

Standard Usability Questionnaire



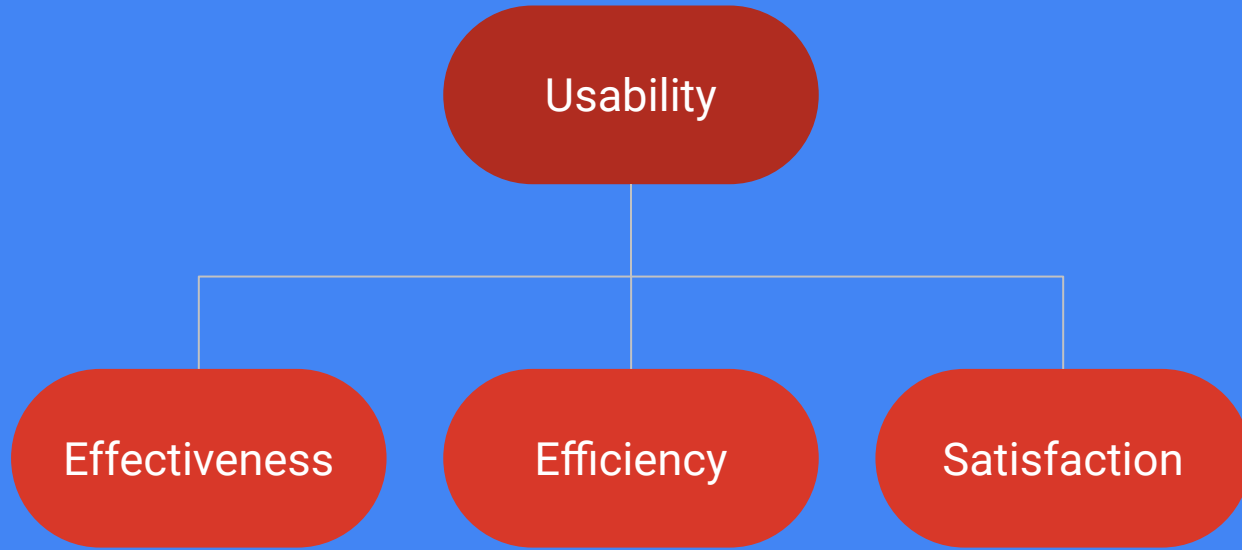
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Agenda

- Objective
- Evaluating a questionnaire
- Questionnaires:
 - SUS
 - UMUX
 - UMUX LITE
- How do we conduct such a study? (with example)
- Benefits and drawbacks
- Sources

Objective

Make a questionnaire to evaluate the **usability** of a system by gathering quantitative data.



Evaluating a questionnaire

Reliability - Results are consistent even when experiment is repeated

Validity - That it accurately represents the result of usability

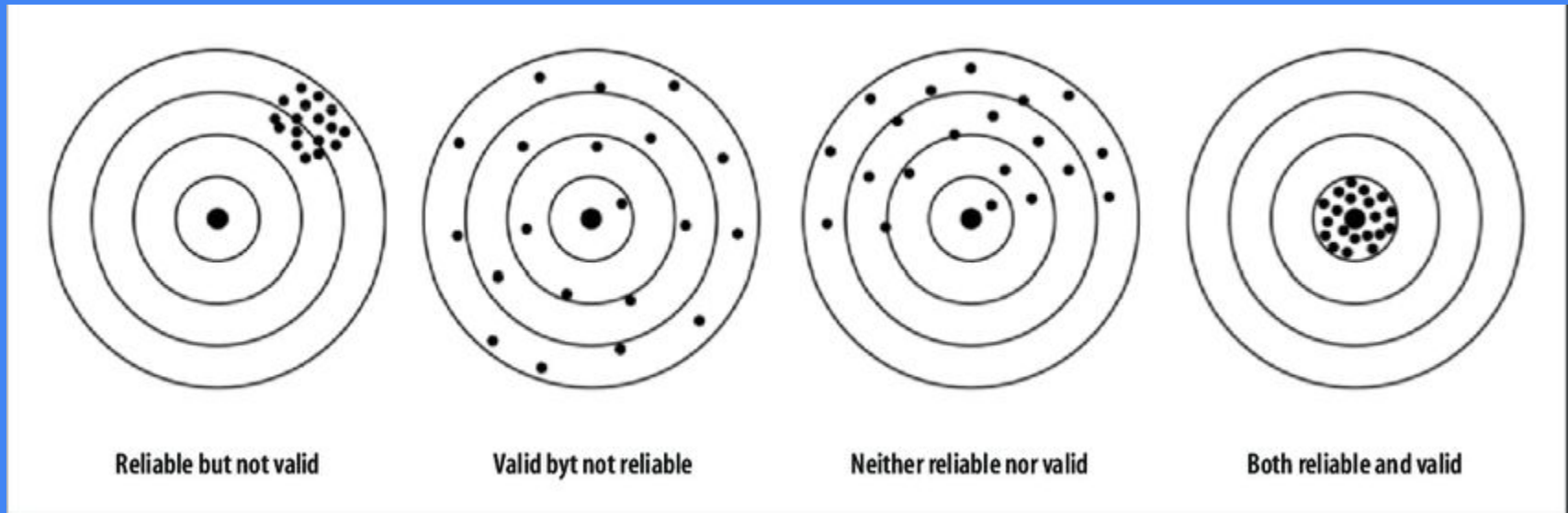


Image Source : De Souza, Ana & Alexandre, Neusa & de Brito Guirardello, Edinês. (2017).

SUS - System Usability Scale

Scoring:

Step 1: Convert the scale into number for each of the 10 questions:

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

Step 2: Calculate (standard)

- $X = \text{Sum of the points for all odd-numbered questions} - 5$
- $Y = 25 - \text{Sum of the points for all even-numbered questions}$
- $\text{SUS Score} = (X + Y) \times 2.5$

Image Source : Lewis, James & Utesch, Brian & Maher, Deborah. (2013)

Item	Standard	Positive
1	I think that I would like to use this system frequently.	I think that I would like to use this system frequently.
2	I found the system unnecessarily complex.	I found the system to be simple.
3	I thought the system was easy to use.	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.	I think I could use the system without the support of a technical person.
5	I found the various functions in the system were well integrated.	I found the various functions in the system were well integrated.
6	I thought there was too much inconsistency in this system.	I thought there was a lot of consistency in the system.
7	I would imagine that most people would learn to use this system very quickly.	I would imagine that most people would learn to use this system very quickly.
8	I found the system very cumbersome to use.	I found the system very intuitive.
9	I felt very confident using the system.	I felt very confident using the system.
10	I needed to learn a lot of things before I could get going with this system.	I could use the system without having to learn anything new.

SUS - System Usability Scale

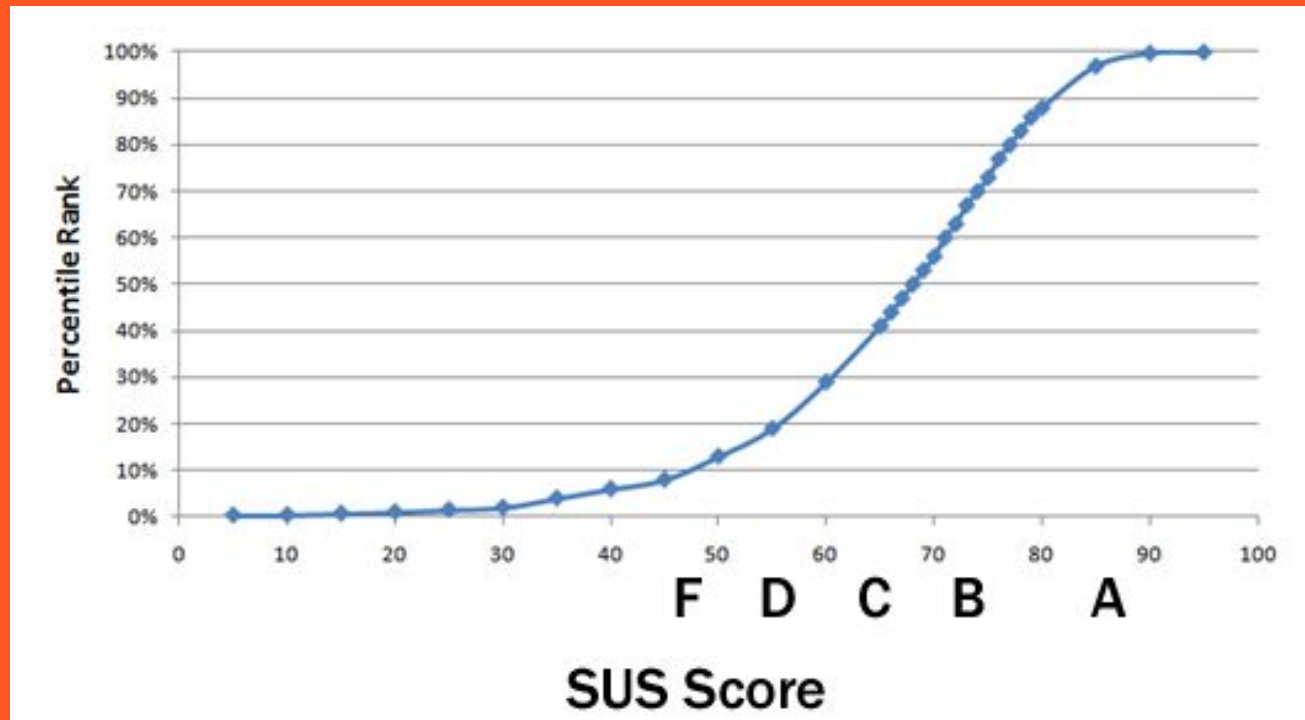


Image Source : Brooke, John. (2013).

UMUX - Usability Metric for User Experience

Usability component	Candidate UMUX item
Effectiveness	[This system's] capabilities meet my requirements.
Satisfaction	Using [this system] is a frustrating experience.
Overall	[This system] is easy to use.
Efficiency	I have to spend too much time correcting things with [this system].

Image Source : Finstad, Kraig. (2010)

Scoring:

- Odd items are scored as [user score - 1]. Even items are scored as [7 - user score].
- Add up these differences and divide the sum by 24 (the highest possible score).
- Multiply your quotient by 100.
- Average your results across users.

UMUX LITE

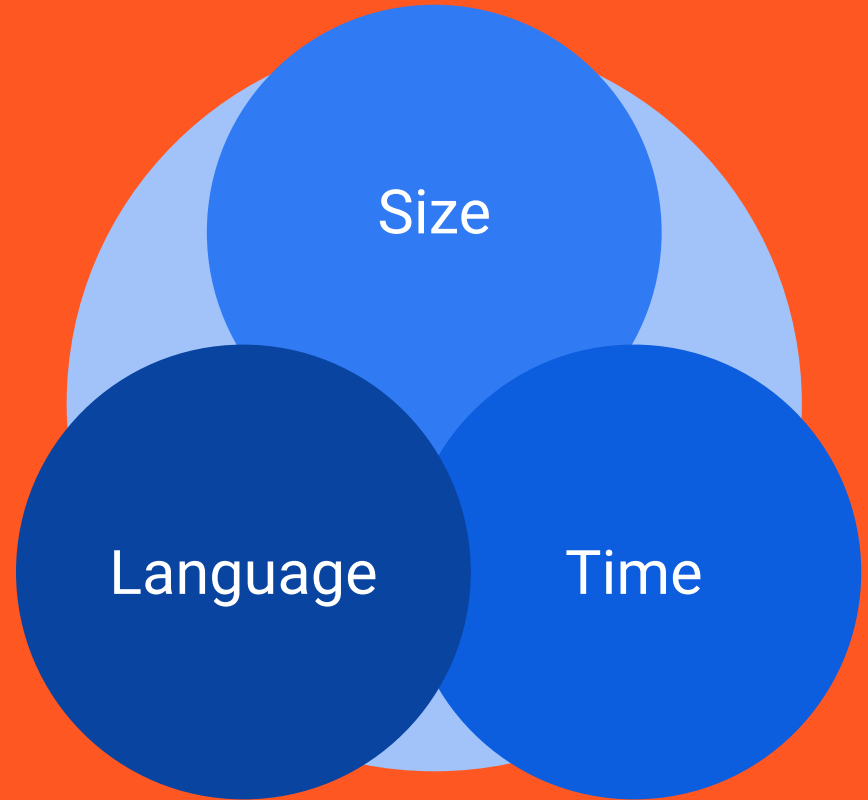
Usability component	Candidate UMUX item
Effectiveness	[This system's] capabilities meet my requirements.
Satisfaction	Using [this system] is a frustrating experience.
Overall	[This system] is easy to use.
Efficiency	I have to spend too much time correcting things with [this system].

Image Source : Finstad, Kraig. (2010)

Scoring:

- Items are scored as [user score - 1].
- Add up these differences and divide the sum by 12 (the highest possible score).
- Multiply your quotient by 100.
- Average your results across users.

How do we conduct such a study?



An example:



<https://forms.gle/8yCG3xsvnqCj6epZ8>

Scan the QR code and answer the UMUX questionnaire regarding the Ensimag Intranet website.

Benefits

Drawbacks

SUS:

- + Easy
- + Quick compared to observational studies
- + Well tested / industry standard
- Time consuming compared to UMUX

UMUX/UMUX-lite:

- + Shorter, good reliability
- Not as well tested, not an industry standard

Sources

Brooke, John. (2013). SUS: a retrospective. Journal of Usability Studies. 8. 29-40.

Lewis, James & Utesch, Brian & Maher, Deborah. (2013). UMUX-LITE: when there's no time for the SUS. Conference on Human Factors in Computing Systems - Proceedings. 2099-2102. 10.1145/2470654.2481287.

De Souza, Ana & Alexandre, Neusa & de Brito Guirardello, Edinêis. (2017). Psychometric properties in instruments evaluation of reliability and validity. Epidemiologia e Serviços de Saúde. 26. 649-659. 10.5123/S1679-49742017000300022.

Finstad, Kraig. (2010). The Usability Metric for User Experience. Interacting with Computers. 22. 323-327. 10.1016/j.intcom.2010.04.004.

Jeff Saruo (2016) Measuring Usability With The System Usability Scale (SUS) [Link](#)

Thank you!

Any questions?