CS 449/549 Human-Computer Interaction

Term Paper

Project Title:

Comparison-Based Usability Testing of Dall-E and Midjourney

Group Members:

Beril Şengezen bsengezen@sabanciuniv.edu 26467

Uğur Öztunç oztunc@sabanciuniv.edu 28176

Tolga Tübek tolgatubek@sabanciuniv.edu 28394

Abstract

This study investigates the usability of ChatGPT's Dall-E and Midjourney, which are AI powered image generation tools, among novice users. Participants, primarily students with diverse educational backgrounds and no prior experience, were tasked with creating and editing images using both systems. The study aims to determine how user-friendly and intuitive these programs are for first-time users. Findings indicate varied preferences and levels of ease in using both applications, highlighting the strengths and weaknesses of each in terms of user interaction and output quality.

Background of the Study

Related Literature:

Within the area of digital user interfaces, specifically in the context of image generation tools, the interaction between design elements and user proficiency is the primary concern. Studies suggest that the level of user satisfaction is closely connected to the ease of use and user-friendliness of the interface (Brooke, 1996). The primary focus of this study is on new users, who may exhibit unique interactions with the interface due to their level of experience, which can influence their opinions of usability and satisfaction.

Based on the findings of Sohn et al. (2017) regarding visual complexity, this study investigates how design simplicity affects the satisfaction of beginner users. Employing a minimalist strategy by avoiding from unnecessary utilization of colors, fonts, and animations can improve usability for novices, making the learning process more seamless and encouraging greater user contentment.

Personalization is a significant aspect that arises in the context of user interfaces (Perlman, 2021). For new users, personalized experiences could include step-by-step tutorials or

adjustable preferences that accommodate individual learning speeds, potentially enhancing user involvement and contentment.

This study enhances the present system of knowledge by investigating the impact of new users' different backgrounds on their engagement with AI-powered image generation tools, a specific area that has not been extensively studied. The results emphasize the importance of designing with a focus on the user, considering not only visual appeal but also the different requirements of users with different levels of digital skills.

Purpose of the Study:

The primary aim of this study is to evaluate and compare the usability of Dall-E and Midjourney, two advanced AI-driven image generation tools, specifically focusing on individuals who have no prior experience with these technologies. This target group is particularly significant because their interactions and challenges with these tools can offer valuable insights into the intuitive nature and learnability of the software. The study seeks to understand how novices navigate, interpret, and utilize these complex tools, thereby shedding light on the ease of initial use, the clarity of the interface, and the overall user experience. By focusing on those without previous exposure to Dall-E and Midjourney, the study aims to capture a pure interaction experience, free from preconceived notions or biases that might come with prior use. This approach helps in assessing the fundamental usability of these tools, providing a baseline for how accessible and user-friendly they are to a general audience.

Significance of the Study:

The significance of this study lies in its potential to inform developers and designers about the key usability aspects of AI-driven image generation tools from the perspective of novice users. In an era where such technologies are becoming increasingly prevalent, understanding their usability is crucial not only for enhancing user satisfaction but also for broadening the

accessibility of technology to a wider audience. Insights gained from this study can guide improvements in user interface design, workflow optimization, and instructional support, making these tools more approachable and intuitive for new users. Moreover, this study can contribute to the broader field of human-computer interaction by providing empirical data on how individuals with no prior experience interact with advanced AI technologies. Such data is invaluable for creating more inclusive and user-friendly technologies that can be easily adopted by a diverse user base, regardless of their technical background. Ultimately, improving the usability of these tools has the potential to democratize access to AI technology, enabling a wider range of people to leverage these powerful tools for creative, educational, or professional purposes.

Methodology

Research Questions:

- How do novice users perceive the complexity of Dall-E and Midjourney?

- Which system do users find more intuitive and user-friendly?

- What are the challenges faced by first-time users in image creation and editing with these tools?

- How do participants rate the quality of images produced by Dall-E and Midjourney?

- Which system do users prefer and why?

Participants:

The study involved a group of 10 university students, who participated voluntarily. These participants were carefully selected to ensure a diverse representation in terms of educational background, which is crucial for understanding the usability of Dall-E and Midjourney from various perspectives. All participants were within the age range of 19-23 years. None of the

participants had prior experience with Dall-E or Midjourney, making them ideal candidates for evaluating the usability of these tools from a novice user's standpoint. The details of the participants are as follows:

- **Kerem Ersoy** - A 21-year-old male student majoring in Computer Science. His perspective as a computer science student is valuable in assessing the technical aspects of the tools.
- **İpek Kılıç** - A 25-year-old female student studying Industrial Engineering. Her background may provide insights into the system's efficiency and workflow.
- **Merve Sert** - A 22-year-old female student in Industrial Engineering, bringing a similar perspective to İpek in terms of workflow analysis.
- **Tomris Özdemir** - Also 22 years old and an Industrial Engineering student, contributing to a consistent representation of this field.
- **Emir Aslan** - A 21-year-old male student in Industrial Engineering, adding to the diversity of perspectives from this academic discipline.
- **Yiğit Karahan** - A 21-year-old male student studying Industrial Engineering, further enriching the insights from this educational background.
- **Burak Ünlü** - A 22-year-old male Computer Science student, whose inputs can be crucial in understanding the technical user experience.
- **Alp Ege Küpelioğlu** - A 23-year-old male student in Industrial Engineering, providing additional depth to the study from his field.
- **Sude Fettahoğlu** - A 23-year-old female Psychology student, offering a unique perspective on the user experience and interface design.
- **Deniz Doğa Şen** – A 20-year-old female who is student in Industrial Engineering also providing insights from her field of study.

The inclusion of students from different majors such as Computer Science, Industrial Engineering, and Psychology provides a broad spectrum of viewpoints, which is essential for a comprehensive usability study. Their varied academic backgrounds offer a rich context for understanding how different users interact with and perceive the usability of Dall-E and Midjourney. This diversity ensures a more robust and generalizable understanding of the user experience with these AI-powered image creation tools.

Materials and Procedure:

We mainly focused on SUS (System Usability Scale) questionnaire and asked the participants to perform a series of tasks. Tasks included creating and editing images based on complex prompts and integrating images from Google.

Step by step tasks were exactly:

1) Open ChatGPT/Discord.

2) Create a new chat/Enter a chat server.

3) Ask the programs to create an image with respect to a complex prompt

4) Zoom in image.

5) Edit/update the given image by new prompt in the step before.

6) Find a default image from Google.

7) Copy the image/URL to the programs and ask them to create a new image with respect to both their new prompt (Independent from previous steps) and the default image from Google.

The study's data collection was multifaceted, encompassing not only the System Usability Scale (SUS) scores, which provided a standardized quantitative measure of usability, but also task completion times and qualitative feedback, offering a more nuanced view of user experience.

SUS scores were a critical component, offering a numerical value to represent each participant's overall perception of usability. These scores were calculated based on structured questionnaire responses, allowing for a consistent and comparative analysis of the two systems. Task completion times were another key metric, providing tangible data on the efficiency and intuitiveness of each system. By measuring how long it took participants to complete specific

tasks, we could gauge the learning curve and operational efficiency of Dall-E and Midjourney for novice users.

In addition to these quantitative measures, qualitative feedback played a vital role in our study. After participants engaged with the systems and their SUS scores and task times were recorded, we conducted a more open-ended feedback session. Here, participants were encouraged to share their thoughts, feelings, and experiences in their own words. This qualitative feedback provided insights into aspects of the user experience that numbers alone could not capture, such as emotional responses, perceived complexities, or specific usability challenges.

We meticulously noted and recorded these qualitative responses. This data is invaluable, as it offers a deeper understanding of the subjective user experience, highlighting potential areas for improvement that might not be immediately evident from the more structured data. Furthermore, this qualitative feedback can help contextualize the quantitative data, providing a fuller picture of why certain scores or times were observed.

By combining SUS scores, task completion times, and qualitative feedback, our study aimed to create a comprehensive understanding of how novice users interact with and perceive these AI-driven systems. The recorded data from these different methodologies will be evaluated to provide a holistic view of usability, potentially guiding future enhancements to user experience and interface design.

Results / Analysis of Data

Analysis includes descriptive and inferential statistics based on SUS scores and qualitative feedback. Graphical representation of data differentiated by system preference, and SUS scores. The average SUS scores for each participant indicate their perceived usability of ChatGPT and Midjourney. The scores are out of 5, with higher scores indicating greater usability. From the data:

Participants generally rated both systems with a wide range of System Usability Scale (SUS) scores, reflecting varied user experiences and perceptions of usability.

Deniz Doğa Şen experienced a notable difference in usability between the two systems. They rated Midjourney with a higher SUS score of 50.0, indicating a moderately positive response to its usability. In contrast, their assessment of ChatGPT was significantly more favorable, with a SUS score of 97.5, suggesting a much higher level of usability and user satisfaction.

Kerem Ersoy's experience contrasted with that of Deniz Doğa Şen. Kerem rated ChatGPT more favorably, assigning it a SUS score of 82.5, indicating a high level of usability and ease of use. However, their experience with Midjourney was less positive, reflected in a lower SUS score of 30.0, suggesting challenges or less satisfaction with the usability of this system.

The SUS scores among other participants varied, indicating diverse experiences and subjective preferences. This range in scores suggests that while some participants found one system significantly more user-friendly or intuitive than the other, others experienced a more balanced usability level between the two systems. These mixed responses highlight the subjective nature of usability and the importance of considering individual user experiences when assessing the overall effectiveness and approachability of such advanced AI-driven tools.The graphical representation provides a clear comparison of user preferences for ChatGPT versus Midjourney across all participants.

Updated System Usability Scale (SUS) Scores for ChatGPT and Midjourney
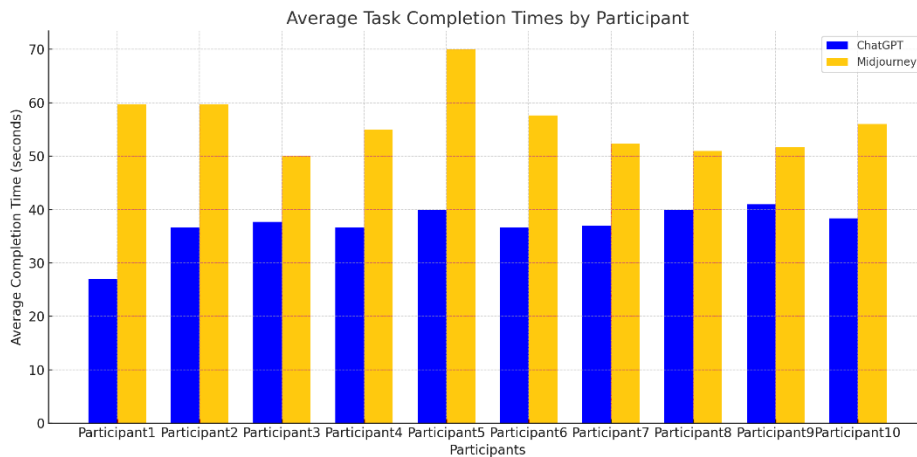

Average SUS Scores for ChatGPT and Midjourney
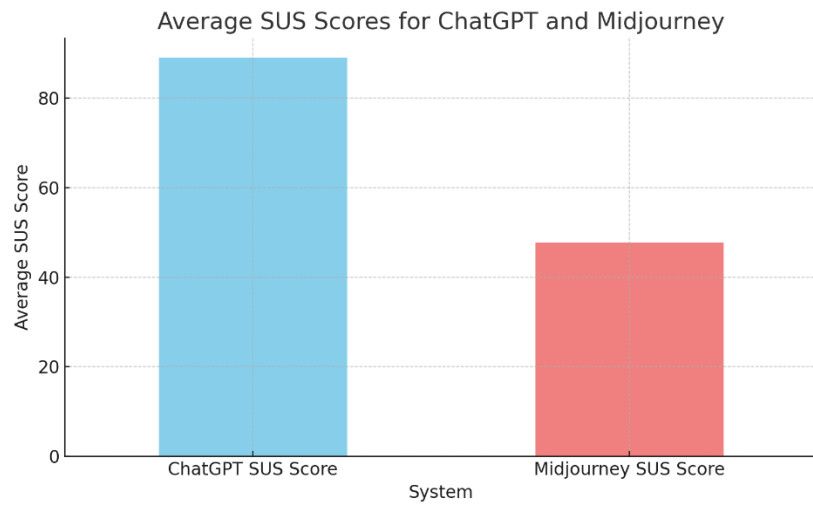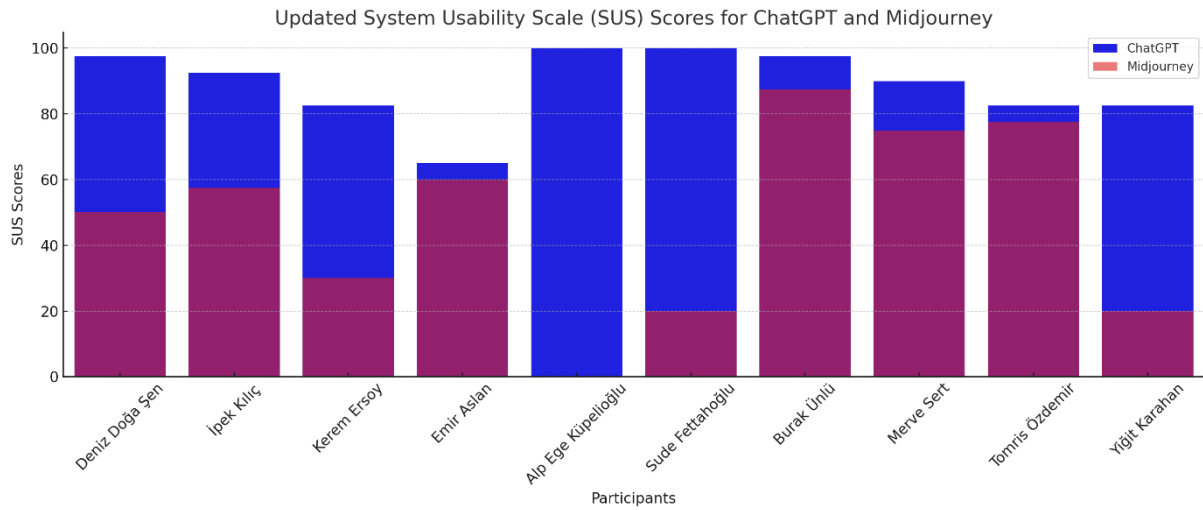
The verbal feedback we got from all the participants showed that ChatGPT's Dall-E was much more preferred than Midjourney:

Preferred Systems Based on User Feedback (Updated)
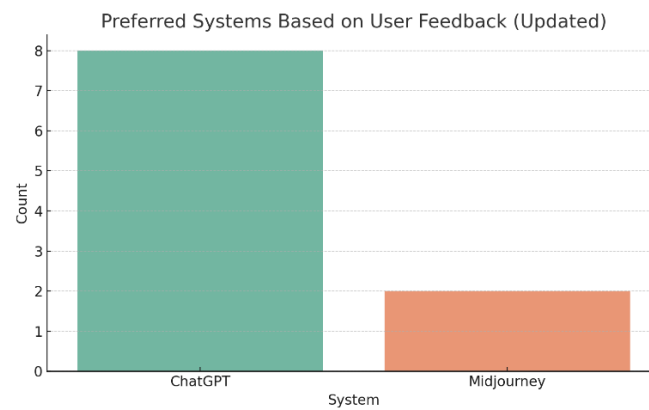
It can be seen from the data that according to the SUS scores, ChatGPT's Dall-E was superior as in every participants' data, the score was higher. We can interpret that the people that chose Midjourney did so solely by focusing on personal preferances of style choices etc.

We also kept track of how long it took to generate the desired outputs in both programs. The data shows that generally it took longer for Midjourney to generate the output when compared to ChatGPT's Dall-E. It should also be noted that Dall-E generates a single image while Midjourney gives the user four different outputs that can be picked from.

Average Task Completion Times by Participant

Task 1 Completion Times Comparison

Task 2 Completion Times Comparison

Task 3 Completion Times Comparison

There were some issues and comments regarding both programs:

1) The most significant feedback by the users was that Dall-E was better at creating the wanted prompt if it was more of a creative concept as Midjourney was said to create images that are more realistic:

-All planets in the solar system playing poker

-A steampunk universe that has flying whales which are using as military vehicles

-A rabbit fighting against humans

-Fairies eating food in Bosporus

2) Users concluded that Dall-E was better at creating a concept while Midjourney focused more on a specific single object:

-An orange kitten doing bench press in an all inclusive gym

(Dall-E made the gym all-inclusive while Midjourney disregarded that info)

-Add given rhino horn to a cat

(Midjourney provided a better output as the prompt focused on a single item)

3) In one example, Midjourney failed to represent the wanted prompt, giving out an inadequate output:

-Make given carrot a super villain with high tech that will conquer the world

4) Dall-E refused to create some prompts and said the prompt did not fit the guidelines while in Midjourney, this was not an issue:

-Draw a purple tiger attacking kids in this picture

System Usability Scale (SUS) Questions (1 is strongly disagree, 5 is strongly agree)

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 were well integrated.

6. I thought there was too much inconsistency in this system.

7. I would imagine that most people would learn to use this system very quickly.

8. I found the system very cumbersome to use.

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.

According to the documents, this is how the SUS scores were calculated:

Scoring SUS

SUS yields a single number representing a composite measure of the overall usability of the system being studied. Note that scores for individual items are not meaningful on their own.

To calculate the SUS score, first sum the score contributions from each item. Each item's score contribution will range from 0 to 4. For items 1,3,5,7, and 9 the score contribution is the scale position minus 1. For items 2,4,6,8 and 10, the contribution is 5 minus the scale position.

Multiply the sum of the scores by 2.5 to obtain the overall value of SU.

SUS scores have a range of 0 to 100.

Here are our results (C is for ChatGPT's Dall-E and M is for Midjourney):

Question No	Deniz		İpek		Kerem		Emir		Alp		Sude		Burak		Merve		Tomris		Yiğit	
	C	M	C	M	C	M	C	M	C	M	C	M	C	M	C	M	C	M	C	M
Q1	5	4	5	4	5	2	5	4	5	1	5	5	5	5	5	5	5	5	5	1
Q2	1	4	1	3	1	3	2	4	1	5	1	1	1	1	1	1	1	1	1	5
Q3	5	4	5	3	5	2	4	4	5	1	5	5	5	5	5	3	5	5	5	1
Q4	1	4	1	3	1	2	3	1	1	5	1	2	1	2	1	3	1	1	1	5
Q5	4	3	4	3	5	1	3	3	5	1	4	4	5	4	5	5	3	3	3	1
Q6	1	2	1	2	2	5	2	2	1	5	1	1	1	1	3	1	3	5	3	1
Q7	5	4	4	3	4	1	4	4	5	1	5	4	5	4	5	5	5	5	5	1
Q8	1	5	1	3	5	1	3	3	1	5	1	1	1	1	1	1	2	2	2	2
Q9	5	3	4	3	4	1	2	3	5	1	5	4	5	4	3	3	3	3	3	2
Q10	1	3	1	2	1	4	2	4	1	5	1	2	1	2	1	5	1	1	1	5
SUS Score	97.5	50	92.5	57.5	82.5	30	65	60	100	0	100	20	97.5	87.5	90	75	82.5	77.5	82.5	20

The results of the T-test done on different combination:

Paired t-test Analysis of System Usability Scale (SUS) Scores for GPT and Midjourney Systems:

- t-statistic: 3.9324

- p-value: 0.0034

The paired t-test comparing the System Usability Scale (SUS) scores between GPT and Midjourney specifically for female participants:

- t-statistic: 2.7710

- p-value: 0.0503

The paired t-test comparing the System Usability Scale (SUS) scores between GPT and Midjourney specifically for male participants:

- t-statistic: 2.6110

- p-value: 0.0594

The paired t-test comparing the System Usability Scale (SUS) scores between GPT and Midjourney for students majoring in Computer Science:

- t-statistic: 1.4706

- p-value: 0.3802

The paired t-test comparing the System Usability Scale (SUS) scores between GPT and Midjourney

for students majoring in Industrial Engineering:

- t-statistic: 2.4012

- p-value: 0.0615

Q1) Genel olarak istediğin resimleri oluşturabildin mi?

• Person	Answers
Deniz Doğa Şen	Evet, iki uygulamada da istediğim sonuca yaklaştı hatta daha yaratıcı sonuçlar aldım.
İpek Kılıç	Evet, oluşturdum.
Kerem Ersoy	Evet, istediğim görsele yakındı.
Emir Aslan	Hayır, tam olarak oluşturamadım.
Alp Ege Küpelioğlu	Evet, GPT de oluşturabildim ama Midjourney de oluşmadı.
Sude Fettahoğlu	Evet, oluşturdum.
Burak Ünlü	Evet, iki sistemde de oluşturabildim.
Merve Sert	Evet, oluşturabildim.
Tomris Özdemir	Hayır, tam olarak istediğim resimleri oluşturamadım.
Yiğit Karahan	Evet, ikisi için de oluşturabildim.

Q2) İstediğin görseli elde etmen zor muydu?

Person	Answers
Deniz Doğa Şen	Chatgpt'de istediğimi almak zor değildi ara yüzü çok minimal düzenlendiği ve yazmak için ekstra bir efor sarf etmediğim için. Ancak Midjourney de öncesinde bazı eklentiler yazmak çok optimal değil bence kullanıcı açısından.
İpek Kılıç	Hayır, yazarak istediğimiz için anlatmam daha rahattı o yüzden istediğim görselleri elde etmem kolay oldu.
Kerem Ersoy	Chatgpt'de istediğimi almak zor değildi ama Midjourney de komut oluşturarak kullanmamız kullanıcı açısından uygulamadan uzaklaşmasına sebep olabilir.
Emir Aslan	Chatgpt istediğim görseli sağlamadı ama Midjourney de kolayca elde ettim.
Alp Ege Küpelioğlu	Midjourney de zorlandım.
Sude Fettahoğlu	Hayır, kolaydı.
Burak Ünlü	İstediğim görselleri elde etmek kolaydı.

Merve Sert	Hayır bence kolaydı.
Tomris Özdemir	Chatgpt özellikle çok fazla kelimeyi filtrelediği için kullandığım mafya kelimesiyle istediğime ulaşmakta açıkçası zorlandım.
Yiğit Karahan	Hayır, gayet kolaydı.

Q3) Genel olarak uygulamaları kullanmak zor muydu kolay mıydı, neleri kolay ya da zordu?

Person	Answers
Deniz Doğa Şen	Midjourney de eklentiler yazdığımız için bu yönden zorluk çıkarabilir aynı zamanda diğer kullanıcıların da görsellerinden sürekli kendi görselimizi bulmak da sıkıntılıydı.
İpek Kılıç	Hayır kullanması kolaydı sayfada yeni chat oluşturup komut giriyorduk.
Kerem Ersoy	İnsana anlatır gibi yazıyorduk kolaydı. Midjourney için prompt zorlaştırıyordu.
Emir Aslan	İkisini de kullanması kolaydı.
Alp Ege Küpelioğlu	Midjourney de bilmediğim parametreleri kullanarak sadece tam istediğime ulaşabiliyorum, Chatgpt daha kolaydı.
Sude Fettahoğlu	Midjourney çok daha karışık, biri anlatmasa kullanması zor.
Burak Ünlü	Chatgpt daha kolay kullanım olarak Discord önceden kullandığımdan benim için kolay, diğer insanlar için daha zor olabilir.
Merve Sert	Kullanım olarak Chatgpt daha iyi ama çok da büyük bir fark yok
Tomris Özdemir	Hayır benim için kullanım zorluğu açısından iki uygulama arasında fark yok.
Yiğit Karahan	Kullanımları kolaydı.

Q4) Editlediğin görsel istediğin sonuca yaklaştı mı?

Person	Answers
Deniz Doğa Şen	Evet iki uygulamada da istediğim sonuca yaklaştı.
İpek Kılıç	İstediğime yaklaştı daha güzeldi.
Kerem Ersoy	Chatgpt kesinlikle yakınlaştı ama Midjourney yakınlaşmadı bile.
Emir Aslan	Midjourney eklemeyi yaptı fakat Chatgpt kullanım olarak kolay olmasına rağmen yaratmadı.
Alp Ege Küpelioğlu	Chatgpt istediğimden daha iyi bile sonuç yarattı ama Midjourney hüsrana uğrattı.
Sude Fettahoğlu	Midjourney de verdi ama Chatgpt daha başarılıydı aklımdakine daha yakındı.
Burak Ünlü	Chatgpt de değişen görsel daha iyiydi beklentiye yönelikti, diğerinde fazla bir şey değişmedi.
Merve Sert	Editlediğinde aklımdakine yaklaştı.
Tomris Özdemir	Midjourney'e geldiğimizde resimle yaratmak istediğim promptu başarıyla uygulayamadı.

Yiğit Karahan	Chatgpt istediğim görseli aklımda düşündüğüm gibi yarattı.

Q5) Hangi uygulamayı kullanmayı daha çok sevdin?

Person	Answers
Deniz Doğa Şen	Ara yüzü rahatlığından dolayı Chatgpt.
İpek Kılıç	Chatgpt' yi kullanmayı daha çok sevdim aklımdakini direkt yazabiliyordum.
Kerem Ersoy	Chatgpt
Emir Aslan	Midjourney'i daha çok sevdim çünkü Chatgpt de olan kısıtlamalar hevesimi kaçırdı.
Alp Ege Küpelioğlu	Chatgpt, istediğim görselleri yaratmakta daha başarılı ve kullanımı kolaydı.
Sude Fettahoğlu	Kullanımı daha rahat olduğu için Chatgpt.
Burak Ünlü	Chatgpt'yi daha çok sevdim.
Merve Sert	Kullanım olarak Chatgpt daha iyi ama çok da büyük bir fark yok.
Tomris Özdemir	Kullanım açısından iki uygulamayı da kullanırım.
Yiğit Karahan	Chatgpt daha iyi.

Q6) Hangi uygulamanın sonuçlarını daha çok sevdin?

Person	Answers
Deniz Doğa Şen	Chatgpt'yi daha çok sevdim çünkü arka planı daha detaylı verdi, verdiğim direktifler dışında kalan boşlukları doğal bir şekilde kendisi tamamladı
İpek Kılıç	Chatgpt'nin sonuçları daha çok hoşuma gitti.
Kerem Ersoy	Chatgpt, istediğim görselleri oluşturdu.
Emir Aslan	Midjourney, istediğim görseli sadece o oluşturdu. Chatgpt de olan kısıtlamalar yüzünden görseli oluşturamadı.
Alp Ege Küpelioğlu	Chatgpt
Sude Fettahoğlu	İkisinin de yarattığı görseller farklı temalara sahip olduğu için ikisinin sonuçlarını da sevdim.
Burak Ünlü	Prompt girişi yaparken Chatgpt, görsel editlerken Midjourney'i sevdim.
Merve Sert	Midjourney daha iyi çünkü Chatgpt daha yapay sonuçlar verdi.
Tomris Özdemir	Chatgpt yüklediğim resimle yaratmak istediğim promptu gayet iyi uyarladı.
Yiğit Karahan	Chatgpt çünkü istediğim görseli kendi fotoğraf yükleyip yarattığımız zaman istediğim gibi yarattı.

Q7) Herhangi bir yorumun var mı?

Person	Answers

Person	Answers
Deniz Doğa Şen	İki aşamada da iki uygulama da gayet tatmin edici ve başarılı sonuçlar verdiğini düşünüyorum.
İpek Kılıç	Midjourney daha gerçekçi, Chatgpt daha çizgi filmimsi sonuçlar veriyor beklentiye göre iki uygulama da kullanılabilir.
Kerem Ersoy	Komplikasyon arttığında spesifik soru sorabilir.
Emir Aslan	Sistemler daha komplex olsaydı daha başarılı sonuçlar verebilirdi.
Alp Ege Küpelioğlu	Farklı inputlari görmek iyi değil kendi resmini direkt görememek kötüydü. Başka insanların görmesini istemediğim görseller olabilir herkes görüyor.
Sude Fettahoğlu	Midjourney de herkesinkini görmek hoşuna gitmedi, bana özel olsun isterdim, fikrim çalınabilir gibi düşündüm.
Burak Ünlü	Yüklenme süresi Midjourney de çok fazla ve diğer insanların cahtroomda olması karışık, yaratıcılık anlamında daha büyük bir alternatif sunabiliyor. Dört farklı çıktı vermesi yaratıcılık anlamında daha avantajlı.
Merve Sert	-
Tomris Özdemir	-
Yiğit Karahan	Chatgpt daha kreatif ve hayal gücünü daha iyi yansıtıyor.

Q8) Tavsiye eder misin?

Person	Answers
Deniz Doğa Şen	Tavsiye ederim. Chatgpt özellikle kullanım rahatlığıyla günlük kullanılabilecek bir uygulama.
İpek Kılıç	Chatgpt'yi tavsiye ederim.
Kerem Ersoy	İkisini de tavsiye ederim.
Emir Aslan	İkisini de tavsiye ederim, farklı bir deneyimdi.
Alp Ege Küpelioğlu	Chatgpt kullanılmasını tavsiye ederim.
Sude Fettahoğlu	Tavsiye ederim, Chatgpt daha güvenli geldi.
Burak Ünlü	Tavsiye ederim, özellikle aynı temada farklı görseller yaratmak istediğimde Midjourney'i kullanabilirim.
Merve Sert	Evet, tavsiye ederim.
Tomris Özdemir	Hiç kullanmamış insanların deneyimlemesi için öneririm.
Yiğit Karahan	Evet, ikisini de tavsiye ederim.

Discussion and Conclusion

Interpretation of Results

Complexity and User-Friendliness: The study reveals a split in perceptions of complexity and user-friendliness between Dall-E and Midjourney. While some participants found Dall-E more intuitive due to its text-based interface, others preferred Midjourney for its more advanced artistic capabilities. This split highlights the differing needs and preferences among users, especially those new to AI-powered image creation tools.

Challenges in Image Creation and Editing: First-time users encountered specific challenges with both systems. Participants noted the difficulty in navigating Midjourney's interface and managing image inputs. Conversely, Dall-E was perceived as more straightforward, but its limitations in keyword filtering and specific prompt handling were noted.

Quality of Images Produced: The quality of images produced by both Dall-E and Midjourney was generally well-received. However, there was a notable difference in the type of output preferred. Dall-E was favored for conceptual and clearer outputs, while Midjourney was appreciated for its artistic and complex image creation capabilities.

System Preference: User preference was split; some favored the simplicity and user-friendly nature of Dall-E, while others preferred the detailed and artistic outputs of Midjourney. This suggests that the choice of tool may depend on the specific needs and expectations of the user, as well as the nature of the task at hand.

Comparison with Literature: The results of this study can be compared to existing literature to make meaningful interpretations. Our research provided alight on the complex methods in which inexperienced users engage with AI-powered image generation tools, a subject that has not been extensively explored in previous studies. Existing research on visual complexity and

user satisfaction (Sohn et al., 2017) suggests a preference for simplicity. However, our findings indicate that novices may value specific complexities that offer contextual guidance or feedback, which aids in their learning process. Furthermore, the focus on customized experiences (Perlman, 2021) corresponds with our observation that inexperienced users gain advantages from interfaces that adjust to their unique learning styles. This study provides another point of view by showing that the satisfaction of inexperienced users is affected by their proficiency in navigating and controlling the creative process, which may not have as significant an impact on more skilled users.

Practical Implications: For UX designers and researchers, the study underscores the need to balance complexity and user-friendliness in AI-based tools. Understanding the varied preferences and challenges of first-time users can guide improvements in interface design and functionality, making these tools more accessible to a broader audience.

Study Limitations and Future Research: The study is limited by its small sample size and the specific demographic of participants. Future research could include a more diverse group of users and explore long-term usability aspects. Additionally, examining the learning curve associated with each tool could provide deeper insights into their usability for novice users.

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Appendix

Participant Photographs