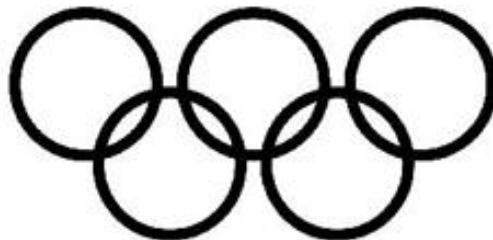


Midterm Review

Anna Loparev
Intro HCI
03/19/2013

(CH 3) Perception: Gestalt laws

- Core principle:
- Pragnanz
 - Regular, simple, orderly



www.id-book.com, http://www.borisfx.com/tutorials/olympic_promo.php
www.interaction-design.org/encyclopedia/gestalt_principles_of_form_perception.html

(CH 2) Memory

- Includes creating and retrieving memories
- Don't remember everything
- During creation, affected by:



Attention



Context (when, where)

www.id-book.com

3

(CH 1) The user experience

- How a product behaves
- How it is used by people in the real world
 - The way people feel about it
 - Their pleasure and satisfaction when doing anything with it
 - "Every product that is used by someone has a user experience: newspapers, ketchup bottles, reclining armchairs, cardigan sweaters." (Garrett, 2003)
- Aspects
 - From functionality to cultural identity
- Cannot design a user experience
 - Only design *for* a user experience

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4

(CH 2) Memory: The classic '7±2'

- George Miller's (1956)
- How much info people can remember
- Short-term memory capacity is limited



<http://www.pawesome.net/2012/01/too-big-bulldog-and-the-too-small-box/>

www.id-book.com

5

Models of emotion

(CH 5) Models of Emotion: Emotional Design Model

6

Emotional design model

Visceral



<http://authenticgeek247.blogspot.com/2010/08/plants-vs-zombies-almost-sued-by.html>

7

Emotional design model

Behavioral

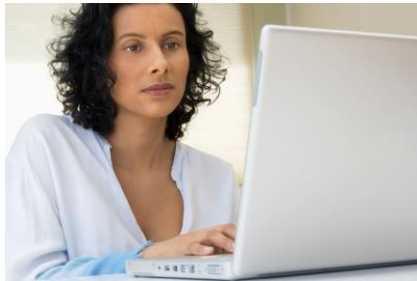
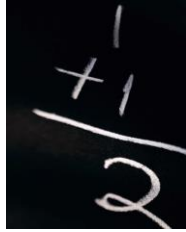


<http://www.trespassmag.com/review-drive/>

8

Emotional design model

Reflective



9

Theoretical frameworks

(CH 8) Grounded Theory



10

Grounded theory

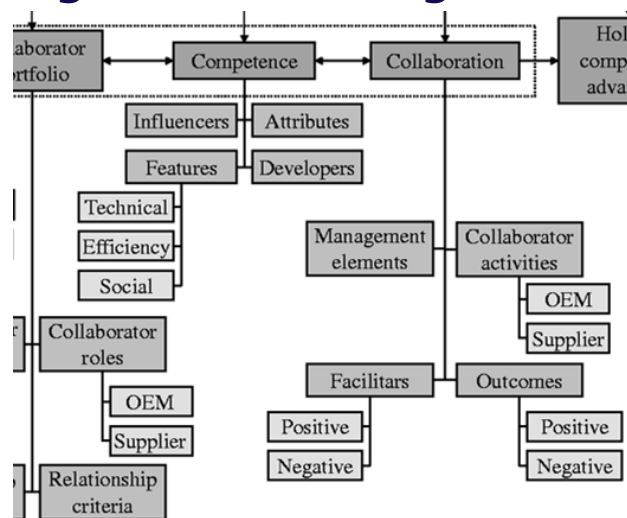
Coding: Open coding



11

Grounded theory

Coding: Axial coding


<https://www.emeraldinsight.com/journals.htm?articleid=1838289&show=html>

12

Coding: Selective coding



13

(CH 2) Conceptual model

- High-level description
 - Organization
 - Operations
 - Concepts required for interaction



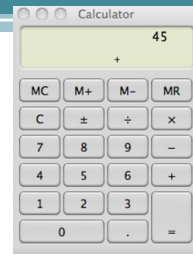
- In general, obvious models are best
- Designers "straighten out their thinking"

<http://www.toysrus.com/product/index.jsp?productId=2267249>
www.id-book.com

14

(CH 2) Components

- Metaphors
 - Understand what product for
 - Understand how to use
- Concepts people exposed to through product
 - Task-domain objects
 - Their attributes
 - Their operations
- Relationships between concepts
- Mappings between concepts and user experience

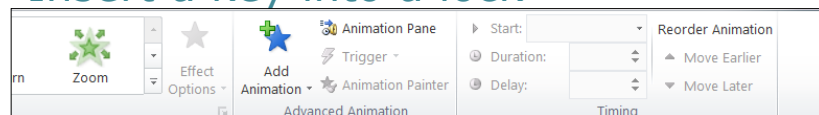


www.id-book.com

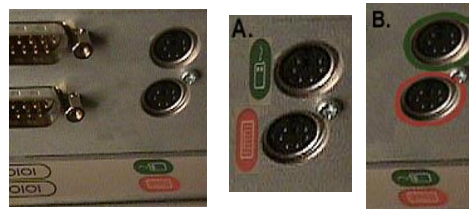
15

(CH 1) Constraints

- Restricting possible actions
- Prevents selection of incorrect options
- Ex:
 - Insert a key into a lock



- Non-Ex:



www.id-book.com,
www.baddesigns.com

16

(CH 2) The Bad

- Constrain conceptualization of problem space
- Break conventional and cultural rules
 - Ex: Recycle bin on desktop
- Limits designers' imagination
- Inadvertently reuse bad existing designs
 - Conflict with design principles
- Users only understand in terms of metaphor



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17

(CH 2) Paradigm

- General approach adopted by a community for carrying out research
 - Assumptions
 - Concepts
 - Values
 - Practices
- Ex:
 - Desktop
 - Ubiquitous computing



www.id-book.com,
<http://www.appliancist.com/refrigerators/electrolux-screen-fridge.html>

18

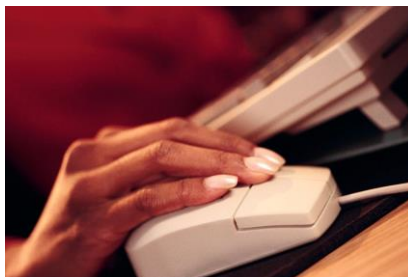
(CH 2) Theory

- Explanation of a phenomenon
 - Ex: Information processing
- Can analyse and predict user performance
- Can help identify factors
 - Cognitive
 - Social
 - Emotional



(CH 2) Models

- Simplification of an aspect of HCI
- Easier to predict and evaluate alt. designs
- Abstracted from a contributing discipline
- Ex: Psychology - keystroke model



(CH 2) Framework

- Set of interrelated concepts
- Advice in the form of
 - Steps
 - Challenges
 - Principles
 - Etc.
- Help constrain and scope



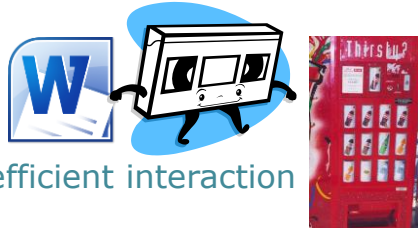
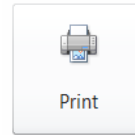
(CH 2) Interaction types

- Way user interacts with product
- Instructing
 - Issuing commands
 - Selecting options
- Conversing
 - Interacting with system via “conversation”
- Manipulating
 - Interacting with objects via manipulation
- Exploring
 - Moving through environment

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1. Instructing

- Users tell system what to do
 - Ex:
 - Tell the time (date + "%T")
 - Print a file (press button)
 - Save a file (ctrl+s)
- Used in lots of devices and systems
 - Ex:
 - Word processors
 - VCRs
 - Vending machines
- The Good
 - Supports quick and efficient interaction



www.id-book.com,
<http://www.rightnowintech.com/2012/02/5-underused-but-very-useful-microsoft.html>

24

2. Conversing

- User and computer have conversation
- Large range
 - Voice recognition menu-driven systems
 - 'Natural language' dialogs
- Ex:
 - Search engines
 - Advice-giving systems
 - Pet robots



<http://www.pha-media.com/entrepreneur-business-blog/2012/11/07/dear-santa-ive-been-a-very-good-girl/> www.id-book.com

Pros and Cons

25

- The Good
 - Allows users to interact in familiar way
- The Bad
 - System does not always understand user



www.id-book.com

3. Manipulating

www.id-book.com 26

- Interact with virtual objects
 - Drag
 - Select
 - Open/Close
 - Zoom
- Exploit knowledge of physical world
- Virtual or both physical and virtual
- Interaction with physical objects results in physical/digital events



Pros

www.id-book.com 27

- Novices learn basic functionality quickly
- Experienced users have efficiency and breath
- Average users retain operational concepts
- Error messages rarely needed
- Immediate feedback
- Less anxiety
- Gain confidence and mastery
- Feel in control

Cons

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- People take metaphor too literally
- Not all tasks can be described by objects
- Not all actions can be done directly
- Some tasks better done via delegating
 - Ex: spell checking
- Some tasks faster via other methods
 - Ex: mouse vs function key
- Screen space 'gobblers'

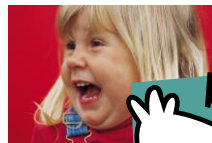
4. Exploring

- Move through virtual/physical environments
- Physical environments + embedded sensors
 - Context aware
- Exploit how navigate in real world
- Ex:



Best interaction type

- Instruction
 - Repetitive actions on multiple objects
 - Ex: spell-checking, file management
- Manipulation
 - 'doing' types of tasks
 - Ex: drawing, flying, driving, sizing windows
- Conversation
 - Children
 - Computer-phobic
 - Disabled users
 - Specialised applications
 - Phone services



Questionnaires

(CH 7) Questionnaires: Q and A Format

31

Q and A format

Check boxes and ranges



Age Ranges
Choose an age range

BIRTH-12	12-24	2	3 & 4	5-7	8-11	12-15
Months	Months	Years	Years	Years	Years	Years

Looking for 15 years and up? Try [For Her](#) or [For Him](#).

https://37signals.com/holiday/01_finders/by_age.html

32

Rating Scales: Likert

Answer these questions on a scale from 1 to 5.
5 is strongly agree. 1 is strongly disagree.

1. I felt like a strong math student at the start of the year.
2. I feel like a strong math student now.

1	2	3	4	5
---	---	---	---	---

1	2	3	4	5
---	---	---	---	---

Please circle the number that represents how you feel about the computer software you have been using

I am satisfied with it
Strongly Disagree ---1---2---3---4---5---6---7--- Strongly Agree

It is simple to use
Strongly Disagree ---1---2---3---4---5---6---7--- Strongly Agree

<http://blog.mrmeyer.com/?p=261>, <http://www.hkadesigns.co.uk/websites/msc/remel/likert.htm>

33

Rating Scales: Semantic differential

6. Please rate the Package Image

	-3	-2	-1	0	1	2	3	
A. Low Quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	High Quality
B. Economical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Luxurious
C. Masculine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Feminine
D. Flavorless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Flavorful

Inaccessible Totally Accessible
1 2 3 4 5 6 7

Rude Courteous
1 2 3 4 5 6 7

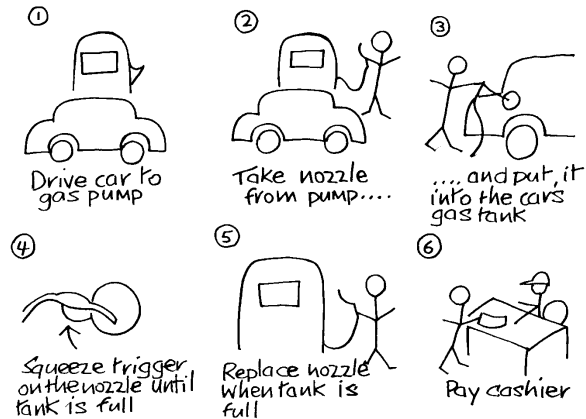
Caring Unsympathetic
1 2 3 4 5 6 7

<http://www.wiscosurvey.com/webhelp/semantic-differential.htm>,
<http://archive.zipe.org/view.asp?art=a1690597&pdf=yes>

34

Low-fidelity Prototypes

(CH 11) Storyboarding: Sketching



<http://www.bigshinyrobot.com/reviews/archives/25540>

35

Conceptual Model

(CH 11) Minus scenario

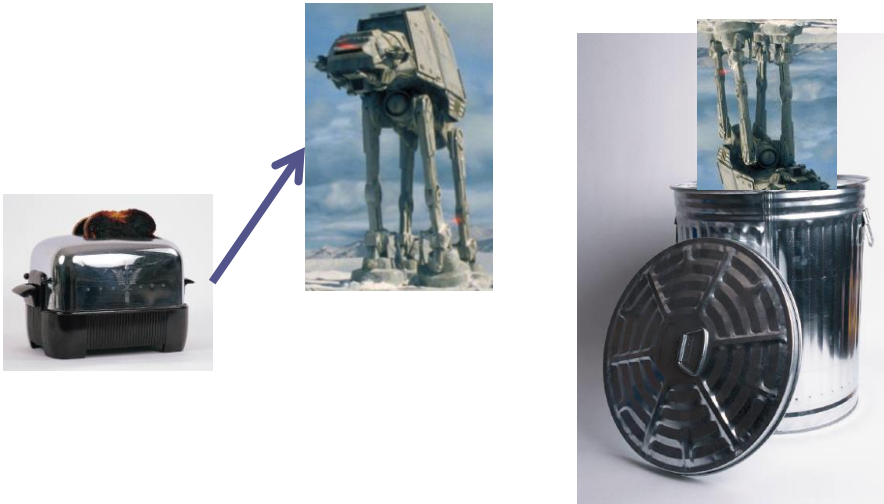


<http://starwars.wikia.com/wiki/Stormtrooper>, <https://en.wikipedia.org/wiki/Mario>

36

Compromises

(CH 11) Evolution vs. throwaway



<http://starwars.wikia.com/wiki/Stormtrooper>, <http://www.bigshinyrobot.com/reviews/archives/25540>

37