



Usability

User interfaces
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Usability motivations

Why is ease-of-use/ usability an issue?

- Life-critical systems
 - Control of power plants, nuclear power plants especially
 - Air traffic control
 - Airplanes and other vehicles
 - Hospital and medical systems
- Requirements
 - Speed and accuracy of action
 - Good retention of learning



Usability motivations

- Frequently used systems
 - Banking
 - Corporate databases and intranets
 - Transportation tickets
 - Airline check-in
 - Mobile phones and other gadgets



Usability goals

- ISO 9241 standard:
 - Effectiveness, efficiency & satisfaction

Measured by:

- Time to learn
- Speed of performance
- Rate of errors by users
- Retention over time
- Subjective satisfaction



Universal usability, needs

- Variations in physical abilities, disabilities
- Variations in use environment
- Diverse cognitive abilities
- Diverse perceptual abilities (vision, hearing)
- Personality differences
- Cultural and international diversity
- Special user groups: children and the elderly



Eight golden rules of interface design

1. Strive for consistency
2. Cater to universal usability
3. Offer informative feedback
4. Prevent errors
5. Design dialogs to yield closure
6. Permit easy reversal of actions
7. Support internal locus of control
8. Reduce short-term memory load

Usability assessment of some systems

Application in use	Subjective usability	Frequency of use	Comments
The tube portal	3	Daily	Much clicking and scrolling; complicated structure; search bad; unstable
Winha (desktop)	2	Regularly	Clumsy user flow, non-standard (old) UI and search
Outlook, desktop	4	Daily	
Outlook Webmail	3	Daily	Unnecessary steps
Googlemail	5	Daily	Never annoys or frustrates me
MS Word (desktop)	4	Daily	Outsmarts me too often, too many features.
Invoicing system	1	Irregularly	Plain UI without any clues
My phone	5 > 4	Daily	Demands growing...
iPad	4	Regularly	Nice but for what?

Personal needs & universal features: subjective/ objective