

Where are we?

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Intro HCI
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01/17/2013

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Course Info

- 100 lvl vs 200 lvl
- Class: Tues/Thurs 4:50pm – 6:05pm
- Office Hours:
<http://www.doodle.com/ftaker5a96p5z6nu>
- Course mostly based on project
- Midterm but no final
- No TA

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Course Info

- Snack signup
 - If interested, email unavailable dates
- Thursday challenges
- Go nuts for donuts
- Feedback
 - Anonymous
 - 3 times during semester
- Rest on website

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Chapter 1

What is interaction design?

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Bad designs



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Bad designs



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Good and bad design



www.id-book.com, www.engadget.com,
www.support.apple.com

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Usability

- Easy to learn
- Effective to use
- Provide enjoyable user experience

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What to design

- Need to take into account:
 - **Who** the users are
 - **What** activities are being carried out
 - **Where** the interaction is taking place



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www.washington.uwex.edu

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Understanding users' needs

- What people are good/bad at
- Help people in way they currently do things
- Provide quality user experiences
- Listen to what people want
- User-centered methods

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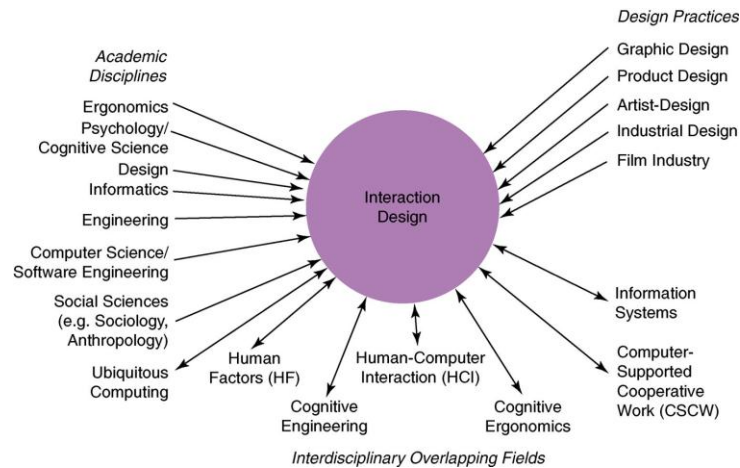
What is interaction design (IxD)?

- The design of digital things
- IxD vs HCI (Different from book)
 - Design vs CS/Psychology
 - IxD doesn't really care about
 - UI toolkits
 - Psychometrics relevant to computing

What do professionals in IxD do?

- **Interaction designers**
 - People involved in the design of all the interactive aspects of a product
- **Usability engineers**
 - People who focus on evaluating products, using usability methods and principles
- **Web designers**
 - People who develop and create the visual design of websites, such as layouts
- **Information architects**
 - People who come up with ideas of how to plan and structure interactive products
- **User experience designers (UX)**
 - People who do all the above but who may also carry out field studies to inform the design of products

Interdisciplinary implications



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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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The process of IxD

- Establishing requirements
- Developing alternatives
- Prototyping
- Evaluating

You will do all of these for your final project!

Core characteristics of IxD

- Users involved throughout development
- Usability and user experience goals
 - Identified
 - Clearly documented
 - Agreed at the beginning of the project
- Iteration needed throughout core activities

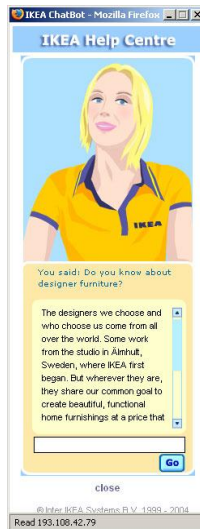
Why go to this length?

- **Help designers:**
 - Fit designs with what people want, need and desire
 - Appreciate that one size does not fit all
 - Teenagers are very different to grown-ups
 - Identify incorrect assumptions about groups
 - Not all old people want or need big fonts
 - Be aware of people's sensitivities and capabilities

What about cultural differences?

- **5/21/2012 versus 21/5/2012?**
 - Which should be used for international services and online forms?
- **Local symbols/gestures in video games**
 - Rude dance moves
 - "Ultimate Evil" star

Anna, IKEA online sales agent



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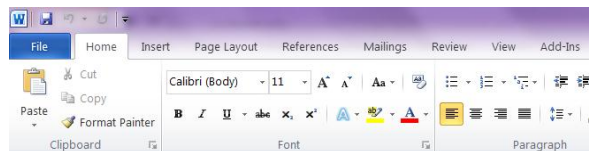
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Usability goals



- Effectiveness
- Efficiency
- Safety
- Utility
- Learnability
- Memorability



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

User experience (UX) goals

Desirable aspects

satisfying	helpful	fun
enjoyable	motivating	provocative
engaging	challenging	surprising
pleasurable	enhancing sociability	rewarding
exciting	supporting creativity	emotionally fulfilling
entertaining	cognitively stimulating	

Undesirable aspects

boring	unpleasant
frustrating	patronizing
making one feel guilty	making one feel stupid
annoying	cutesy
childish	gimmicky



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Design principles

- Do's and don'ts of interaction design
- Derived from
 - Theory-based knowledge
 - Experience
 - Common-sense

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Visibility

- Easy to find things
- Ex:



- Non-Ex:



From:
www.baddesigns.com

www.id-book.com,
<http://www.politifact.com/truth-o-meter/article/2009/mar/30/light-switch-tax-cap-and-trade/>

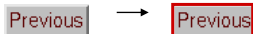
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Feedback

- Send info back to user about what was done
- Includes
 - Sound
 - Highlighting
 - Animation

- Ex: 



- Non-Ex: Shower

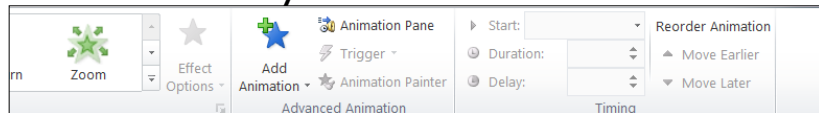
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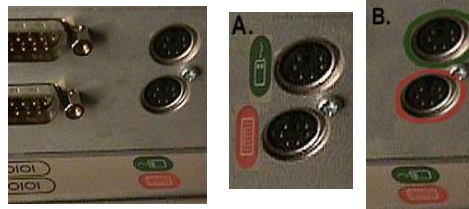
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Constraints

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



- Non-Ex:



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Consistency

- Similar operations and similar elements for similar tasks
- Easier to learn and use
- Ex: ctrl key plus first initial of the command (ctrl+C, ctrl+S, ctrl+O)

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When consistency breaks down

- These slides
- >1 command starts with same letter
 - Ex: Save, spelling, select, style
 - Must find other initials or combo of keys
 - Breaks the consistency rule
- Increases learning burden
 - People more prone to errors

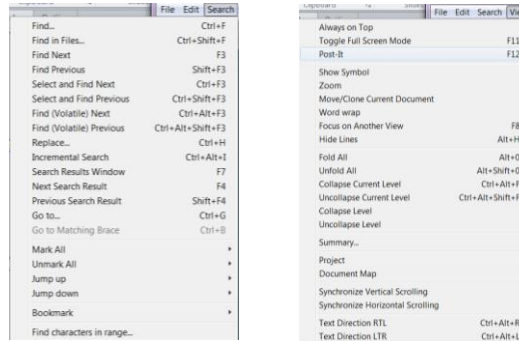
When consistency gets in the way

- Ex: Windows 8



Internal consistency

- Behave the same within an application
- Difficult with complex interfaces
- Ex:



- Non-Ex: Modes (Caps Lock, Photoshop)

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External consistency

- Behave the same across applications and devices
- Pertains to operations, interfaces, etc.
- Very rarely the case
 - Based on different designer's preference

- Ex:

- Non-Ex:

(a) phones,
remote controls

1	2	3
4	5	6
7	8	9
	0	

(b) calculators,
computer keypads

7	8	9
4	5	6
1	2	3
0		

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Affordances

- Attribute of an object that suggests use
- Physical ('Real') Affordances
 - Direct mapping between action and effect
 - Ex:
 - Mouse button invites pushing
 - Door handle affords pulling
- Virtual ('Perceived') Affordances
 - Learned conventions of arbitrary mappings between action and effect
 - Some mappings are better than others
 - Ex:
 - Scrollbars to afford moving up and down
 - Icons to afford clicking on

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Physical affordance examples



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Virtual affordance examples

