What do you think usability means?
<table>
<thead>
<tr>
<th>“Usability” has four different meanings</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ The skills, methods and techniques we use</td>
</tr>
<tr>
<td>▪ An approach to our work, also called user-centered design”</td>
</tr>
<tr>
<td>▪ A philosophy for approaching design</td>
</tr>
<tr>
<td>▪ A result: design that works for people.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>There is a “standard” definition in ISO 9241-11.</th>
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<tbody>
<tr>
<td>▪ Usability:</td>
</tr>
<tr>
<td>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.</td>
</tr>
</tbody>
</table>
There are many other versions, tailored to different contexts.

- 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

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

ISO 13407
A user-centered design process helps ensure usability

ISO 13407

We have to look at all of the dimensions of usability
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?

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.
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?
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?

It’s a question of balance
Usability depends on the point of view of a user

Toni

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.

Jerilynn

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.
Usability depends on the point of view of a user

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
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
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

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?
Put the 5Es to use:
Plan usability activities

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
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

Different techniques answer different questions

<table>
<thead>
<tr>
<th>Exploratory</th>
<th>Evaluation</th>
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<tbody>
<tr>
<td>Many Users</td>
<td>Satisfaction surveys</td>
</tr>
<tr>
<td>Surveys</td>
<td>Summative testing</td>
</tr>
<tr>
<td>Traffic analysis</td>
<td>Diagnostic testing</td>
</tr>
<tr>
<td>Card sorting</td>
<td>Paper prototyping</td>
</tr>
<tr>
<td>Exploratory testing</td>
<td></td>
</tr>
<tr>
<td>Contextual observation</td>
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</table>
Map user research to the 5Es

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

<table>
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<tr>
<th>Error Tolerant</th>
<th>“Can I make a change as often as I like? What if I get it wrong?”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy to Learn</td>
<td>“I never understand the questions they are asking me in these forms!”</td>
</tr>
<tr>
<td>Efficient</td>
<td>“This looks like a lot to read. How long will this take, anyway?”</td>
</tr>
<tr>
<td>Effective</td>
<td>“I really hope that I’ve gotten the privacy settings right so I don’t get email”</td>
</tr>
<tr>
<td>Engaging</td>
<td>“At least the text is big enough to read”</td>
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</tbody>
</table>

The 5Es suggest design approaches

- User needs suggest interaction styles

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Needs</th>
<th>Design Approaches</th>
</tr>
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<tbody>
<tr>
<td>Effective</td>
<td>Accuracy</td>
<td>Provide feedback on all actions</td>
</tr>
<tr>
<td>Efficient</td>
<td>Operational Speed</td>
<td>Design for fastest paths Use appropriate interaction styles</td>
</tr>
<tr>
<td>Engaging</td>
<td>Draw Users In</td>
<td>Make interface helpful Match expected style and tone</td>
</tr>
<tr>
<td>Error Tolerant</td>
<td>Validation</td>
<td>Change ‘errors’ into corrective choices</td>
</tr>
<tr>
<td>Easy to Learn</td>
<td>Just in Time Instruction</td>
<td>Create guides for tasks and interactions</td>
</tr>
</tbody>
</table>

Whitney Quesenbery | whitneyq@WQusability.com | www.WQusability.com
The 5Es suggest types of usability testing

- Choose a test technique that collects the right information

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

How does usability fit into “user experience”??
It takes many different skills to create a user experience.

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.
...or we can tell it another way.

More reading


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:

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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.