Usability Questionnaire

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Usability according to ISO 9241-11

"Usability - Extent to which a system, product, or service can be used by specific users in a context of use to achieve specific goals effectively, efficiently, and satisfactorily."[1]

1. ISO, *ISO 9241-11*, 9

System Usability Scale (SUS) - A Usability Questionnaire

- Developed by John Brooke in 1986
- 10 Question questionnaire to assess the usability of a system
- Asks for the subjective opinion of users
- Virtually industry standard to measure perceived usability of a system

Objectives of SUS

- "To provide us with a measure of people's subjective perceptions of the usability of a system
- To allow us to do so in the very short time available to us during an evaluation session[2]

2. Brooke, JUS, 33

SUS in practice

- usability of LMS platform (moodle and eClass)
- 769 students
- SUS and additional questions
- SUS is a valid questionnaire for evaluating the usability of LMS.
- the results can be a reference points for LMS designers
- limited sample size and the focus on student views only

3. Orfanou, Konstantina, et al., Perceived usability evaluation of learning management systems,

What does SUS look like?

1. I think that I would like to use this system frequently
2. I found the system unnecessarily complex
3. I thought the system was easy to use
4. I think that I would need the support of a technical person to be able to use this system
5. I found the various functions in this (system/product) were well integrated
6. I thought there was too much inconsistency in this system
7. I would image that most people would learn this system very quickly
8. I found the system very (cumbersome/awkward)
9. I felt very confident using the system.
10. I needed to learn a lot of things before I could get going with this system

SUS Example Score

$$score = 2.5 \cdot \sum_{i=1}^{10} (-1)^i \cdot (3 - x) + 2$$

$$75.5 = 2.5 \cdot ([[(-1)^1(3-3)+2] + [(-1)^2(3-1)+2] + 4+3+1+3+3+3+3+3)$$

odd items: x - 1
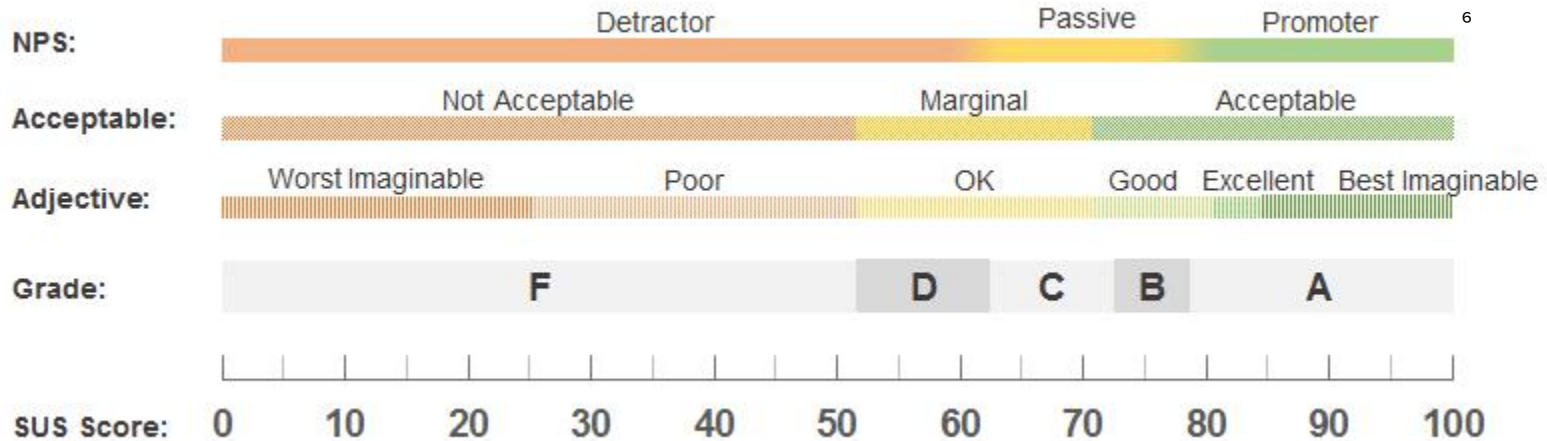even items: 5 - x
score = 2.5 * sum of items[5]

5. Brooke, "SUS: A quick and dirty usability scale."

Understanding the Scale

NPS: Detractor / Passive / Promoter [6]
Acceptable: Not Acceptable / Marginal / Acceptable
Adjective: Worst Imaginable / Poor / OK / Good / Excellent / Best Imaginable
Grade: F / D / C / B / A
SUS Score: 0 10 20 30 40 50 60 70 80 90 100

average score or 50th percentile: 68 points!

Online SUS Score Calculators:
https://stuart-cunningham.github.io/sus/
https://uiuxtrend.com/sus-calculator/

6. Sauro, "5 Ways to Interpret a SUS Score"

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Want to use SUS in your Project? Important Features

Chances of SUS

- Short exposure to the system is sufficient to produce reliable scores
- small sample already delivers reliable results (12 ppl.)

Limits of SUS

- Time (at least 30 min)
- Only subjective opinions
- Cannot measure the effectiveness or efficiency of a system
- Language: Developed for English Speakers

Useful Link if you want to use SUS yourself
https://www.measuringux.com/sus/index.htm

Other methods - UMUX

- 4 item questionnaire
- assesses an application's perceived usability subjectively
- designed to yield results similar to SUS
- aligned with ISO 9241-11 definition
- correlates well with SUS and is reliable
- compact[7]

1.	[This system's] capabilities meet my requirements.
	1 2 3 4 5 6 7
	Strongly Disagree Strongly Agree
2.	Using [this system] is a frustrating experience.
	1 2 3 4 5 6 7
	Strongly Disagree Strongly Agree
3.	[This system] is easy to use.
	1 2 3 4 5 6 7
	Strongly Disagree Strongly Agree
4.	I have to spend too much time correcting things with [this system].
	1 2 3 4 5 6 7
	Strongly Disagree Strongly Agree

7. Finstad, "The Usability Metric for User Experience."

UMUX vs SUS

UMUX

- 4 item Likert scale
- easier language
- 7 point Likert scale
- better adapted to the ISO definition

SUS

- 10 item Likert scale
- language issues
- five point Likert scale
- lack of alignment with ISO definition

7. Finstad, "The Usability Metric for User Experience."

Other methods - UMUX-LITE

- based on UMUX
- 2 item questionnaire
- easily integrated into usability testing
- with corrective regression formula the score can be adjusted to the SUS scores
- need more research
- not fully independent of the SUS

UMUX-LITE questionnaire:

1. This system's capabilities meet my requirements
2. This system is easy to use

It offers a concise and promising alternative to SUS, but its generalizability and independence from the SUS should be considered in its use

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