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Unit 5: Fundamentals of Usability in HIT Systems – What Does It Matter?

Component 7: Working with HIT Systems



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Unit 5: Objectives


- Define usability and its relationship to HIT systems.
- Explain the impact of HIT usability on user satisfaction, adoption, and workarounds including error rates and unintended consequences.
- Provide alternatives to HIT usability bottlenecks.

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Usability Defined

“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.” *ISO 9241-11*




Usability is the study of the ease with which people can employ a particular tool or other human-made object in order to achieve a particular goal. *Wikipedia*



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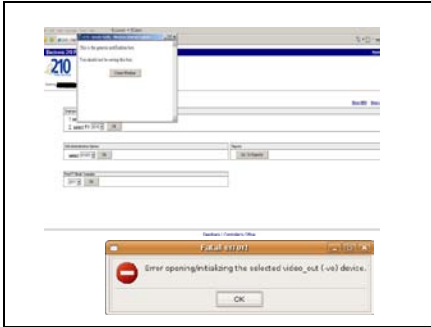
Jakob Nielsen

- Usability – a quality attribute that assesses how easy user interfaces are to use
- ~~6~~ Components:
 - Learnability
 - Efficiency
 - Memorability
 - Errors
 - Satisfaction
 - Utility

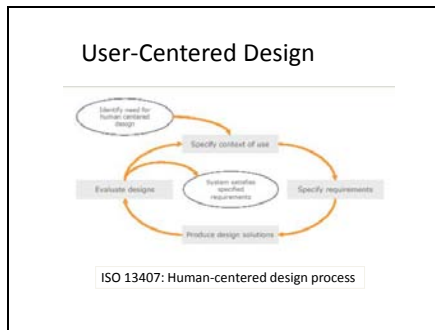


<http://www.usability.gov/basics/>

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User-Centered Design

- Study** Observe people in their own environments to assess unmet needs—on top of market research
- Understand** Explore how people deal with specific healthcare problems
- Develop** Design prototypes of new technology solutions
- Pilot** Field-test prototypes, listen to the results, iteratively re-design
- Deliver** Turn prototypes into new platforms that meet people's needs
- Evaluate** Evaluate impact; **restart cycle**



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"If you dislike change, you're going to dislike irrelevance even more"

Eric Shinewald 🇺🇸 US Secretary of Veterans Affairs

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Usability in HIT


- Understanding the user base
 - Mobile workers
 - Highly disruptive & stressful situations
 - Cognitive overload
 - Restriction of physical space – portability important
 - Time compression
 - Frequent turn-over (patients & providers)
 - Workarounds are common



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What happens?


- User satisfaction declines & frustration increases
- Increase resistance – failure to adopt
- Workarounds
- Unintended consequences



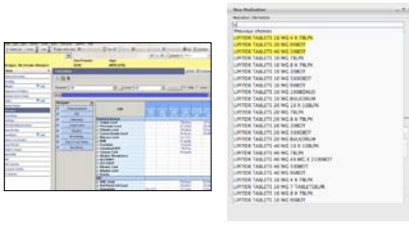
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Examples of Poor HIT Usability

- Overly cluttered
- Poor use of screen space
- Inconsistency in design
- Unsortable lists
- Hard to read or annotate
- Lack of safeguards
- Not intuitive



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Why It Matters


- HIT intent is to increase ease of use, safety, efficiency and reduce error
- Increasing pressure
- Rushing towards meaningful use
- "Quicker and Sicker"
- The "Graying of America"



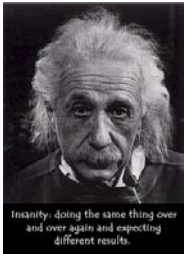
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Strategies for Bottlenecks

- Know your user
- Educate
- Assure easy access to workstations/devices
- Advocate for integrated systems
- Prepare for process change & learning curves
- Systems must support entire care team



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Reviewing the Objectives

- Define usability and its relationship to HIT systems.
- Explain the impact of HIT usability on user satisfaction, adoption, and workarounds including error rates and unintended consequences.
- Provide alternatives to HIT usability bottlenecks.

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This completes Unit 5



Thank you
