

UX, Usability and ISO Standards

Is UX *less* than usability?

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Professional Usability Services

What do we mean by usability?

- Nielsen 1993: Usability as ease of use

- system acceptability**

- social acceptability

- practical acceptability

- cost

- compatibility

- reliability

- usefulness

- utility

- usability**

What is UX?

- ❑ “User experience is a subjective state” [Minna Isomursu]
- ❑ “Aspects of a digital product that users experience directly [...] Learnability, usability, usefulness, and aesthetic appeal are key factors in users' experience of a product.” [Tom Heimonen et al: Uxmatters]
- ❑ “What are our customers’ real needs? ...” [Jim Hudson]
- ❑ What are UX methods: a broad interpretation of usability
 - UX measures (summative) = user satisfaction measures
 - UX problems (formative) = broad usability evaluation
 - UX design methods = User Centred Design methods

ISO 9241-11 Guidance on Usability (1998)

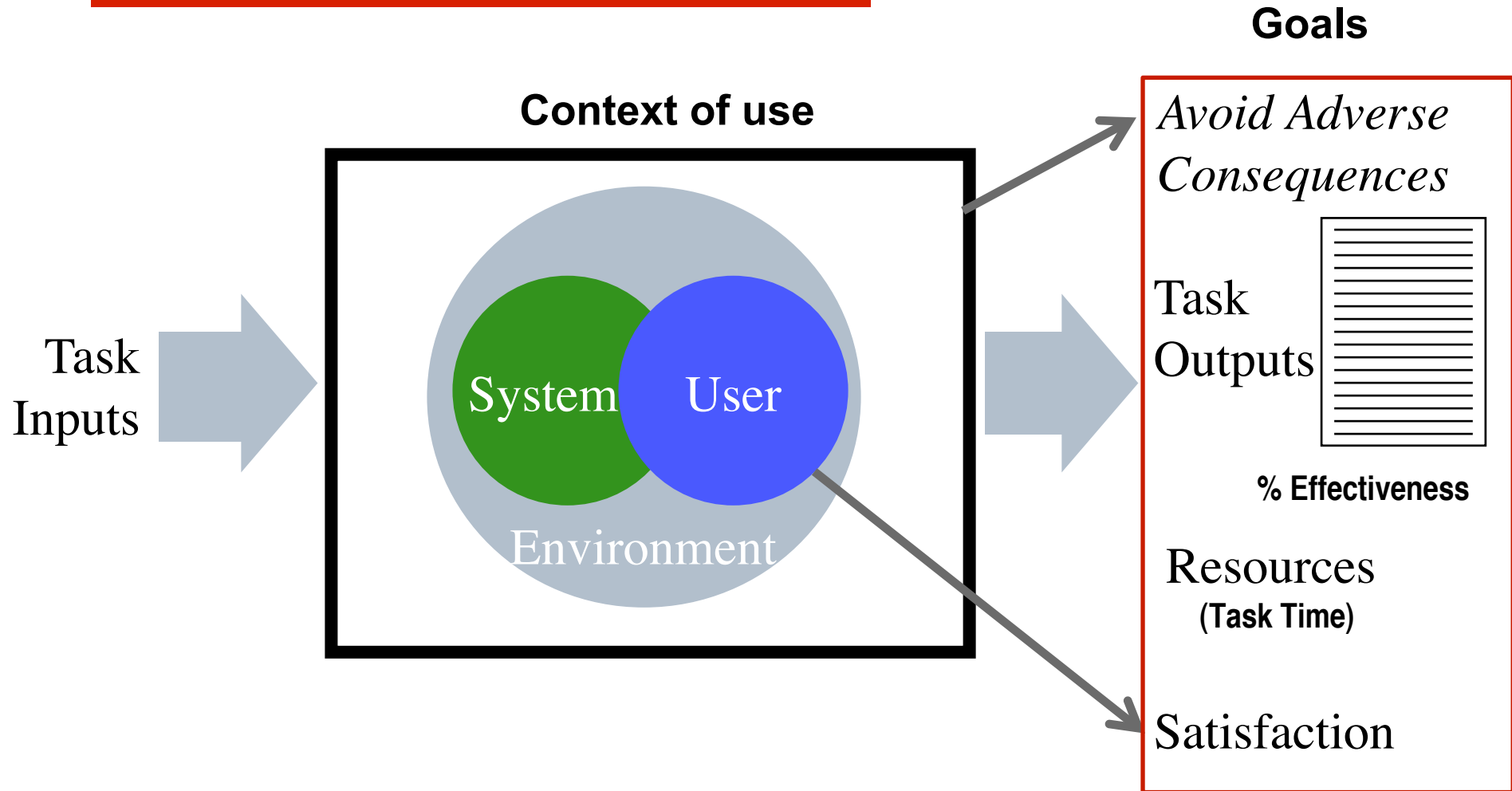
Usability The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use

Effectiveness : The accuracy and completeness with which users achieve specified goals.

Efficiency : The resources expended in relation to the accuracy and completeness with which users achieve goals.

Satisfaction : The comfort and acceptability of use

System usability measures (quality in use)



New breakdown of quality in use (ISO WD 25010)

- Usability in use
 - Effectiveness in use
 - Efficiency in use
 - Satisfaction in use
 - Likability (cognitive)
 - Pleasure (emotional)
 - Comfort (physical)
 - Trust
- Usability in context
 - Context conformity in use
 - Adaptability in use
 - Accessibility in use
 - Learnability in use
- Adverse consequences of use
 - Operator health and safety
 - Public health and safety
 - Environmental harm in use
 - Commercial damage in use
 - Security in use

Satisfaction as user experience

- “Likability” (cognitive), user’s experience of:
 - Learnability
 - Usage
 - Results of use
 - Consequences of use

- “Pleasure” (emotional):
 - Stimulation (personal growth, an increase of knowledge and skills)
 - Identification (self-expression, interaction with relevant others)
 - Evocation (self-maintenance, memories)
 - Pleasurable emotional reactions to the product (Norman’s visceral category)

Revised definition of system usability (quality in use)

- Quality in use
 - The extent to which a product meets a stakeholder’s needs to achieve specific goals with effectiveness, efficiency and satisfaction without adverse consequences in specific contexts of use

- User experience
 - “What are our customers’ real needs? ...” [Jim Hudson]

What is User Experience?

- Usability in use
 - Effectiveness in use
 - Efficiency in use
 - Satisfaction

(Experience of use)

 - Likability (cognitive)
 - Pleasure (emotional)
 - Comfort (physical)
 - Trust
- Usability in context
 - Context conformity in use
 - Adaptability in use
 - Accessibility in use
 - Learnability in use
- Adverse consequences of use
 - Operator health and safety
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User experience = customer as the stakeholder?

Stakeholder:	End User <i>Usability</i>	Usage Organisation <i>Cost-effectiveness</i>	Technical support <i>Maintenance</i>
Goals:	Personal goals	Task goals	Support goals
Characteristics			
System effectiveness	User effectiveness	Task effectiveness	Support effectiveness
System resources	Productivity (time)	Cost efficiency (money)	Support cost
Adverse consequences	Risk to user (health and safety)	Commercial risk	System failure or corruption
Stakeholder satisfaction	User satisfaction	Management satisfaction	Support satisfaction