Understanding Usability: Getting Beyond "Ease of Use"

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What do you think usability means?

"Usability" has four different meanings	■ The skills, methods and techniques we use
	■ An approach to our work, also called user-centered design"
	■ A philosophy for approaching design
	■ A result: design that works for people.

3

There is a "standard" definition in ISO 9241-11.	■ Usability:
	The extent to which a product can be used by *specified* users to achieve *specified* goals with effectiveness, efficiency and satisfaction in a *specified* context of use.

4

There are many other versions, tailored to different contexts.
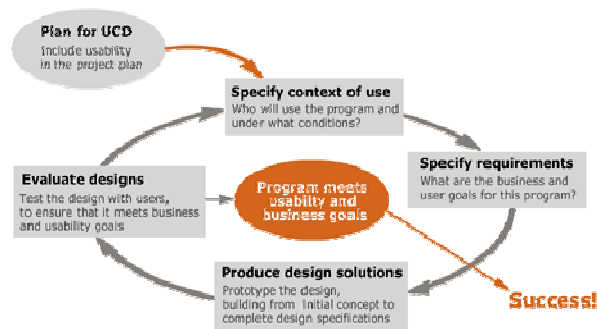
5

- This version is focused on information products

  - Something is usable when the people who use it can:
    - Find what they need
    - Recognize what they find
    - Make use of it to meet their own goals

  - Ginny Redish

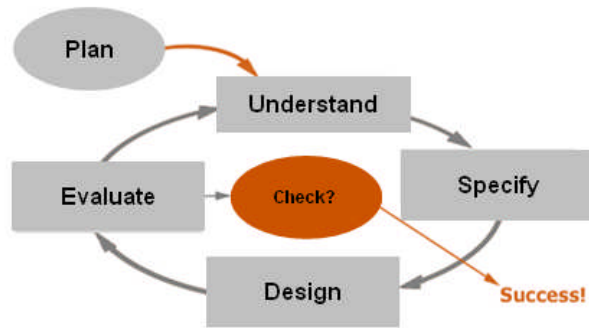**A user-centered design process helps ensure usability**

6

- An international standard for human-centered design outlines an iterative process

ISO 13407

A user-centered design process helps ensure usability

ISO 13407
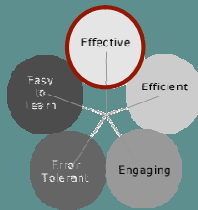
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We have to look at all of the dimensions of usability
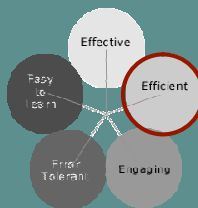

8

Effective: completeness and accuracy

Questions about effectiveness

- How do users define success?
- Is success the same for all stakeholders?
- What are the goals; what are the tasks?
- Are there hidden goals?

Efficient: speed, with accuracy

Questions about efficiency

- How long do users *expect* a task to take?
- Is the task completed in a single session?
- What styles of interaction do users prefer?
- What would make the interface *feel* efficient.

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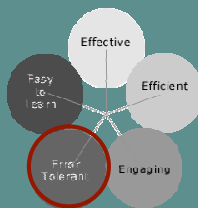
Engaging pleasant, interesting or satisfying
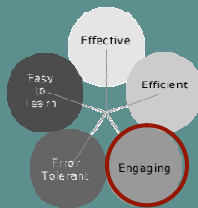
Questions about being engaging

- What kind of work (or play) is this?
- What are the expectations for style and tone?
- How often? How long?
- When, where, how and why?
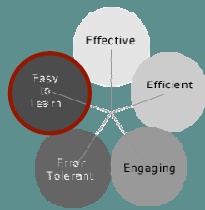
Error tolerant: prevent, and recover from, mistakes

Questions about errors

- How familiar is the domain? The terminology?
- What will users find difficult?
- What kinds of errors are likely?
- How serious is the consequence?
- Will they understand the problem, or need explanation?

Slide 13

Easy to learn: first time or 1000th use

Questions about learning

- Will users expect to have to learn to use it?
- Are they learning something new?
- How complex is the task?
- How often will it be used?
- How important is it to get it right?

Slide 14

It's a question of balance

- Effective - 20%
- Efficient - 20%
- Engaging - 20%
- Error Tolerant - 20%
- Easy to Learn - 20%

Usability depends on the point of view of a user

Toni

Husband, Jason

Son, Marcus

Toni is a young mother with a hectic life, with her job in a local shop, husband, home, and most of all her son, Marcus, a two-year-old bundle of activity.

Usability depends on the point of view of a user

Jerilynn

Daughter Kimberly graduating from college

Grandkids Tom and Jerome

Jerilynn works in the passport office in her county. Much of the work is routine, but she enjoys helping people, and hearing about the trips they are planning.

Slide 17

Usability depends on the point of view of a user

17

Slide 18
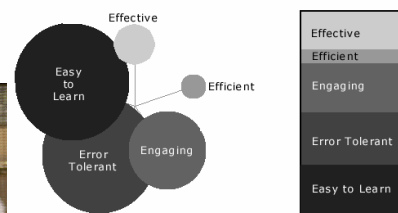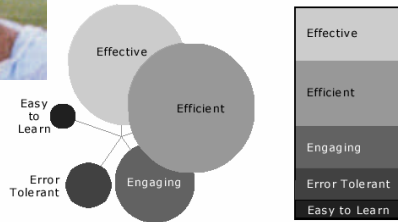
Let's try it

- For one of your current projects…

  What would the users say about each of the 5Es?

  - Make the statements in the first person
  - Be concrete and specific

18

Put the 5Es to use:

Start a conversation

Use the 5Es to create a conversation

- Find out how your team defines usability….
  - Collect their personal opinions about usability
  - Introduce and define the dimensions of usability
  - Explore each in relationship to business goals
  - Examine the broad requirements for implications
  - Discuss possible usability priorities for the product

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Start with assumptions (and tacit knowledge) about users

- What do (*you think*) users think?
  - Collect examples of things a user might say, and relate it to one of the 5Es
  - Discuss how many different user groups there might be, and differences between them
  - Capture what these examples are based on, and gaps this might reveal in the group's knowledge

21

Where do you have knowledge?

Where do you need more information?

- Repeat…with real users and compare the results
  - Does actual experience with users match the assumptions in the previous exercise?
  - Are there differences in perceptions in different stakeholder groups?
  - Where are the gaps in understanding, and how can they be filled?

22

Put the 5Es to use:

Plan usability activities

23

**Usability tests need:
real users,
real goals,
real products
and
an observer**

A usability test is
- one user (or two) at a time
- working with a real product (including wireframes or prototypes)
- on meaningful tasks
- and (usually) thinking out loud
- while one or more people observe and take notes
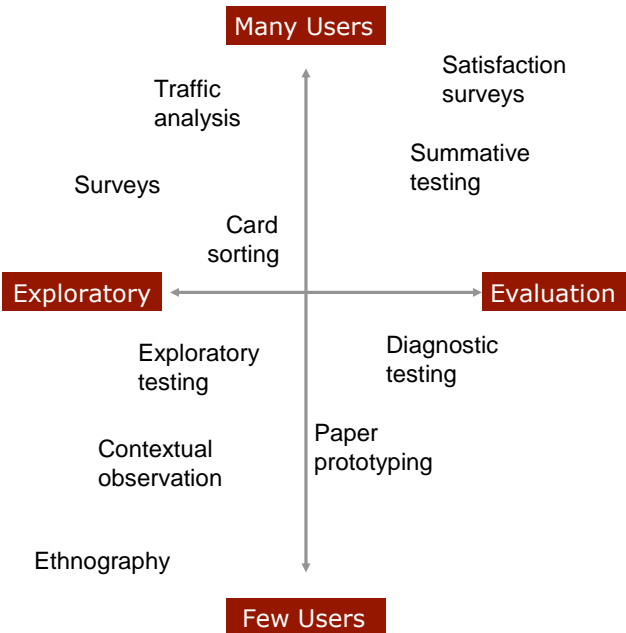- and use the results to improve the design

24

Usability techniques fill three roles in a project

- Exploratory
  - Learn about users' attitudes, behavior, preferences, goals
  - Qualitative
- Diagnostic
  - Answer design questions
  - Find and fix problems
  - Understand how users see and use the product
  - Iterative
- Summative
  - Evaluate success in meeting usability goals
  - Metrics and task success

25

Different techniques answer different questions

Many Users

Traffic analysis

Satisfaction surveys

Surveys

Summative testing

Card sorting

Exploratory ←——————→ **Evaluation**

Exploratory testing

Diagnostic testing

Contextual observation

Paper prototyping

Ethnography

Few Users

26

Map user research to the 5Es

- **User concerns and issues set the balance and priorities in creating usability goals**

error tolerant	"Can I make a change as often as I like? What if I get it wrong?"
easy to learn	"I never understand the questions they are asking me in these forms!"
efficient	"This looks like a lot to read. How long will this take, anyway?"
effective	"I really hope that I've gotten the privacy settings right so I don't get email"
engaging	"At least the text is big enough to read"

The 5Es suggest design approaches

- **User needs suggest interaction styles**

Dimension	Needs	Design Approaches
effective	accuracy	Provide feedback on all actions
efficient	operational speed	Design for fastest paths Use appropriate interaction styles
engaging	draw users in	Make interface helpful Match expected style and tone
error tolerant	validation	Change 'errors' into corrective choices
easy to learn	just in time instruction	Create guides for tasks and interactions

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The 5Es suggest types of usability testing

- Choose a test technique that collects the right information

effective	evaluate tasks for success and accuracy
efficient	time users completing realistic tasks on working product
engaging	user satisfaction surveys to gauge acceptance
error-tolerant	construct task scenarios to create situations with potential problems
easy to learn	control how much instruction is given to test participants

29

How does usability fit into "user experience"?

30

It takes many different skills to create a user experience
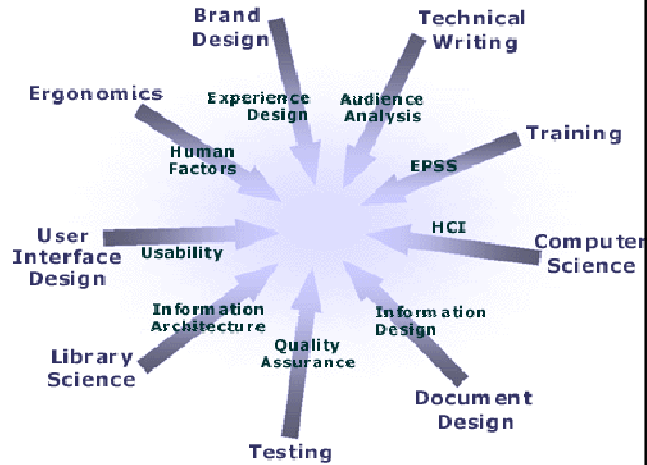
31

We can tell the story this way….

There once were two cats of Kilkenny
Each cat thought there was one cat too many
So they scratched and they fit
And they fought and they bit
'Til instead of two cats there ain't any.

32

...or we can tell it another way.

33

More reading

Dimensions of Usability
in Content and Complexity
eds. Michael Albers, Beth Mazur.
Erlbaum, 2003

Personas and Narrative
in The Persona Lifecycle: Keeping People in Mind During Product Design
by John Pruitt & Tamara Adlin
Morgan Kaufmann Press, November 2005

And, additional articles on my web site:

http://www.WQusability.com

34

About Whitney

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Whitney Quesenbery is a user interface designer and usability specialist with a passion for clear communication.

She is an expert in developing new concepts for product designs and has produced award winning multimedia products, web sites, and web & software applications.

Whitney is president of UPA - Usability Professionals' Association and is a leader in the STC Usability and User Experience Community.

Before she was seduced by a little beige computer into the world of usability, Whitney was a theatrical lighting designer on and off Broadway. The lessons and stories from the theatre stay with her in creating user experiences.