



Fakultas Ilmu Komputer

Identifikasi masalah

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Pendahuluan

- Ilmu komputer berkembang pesat dengan berbagai tantangan dan peluang.
- Identifikasi masalah penelitian menjadi langkah awal yang krusial dalam pengembangan ilmu.
- Fokus pada tren terkini dan kebutuhan industri serta akademik.



Mengapa identifikasi masalah penting

- Menentukan relevansi penelitian dengan kebutuhan industri dan akademik.
- Memastikan penelitian memberikan kontribusi yang signifikan.
- Menghindari duplikasi penelitian.
- Mengoptimalkan sumber daya dalam penelitian

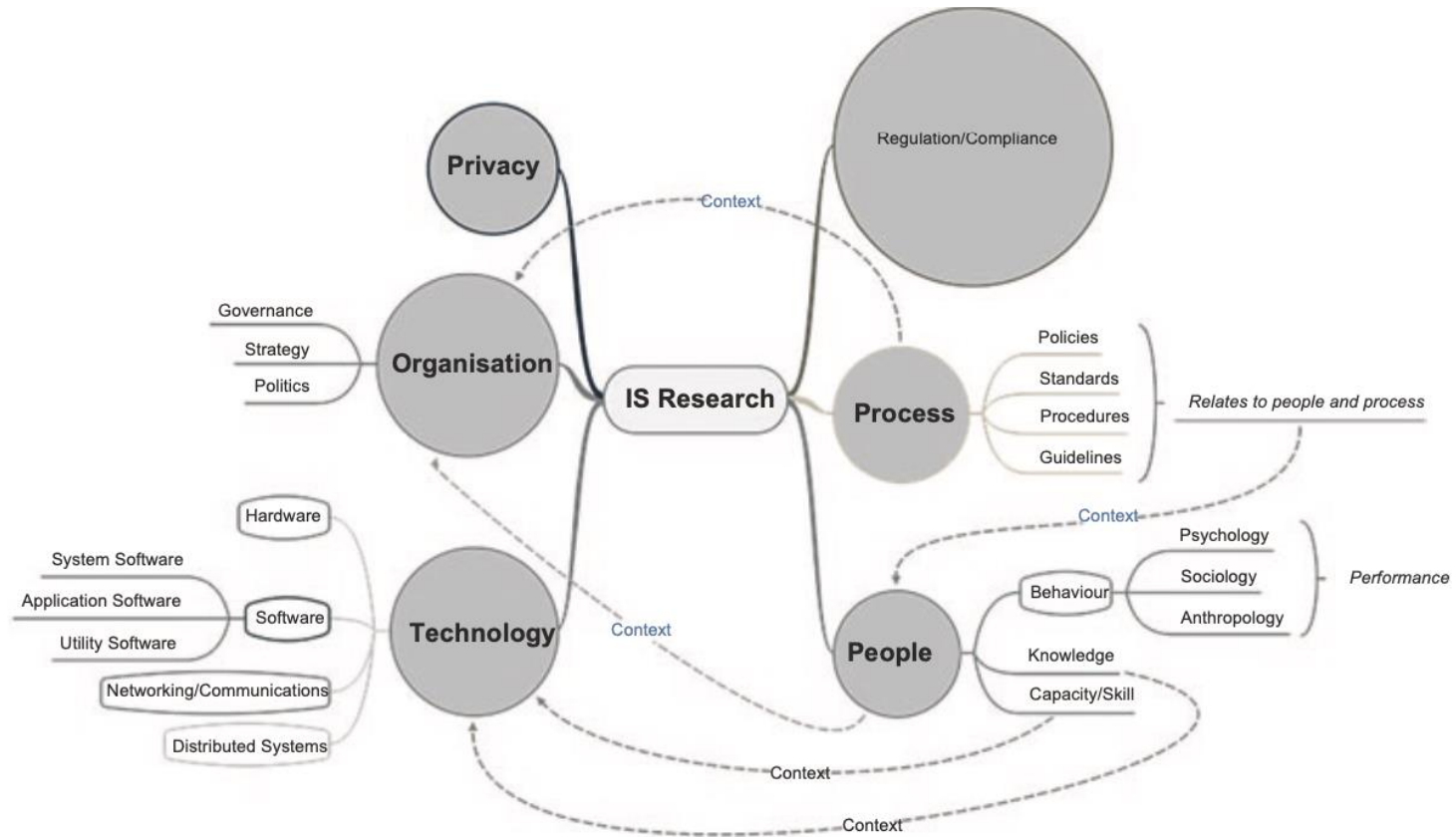


Metode Identifikasi Masalah

- 1. Analisis Literatur:** Mengkaji penelitian sebelumnya.
- 2. Observasi dan Eksperimen:** Mengidentifikasi kelemahan dalam sistem yang ada.
- 3. Diskusi dengan Pakar:** Menggali wawasan dari akademisi dan praktisi.
- 4. Analisis Tren Teknologi:** Mengikuti perkembangan terbaru di bidang ilmu komputer.
- 5. Evaluasi Kebutuhan Industri:** Mengidentifikasi tantangan yang dihadapi dunia industri.

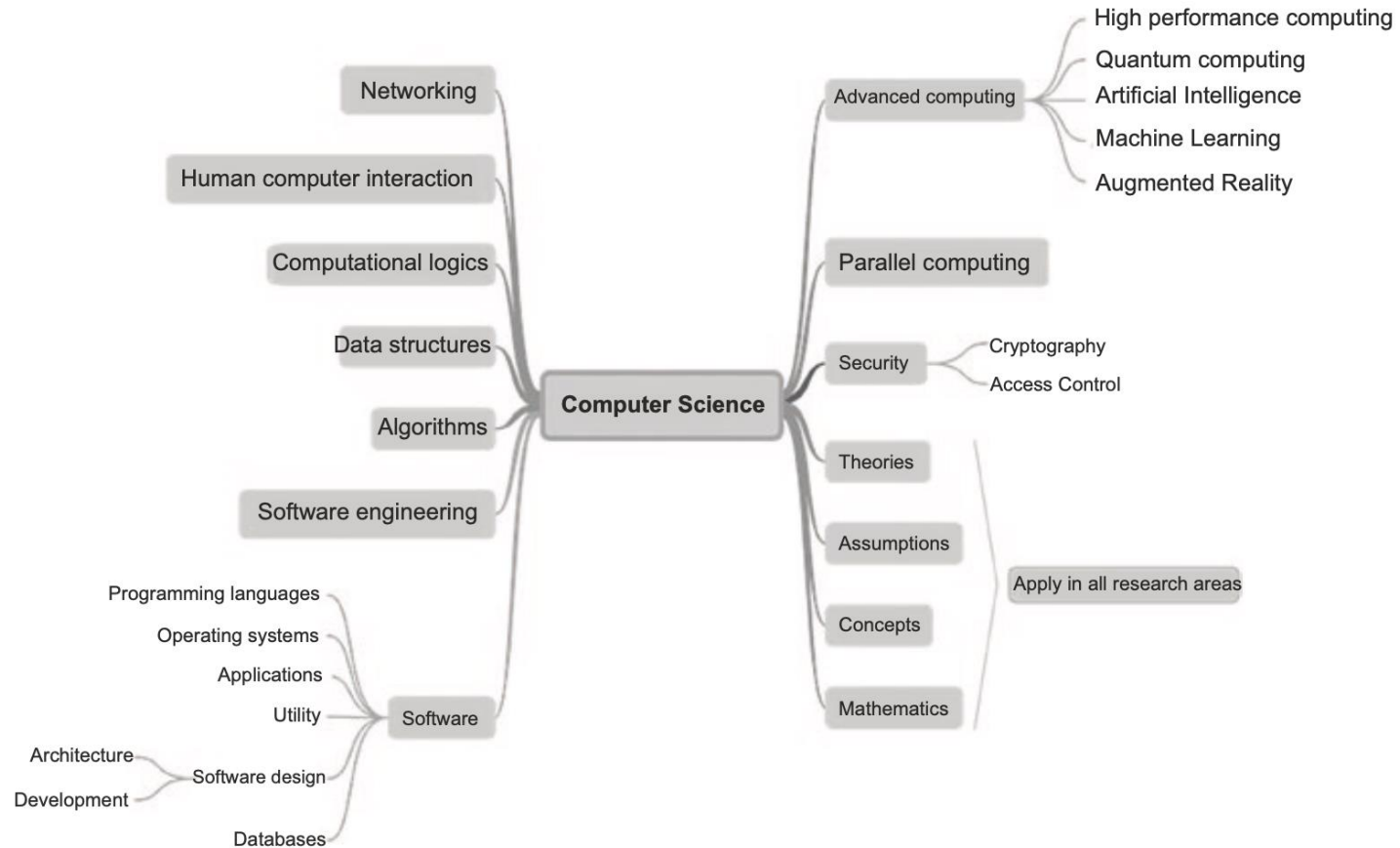


IS Research



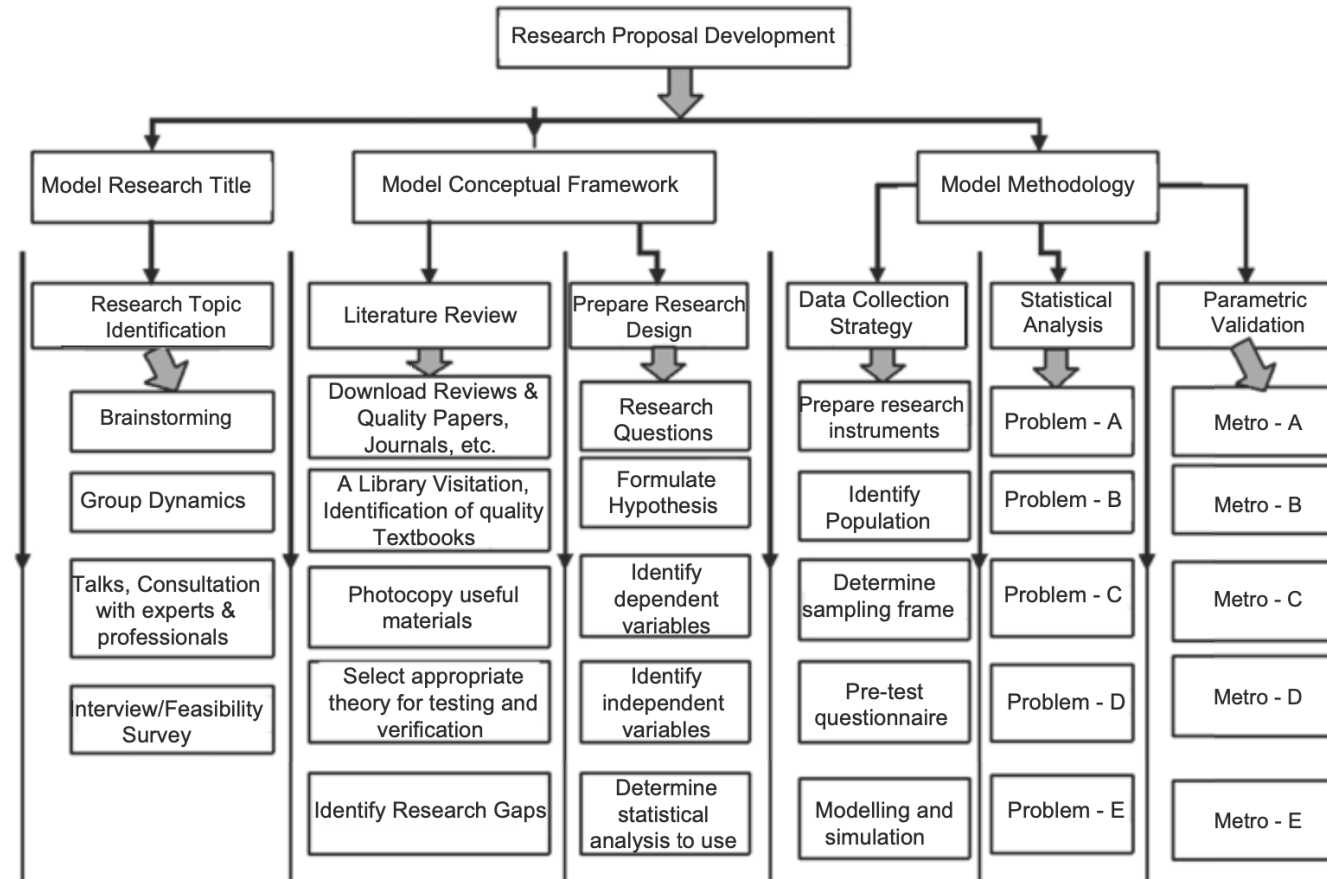


CS Research





Mind Mapping Framework for Research Models/Proposals





Abstract

- This paper aims to evaluate the user experience of a mobile health application called Halodoc to keep the user using the application and keep from losing a potential source of revenue for Halodoc. Halodoc is one of the companies that use the internet to provide health services for its users. Halodoc has services such as features for consultation with doctors, online medicine purchases, and hospital appointments. Halodoc's vision is to simplifying healthcare, but there are still many complaints and negative reviews about Halodoc on Google play store and Apple store about the usability. This paper uses a mixed-method approach using User Experience Questionnaire (UEQ) and Usability Testing. The results of the analysis were used as a reference for making the improvement designs. The results of the UEQ evaluation showed accordingly to the UEQ benchmark already a good level of UX. However, the usability test uncovered some concrete areas for improvement.



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Pendahuluan

- Computer and internet technology are solutions to many problems and needs related to the effectiveness and efficiency of a procedure or activity. Companies in the health sector started to implement computer and internet technology in their operations, they changed their activities from an offline concept to an online concept (Yani 2018). Halodoc is one of the companies that use the internet to provide health services and medicines for its users, this application operates in Indonesia with a valuation of more than US \$ 65 million (Crunchbase 2020).



Pendahulian

- The ISO standard ISO 9241-11: 2018 refers to usability testing as a method to improve the quality of a product concerning effectiveness, efficiency, and user satisfaction. Research by Hinchliffe and Mummary in 2014 examined usability techniques for improving a health promotion website (Hinchliffe and Mummary 2014). The results showed that usability tests can identify improvements from the user's point of view and can be used for the redesign of the site. Meanwhile, to measure the experience felt by users can use the quantitative method of the User Experience Questionnaire (UEQ). UEQ is a method that is easy to apply, valid, and reliable to complement data from other evaluations with a subjective quality assessment (Laugwitz et al. 2008). From the research conducted by Arefe Heshmati et al., the UEQ questionnaire is free and possible to use in all medical informatics applications (Heshmati et al. 2021), it means UEQ can be applied on mHealth to measure the UX score.



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Pendahulian

- Based on user complaints through reviews on the Google Playstore and Apple Store regarding the Halodoc application, evaluation of the application and user experience needs to be done regularly so that Halodoc does not lose users and their potential source of income, and can meet Halodoc's goals to facilitate access to health for the Indonesian people. This study involved Halodoc users as respondents, especially users of the health store feature to buy health products in Halodoc. The purpose of this study is to analyze and evaluate the user experience of the Halodoc application based on UEQ and usability factors. This study also seeks to provide recommendations and suggestions for improving the appearance of the Halodoc application based on the results of the UEQ evaluation and Usability Testing

Metode Pengukuran User Experience



Questioner For User Interaction Satisfaction (QUIS)



Standardized User Experience Percentile Rank (SUPR-Q)



System Usability Scale (SUS)



Software Usability Measurement Inventory (SUMI)



User Experience Questionnaire (USQ)



UEQ

The screenshot shows the homepage of the User Experience Questionnaire (UEQ) website. The browser address bar shows 'ueq-online.org'. The main heading is 'UEQ User Experience Questionnaire'. Below the heading, a description states: 'A fast and reliable questionnaire to measure the User Experience of interactive products. Available in more than 30 languages. Easy to use due to rich supplementary material.' A section titled 'What does it measure?' explains that the scales cover a comprehensive impression of user experience, including classical usability aspects (efficiency, perspicuity, dependability) and user experience aspects (originality, stimulation). Six scales are listed in a grid, each with a placeholder icon and a brief description:

Scale	Description
Attractiveness	Overall impression of the product. Do users like or dislike it?
Perspicuity	Is it easy to get familiar with the product and to learn how to use it?
Efficiency	Can users solve their tasks without unnecessary effort? Does it react fast?
Dependability	Does the user feel in control of the interaction? Is it secure and predictable?
Stimulation	Is it exciting and motivating to use the product? Is it fun to use?
Novelty	Is the design of the product creative? Does it catch the interest of users?



UEQ

- 1. Daya Tarik (Attractiveness):** Apakah pengguna menyukai atau tidak menyukai produk?
- 2. Kejelasan (Perspicuity):** Apakah mudah untuk mengenal produk? Apakah mudah untuk belajar bagaimana gunakan produknya?
- 3. Efisiensi (Efficiency):** Bisakah pengguna menyelesaikan tugas mereka tanpa usaha yang sederhana?
- 4. Ketepatan (Dependability):** Apakah pengguna merasa terkendali terhadap interaksi?
- 5. Stimulasi (Stimulation):** Apakah menarik dan memotivasi untuk menggunakan produk
- 6. Kebaruan (Novelty):** Apakah produk itu inovatif dan kreatif? Apakah produk menangkap minat pengguna?



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UEQ Short

Indonesian version

menghalangi	o o o o o o o	mendukung
rumit	o o o o o o o	sederhana
tidak efisien	o o o o o o o	efisien
membingungkan	o o o o o o o	jelas
membosankan	o o o o o o o	mengasyikkan
tidak menarik	o o o o o o o	menarik
konvensional	o o o o o o o	berdaya cipta
lazim	o o o o o o o	terdepan



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UEQ Long

	1	2	3	4	5	6	7		
menyusahkan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	menyenangkan	1
tak dapat dipahami	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	dapat dipahami	2
kreatif	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	monoton	3
mudah dipelajari	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	sulit dipelajari	4
bermanfaat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	kurang bermanfaat	5
membosankan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	mengasyikkan	6
tidak menarik	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	menarik	7
tak dapat diprediksi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	dapat diprediksi	8
cepat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	lambat	9
berdaya cipta	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	konvensional	10
menghalangi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	mendukung	11
baik	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	buruk	12
rumit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	sederhana	13
tidak disukai	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	menggembirakan	14
lazim	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	terdepan	15
tidak nyaman	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	nyaman	16
aman	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	tidak aman	17
memotivasi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	tidak memotivasi	18
memenuhi ekspektasi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	tidak memenuhi ekspektasi	19
tidak efisien	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	efisien	20
jelas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	membingungkan	21
tidak praktis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	praktis	22
terorganisasi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	berantakan	23
atraktif	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	tidak atraktif	24
ramah pengguna	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	tidak ramah pengguna	25
konservatif	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	inovatif	26



UEQ Short

Please enter the data here!

Use the item numbers in the printed questionnaire and the categories 1 (if the alternative on the extreme left is marked) to 7 (if the alternative on the extreme right is marked).

Leave the cell empty if the person has not answered the item. Please do not enter a special character in such cases, since this would cause errors in the calculations.

You can enter data for a **maximum of 1000** participants. If you need more, you have to adjust the formulas in the Excel.

Items							
1	2	3	4	5	6	7	8
1	6	4	5	3	4	3	5
5	5	4	5	2	3	4	5
6	7	2	5	5	6	5	4
5	6	6	4	4	6	6	4
4	4	4	5	5	5	4	5
6	4	4	5	6	6	5	5
5	6	6	6	3	4	4	3
7	6	4	5	5	3	5	4
7	7	6	5	4	6	5	5
6	6	5	5	6	5	6	6
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
1	6	1	7	1	4	7	3



Element User Experience (Marz Hassenzal's (2010

- Utility
- Usability
- Stimulation
- Beauty
- Communication Identity (Hedonic)



Pengukuran UEQ

- Attractiveness (Kesan pengguna like/ dislike)
- Perspicuity (familiar)
- Efficiency (cepat/efisien)
- Dependability (percaya diri)
- Stimulation (motivasi)
- Novelty (inovasi)



Problem

- Kualitas system yang tidak baik mengganggu pengalaman user (User Experience)
- Kualitas pengguna tidak dapat menyelesaikan system sampai akhir dengan cepat dan efisien (Pragmatics Quality)
- Pengguna Bosan dan tidak tertarik lagi (Hedonic Quality)



Metode Sample

- $n = \frac{N}{1+Ne^2}$
- n = Sampel
- N = Populasi
- e = nilai ketelitian yang diinginkan



Data Responden

- Jenis Kelamin
- Pendidikan
- Usia
- Domisili



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Pertanyaan Umum

- Apakah anda pengguna LMS
- Berapa lama anda menggunakan LMS
- Seberapa sering anda gunakan LMS



SUS Method

SUS ini merupakan salah satu alat pengujian usability yang paling populer. SUS dikembangkan oleh John Brooke pada tahun 1986. SUS ini merupakan skala usability yang handal, populer, efektif dan murah.



SUS :

LEMBAR KUESIONER *USABILITY*

Jawablah pertanyaan berikut dengan memberi satu tanda centang (✓) pada setiap pertanyaan pada kolom jawaban yang tersedia.

Keterangan:

STS : Sangat Tidak Setuju

TS : Tidak Setuju

RG : Ragu-ragu

ST : Setuju

SS : Sangat Setuju

	STS	TS	RG	ST	SS
1. Saya berpikir akan menggunakan sistem ini lagi.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4	5
2. Saya merasa sistem ini rumit untuk digunakan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4	5
3. Saya merasa sistem ini mudah digunakan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4	5



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Terima Kasih