UX, Usability and ISO Standards

Is UX less than usability?

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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: Uxmaters]
- “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

**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)

Context of use

Goals

Avoid Adverse Consequences

Task Outputs

% Effectiveness

Resources (Task Time)

Satisfaction
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
  - Public health and safety
  - Environmental harm in use
  - Commercial damage in use
  - Security in use
User experience = customer as the stakeholder?

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