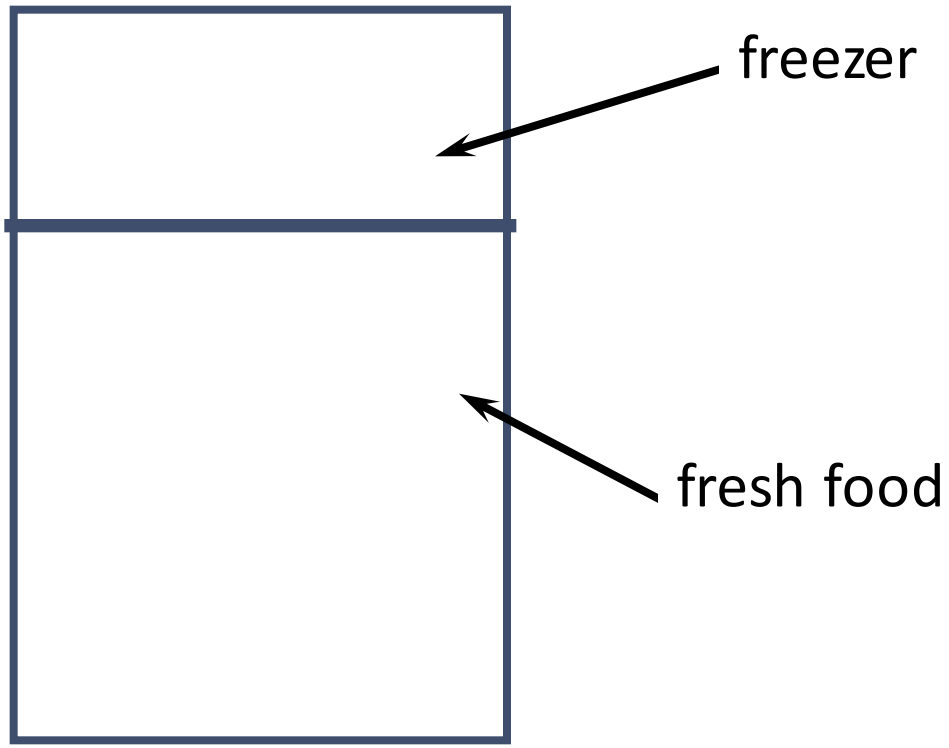
- Person forms their model based on interaction

People struggle until model matches manifest model

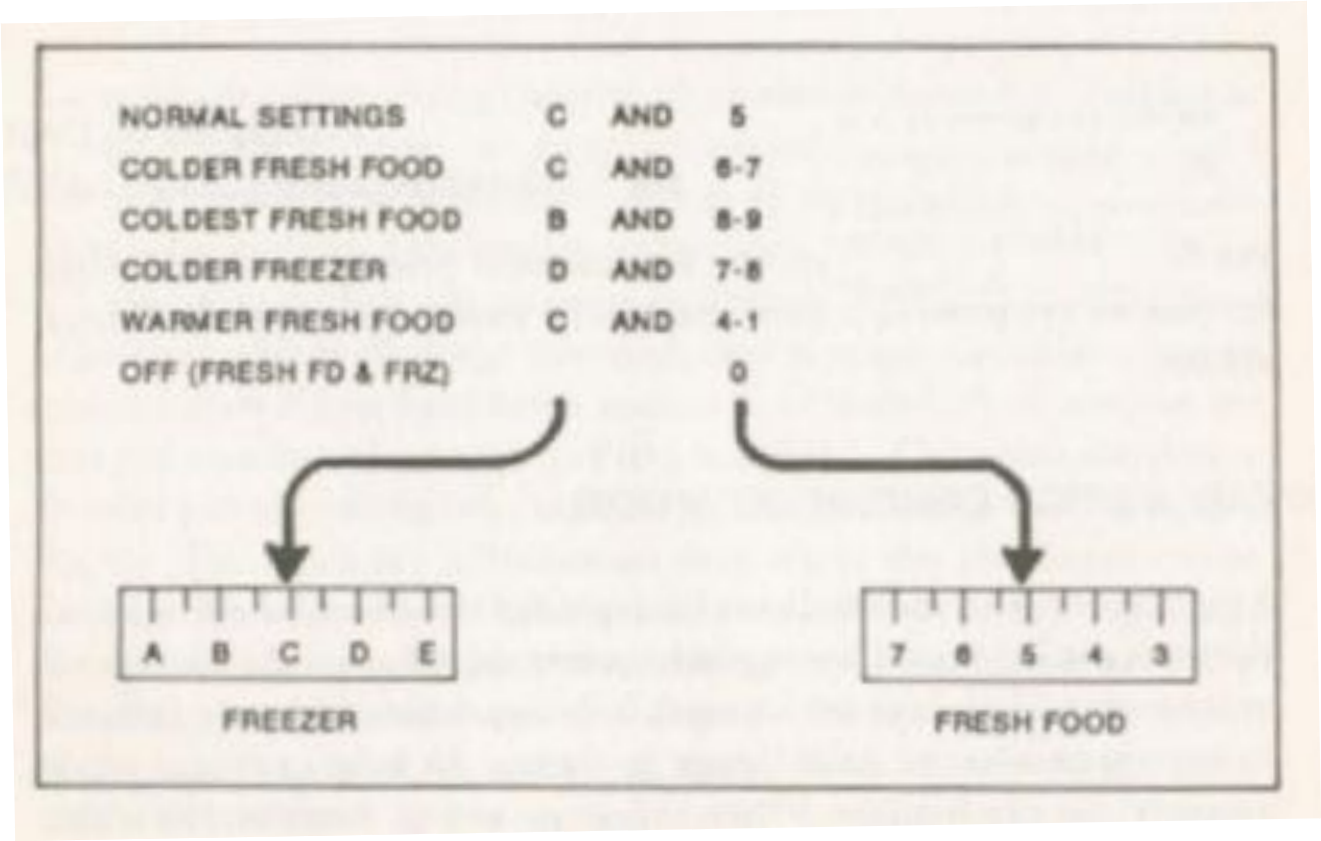
- Update mental model in response to breakdowns
- Not necessarily matching the implementation model

Mental Models

Problem: freezer too cold, fresh food just right

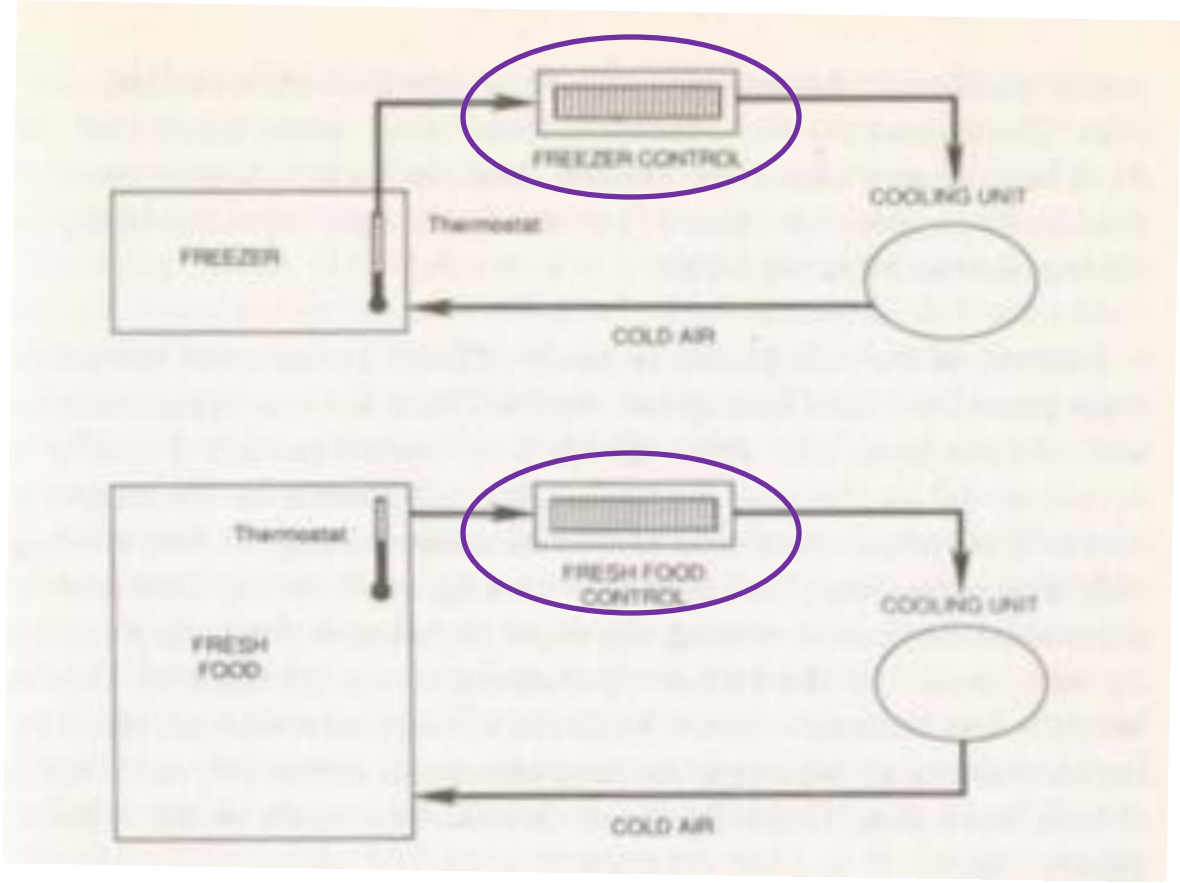


Manifest Model



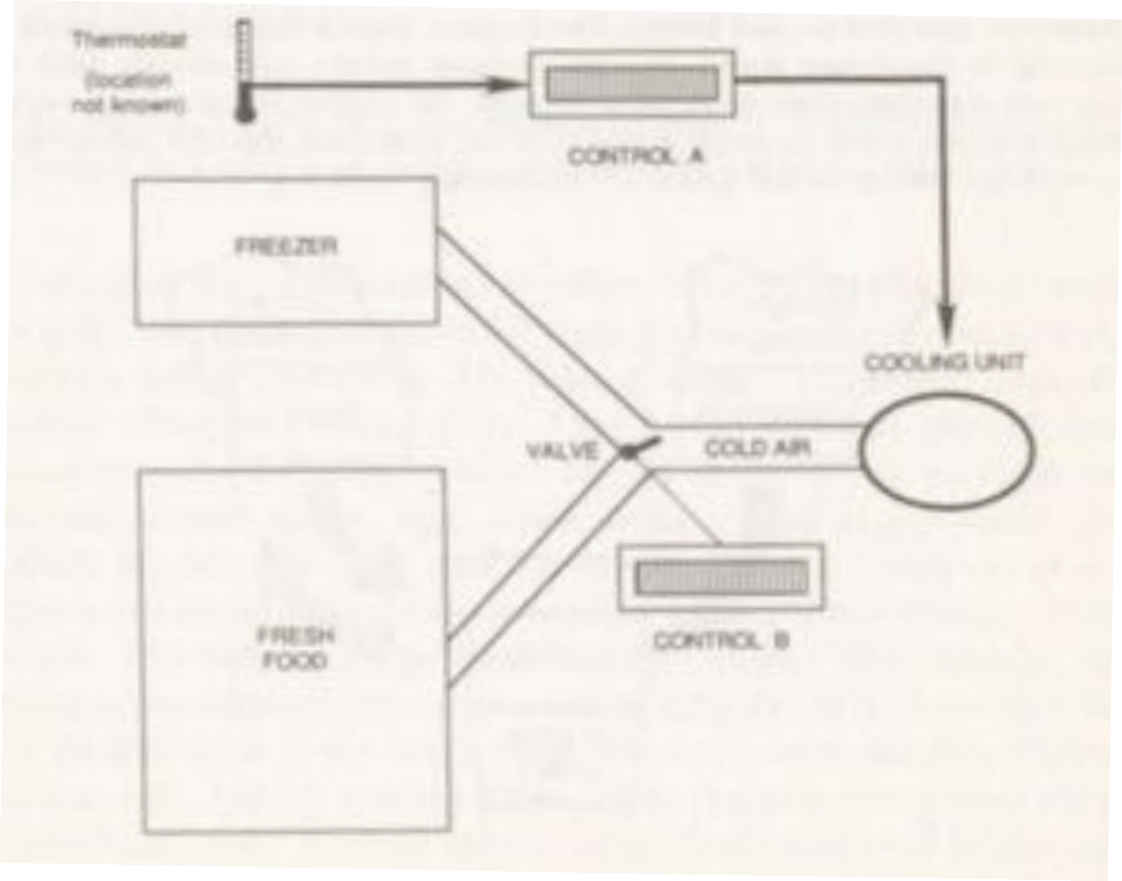
What if I want to make just the freezer warmer?

A Sensible Mental Model

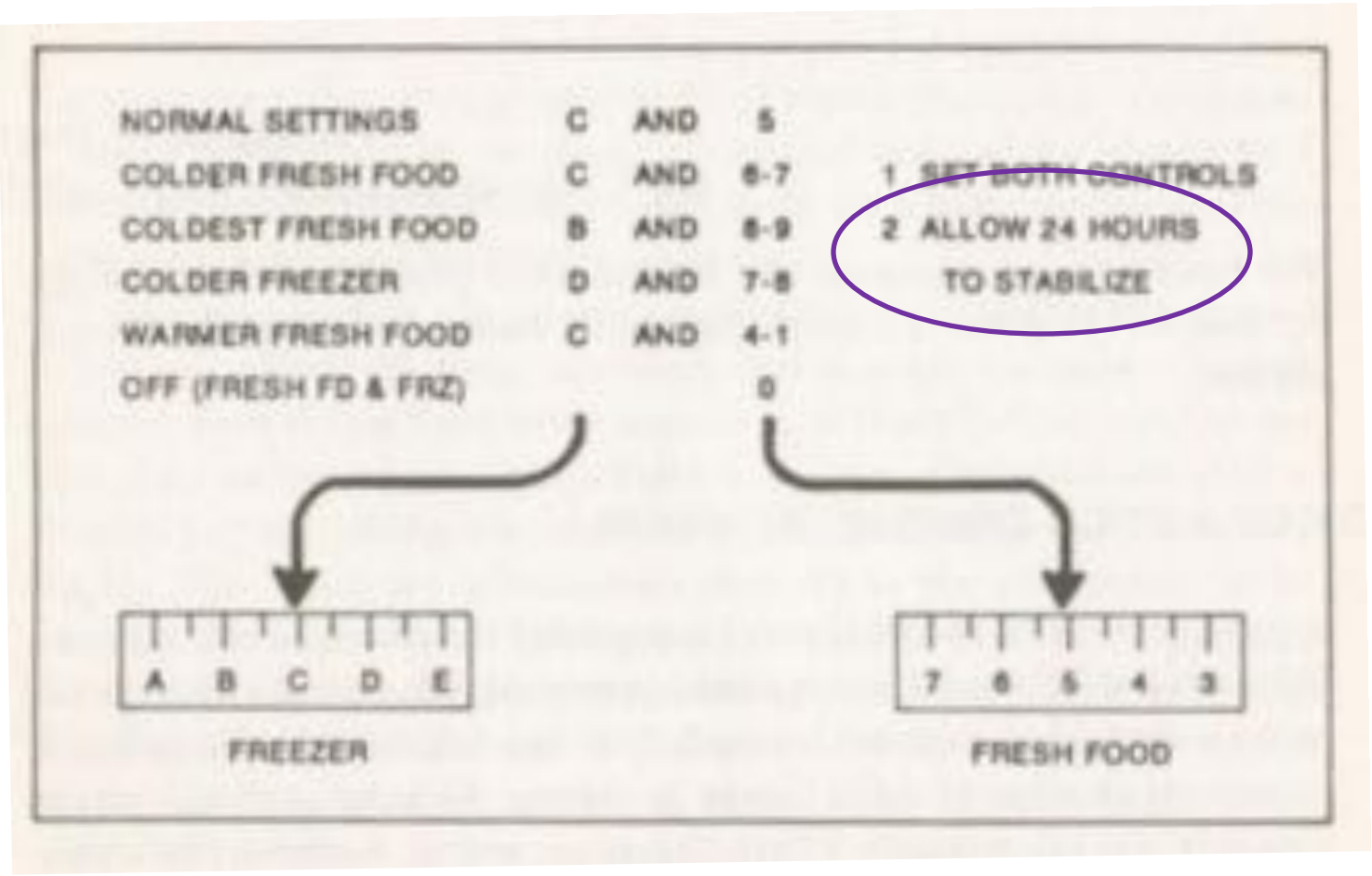


"The Freezer Control controls the freezer temperature and the Fresh Food Control controls the fresh food temperature"

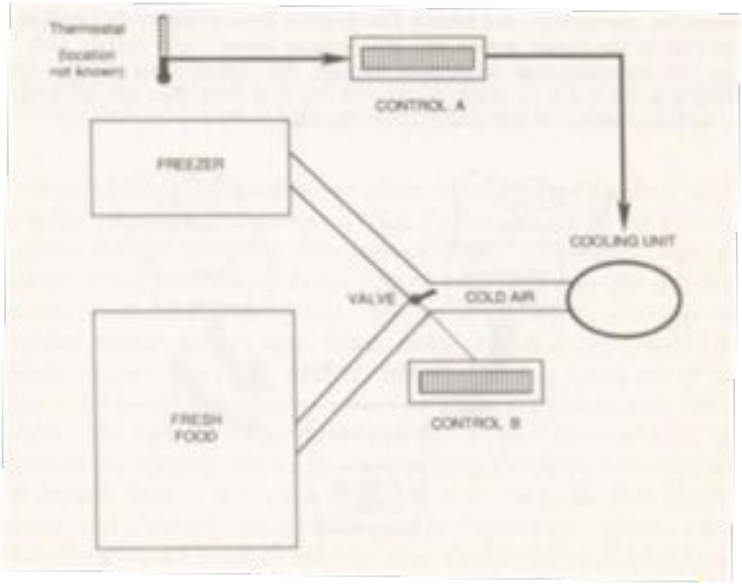
The Implementation Model



A Problem with Feedback



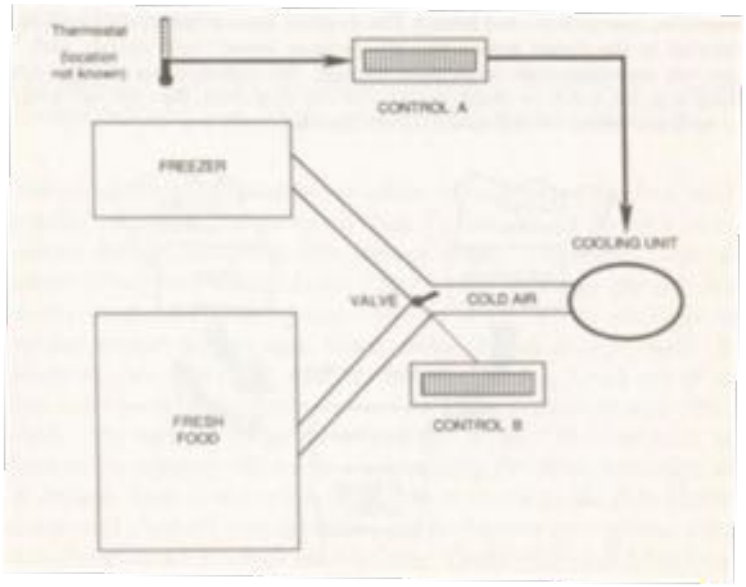
The Implementation Model



Why do we have a problem?

Can you fix the problem?

The Implementation Model



Why do we have a problem?

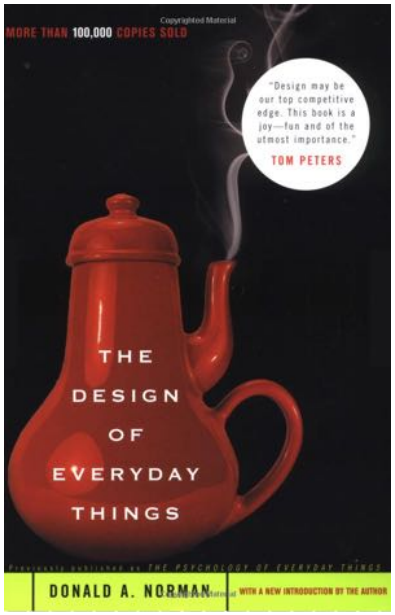
- Cost constraints

Can you fix the problem?

- Make controls correspond to a person's mental model

- Make controls correspond to the implementation model

Building the Right Model



Having the right model helps people bridge the Gulf of Execution and the Gulf of Evaluation

How can we help people build the right models:

- Affordances
- Visibility
- Constraints
- Consistency
- Metaphors
- Knowledge in the World
- Mapping
- Modes

Affordances

Visual clue to interaction

knobs afford turning

levers afford moving

buttons afford pushing

Affordances

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

Gibson, part of an ecological approach to psychology

"The term 'affordance' refers to the perceived and actual properties of the thing, primarily those fundamental properties that determine just how the thing could possibly be used."

Norman

What's the Affordance?

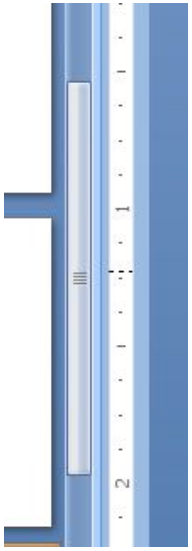
Affordances

Affordances

Technology affordances are often based in affordances from the physical world

Affordances

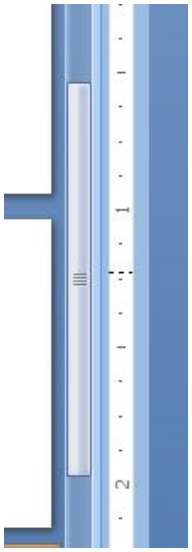
What is the affordance here?



Where does it come from?

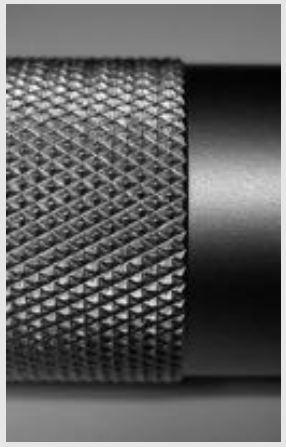
Affordances

What is the affordance here?



Where does it come from?

Knurling



Sequential Affordance

Acting on a perceptible affordance leads to information indicating new affordances

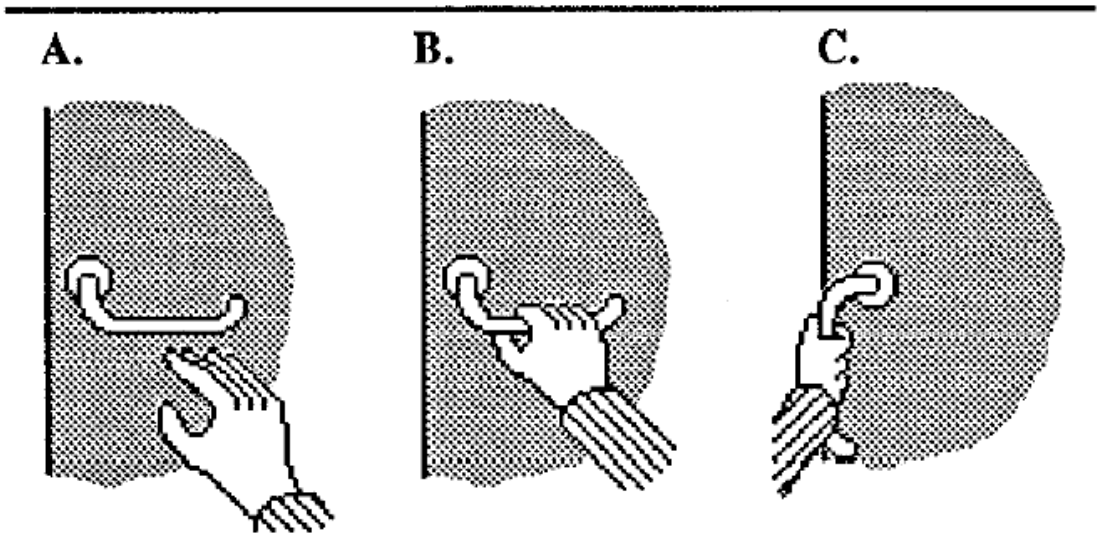
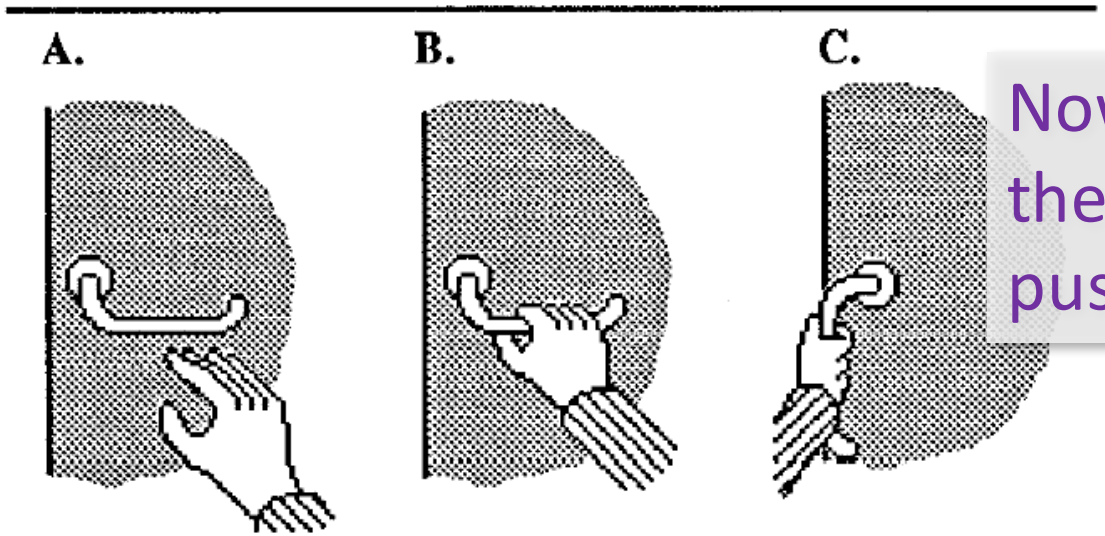


Figure 4. *Sequential affordances: one affordance leads to another. Visual information indicates grasping (A & B); tactile information indicates turning (B & C).*

Sequential Affordance

Acting on a perceptible affordance leads to information indicating new affordances



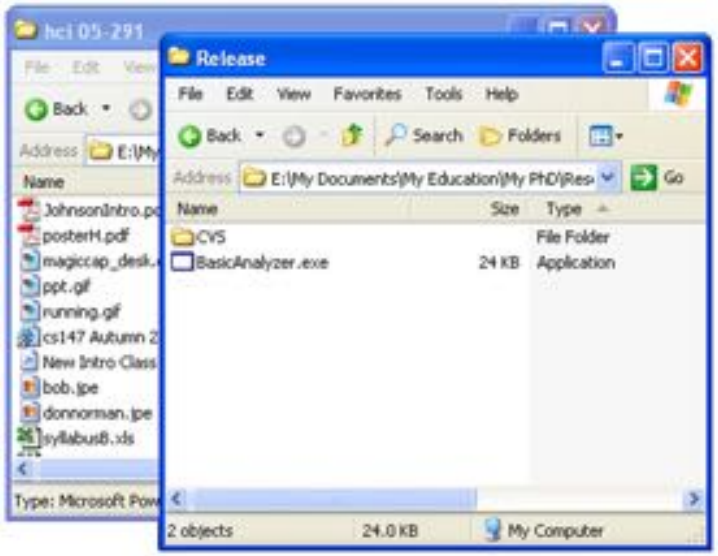
Now does the door push or pull?

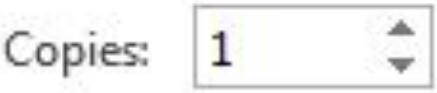
Figure 4. *Sequential affordances: one affordance leads to another. Visual information indicates grasping (A & B); tactile information indicates turning (B & C).*

Nested Affordances

Affordances due to spatial relationships revealing what actions can be done

Proximate to, contained in, part of





In Other Words

An affordance is what a thing communicates about how it can be used, often by its appearance

"In general, when the apparent affordances of an artifact matches its intended use, the artifact is easy to operate. When apparent affordances suggest different actions than those for which the object is designed, errors are common."

Gaver

Challenges arise if there is a mismatch between implied use versus intended use

False Affordances

When there is perceptual information suggesting an implied use that does not exist

(Just an image of a button, not one that responds)

False Affordances

False Affordances

False Affordances

False Affordances

Hidden Affordances

When there is no perceptual information suggesting an actual intended use

Hidden Affordances

Hidden Affordances

Logos linking to home is a convention, but not afforded by the page

Confusion of the Term

"Note also that affordances are not intrinsic, but depend on the background and culture of users. Most computer-literate user will click on an icon. This is not because they go around pushing pictures in art galleries, but because they have learned that this is an affordance of such objects in a computer domain…"

Dix

Disagree. Icons do not afford "pushability" or "clickability" by their attributes. They do not give an indication of their intended use, except by convention.

Clarification on Convention

"Designers sometimes will say that when they put an icon, cursor, or other target on the screen, they have added an 'affordance' to the system. This is a misuse of the concept. … It is wrong to claim that the design of a graphical object on the screen 'affords clicking.' … Yes, the object provides a target and it helps the user know where to click and maybe even what to expect in return, but those aren't affordances, those are conventions, and feedback, and the like. … Don't confuse affordances with conventions."

Norman

Metaphors

Suggest an existing mental model

- “horseless carriages”, “iron horses”, “wireless”

Desktop metaphor

- Not an attempt to simulate a real desktop
- Leverages knowledge of files, folders, trash
- Explains why some windows seem hidden

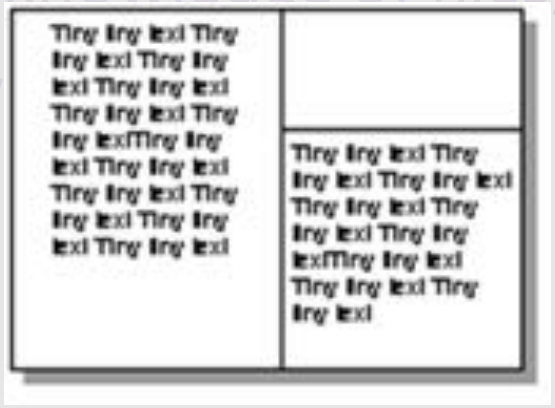
Metaphors

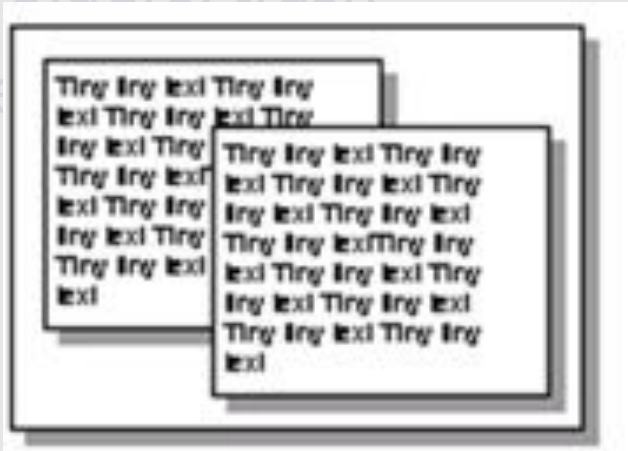
Suggest an existing mental model

- “horseless carriages”, “iron horses”, “wireless”

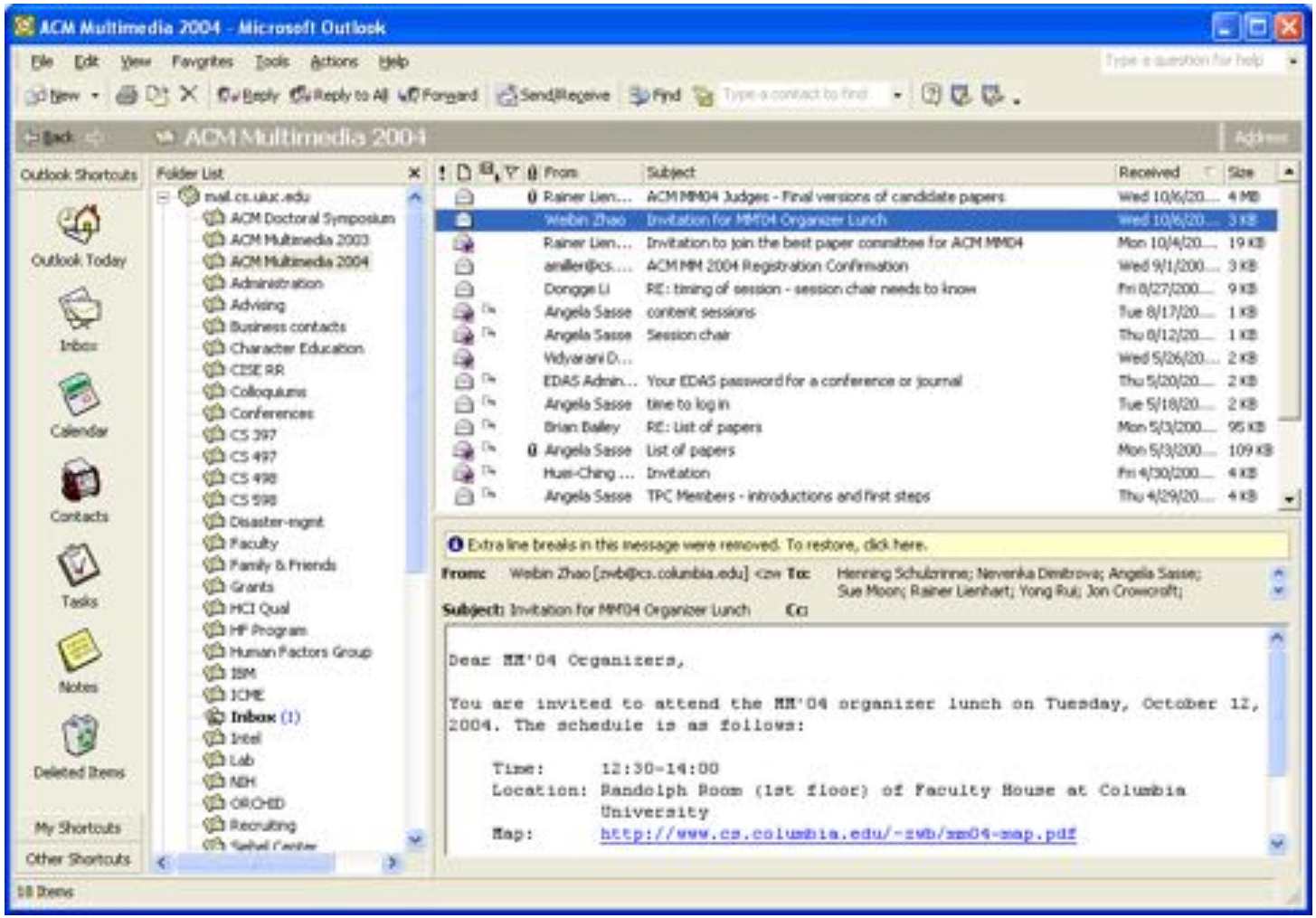
Desktop metaphor

- Not an attempt to simulate a real desktop
- Leverages knowledge of files, folders, trash
- Explains w… se…

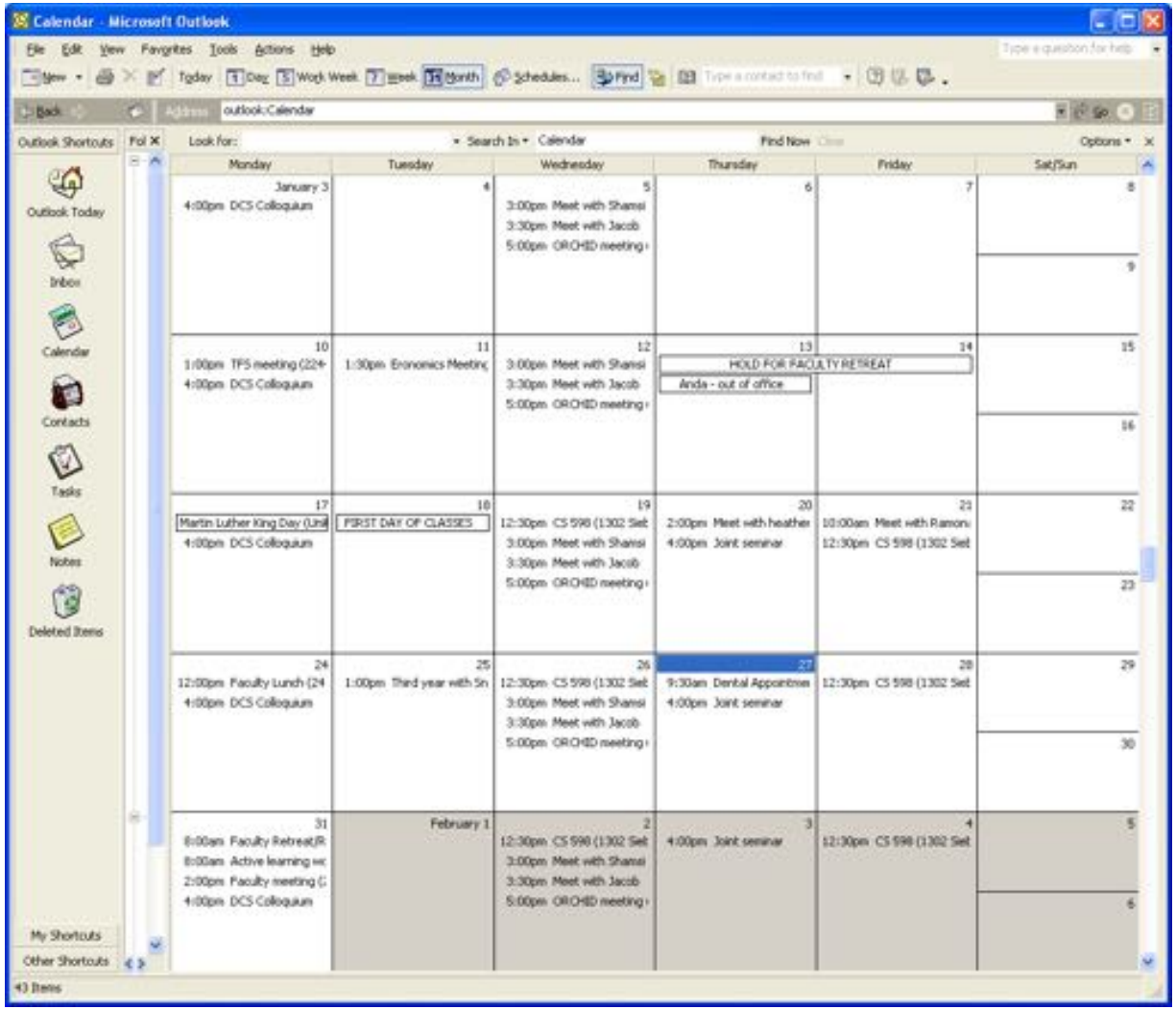




Mail Metaphor



Calendar Metaphor



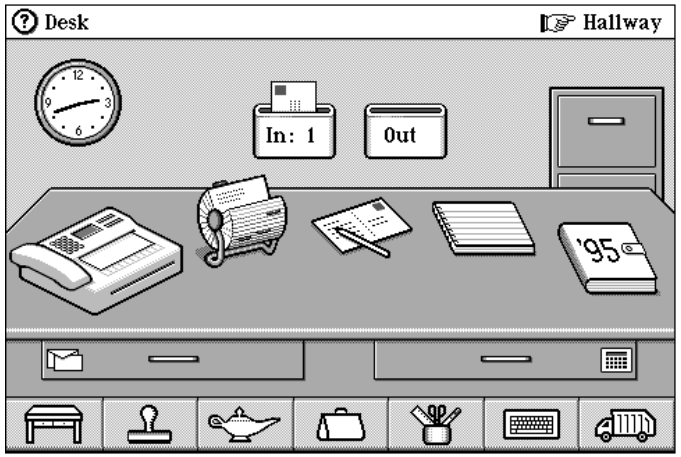
Health Metaphor

Shallow or Inappropriate Metaphors

Informs a small range of possibilities, or none at all

It is just a menu and a dialog box?

What does the living room add?



Magic Cap

Microsoft Bob

Mixed Metaphors

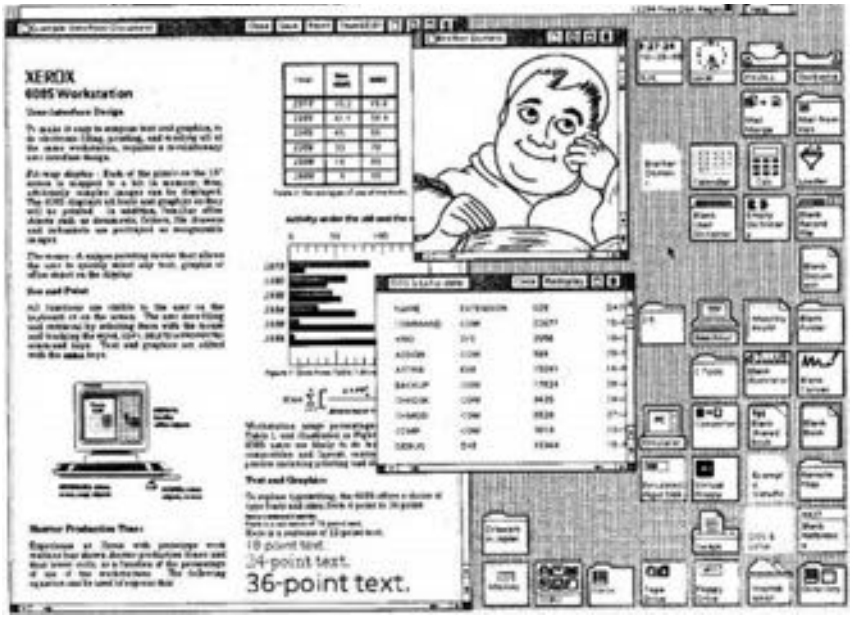
Two or more different metaphors coexist with some supposed relation

The desktop metaphor

Windows into content

Good? Bad?

Neither? Both?

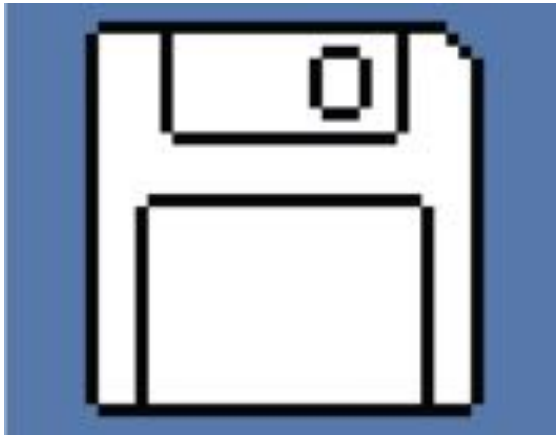


Windows are views into larger content regions

No desktop has windows

Broken Metaphors

Are not consistent, do not operate in every circumstance, or do not uphold things consistent with what the metaphor would suggest

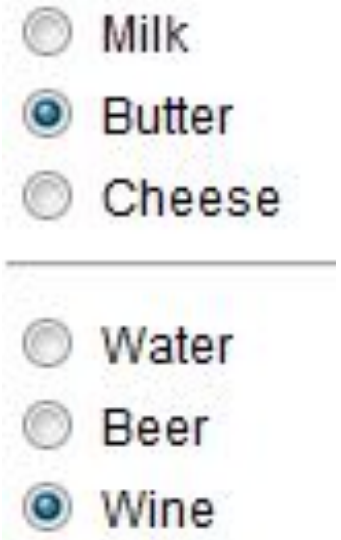


Mechanical-Age Metaphors

Operate as their mechanical-age counterparts did, not taking advantage of the digital domain to escape the limitations of the original

Dead Metaphors

Lost the original imagery of their meaning



Metaphors versus Idioms

Idioms

- rely on shared experience or custom
- are learned, often early in life
- are supported or revealed by context
- become conventions
- do not rely on metaphors

Idiomatic widgets (e.g., screen splitter, dragable title bar)

Single click to select, double click to open

Hyperlinks

Metaphors and Affordances

Affordances “jump start” a model for interaction

Metaphors “jump start” a model of a system

But if designed poorly, both can be damaging

- Lead to an incorrect model, undermining interaction
- Can limit designer creativity
- Can reduce the advantages of software
- Can be “cute” at the expense of functional

Visibility

Phones

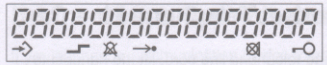
How do you

- put somebody on hold
- change volume

Visibility

Location of Controls

Display



(This display shows all of the possible configurations.)

0 15-30	During a conversation, the call duration is displayed. (Example: 15 minutes, 30 seconds)
→	The unit is in the programming mode (p. 9, 16, 20).
→•	The AUTO button was pressed while dialing or storing phone numbers for the Speed Dialer (p. 16, 19).
⌐	The LOWER button was pressed (p. 21, 23).
🔕	The ringer is set to OFF (p. 10).
⊠	The MUTE button was pressed during a conversation (p. 24).
⊸	The dial lock mode is set. To cancel the mode, see page 27.
F	The FLASH button was pressed while storing phone numbers.
P	The PAUSE button was pressed while dialing or storing phone numbers.
ϟ	You pressed ✱ while dialing or storing phone numbers in the TONE mode.
=	You pressed # while dialing or storing phone numbers in the TONE mode.
▫	While storing a phone number in an UPPER memory location for the One-Touch Dialer, "▫" will appear when you press a one-touch auto dial button (p. 20).
▫	While storing a phone number in a LOWER memory location for the One-Touch Dialer, "▫" will appear when you press a one-touch auto dial button (p. 21).
[-]	The MUTE button was pressed as a secret button while storing phone numbers (p. 18, 22).
∪	While programming function items, such as the dialing mode, "∪" will flash as a cursor.

Preparation

5

Visibility

Changing Ringer Volume

- Press “Program”
- Press “6”
- Set Volume
  - Low - Press “1”
  - Medium - Press “2”
  - High - Press “3”
- Press “Program”

Visibility

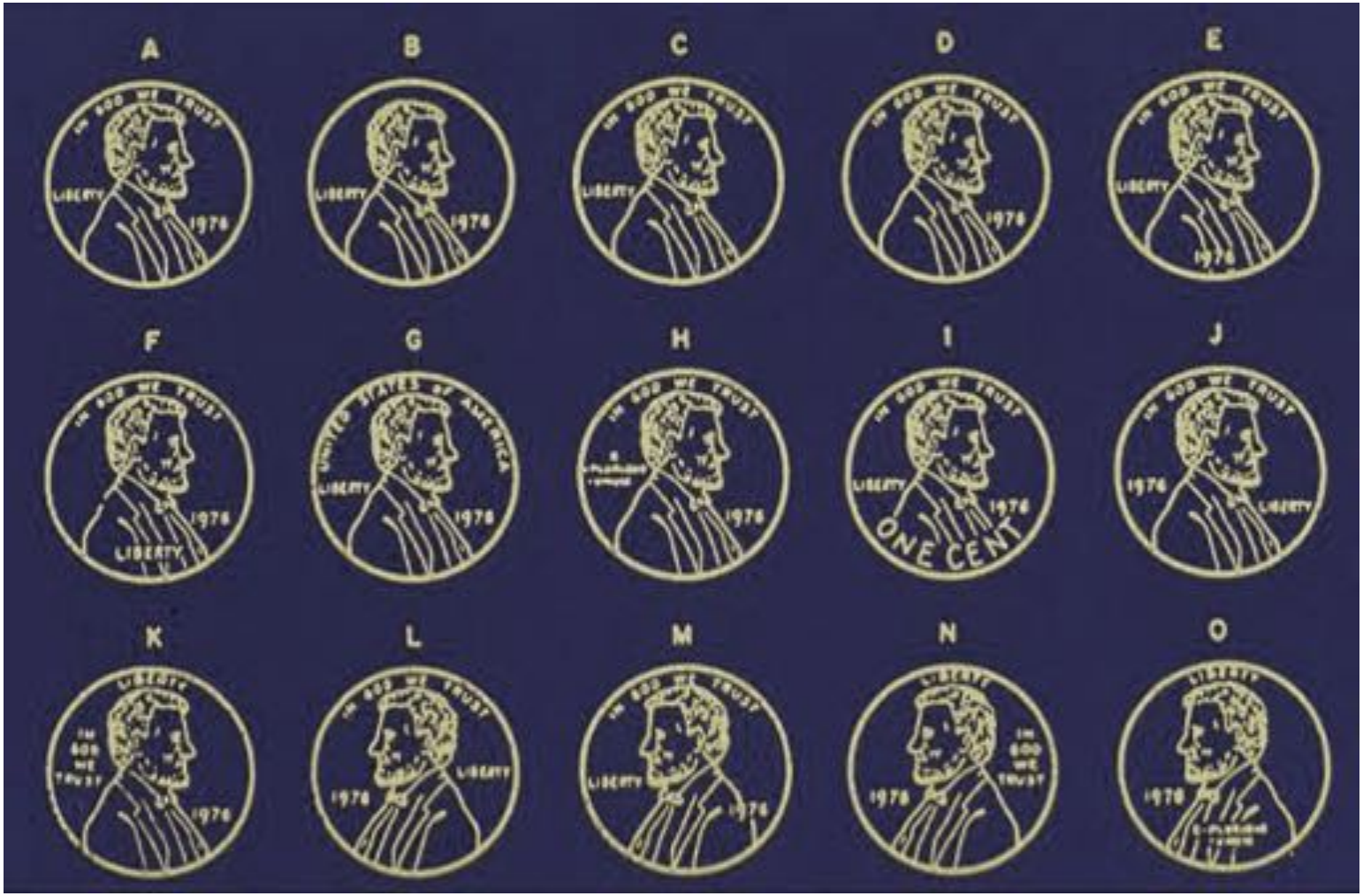
Controls available on watch with 3 buttons?

- Too many and they are not visible

Compare to controls on simple car radio

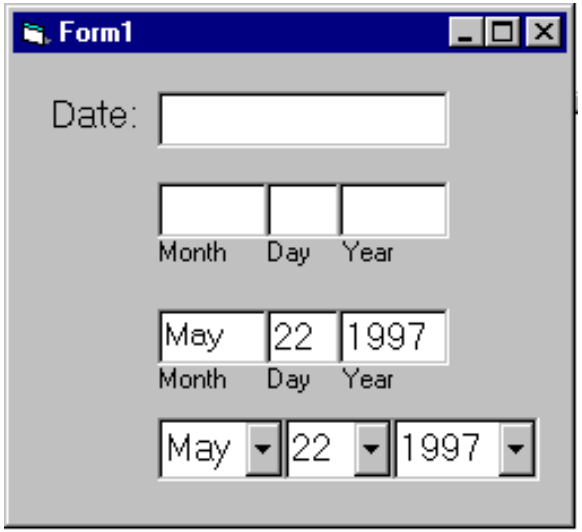
- Number of controls ≈ Number of functions
- Controls are labeled and grouped together

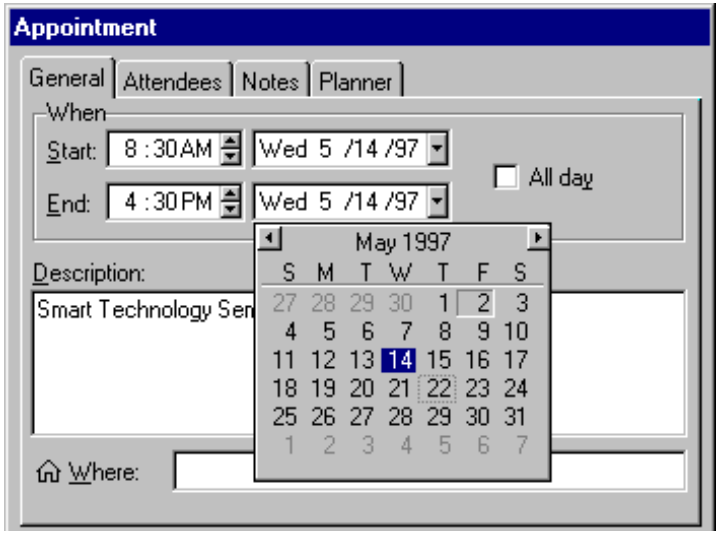
Knowledge in the World



Constraints

Prevent some actions while allowing others





Prevent errors before they can happen

Disruptive error messages are a last resort

Constraints

Constraints

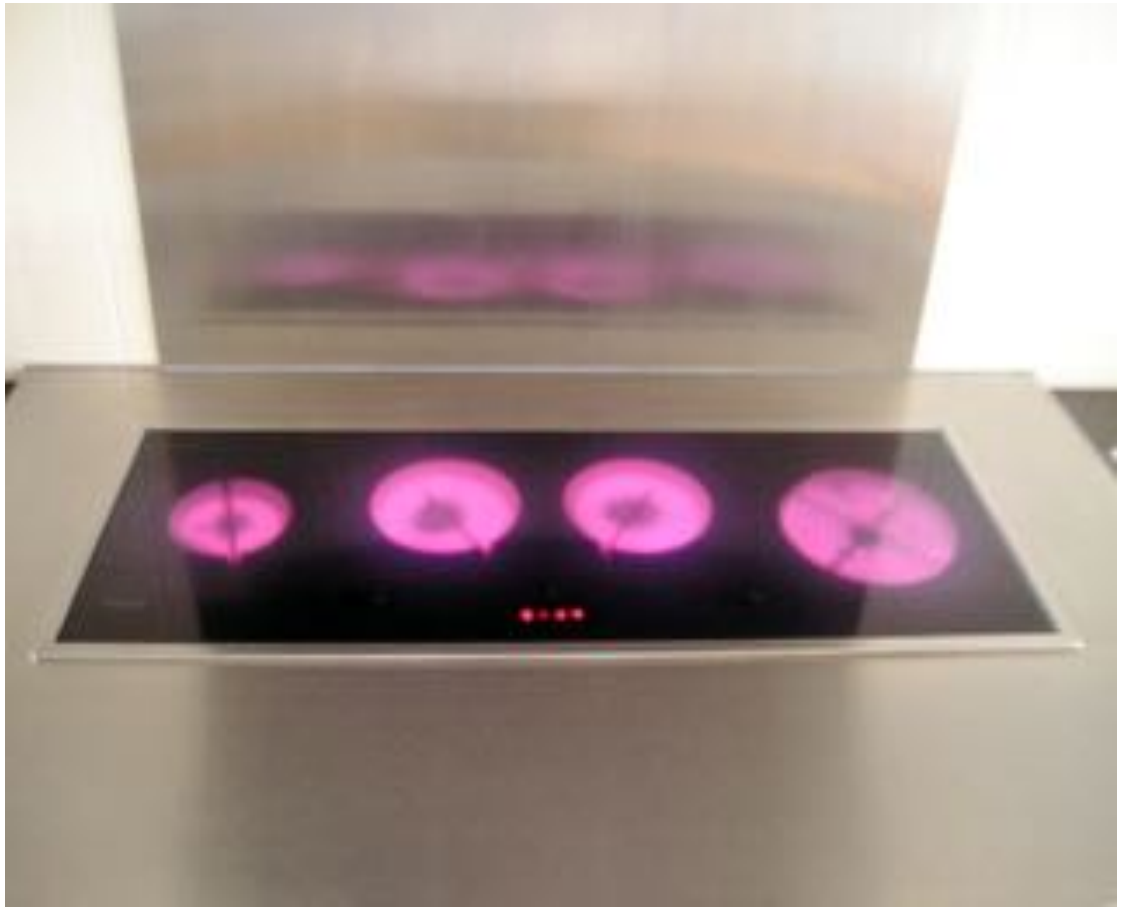
Constraints

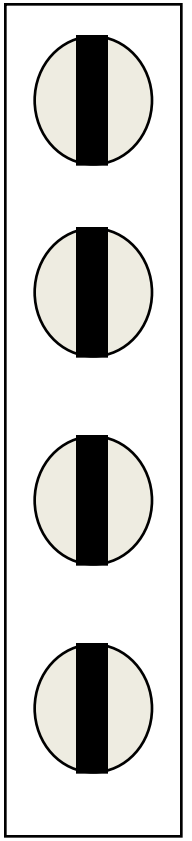
Mapping

Correspondence between an interface and the corresponding action in ‘the world’

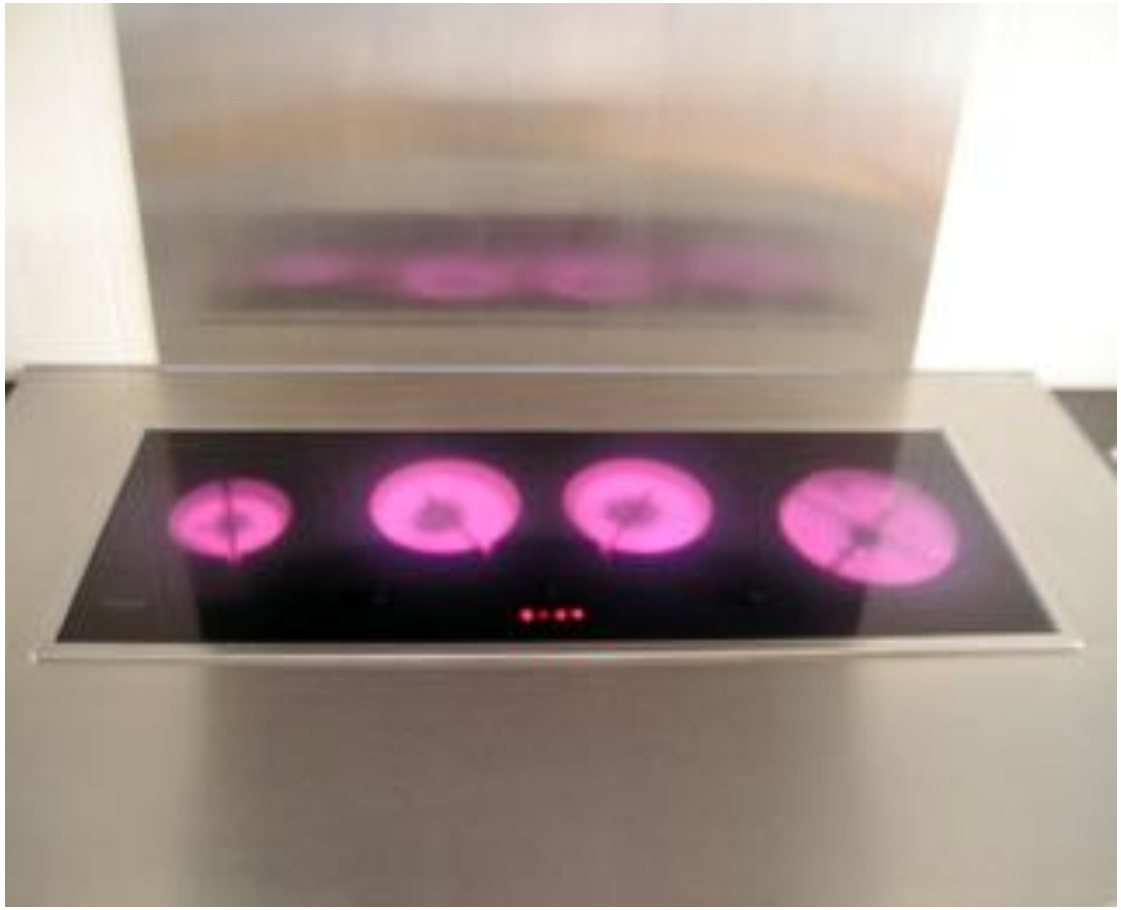
Minimize cognitive steps to transform action into effect, or perception into comprehension (i.e., execution and evaluation)

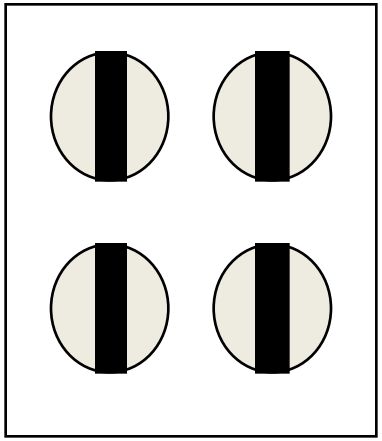
Very Bad Mapping





Slightly Better Mapping





Good Mapping

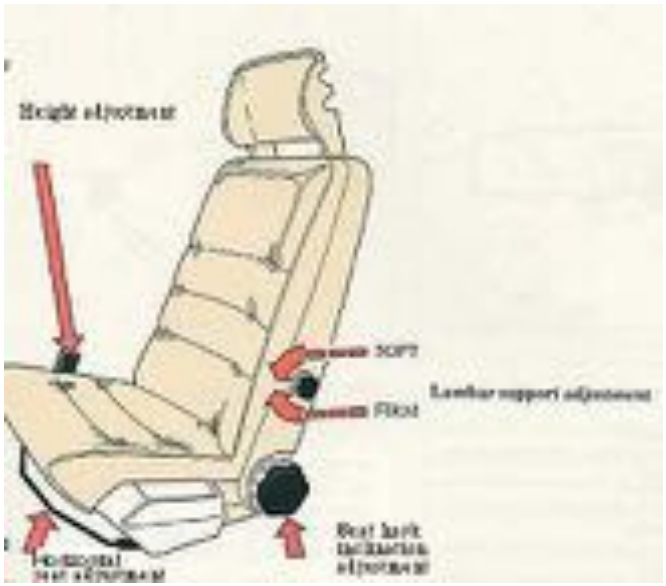
Not this Stove

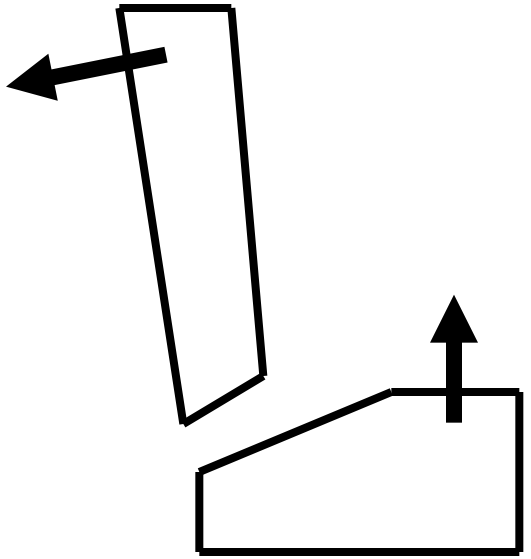
Great Mapping

Mapping

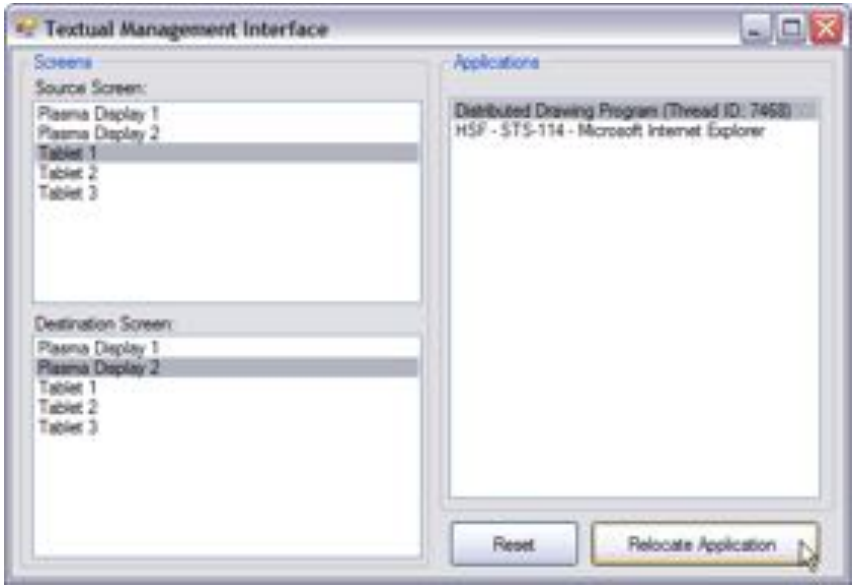

50
EURO CENT
20
EURO CENT
10
EURO CENT
500
500
500
200
200
200
100
100
100
10
10
10

Mapping

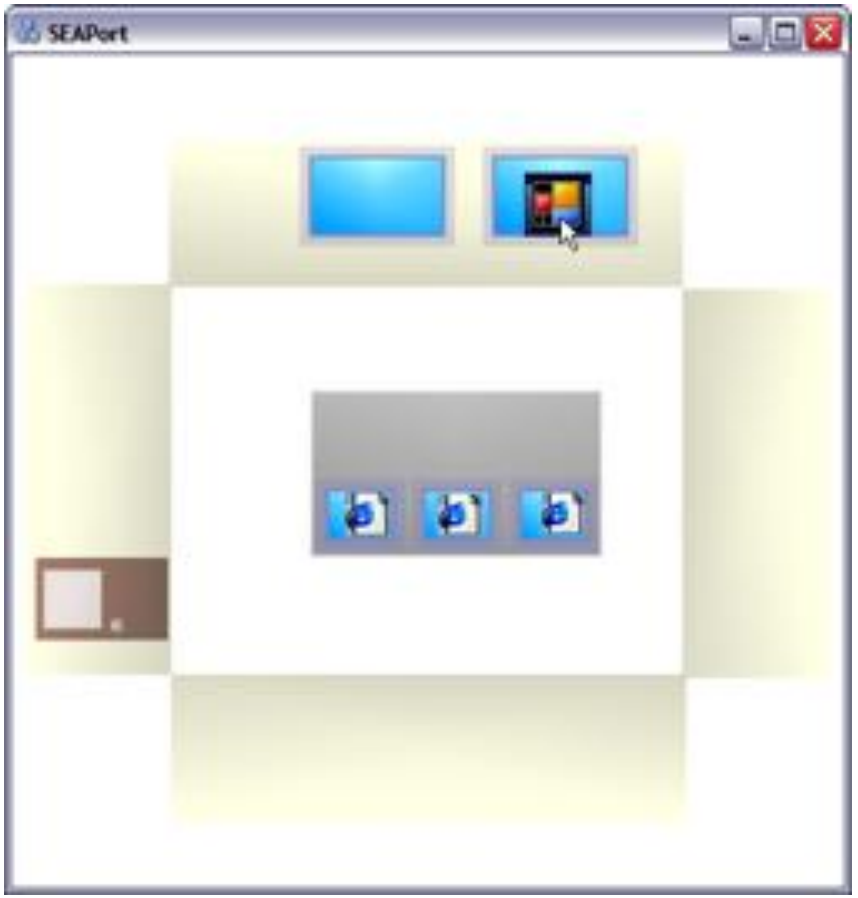




Mapping


Textual Management Interface
Screens
Source Screen:
Plasma Display 1
Plasma Display 2
Tablet 1
Tablet 2
Tablet 3
Destination Screen:
Plasma Display 1
Plasma Display 2
Tablet 1
Tablet 2
Tablet 3
Applications
Distributed Drawing Program (Thread ID: 7468)
HSF - STS-114 - Microsoft Internet Explorer
Reset
Relocate Application

Mapping



Consistency

Interfaces should be consistent in meaningful ways

- Ubiquitous use of same keys for cut/copy/ paste

Types of consistency

- Internal (i.e., within itself)
  - e.g., same terminology and layout throughout
- External (i.e., with other applications)
  - e.g., common widget appearance
  - e.g., design patterns common across applications

Is Consistent Always Better?

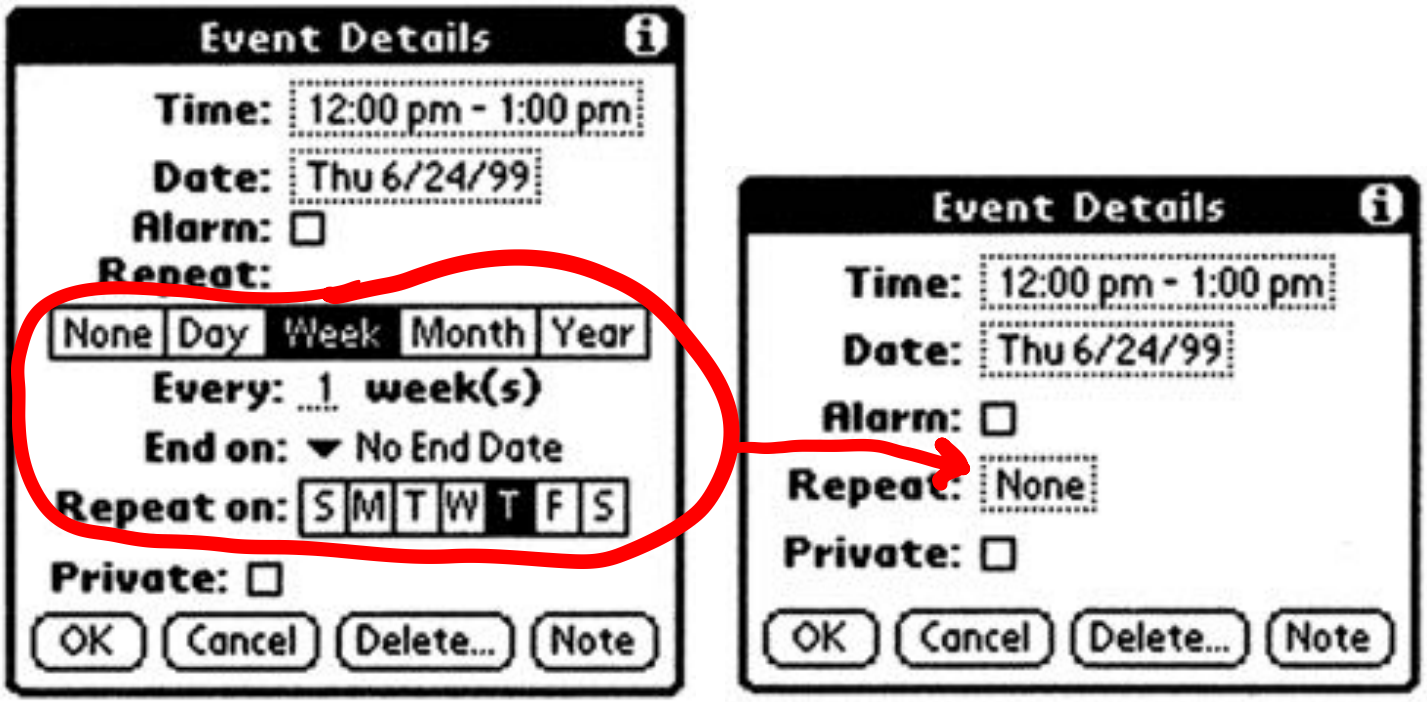
Should “new” & “delete” be in the same place?

Is Consistent Always Better?

Should “new” & “delete” be in the same place?

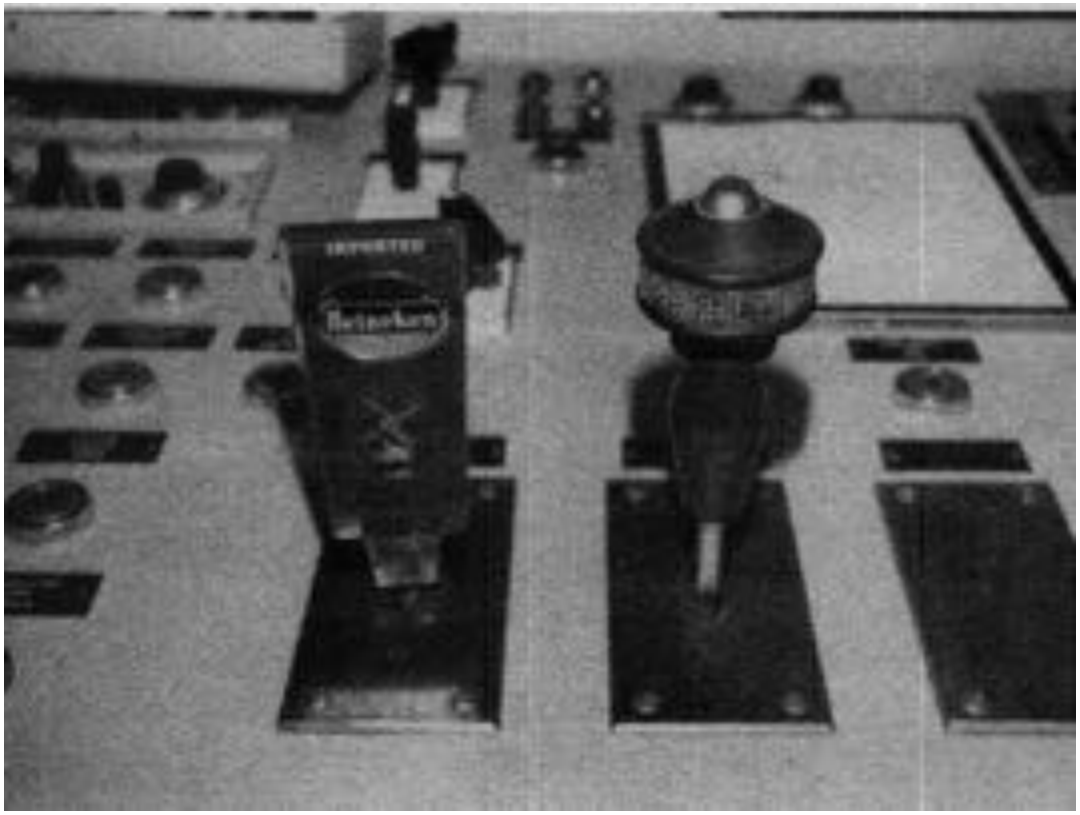
New is common, delete is not

Is Consistent Always Better?

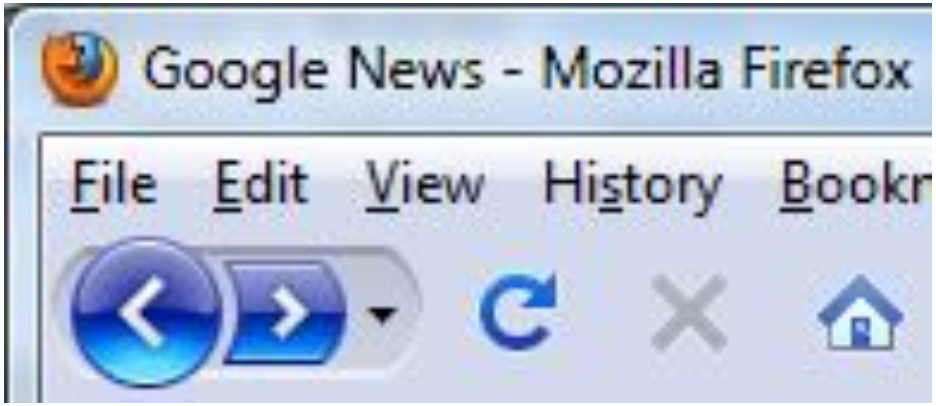


Is Consistency Always Better?

Is Consistency Always Better?

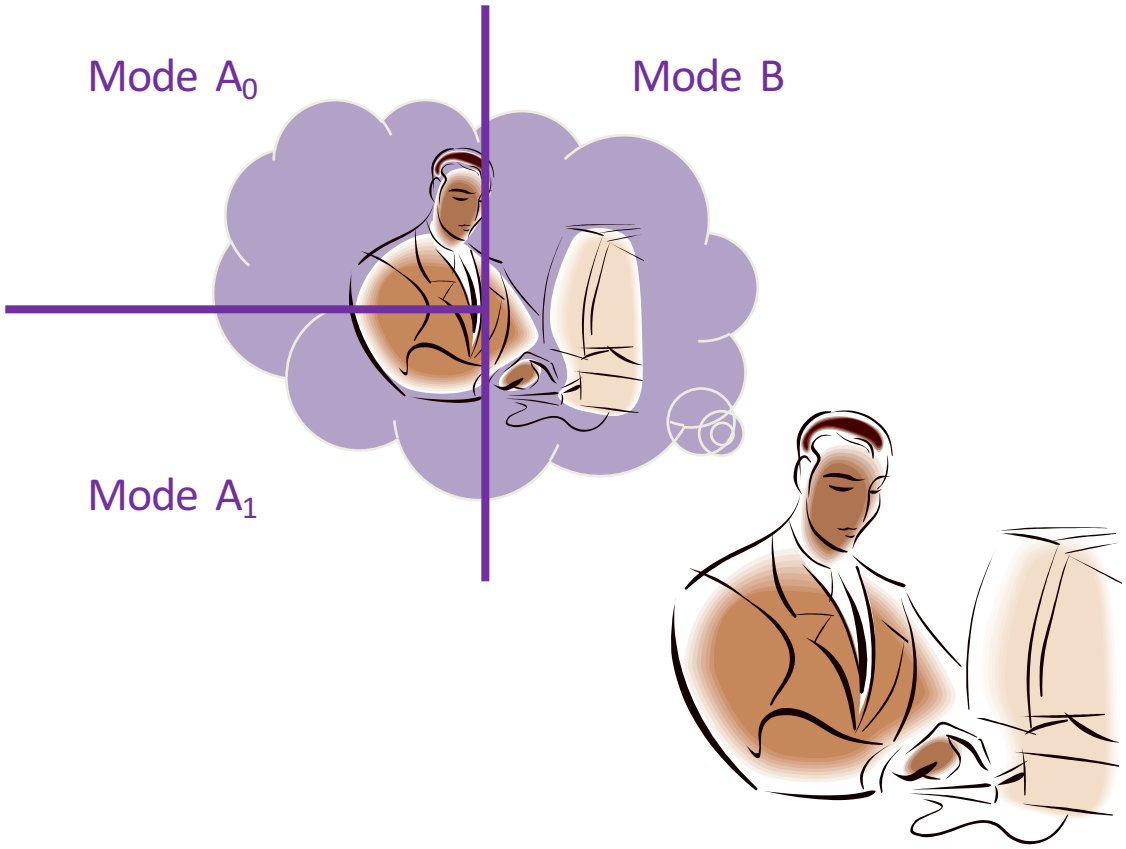


Is Consistency Always Better?



Modes

Modes force people to divide their model



Active versus Passive Modes

Active modes require constant action to maintain

- Once that action has retired, so does the mode
- e.g., Shift

Passive modes require action to set, and a separate action to unset, or to set again

- e.g., CAPS LOCK

Active modes are generally preferred

Standardization

If all else fails, standardize

- Fewer things to memorize
- Reduced learning time
- Adapt to new situations faster

e.g., keyboard layout not optimal, but standard

Norman's Seven Principles for Design

Use knowledge in the head and in the world

Simplify the structure of tasks

Making things visible

Get the mappings right

Exploit the power of constraints

Design for error

When all else fails, standardize

Limitations of Testing

Drives hill-climbing, but not overall design

- A design may be better, but is it good?

Impossible for new designs to compete

Can be difficult to scale to many features

Design Equals Solutions

Design is about finding solutions

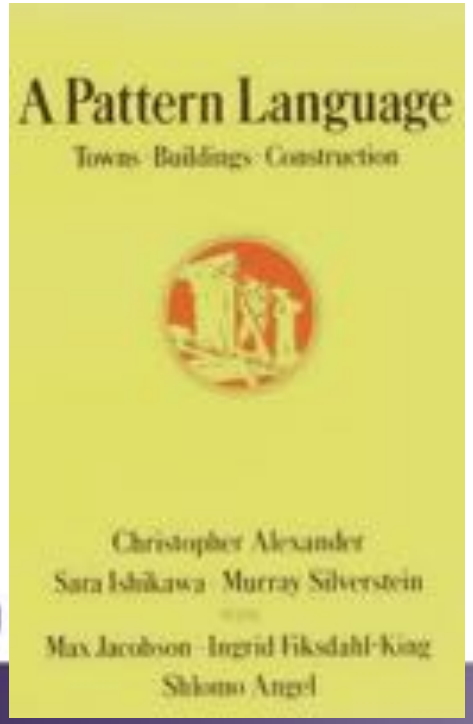
Designers often reinvent

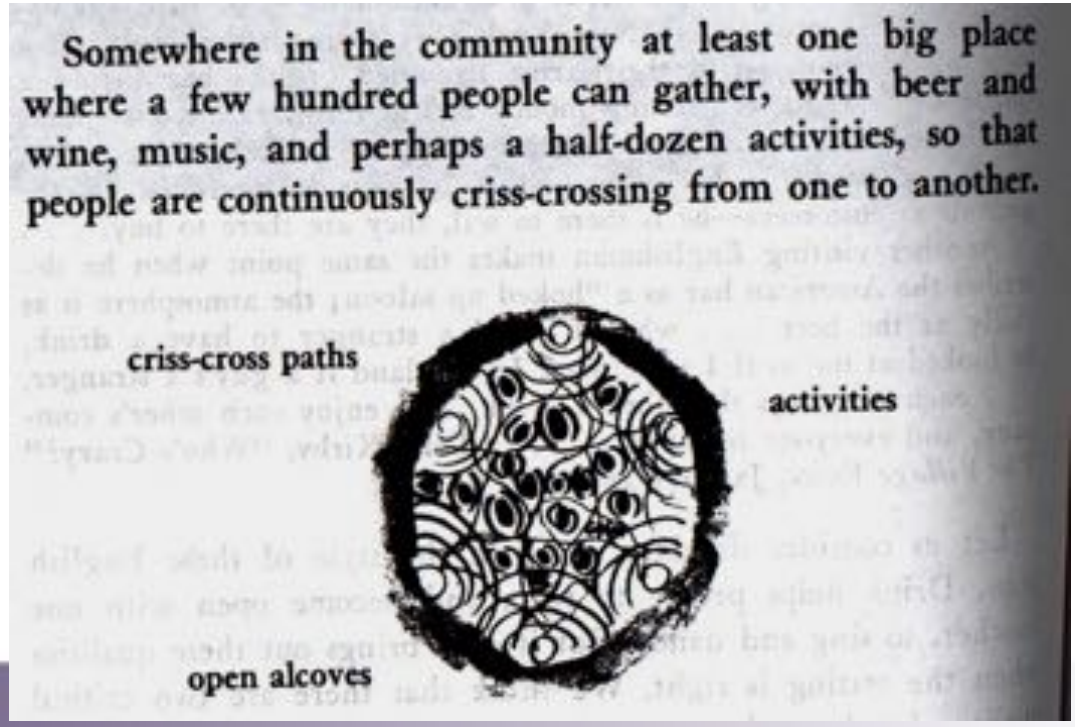
- Hard to know how things were done before
- Why things were done a certain way
- How to reuse solutions

Design Patterns

Design patterns communicate common design problems and solutions

- First used in architecture [Alexander]
- How to create a beer hall where people socialize?





Using Design Patterns

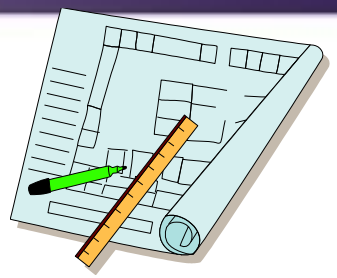
Not too general and not too specific

- use a solution “a million times over, without ever doing it the same way twice”

Design patterns are a shared language

- for “building and planning towns, neighborhoods, houses, gardens, and rooms”
  - Beer hall is part of a center for public life
  - Beer hall needs spaces for groups to be alone ALCOVES

A Web of Design Patterns



(8) Mosaic of Subcultures

(31) Promenade

(33) Night Life

(90) Beer Hall

(95) Building Complex

(179) Alcoves

(181) The Fire

Cities & Towns

Local Gatherings

Interiors

Web Design Patterns

Communicate design problems & solutions

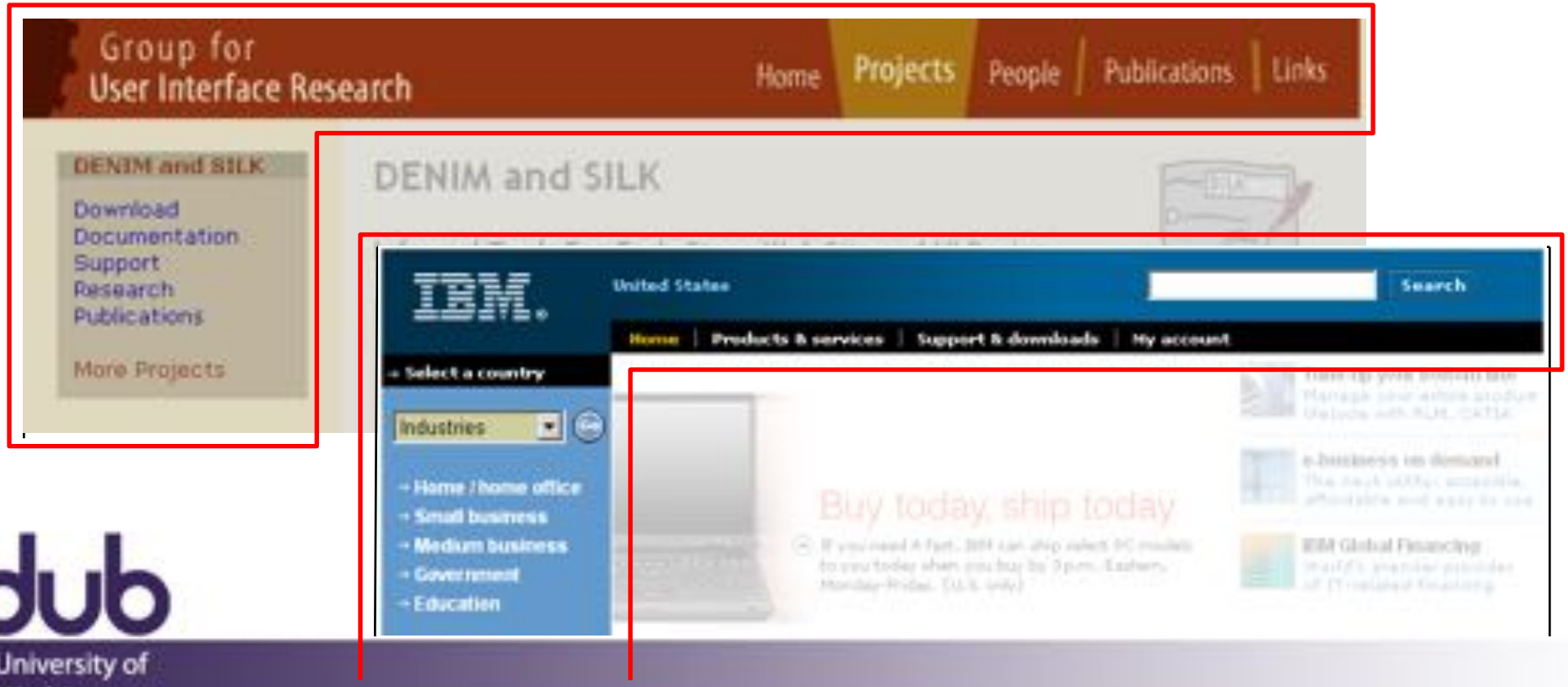
how to create navigation bars for finding relevant content

how to create a shopping cart that suports check out

how to make e-commerce sites where people return & buy

NAVIGATION BAR (K2)

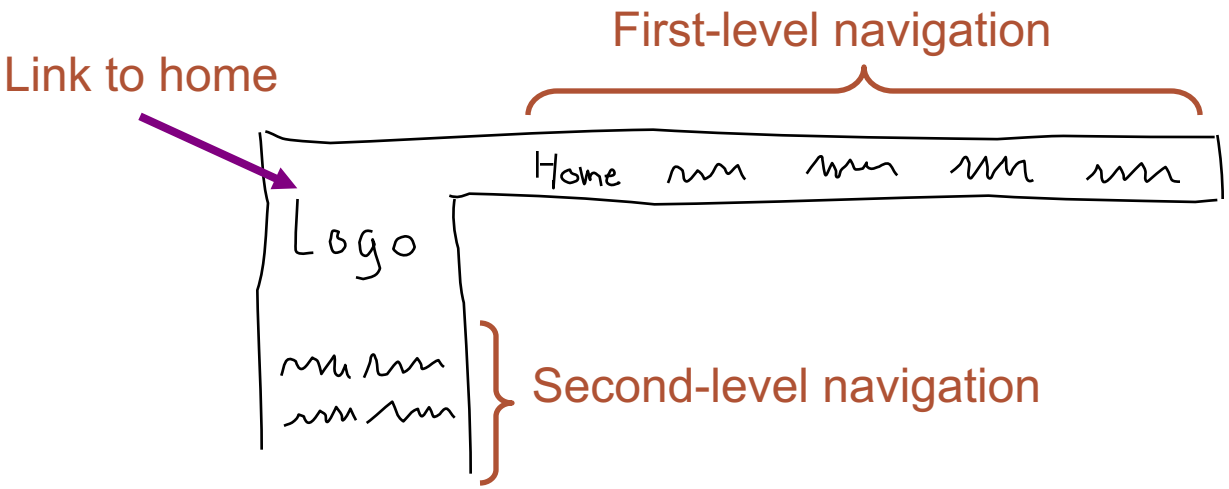
Problem: Customers need a structured, organized way of finding the most important parts of your Web site



NAVIGATION BAR (K2)

Solution diagram

Captures essence on how to solve problem



Pattern Groups

Patterns organized by group

- A Site genres
- B Navigational framework
- C Home page
- D Content management
- E Trust and credibility
- F Basic ecommerce
- G Advanced ecommerce
- H Completing tasks
- I Page layouts
- J Search
- K Page-level navigation
- L Speed
- M The mobile web

PROCESS FUNNEL (H1)

Problem:

Need a way to help people complete highly specific stepwise tasks

Ex. Create a new account

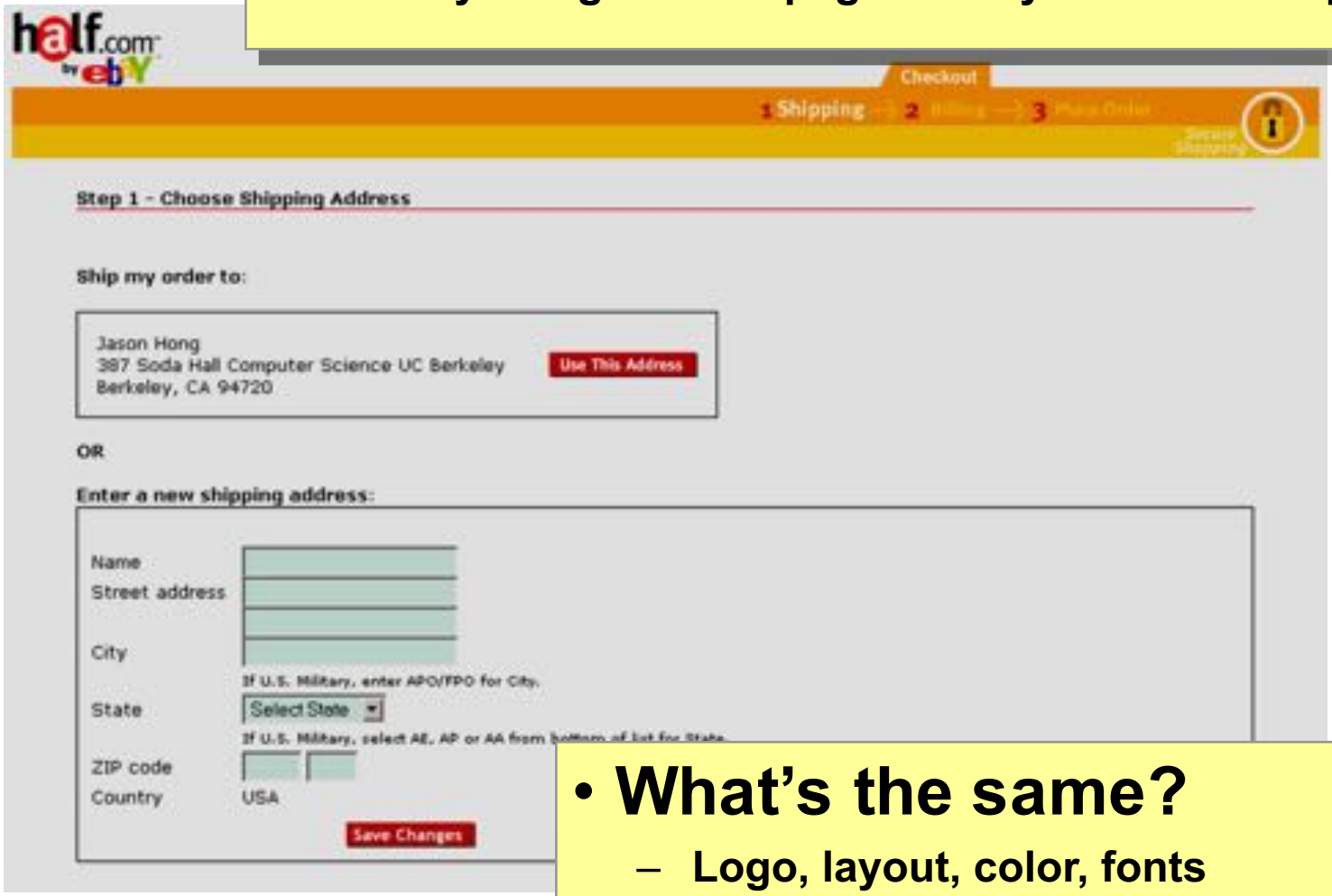
Ex. Fill out survey forms

Ex. Check out

PROCESS FUNNEL (H1)

PROCESS F

- **What's different?**
  - **No tab rows**
  - **No impulse buys**
  - **Only navigation on page takes you to next step**



- **What's the same?**
  - **Logo, layout, color, fonts**

PROCESS FUNNEL (H1)

Problem:

What if users need extra help?

PROCESS FUNNEL (H1)

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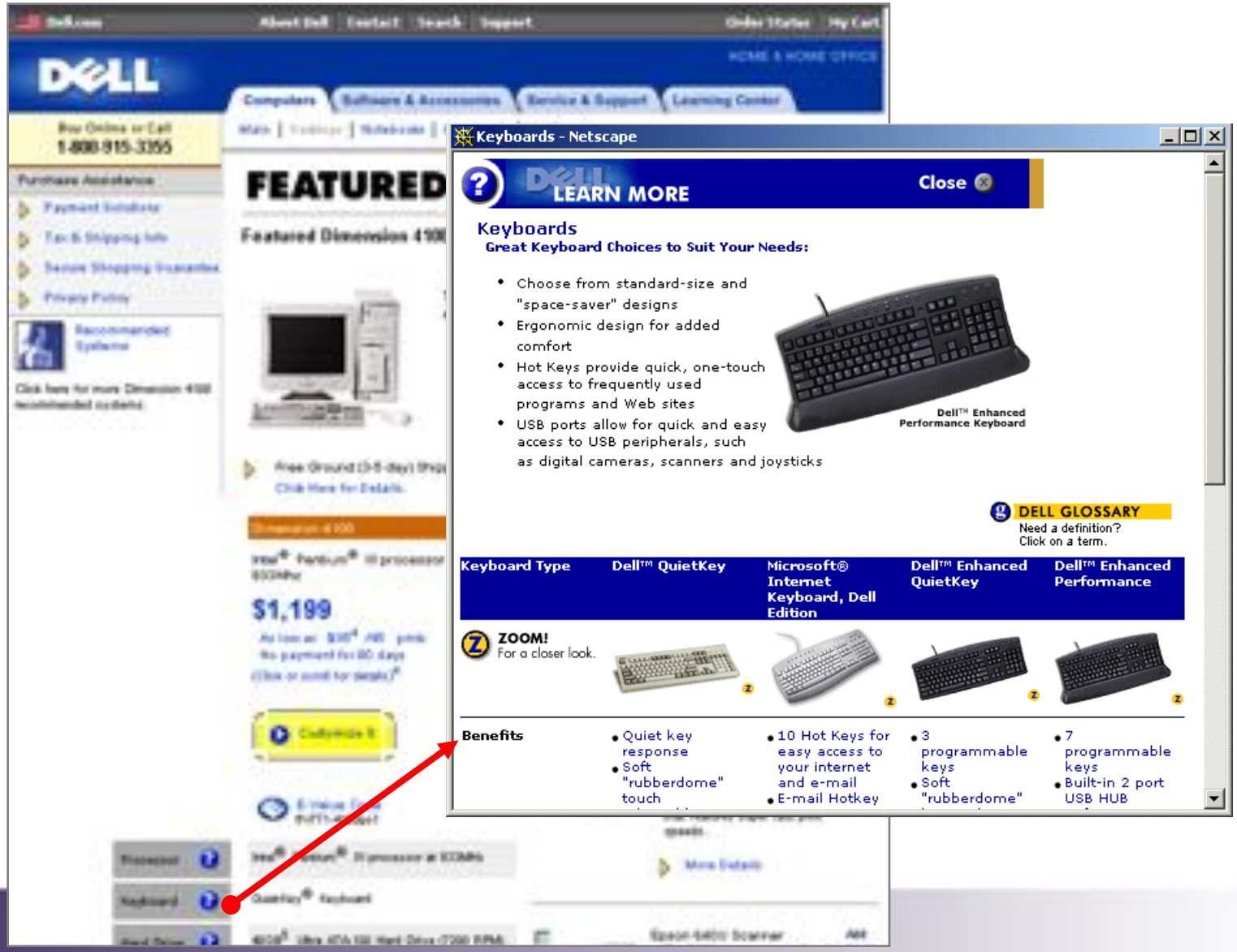
CONTEXT-SENSITIVE HELP (H8)



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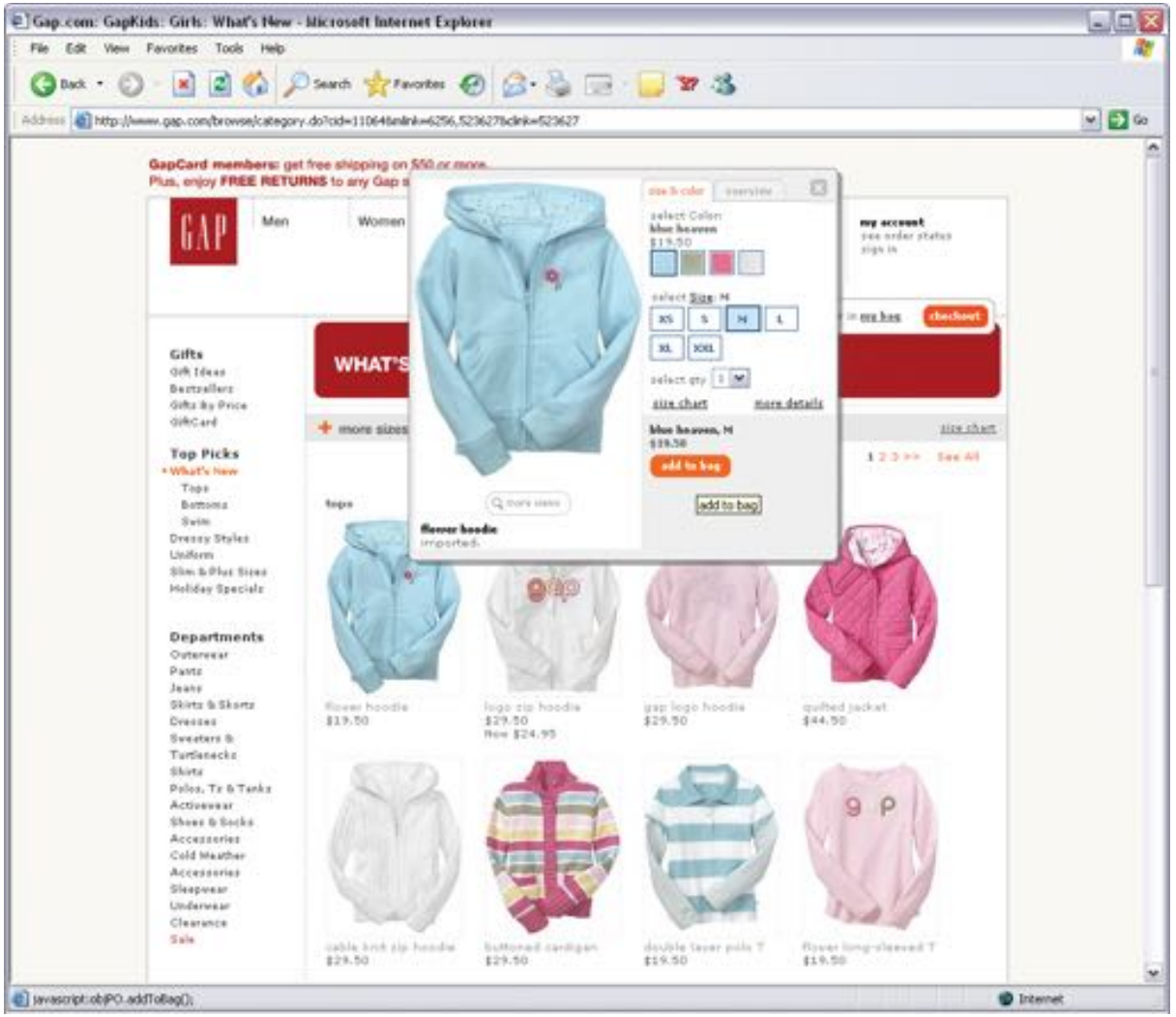
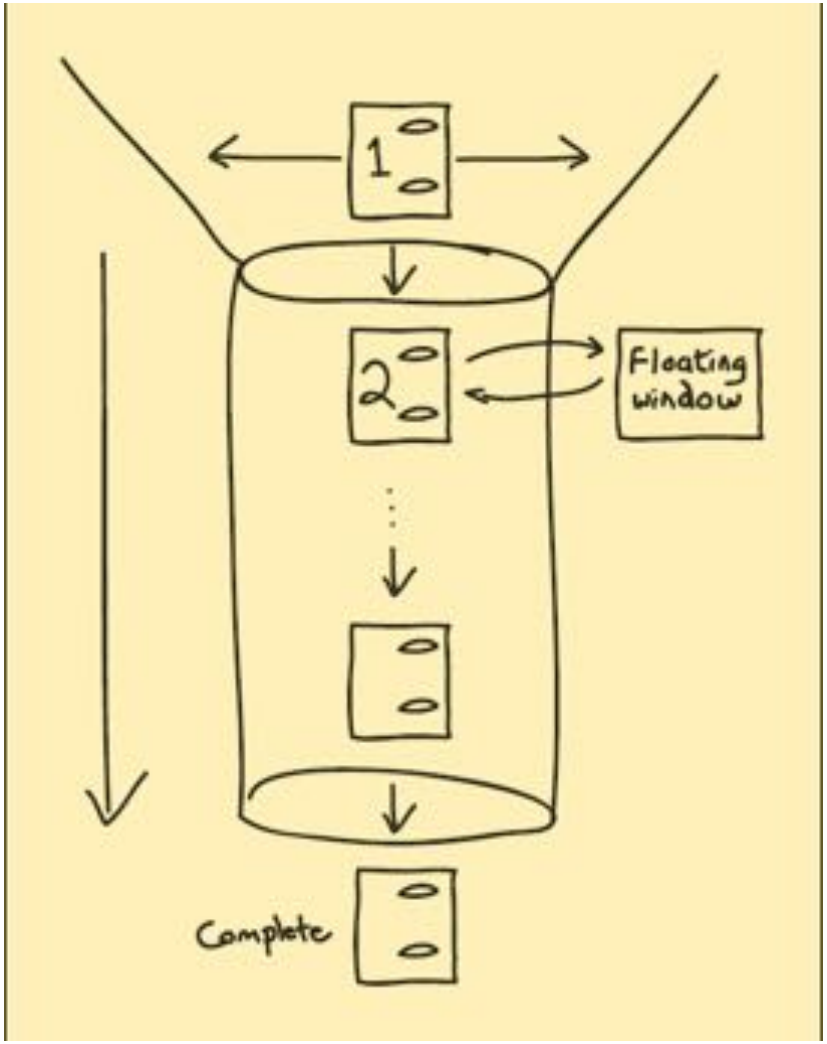
FLOATING WINDOWS (H6)

FLOATING WINDOWS (H6)

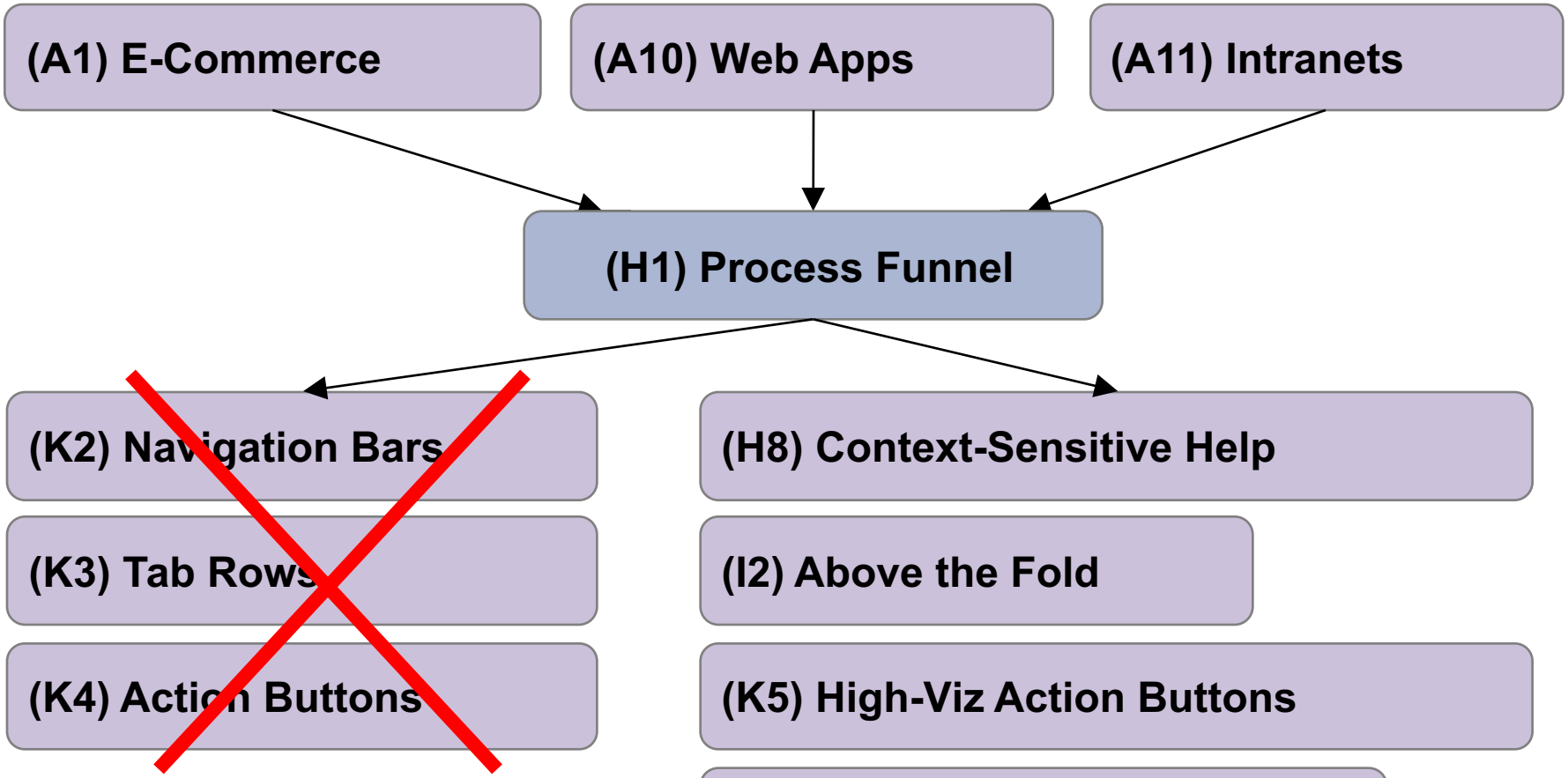


PROCESS FUNNEL (H1)

Solution Diagram



Related Patterns



Patterns Support Creativity

Patterns come from successful examples

- sites that are so successful that lots of people are familiar with their paradigms
- interaction techniques/metaphors that work well across many sites (e.g., shopping carts)

Not too general and not too specific

- you need to specialize to your needs

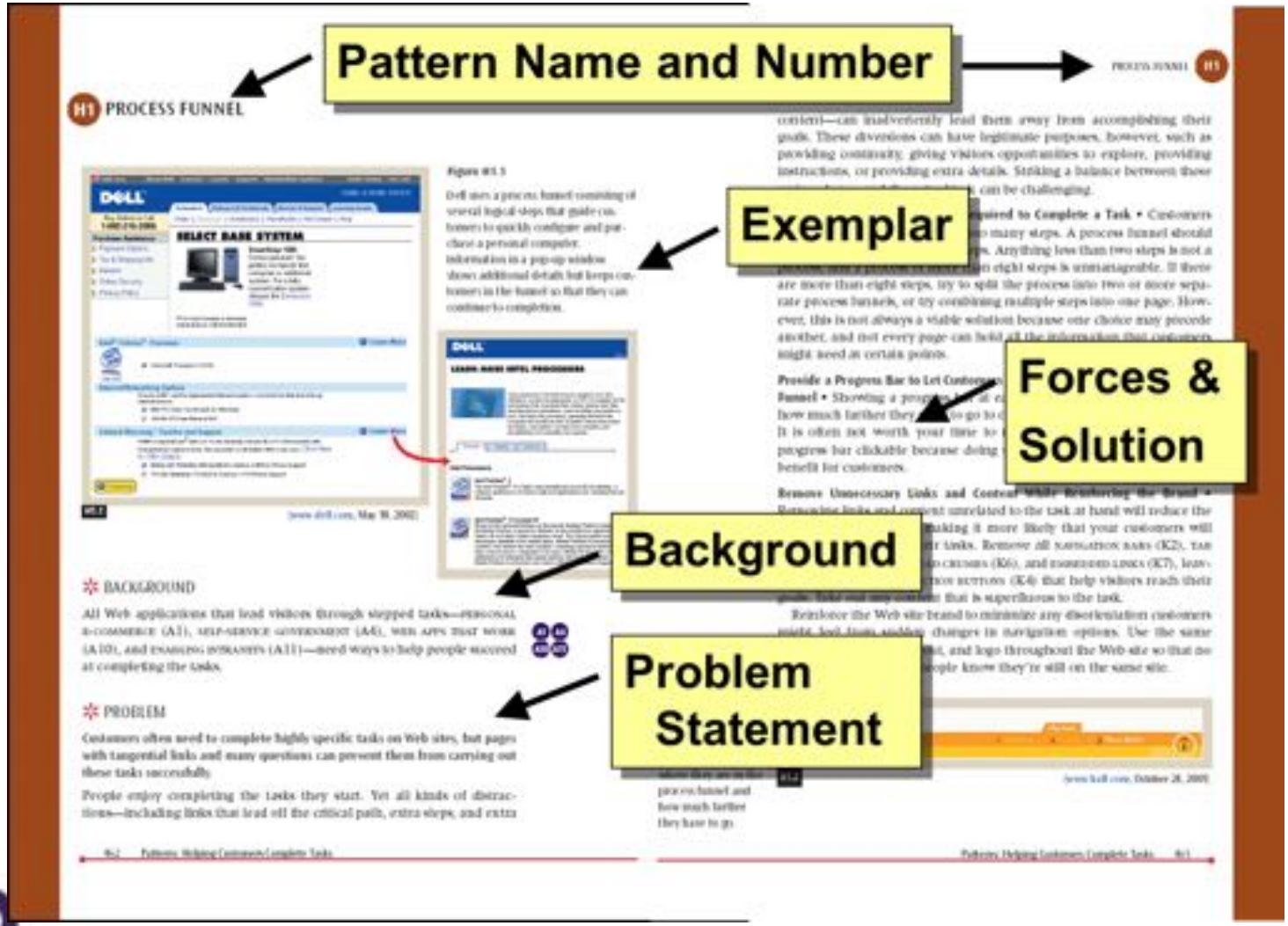
Patterns let you focus on the hard, unique problems of your design situation

Principles, Guidelines, Templates

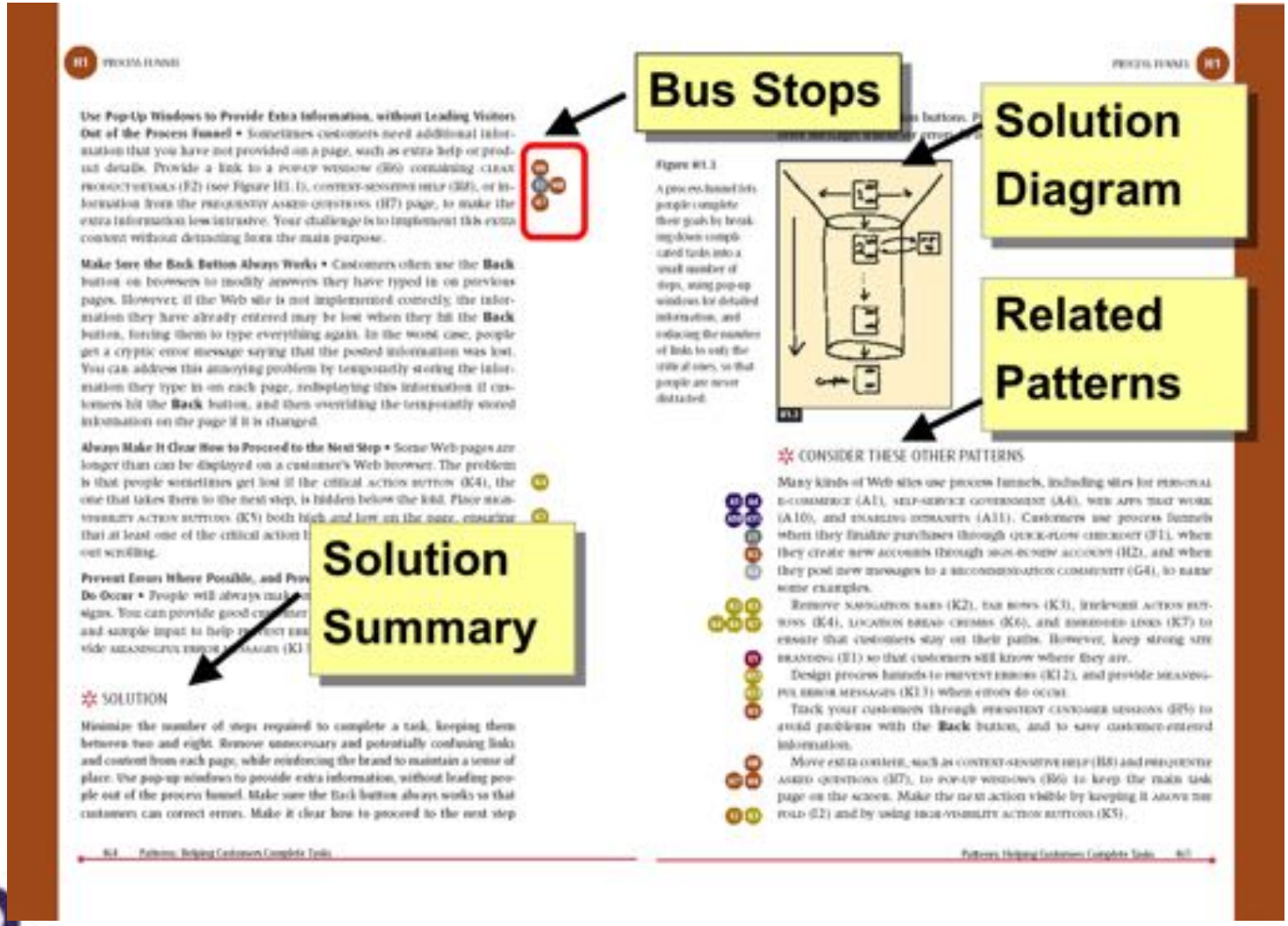
Patterns help design without over-constraining

- unlike principles, patterns are not too general
- unlike guidelines, patterns discuss tradeoffs, show good examples, and tie to other patterns
- unlike style guides, patterns not too specific, can be specialized to a design
- unlike templates, patterns illustrate flows and relationships among different pages

Web Design Patterns



Web Design Patterns



Patterns

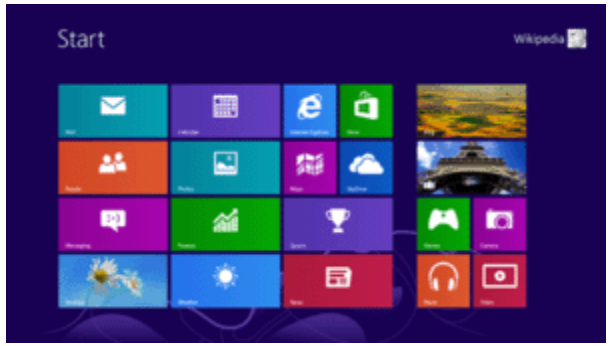
When you see advice, consider its depth

- Result of an individual study
- Pre-pattern based on some meta-analysis
- Established pattern

Be aware of misapplying patterns

- And be aware of anti-patterns

Touch and Microsoft Windows



Microsoft Windows xp Tablet PC Edition

2004

2012

Consistency vs. Specialization

Beware of simply copying a design language

- Consistency is your friend until is it not your friend

Not limited to platform-level decisions

- One “look” for your app
- Or targeted at each device

Dark Patterns

A Dark Pattern is an interface that has been carefully crafted to trick people into doing things, such as buying insurance with their purchase or signing up for recurring bills.

Disguised Ads

Ads that are disguised as other kinds of content or navigation, in order to get users to click on them

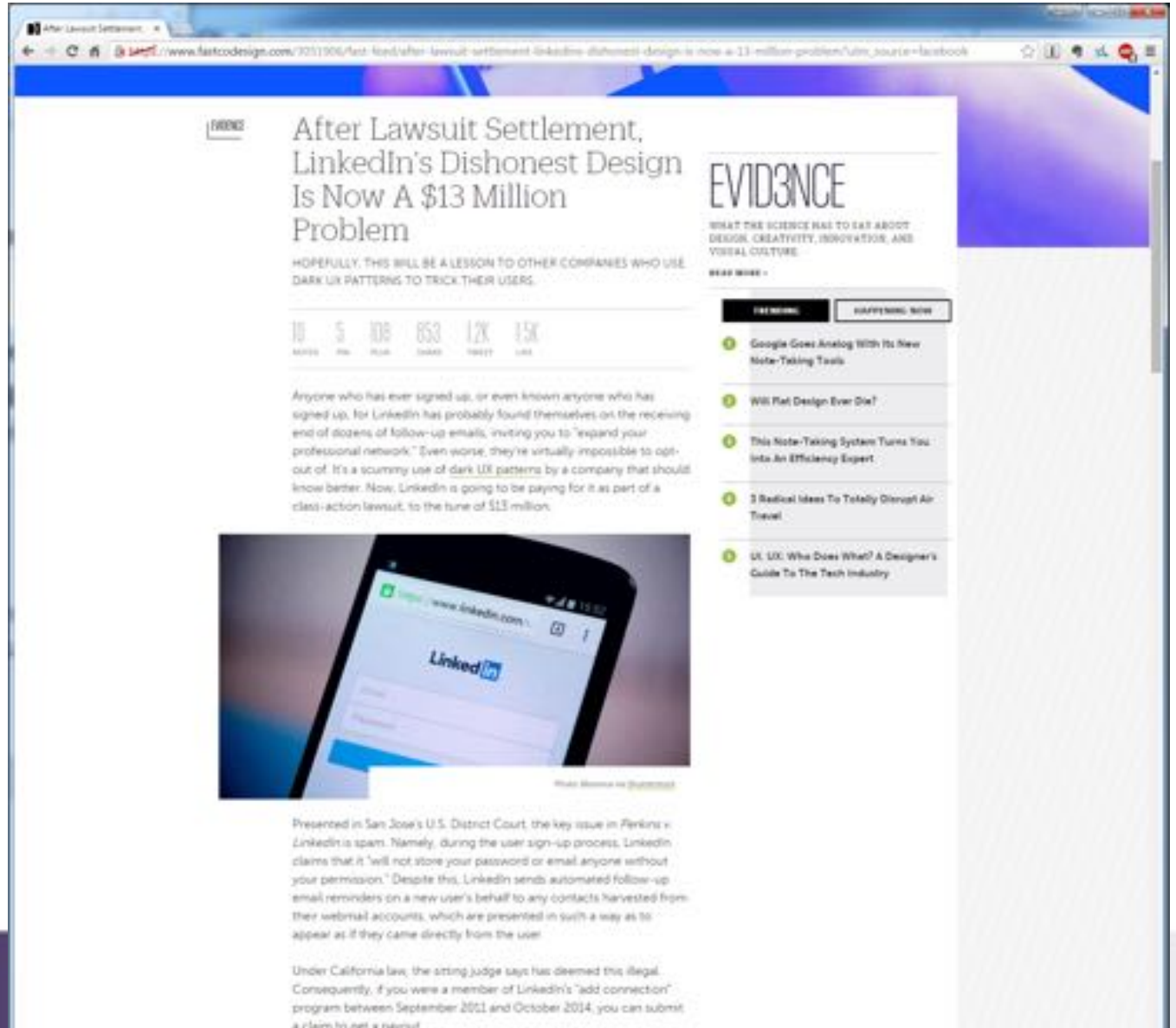
Dark Patterns

A Dark Pattern is an interface that has been carefully crafted to trick people into doing things, such as buying insurance with their purchase or signing up for recurring bills.

Friend Spam

A site or game asks for your credentials, then goes on to publish content or send out bulk messages

Dark Patterns



After Lawsuit Settlement, LinkedIn's Dishonest Design Is Now A $13 Million Problem

HOPEFULLY, THIS WILL BE A LESSON TO OTHER COMPANIES WHO USE DARK UX PATTERNS TO TRICK THEIR USERS.

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WHAT THE SCIENCE HAS TO SAY ABOUT DESIGN, CREATIVITY, INNOVATION, AND VISUAL CULTURE

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Anyone who has ever signed up, or even known anyone who has signed up, for LinkedIn has probably found themselves on the receiving end of dozens of follow-up emails, inviting you to "expand your professional network." Even worse, they're virtually impossible to opt-out of. It's a scummy use of dark UX patterns by a company that should know better. Now, LinkedIn is going to be paying for it as part of a class-action lawsuit, to the tune of $13 million.

Presented in San Jose's U.S. District Court, the key issue in *Perkins v. LinkedIn* is spam. Namely, during the user sign-up process, LinkedIn claims that it "will not store your password or email anyone without your permission." Despite this, LinkedIn sends automated follow-up email reminders on a new user's behalf to any contacts harvested from their webmail accounts, which are presented in such a way as to appear as if they came directly from the user.

Under California law, the sitting judge says has deemed this illegal. Consequently, if you were a member of LinkedIn's "add connection" program between September 2011 and October 2014, you can submit

University of Washington

CSE 510: Advanced Topics in HCI

HCI as Design I

James Fogarty
Daniel Epstein

Tuesday/Thursday
10:30 to 12:00

CSE 403