

COMMONWEALTH OF AUSTRALIA

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Usability Goals, User Experience Goals, Heuristics and Design Principles

Human Computer Interaction
COMP3511/COMP9511

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Adapted from slides by Dr Daniel Woo

Aim

- Provide a framework for you to use in order to categorize or breakdown user interface issues

Practise

- The first assignment asks you to consider these attributes and critique various user interfaces against these frameworks

Goals vs Tasks

- We make the distinction between goals and tasks (see Cooper About Face)
- Goals are time invariant
- Tasks could be related to the technology available at the time
- People have goals, in order to achieve them they have to carry out tasks (steps) to reach the goal

Readings

- Chapter 1 in Interaction Design
- In particular see section 1.6 Interaction Design
- Norman The Design of Everyday Things
- Also see section 15.2.1 in ID

Exercise

- What makes a good or bad user experience?

Good and bad design



- What is wrong with the Apex remote?
- Why is the TiVo remote so much better designed?
 - Peanut shaped to fit in hand
 - Logical layout and color-coded, distinctive buttons
 - Easy to locate buttons

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Goals of interaction design

- Develop usable products
 - Usability means easy to learn, effective to use and provide an enjoyable experience
- Optimise user interaction with a system, environment or product so that they support and extend user's activities in effective, useful and usable ways (p6, Preece et al, 2007)
- Involve users in the design process

Example



From: www.baddesigns.com

Example of bad and good design

- Elevator controls and labels on the bottom row all look the same, so it is easy to push a label by mistake instead of a control button
 - People do not make same mistake for the labels and buttons on the top row. Why not?
 - See baddesigns.com

Why was the iPod user experience such a success?

- Quality user experience from the start
- Simple, elegant, distinct brand, pleasurable, must have fashion item, catchy names, cool, etc.,

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What is involved in the process of interaction design

- Establishing requirements
- Developing alternatives
- Prototyping
- Evaluating

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Core characteristics of interaction design

- users should be involved through the development of the project
- specific usability and user experience goals need to be identified, clearly documented and agreed at the beginning of the project
- iteration is needed through the core activities

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Why go to this length?

- Help designers:
 - understand how to design interactive products that fit with what people want, need and may desire
 - appreciate that one size does not fit all
 - e.g., teenagers are very different to grown-ups
 - identify any incorrect assumptions they may have about particular user groups
 - e.g., not all old people want or need big fonts
 - be aware of both people's sensitivities and their capabilities

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Affordances

- "the perceived and actual properties of the thing, primarily those fundamental properties that determine just how the thing could possibly be used"
- "affordances give strong clues to the operations of things"
- Norman (1988)

Affordances: to give a clue

- Refers to an attribute of an object that allows people to know how to use it
 - e.g. a mouse button invites pushing, a door handle affords pulling
- Norman (1988) used the term to discuss the design of everyday objects
- Since has been much popularised in interaction design to discuss how to design interface objects
 - e.g. scrollbars to afford moving up and down, icons to afford clicking on

Usability goals

- Effective to use (effective)
- Efficient to use (efficiency)
- Safe to use (safety)
- Have good utility (utility)
- Easy to learn (learnability)
- Easy to remember how to use (memorability)

Effective

- how well does a product do what it is supposed to do?
- does it help people achieve *their* goals?

Efficiency

- does it help people carry out their tasks with minimal steps
- removes unnecessary tasks that are more likely to be "system related" rather than what people would do naturally

Safety

- doesn't kill or injure people
- helps avoid people from making mistakes
- actions too close together?
- doesn't delete user's important information
- undo provided

Utility

- does the product have the functions that the user needs to achieve the goals
 - not too many (feature bloat) and not too few
- a library web site that does not allow students to reserve books could be an example of poor utility

Learnability

- is the system easy to use
- can the user walk up to the system and start using it with minimal confusion / cognitive load
- doesn't take a long time to become productive
- similar tasks have similar interactions

Memorability

- once you have used the system once, will they recall how to use the system the next time or will they have to "start from scratch"
- how often do people use this system? everyday, once every quarter or year

User experience

- how the system "feels" to the user
- emotional connection
- positive or negative

User experience goals

Desirable aspects

Satisfying	helpful	fun
Enjoyable	motivating	provocative
Engaging	challenging	surprising
Pleasurable	enhancing sociability	rewarding
Exciting	supporting creativity	emotionally fulfilling
Entertaining	cognitively stimulating	

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User experience goals

Undesirable aspects

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

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