

# What is Usability? A Short Introduction

**Dr. Siegfried Olschner**  
HF Specialist – SUSE Linux  
Products GmbH

University of Erlangen-  
Nürnberg



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**Novell.**

What is this - Usability?

# What is Usability?

- Usability is good design
- When something is designed well, it works, it's usable
- Good usability is no accident - it's a conscious and deliberate design goal
- We usually don't notice good usability
- But we almost always notice poor usability
  
- **Examples?**

# Definition of Usability – ISO 9241

- "Usability is a measure of the effectiveness, efficiency and satisfaction with which specified users can achieve specified goals in a particular environment."
- Key terms in the ISO 9241 definition
  - When we're trying to design a product or application that is highly usable, we need to think about
  - Effectiveness - how well will this do the job?
  - Efficiency - how easy and/or fast can users get things done with this?
  - Satisfaction - will users be satisfied with this? Will they like it? (Joy of use concept)

# ISO 9241 Part 10: Dialogue principles

- Part 10 of the ISO/EN/DIN deals with general ergonomic principles which apply to the design of dialogues between humans and information systems:
  - Suitability for the task
  - Suitability for learning
  - Suitability for individualisation
  - Conformity with user expectations
  - Self descriptiveness
  - Controllability
  - Error tolerance

Can we measure the usability?

# Examples for Usability Metrics (ISO)

<b>Usability Objective</b>	<b>Effectiveness Measures</b>	<b>Efficiency Measures</b>	<b>Satisfaction Measures</b>
<b>Suitability for the Task</b>	Percentage of goals achieved	Time to complete a task	Rating scale for satisfaction
<b>Appropriate for trained users</b>	Number of "power features" used	Relative efficiency compared with an expert user	Rating scale for satisfaction with "power features"
<b>Learnability</b>	Percentage of functions learned	Time to learn criterion	Rating scale for "ease of learning"
<b>Error Tolerance</b>	Percentage of errors corrected successfully	Time spent on correcting errors	Rating scale for error handling

Details...

# Whitney Quesenbery's 5 “Es”

- Effective
  - Completeness - was the task fully completed? Were the user's goals met?
  - Accuracy - was the task completed successfully? Did the user get the right or correct result? How well was the work done?
- Efficient
  - Speed - was the user able to complete the task quickly?
  - Effort - was the user able to complete the task without undue cognitive effort?

# Whitney Quesenbery

- Engaging
  - Pleasant - did the user have a pleasant experience when working on the task?
  - Satisfying - was the user satisfied by the way in which the application supported her work?
- Error tolerant
  - Error prevention - did the user interface help users avoid making errors? Were errors minor rather than major?
  - Error recovery - if the user made an error, did the interface assist them in making a successful recovery?

# Whitney Quesenbery

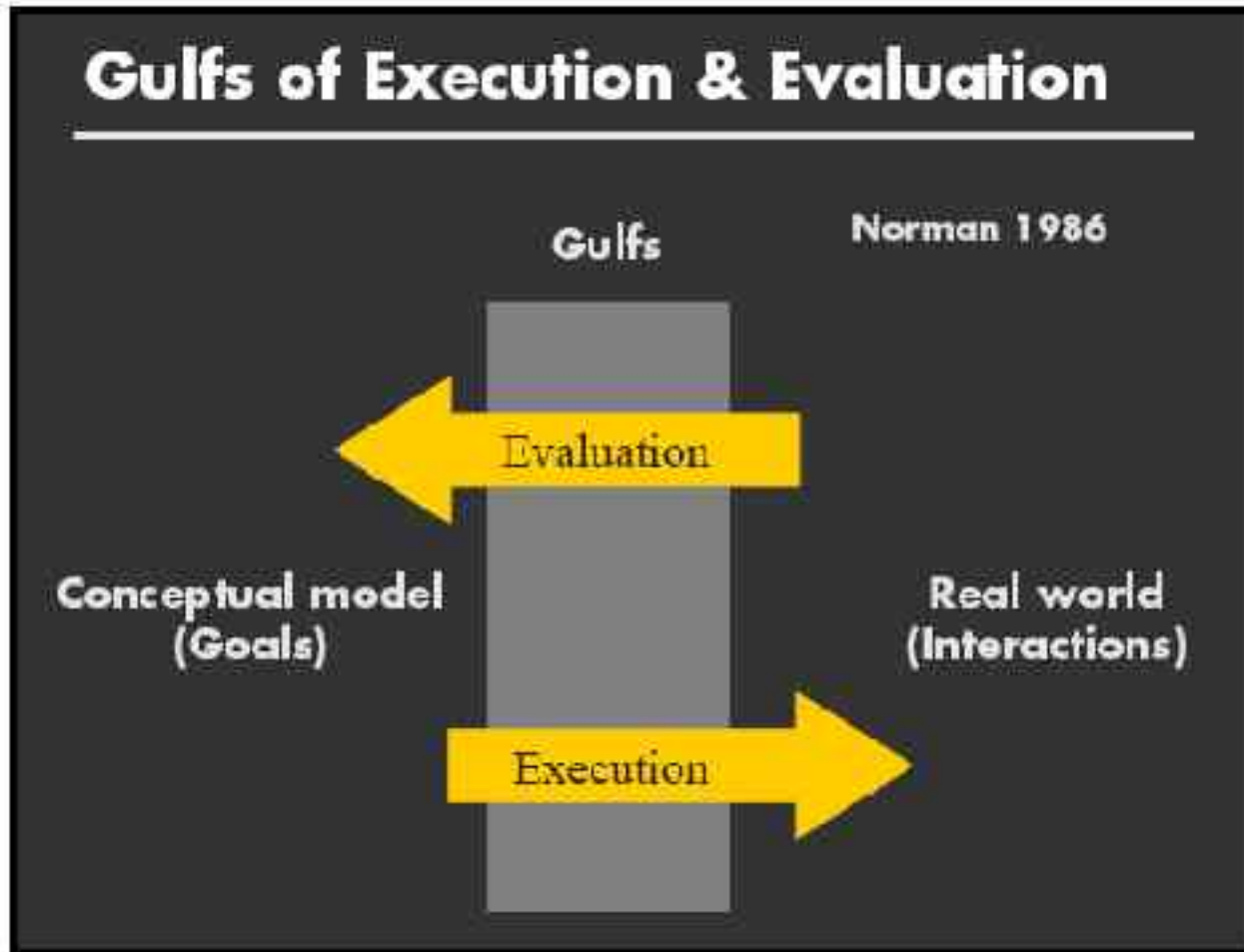
- Easy to learn
  - Predictability - was the user able to work with some certainty because the user interface built on her previous knowledge?
  - Consistency - was the interface consistent, so that once a user learnt how to use part of the application, they were able to easily learn how to use another part?

Constraints

# We also need to know

- Specified users – which person will use the interface?
  - Persona concept
- Specified goals - what will their goals for using it be?
  - Task analysis concept
- Particular environment - what environment(s) will they be using it in?
  - Organizational constraints

# Norman's 2 Gulf of Evaluation and Gulf of Execution



Quelle: Re

# The Dual Task Paradigm

**I have to**  
interact with  
this user  
interface

**I want to**  
complete  
my job

- Note: The user is a well trained expert – but often only in his job and not in the manipulation of the user interface