

Integrating Artificial Intelligence into Interior Design Education: A Case Study on Creating Office Spaces for "Avrupa Yakası" TV Series Characters

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Abstract. The integration of artificial intelligence (AI) into interior design education is a growing trend. This study presents a warm-up assignment where students used AI design tools to develop a concept of contemporary office designs inspired by characters from the TV series "Avrupa Yakası." The goal was to prepare students for an office design project while introducing them to AI applications. The AI-generated designs reflected character personalities and aesthetic preferences. Findings show the AI's capability to translate textual cues into visual designs, but limitations arise due to insufficient definitions in the AI's memory. The study highlights AI's potential for assisting in design inspiration but also emphasizes the need for continuous AI database development. This initiative contributes to understanding AI's role in design education and its evolving impact on creative processes.

Keywords: Artificial Intelligence Tools, Concept Development, Interior Design, Interior Design Education.

1. Introduction

Design studio courses are the backbone of the curriculum in interior design programs [1], [2], [3], [4], [5]. These courses are similar to a controlled experiment involving professional interior design services. Students are informed at the beginning of the semester about the type of space and requirements that will be the subject of their design. Throughout the semester, students design a space in accordance with the designated space type while keeping the requirements in mind. Residential, retail, restaurant, office, center, hotel, and other space types may be included.

As one of these space types, the office is an important private/public space about which students should participate in at least one project during their education. In this context, a design studio course was developed for the spring semester of the junior-year interior design curriculum. This course focuses on functional, technical, and structural interior design for offices. In line with this goal, the course focuses on structural solutions that take into account the aesthetical, visual, cultural, structural,

and functional values of design, as well as workplace interior and environmental factors.

Before starting the office design project, a warm-up project covering the first week of the 15-week period was designed to prepare the students for the project. In this context, the comedy TV Series "Avrupa Yakası," [6], [7], [8], [9], which takes place in an office setting and became very popular in Turkey, was chosen. This TV series is mostly set in the office of a fictional fashion magazine called "Avrupa Yakası," and the majority of the employees have distinct personalities and tastes. The office design in the TV series features an "open layout", emphasizing interaction among characters. Both office workers and the administrative manager share the same space, fostering dialogue and collaboration. With this aspect, it is a mixed-type office [10]. By positioning the executive room with the partitioned area in the office, the characters are intertwined [6]. The arrangement of work desks is organized based on the division of labor. The magazine's editor has a central desk, symbolizing importance, while equal-status colleagues share adjacent tables. A small, partitioned area in the open office serves as a prestigious individual space for high-ranking titles, sparking controversy among characters. The design is considered suitable for a preliminary study on office spaces for students. Since the TV Series takes place in the early 2000s, the interior designs depicted have lost their contemporary design language. Hence, students were expected to create contemporary interior designs that reflected the personalities and tastes of the show's most prominent characters. A detailed character analysis, similar to a design brief [11], [12], [13], is required to create a good end-user profile. This warm-up project is not solely intended to prepare students for the "office" theme. Students were asked to complete the warm-up project using AI applications because AI would be used in the concept development phase of the office they would design after the warm-up assignment. This situation also made it possible for the warm-up project to be limited to one week.

In this study, a warm-up assignment was developed that enabled students to adapt to AI, one of the biggest technology trends of the period, and to gain experience in using AI in design applications. The students' works are examined as case studies.

2. Literature Review

2.1 End-User Centered Design

The "user-centered design" was first used by Norman & Draper [14]. Nonetheless, the essence of this approach was present even before its formal identification. Weale et al. [15] claim that in the 1970s, design professionals were starting to understand that the user or resident of any facility must be given top priority. Accordingly, potential users' values, objectives, and activities should be taken into account prior to starting the design program. According to McGraw [16], user evaluation is one of the most underappreciated and compelling architectural issues, and design projects where user needs are not properly understood lead to unsuccessful results.

The first applications of the user-centered design approach in this field, which focused on user needs and interests, were primarily concerned with the usability of computer design after the term "user-centered design" started to be used. In this effort, the design process places users at its core. The designer, who acts as the facilitator and mediator in the design process, makes the task easier for the user, and the product can be used with the least amount of effort to learn how to use it [14]. The user-centered design is described in later discussions as a design approach in which users have a voice in the creation of a design [17]. [18], [19], [20]. and end-users should participate in the design process [21]. Therefore, interior designers focus on the intimate movements, needs, and emotional concerns of the users of interior space, as individuals and in relation to others [21]. The value of the design to its users can be increased by involving end users in the early design stages. Early end-user involvement in the design phase can result in cost savings of between 5 and 30%, as well as better performance and design quality [22]. Engaging end users early on in the design process ensures that their needs and preferences can inform the selection of key environmental design features and attributes [23].

The user-centered design evolved to "end-user-centered design" since the arguments started to focus on the needs not of users but of end-users. The Council for Interior Design Accreditation (CIDA) uses "end-user-centered design" to explain the interior architecture design for a specific person or a group of people [24]. In CIDA Professional Standards 2022, 13 standards are about the curriculum [25], and three are about "end-user-centered design," which are "Global Context," "Human-Centered Design," and "Environmental Systems and Human Well-being" [24], which constitute the 23% of the total. It can be compared to haute couture design in fashion design that the field of interior architecture demands such as end-user-centered design. In this field, it is critical to understand, analyze, and synthesize the end user's needs before beginning the design process.

Understanding the end-user's needs starts from the design briefing at the pre-project stage to create a basis for the project decision [12]. Briefings should be inclusive and continuous, with end users as well as other stakeholders included [12]. To get a briefing on a design, you do not necessarily need to speak with the end user. A design brief might be interpreted as information that is defined as facts about a certain situation or event [11]. For example, an interior designer may create a space for a fictional character, but there is no way to get a briefing from the end user. In such cases, either a briefing is taken from the creators of the characters, or the character analyses are carried out by examining the characters.

The design briefing is important but useless on its own. The ability to gather information both functionally and aesthetically is necessary for interior design, in addition to having a thorough understanding of the facts that an interior design brief brings [11]. Therefore, the more practice is given to end-user-centered design, design briefing, and designing it in an aesthetically appropriate function during interior architecture education, the more competent students will be in this field. We see lots of course models created for an interior architecture curriculum. For example, Kahraman [26] designed an elective course that focused on "user needs and satisfaction in interior architecture." This course attempted to provide students with the consciousness of the user dimension in design processes. McAuliffe [27] also created a course that focused on the end user of the space. These methods ought to be

included in the design studio courses, as well as the courses that are solely devoted to this topic.

2.2 Office Design

Offices play an important role in human life because many people spend most of their time there. Office layout concepts have been changed over the years according to some factors such as “human needs,” “organizational needs,” and “technology.” Throughout history, workplaces have changed from traditional closed offices to open-plan cubicle offices. All types of offices need to support user’s physical and psychological needs [28].

The quality of the office environment is significantly influenced by the office design. Working eight hours a day in an office is likely to have detrimental psychological effects, in addition to causing physical exhaustion and illness. Therefore, “user-centered” design principles must be reflected in the design of the space [29, 30, 31]. The problem with applying “user-centered” design to the office design is the diversity of users. Employees with private desks, employees who need to collaborate, employers at the top of the hierarchy, and customers who come to the space for service are all present in the office space.

Although the office space can be considered public, it has different dimensions from other types of places, both public and private, as it is not a place where its users come and go; rather, it is a place where they spend an average of eight hours four to six days a week. Private desk offices, which are on the more private side, are created with consideration of the user's personality, needs, and requirements, as well as the brand identity and function of the business with which they are associated. There are other types of spaces that are more public, where employees and employers can collaborate with customers, work as a team, and socialize.

According to Harris [32], only desk space (a bigger portion of the space) and meeting space were required in 1985. This changed over time. In 2015, desk space got smaller but still, it constituted the biggest portion of the space, while meeting space was divided into informal meeting and formal meeting spaces. Today, desk space has gotten even smaller but is still the biggest portion of the space, but there is a need for more public spaces “beyond the building” like open areas, collaborative spaces, and meeting/social spaces. It is understood that employees would like to see a greater emphasis on the creation of public spaces that provide memorable experiences for employees and support a variety of work/life needs. Even though the private/desk space has shrunk over the years, it remains the largest portion of the office space. Therefore, designers still need to pay extra attention to employees’ private desk spaces by design briefing.

As we mentioned before, the end-user-centered design has subtitles like human-centered design, environmental systems, and global context. The human-centered design also has subtitles, such as environmental psychology and ergonomics. If we approach office design from a psychological standpoint, the workplace has a strong relationship with environmental psychology's social processes, specifically privacy, personal space, territoriality, crowding [33], identity, and emotional attachment.

Personalization of space is associated with concepts of privacy, territorial behavior, and personal space, and is required for a person to feel related to and emotionally attached to that space. According to Sundstrom [34], personalization describes the display of personal or work-related items or the arrangement of the workspace to distinguish the occupant from others. Personalization of space refers to the purposeful ornamentation, decoration, modification, or rearrangement of an environment by its users to reflect their individual identities [28]. Personalization as a form of identity is used to differentiate oneself from others and to mark work-related and personal issues. This can include someone's status (group), boundaries, satisfaction, job performance, interests, and life outside of work [35]. Personalization is also related to organizational issues, such as employee status, workspace quality, and policies [30]. Approximately 70% of American workers personalize their workspaces. Some employees, such as managers and employees with enclosed offices, personalize more than others [36, 37]. There are also gender differences in personalization: women personalize their workspaces more than men and with different items and for different reasons [38].

2.3 Integration of AI Tools into the Design Education

AI-based tools, neural networks, and large language models have generated a lot of buzz in the last year, with the release of ChatGPT (GPT 3.5) at the end of 2022 being the pinnacle [39]. ChatGPT is one of the Generative AI (GAI) tools. Generative modeling artificial intelligence (GAI) is an unsupervised or partially supervised machine learning framework that generates manmade relics via the use of statistics, probabilities, etc. [40]. ChatGPT is short for Chat Generative Pre-training Transformer, is a text generation tool created by OpenAI [41]. There are also GAI tools on the text-to-image side, such as Midjourney and DALL-E. These tools have been used in the field of AI-generated art and imaging to create original music and paintings that are indistinguishable from those produced by human designers and artists [39]. DALL-E, Midjourney, and other similar systems generate original synthetic images as captions for input text [42].

AI-supported tools like Midjourney and Dall-e offer significant advantages to designers by delivering prompt and efficient design recommendations, minimizing time and cost expenditures. Through enhancing the efficiency of the design process, these technologies contribute to the development of more innovative and creative designs. Furthermore, as these tools operate as AI-supported platforms capable of generating images from text, they facilitate the rapid provision of personalized design suggestions tailored to specific requests and requirements [43].

The impact of AI-supported applications, such as Midjourney and Dall-e, on interior architecture education is a topic with positive aspects. These applications empower students to work more swiftly and effectively in the design phase, fostering increased creativity. For instance, Midjourney enables students to immerse themselves in a virtual reality environment to experience and evaluate their designs. Recognizing the potential benefits, many educational institutions and educators are encouraging students to embrace and leverage AI technologies [43]. A literature review revealed that students involved in a master's thesis on " Evaluation of the

Interaction of Artificial Intelligence and Space Design in Today's Design Education" displayed awareness of artificial intelligence. These students demonstrated an openness to development and change, along with a curiosity about the subject [44]. The intention behind incorporating AI in education is to equip students with practical problem-solving skills while bridging the realms of design and technology [43].

Although AI in education is frequently touted as an emerging field in educational technology, many educators are unsure of how to fully utilize the technology in the classroom [45]. For this reason, in the course covered by this study, course content that included AI tools was created, and students' projects were presented as a case study.

3. Material & Method

3.1 Design Project

This project was developed as a warm-up assignment and covered one week of the 15-week semester. The assignment was completed in two course days, including the development of two critiques from the course instructors. In this study, students were required to use AI design tools to create a conceptual office design for one of the "Avrupa Yakası" TV Series characters. As AI would be used in students' main project for the semester in the course, the warm-up project served as their first introduction to its use. Within the context of the course, students were presented with the usage of different AI types in the Midjourney and DALL-E platforms. In the presentations, we informed students about how to create a proper prompt which helps AI tool to create an image and use it in the right word combination. In this context, the present study's source materials were the prompts that students developed and the conceptual office images created via AI design tools according to the students' prompts by junior class students in the Interior Architecture and Environmental Design Department of Antalya Bilim University (Turkey) as part of the "Interior Design Studio VI" course.

By incorporating artificial intelligence into education technology, we want to teach students about the existence of artificial intelligence and how visual artificial intelligence tools can be used. Students were asked to improve their analysis skills for spaces and to acquire the ability to write prompts to artificial intelligence until they reached the visual they wanted.

Thus, in the course covered by this study, course contents including artificial intelligence tools were created and students' projects were presented as case studies. This warm-up project thus created an opportunity for students to get to know the artificial intelligence tools that they will use in their term projects.

3.2 Participants

A total of 32 students were enrolled in the course. Each student evaluated this assignment independently. At the end of the assignment, 32 office designs were evaluated by the course instructors based on the character choice from the TV series,

the ability to understand and define the figure, AI usage, the ability to understand the image created via AI, and the ability to create a design accordingly. Since it was not possible to include all design products in the present study, 12 office designs and 4 characters with enough unique features were selected to create a space. These characters are two male and two female characters: the male characters are Burhan Altıntop and Cem Onaran, and the female characters are Şahika Koçarlanlı and Selin Yerebakan. For each TV character, the designs of the three students who produced the best interior visuals for the character's characteristics were selected. Because gender differences affect the level of personalization in the space, an equal number of TV characters were added to the study's methodology.

3.3 Method

The path that the students took in this process is shown in *Figure 1*.

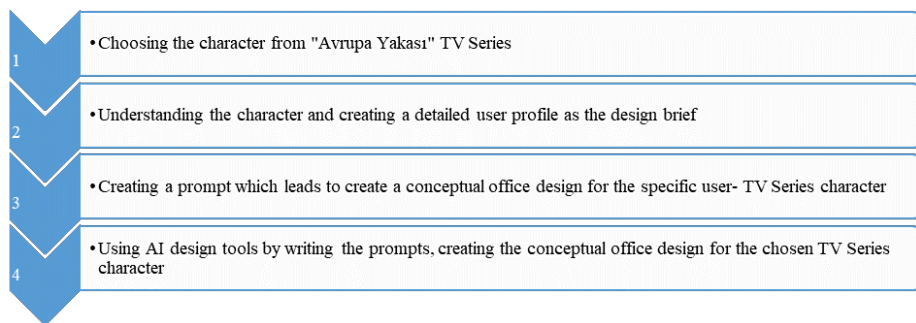


Fig. 1. Students' Path in the Assignment.

The path that the authors took in the analysis process is shown in *Figure 2*.

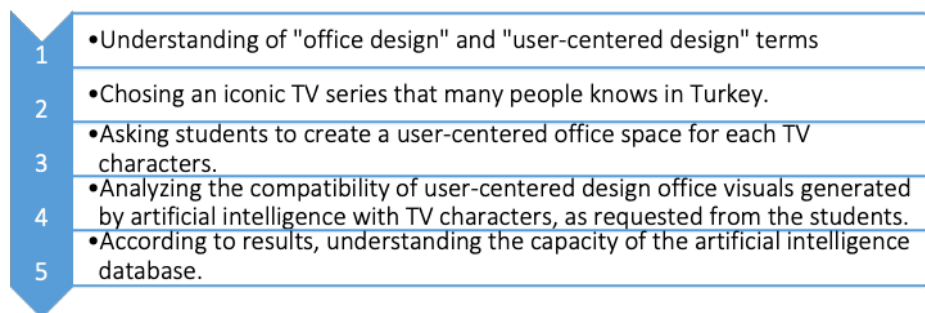


Fig. 2. Analysing Path

In the paper, an in-depth comprehension of the concepts of "office design" and "user-centered design" is paramount. The assignment begins with the selection of an iconic Turkish TV series, widely recognized by the populace. Subsequently, students are

tasked with the creation of user-centered office spaces tailored to the distinct personas of four character within the chosen series. This involves a meticulous examination of the characters' traits, preferences, and professional requisites to ensure a nuanced and personalized design approach. The next phase of the project involves the utilization of artificial intelligence to generate visuals for the proposed user-centered office spaces. The objective is to assess the compatibility between the principles of user-centered design and the aesthetic output generated by artificial intelligence. Students are further instructed to rigorously analyze the results, scrutinizing the harmony or potential dissonance between the designed spaces and the unique characteristics of the TV characters. The conclusive aspect of the assignment hinges on a comprehensive evaluation of the artificial intelligence database's efficacy in translating abstract design principles into tangible visual representations. The overarching goal is to ascertain whether the current capacity of the artificial intelligence database is sufficient for the intricacies demanded by user-centered design or if further advancements are necessary.

4. Findings

4.1 Characters and Office Designs Created via AI

Character 1: Şahika KOÇARSLANLI. Since the character of Şahika is already a burlesque persona, she is the representation of the very wealthy upper class, fond of fashion and ostentatiousness [6]. Her appearance was exaggerated by the production team so that she could express herself clearly to the audience. With this character who appears before the audience as a tasteless and ugly version of an avant-garde fashion icon, it is emphasized that an elite aesthetic understanding cannot be bought. Moreover, with the persona of Şahika whose attitudes and habits are all exaggerated, the vulgar riches of the period are humorously criticized (Table 1).

Table 1. “Şahika Koçarslanlı” and Main Characteristics [46], [47], [48].

ONE OF THE CHARACTERS IN “AVRUPA YAKASI” TV SERIES: ŞAHİKA KOÇARSLANLI	CHARACTERISTICS
	<ul style="list-style-type: none"> • Co-owner of the magazine • Ratty • Nouveau riche • Shopaholic • Lahmacun eating addiction • Showy • Wears leopard print, gold, and red/black tones • Super model wanna be • Ugly/ rude/ raw

When the image in Table 2-A and its prompt are examined (Table 2), it is determined that the words "interior space, office room, money, showy, ratty, old style, 3d visual" are entered into the system. Accordingly, AI created an office render in line with the words "office room" and "3d visual" in the prompt. However, it is seen that it has created the office render by putting a stainless steel four armed star swivel-based office chair with a quilted backrest in the lead, which can be described as a 70's style flashy but drab and eclectic boss chair. In the 1970s, the primary material choice for furniture often leaned towards metal due to its perceived long-term productivity [49]. This decision might have been influenced by the association of terms like "money, showy, ratty, old style" from the prompt, which were reflected through the design of seating elements. It is also acknowledged that it's important to recognize the evident link between office space and its corresponding seating components. These relationships, which are significant for definitions, are created as a result of system feedback. In support of the "old style" input, AI has also added the wood paneling wall application to the render which is suitable for the same period and frequently applied in offices. The prevalence of wood production in the 1970's [49] is one of the important reasons for this system. In the render, the impression is created that the floor and ceiling are similarly covered for show. However, computers at the time covered the subject could only use audio and video in addition to text and graphics [50]. Regardless of this, an up-to-date computer screen is included in the render as a support for the office environment, whatever the period. According to this, it has been seen that there is also a relationship between the office and the screen duo as well. As a result, the fact that this office space, described with a prompt, is structured in the style of the 70's even though it is not written on the prompt, shows that the words "showy, ugly, old style" can be used for the 70's spatial design as a result of the system feedbacks when the time period is not specified.

For the image in Table 2-B, a space description was made using the prompt "Luxurious glittering office interior with red details, luxury, modern, private space, leopard print accessory", since the character of Şahika is with atypical attitudes, the new Anatolian rich, living in luxury and using the power of money to the fullest [9]. Based on the general appearance, a private room was created to fit the character's role in the TV series, within a spatial set up based on the character's black and red dyed hair and leopard-patterned, golden glittering clothes. Here, as it is seen in the render, AI has placed the chair in the leading role again. As a result of the combination of "office interior" and "modern" elements within the prompt, along with the elements of "Luxurious glitter, red details, private space," an image reminiscent of the "Model MG5 Centro Studi desk chair designed by Mart Stam & Marcel Breuer" was generated. Taking inspiration from luxury market products, this adaptation of the chair, which involves various variations [51], features red glossy leather and gold embroidery, paired with a sleek black granite office table. AI has supported this "table and chair" duo with brass profilers and lighting elements. It has created a wall design in dark colors in the background to emphasize the glowing details. Here, a render suitable for the "private space" entry was created for the space, which was created in an eclectic style independent of the time period. The entry "leopard print accessory" has found a place in the background as a leopard painting. For this character, it has been observed that the attempt to create a prompt based on the physical appearance yields more successful results compared to other examples.


Considering the image in Table 2-C, the prompt “an office room with leopard print feather pillows on top of a black leather sofa, a purple lampshade, a crazy painting, a high ceiling and a gold color” appears to be in a shape of a brief description of the space imagined for this character. Unexpectedly, AI has created a prompt compatible render for this example and took a black, modern, plain designed leather office chair in the center of rendering, but it blended the inputs "leopard print feather pillows on top of a black leather sofa" and "a gold color" to create a gold-looking leopard print for the pillows. On the contrary, the original leopard print requested for the pillow was processed with the input of “a crazy painting” by abstracting it through 3 paintings in the background. The input “a purple lampshade” is expressed by processing the purple color on the wall and reflecting from there, falling on the light-colored lamp shadings. Here, it can be thought that there is data that the lamp shading image is generally light in the feedback of the system. The expression “a high ceiling” in the prompt is also expressed by simply leaving the ceiling out of the frame. On the other hand, although it is not included in the prompt, a very symmetrical image has been created. However, the white tray positioned asymmetrically on the leather pouf seating element, which is used as a coffee table, contributed to the natural look of the space as if it were a real place in use.

Table 2. Students’ Office Designs for “Şahika Koçarslanlı” Created via AI According to Prompts

PROMPT	OFFICE DESIGN CREATED VIA AI	PROMPT	OFFICE DESIGN CREATED VIA AI
<p>A- interior space, office room, money, showy, ratty, old style, 3d visual</p>		<p>C- an office room with leopard print feather pillows on top of a black leather sofa, a purple lampshade, a crazy painting, a high ceiling and a gold color</p>	
<p>B- Luxurious glittering office interior with red details, luxury, modern, private space, leopard print accessory</p>			

Character 2: Burhan ALTINTOP. Since the character of Burhan is the backbone of the TV series, his past, daily life and obsessions are exaggerated and revealed. Therefore, Burhan's spaces are also caricatured to be on the border of vulgarity and rusticity (Table 3). Accordingly, a Burhan Altintop style has created by the production team that reflects a design approach in which the conservative habits and uneducated aesthetic vision of a person who has come to a big city from the countryside and tries to look modern by rejecting their traditional features [6], [7], are kneaded with an effort to prove himself, consists of design elements and kitch decorative details that contradict each other and even come together in a disturbing way. In this context, it is observed that the descriptions of the cloakroom and living room in Burhan's apartment appearing in the TV series, exceeding his personality traits and give more appropriate results for the office space designed for him. These elements were also tried to be described in student studies (Table 4).

Table 3. “Burhan Altintop” and Main Characteristics [52], [53], [54].

ONE OF THE CHARACTERS IN “AVRUPA YAKASI” TV SERIES: BURHAN ALTINTOP	CHARACTERISTICS
	<ul style="list-style-type: none"> • Head of administration office of the magazine • From rural city "Tokat" but he claims he is an uptown person "Istanbul Nişantaşı boy". • Graduated from an open education. • Cleaning freak • Panic-attack sufferer • Ratty • Money lover, gold digger



When the image in Table 4-A, one of the office designs created for Burhan's character, is examined, it is seen that a prompt is entered for the image as “Burhan Altintop, Avrupa Yakası office, office room with red colored walls, office furniture with Turkish lace covers”. This prompt is quite superficial in content. It is devoid of descriptions such as space, appearance or personality. Here, the AI was expected to know this character and to present an office design within the decor, ambiance and style of the TV series. In addition, 2 illustrative inputs were entered as “office room with red colored walls” and “office furniture with Turkish lace covers” in the prompt. Here, although the general ambient color of Burhan spaces in the TV series was tried to be matched, the render created remained superficial as its’ prompt. Blending the embroidery of lace in the input “office furniture with Turkish lace covers” and the red color in the input “office room with red colored walls”, AI has covered the floor and the chair by creating rug-like surfaces that match the “Turkish” input while proposing the “lion leg” table, which can be regarded as an embroidered antique in Turkey, with an eclectic office chair used together. From this, it can be concluded that as a result of system feedback, tables with lion legs can be considered as furniture associated with


Turkey as can be understood from Özgüç's article named “Excavations at Altıntepe”. Moreover [55], “rug” seems to have a stronger relationship with Turkish style design attitudes [56], rather than decorative laces.

The prompt created for the image in Table 4-B was entered as “office interior design, Turkish style, highly detailed, ornate desks, ruche, velvet curtains, man with his own paintings on the red wall”. When the render is examined, an eclectic roll top study table with lathe work legs was created with the input of “highly detailed, ornate desks”. At the same time, decorative frames with exaggerated embroidery were added to the walls and it can be claimed that the “Turkish style” input is expressed in organic shaped elements with decorative gold leaf. It is seen that the inputs of "ruche" and "red wall" were combined and applied as wallpaper by the AI. The image, dominated by red color, was created in the consistency of illustration rather than a realistic image, since it is not defined in the prompt content. A more detailed result was obtained with this prompt, which describes how the place will be rather than the character's image or personality traits.

When the image in Table 4-C and its prompts are examined, it is seen that the prompt entry is “Victorian furniture, gilded desks and chairs, velvet curtains, man with his own paintings on the red wall, office interior design”. It is understood that the living room images of the character's house were taken into consideration while the student was creating this prompt. Considering the decorative curtains and lace covers, the embroidered furniture, the red wall color and carpet [57], it was envisaged that the Victorian style office design would be appropriate. In regard to the input “Victorian furniture, gilded desks and chairs”, a work desk resembling the imposing dining tables of the period and an eclectic office chair were created. The “velvet curtains” input was expressed in red color in accordance with the decorative curtain concept which gathered on the sides of the period [57]. On the other hand, the decorative gold leaf frame on the red wall is eclectic and independent of Victorian period. Likewise, the pattern of the carpet on the floor does not reflect the period. However, in the AI database, it can be said that there is a match between the “Victorian style” input and the clichés of the period such as ornament and carpet.


Table 4. Students’ Office Designs for “Burhan Altıntop” Created via AI According to Prompts

PROMPT	OFFICE DESIGN CREATED VIA AI	PROMPT	OFFICE DESIGN CREATED VIA AI
<p>A- Burhan Altıntop, Avrupa Yakası office, office room with red colored walls, office furniture</p>		<p>B- office interior design, Turkish style, highly detailed, ornate desks, ruche, velvet curtains, man with his own paintings on the red wall</p>	

with Turkish lace covers.		C- Victorian furniture, gilded desks and chairs, velvet curtains, man with his own paintings on the red wall, office interior design	
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Character 3: Selin YEREBAKAN. Selin is a spoiled, childish and unconscious youth in popular culture and the society. She is a “wannabe” character who is more inclined to the expensive rather than the elite, fond of brands and shopping [9] and does not have a unique aesthetic sense. In this context, office designs produced with prompts, depicting her accessories, colorful clothes that attract attention and childlike [8] character can be considered more suitable for the character.

Table 5. “Selin Yerebakan” and Main Characteristics [58], [59], [60].

ONE OF THE CHARACTERS IN “AVRUPA YAKASI” TV SERIES: SELİN YEREBAKAN	CHARACTERISTICS
	<ul style="list-style-type: none"> • Daughter of the other co-owner of the magazine • Youngest staff in the magazine • Rich • Spoiled • Loves vivid colors and plushy • Ratty • Ignorant • Naive • Privileged by father • Childish/immature



From the images produced for the character of Selin, when the image in Table 6-A is analyzed, it is seen that a list of crowded descriptions is created as a prompt. All the details and elements that are thought to be liked by this character are included and the office environment is roughly described. But basically, the student was considering the pink feather pen in the first place as it is at the beginning of the list right after the “8k, realistic office photo, ultra-realistic renderings” inputs which also has many images on the internet together with the character. While creating this image, AI has suggested a realistic space by considering the input “8k, realistic office photo, ultra-realistic renderings”. In addition, it built the office environment on the color pink,

taking into account the inputs “furry details, decorative lighting elements”, “furry armchairs, laptop on the work desk”, “flowers”, “shiny marble floors”. However, although it is not in the prompt, it is seen that an office chair without wheels is positioned on a pink plush carpet and this is not practical for office use. Here, it can be concluded that the AI image generator can ignore the solutions of realistic problems. On the other hand, it is seen that not all of the other entries in the prompt are included or that they do not have a significant effect on the render. In this context, it is understood that not every word written for prompt may have a response.

When the image in Table 6-B and the prompt created for this image are examined, it is seen that a prompt entry, which can also be considered as crowded, has been created and the prompt was produced based on the concept of a pink fluffy pen by the student. For this image, a realistic render was obtained with the inputs "8k, realistic office photo, ultra-realistic render". A vanity-centered space design by blending “furry details, decorative lighting elements, office desk, furry armchairs, laptop on the work desk” with “makeup mirror, pink furry wall decorations, wall decorations, mirror, office chairs” by AI was created. In this context, it is seen that the inputs "fun tables, large desk, large office space" are ignored. Thus, a place that can be expressed as a private room rather than an office space or even a residential room has been proposed. The use of pink with blue in this place was envisaged by AI, although it was not written in the prompt. It is seen that the selection of a floor material that can shine for the “bright items” input and the additions such as daylight and window opening that will cause this were also designed by AI. Thus, it can be said that the AI mechanism operates on a set of predetermined generalizations and matches. On the other hand, it shows that the computer screen standing in a position with its back to the user and looking into the mirror can also contradict AI fictions with simple everyday logic.

For the image in Table 6-C, it is seen that a prompt was created mainly in line with the characteristic and spatial descriptions that are thought to be suitable for the character of Selin, and again considering the character's pink feather pen. Considering the inputs “garish, funny, colorful, pink, feminine, cheerful, feathered, standing lamp”, AI suggested the spatial design with a standing lamp in line with these definitions as the leading role. However, although it was not described in the prompt, AI has separated the “lamp” input and reconsidered it together with the “Luxury” input, and included various lighting applications embroidered on the ceiling. On the other hand, the “feminine” input was expressed through the elements of a pink sofa, feathered lamp and plush carpet. The “Luxury” input is also expressed by a plush carpet on a granite glossy floor and a modern “Chester” adaptation quilted sofa in pink color with geometric lines and metal footings. In addition, this space with high ceilings, large volumes and wide window openings creates the feeling of a redesigned industrial volume. AI found this type of space design appropriate to support the input "Luxury" even though it was not written in the prompt. In this context, it can be concluded that the concept of transforming industrial spaces according to the AI database might be considered as a luxury attitude. Moreover, it is understood that the leather sofa with modern lines, the carpet application on the glossy floor, the processed high ceiling, the large volume [61] and the wide window opening can also be presented by AI as luxury items.

Table 6. Students’ Office Designs for “Selin Yerebakan” Created via AI According to Prompts

PROMPT	OFFICE DESIGN CREATED VIA AI	PROMPT	OFFICE DESIGN CREATED VIA AI
<p>A- 8k, realistic office photo, ultra-realistic renderings, colorful, furry details, decorative lighting elements, office desk, furry armchairs, laptop on the work desk, interior design, work area design, a large work desk, large office space, office desk flowers, shiny stuff, magazines, vanity mirror, wall hangings pink hairy, mirror, furry details, decorative lighting elements, real pictures, glazed office space, shiny marble floors, a magazine in the library, seating groups, work desks 7</p>		<p>B- 8k, realistic office photo, ultra-realistic render, colorful, furry details, decorative lighting elements, office desk, furry arm chairs, laptop on the work desk, fun tables, large desk, large office space, flowers on the office desk, bright items, magazines, makeup mirror, pink furry wall decorations, mirror, office chairs</p>	
		<p>C- Luxury, garish, fresh, magnificent, funny, feathered, colorful, pink, feminine, cheerful, feathered, standing lamp</p>	

Character 4: Cem ONARAN. The character of Cem, who is the depiction of an educated and contemporary persona, has a relatively developed aesthetic understanding with the contribution of the elite aristocratic environment in which he grew up and the photography education he received [7, 8]. This character, who is actually the general manager, does photography as a hobby. However, due to the scenario, his hobby has become his main profession. It can be thought that Cem has a modern minimalist and cozy design approach with his New York background, neutral image, calm, reasonable and sincere attitudes. In this context, different office designs were produced according to the identities of the photographer and general manager in the TV series. It is observed that the identity of the photographer produces office designs that are more suitable for the character.

Table 7. “Cem Onaran” and Main Characteristics [62], [63], [64].

ONE OF THE CHARACTERS IN “AVRUPA YAKASI” TV SERIES: CEM ONARAN	CHARACTERISTICS
	<ul style="list-style-type: none"> • Former general manager/ photographer of the magazine • Graduated from university in New York/USA • Sophisticated • Mr. Nice Guy • Intellectual




When the image in Table 8-A and its prompt were examined, it is seen that a modern interior architecture style is depicted through a minimalist perspective with the inputs of “Minimalist office design in a large space with geometrical shapes, sustainable materials, big windows, wooden materials, natural light, concrete floor, abstract artworks”. Here, Cem’s profession is not specified in the prompt. However, AI has created a designer studio or artist atelier like space for multiple functions or users even it was not written in the prompt. Accordingly, it can be claimed that minimalist office design and industrial atelier like spaces can be matched in the algorithm of the AI. On the other hand, angled design attitude seen at the window openings and at the table design that brings movement to the atmosphere can also be considered in the minimalist design understanding according to the AI feedbacks. Furthermore, in contrast with the previous office creation renders, the seating element here is not leading the image. Therefore, it can be said that a studio environment is not based on seated working action as it is in the office environment according to the AI feedbacks.

When the image in Table 8-B is examined, it is seen that a home-style cozy study room and a library wall integrated into this room are created rather than a functional photography workshop. It is seen that the inputs “modern and minimalist interior style” in the prompt have been accepted by AI as the primary factor in how the space will be created, and accordingly, the Scandinavian style frame furniture type has been proposed in the render of a “IKEA “style study room. With the structure and veneered table tops, wooden parquet floor, warm tones that dominate the entire place, the feeling of being out of the product catalog of the brand is created, where the texture of the wood can be perceived. Another factor affecting this situation is the input "real appearance", which is also in the prompt. Therefore, the realistic rendering effect is constructed with angled afternoon sky light and the shadows created by this light. The “library” input is included in the space as a frame furniture with shelves, which are contrasted with the general colors of the room and whose presence is emphasized with its dark color. It seems to be in harmony with the general atmosphere. On the other hand, the input of "Photographer" has interpreted through input of "modern" to be treated as digital photography and represented by a computer screen.

When the image in Table 8-C and its prompt are examined, it is felt that the primary input in the creation of this space is “masculine” in the prompt, since the surfaces that make up the space are generally generated in black and dark tones,

almost monochrome offering a relatively formal design that avoids different color contrasts. Accordingly, word “masculine” seems to be matched with the dark tones in the AI data base. The floor and the table are seen as a patterned glossy granite in the office environment that is intended to be set up with the inputs of “office design with black marble desk, led lights, industrial ceiling, marble floor” in the prompt. The ceiling, which is defined with the input of “Industrial ceiling”, has a style where the cables can be seen in exposed form [65]. Here, AI has preferred to express the input of “Industrial ceiling” through an exposed ceiling design. Therefore, it can be claimed that there is a bound between industrial ceiling and exposed style in the AI database. In addition, a world map suggestion was made on the wall for the "Office" input, and it was fictionalized by AI that there could be a world map in office design, although it was not written in the prompt. Therefore, it is understood that another correlation was made between office and world map duo in the AI database just as the office space and multiple employees since it has generated a double seated office table for 2 users. The input of “realistic render” in the prompt has caused a realistic atmosphere with the daylight at the first place and with the support of “led lights” input which brought an artificial illumination in to the space, the realistic ambiance was balanced as if it was an ordinary interior design render. Therefore, it can be claimed that words “realistic render” and “daylight” are matched in the AI database.

Table 8. Students’ Office Designs for “Cem Onaran” Created via AI According to Prompts

PROMPT	OFFICE DESIGN CREATED VIA AI	PROMPT	OFFICE DESIGN CREATED VIA AI
<p>A- Minimalist office design in a large space with geometrical shapes, sustainable materials, big windows, wooden materials, natural light, concrete floor, abstract artworks</p>		<p>B- Modern and minimalist interior style with a library, photographer, real appearance</p> <p>C- masculine interior office design with black marble desk, led lights, industrial ceiling, marble floor, unreal engine, realistic render, 8K, 16:9</p>	 

5. Conclusion

With this study, we understand that the process of generating interior design renders through AI involves a complex interplay between provided prompts and the system's pre-existing knowledge. The AI's responses are shaped by various factors, including design styles, thematic elements, and contextual cues present in the prompts. The AI demonstrates the ability to match certain keywords and concepts with corresponding design elements from its database. This often leads to renderings that align with the intended style or ambiance, mostly related to the spatial features even if not explicitly mentioned in the prompt. However, although some descriptions exist in the AI system that provide general information, it has been observed that in detailed images, the provided information is lacking. For instance, among the defined words related to the Victorian era, there are terms like "rug" and "red color"; however, in the visual response given by AI, it can be seen that the patterns within the rug are not from the Victorian era. In this context, it is understood that not every word written for prompt may have a response. This indicates that the AI database lacks a sufficient amount of detailed information, therefore, the development of the database is necessary.

The AI's responses reflect its capacity to link certain design characteristics with particular eras or themes, such as the incorporation of 70s-style elements when terms like "old style" or "flashy" are used. The office space, described with the words "interior space, office room, money, showy, ratty, old style, 3d visual", is structured in the style of the 70's even though it is not written on the prompt, shows that the words "showy, ugly, old style" can be used for the 70's spatial design as a result of the system feedbacks when the time period is not specified. Thus, it's seen that the AI's sensitivity to keywords results in the selection of suitable materials, colors, and patterns, such as the use of wood paneling and leopard print as described. The generated renders exhibit an ability to integrate a variety of inputs, creating cohesive designs based on the provided cues. However, it's worth noting that the AI's responses can occasionally lack practicality or overlook certain aspects of real-world functionality. In some cases, elements that seem contradictory or incompatible are included in the renders due to the system's focus on keyword matching and thematic consistency.

According to the findings of this study, AI's tendency to prioritize thematic alignment over real-world feasibility. The example discussed in the findings section, the AI incorporated various details and elements to describe a rough office environment that Selin character might like. However, the AI's response centered on the pink feather pen, placed prominently due to its early position in the list. By considering inputs like "8k, realistic office photo, ultra-realistic renderings," the AI aimed to create a realistic space. The office was designed with a pink theme, considering inputs such as "furry details, decorative lighting elements," and more. Despite the comprehensive prompt, practical considerations were sometimes overlooked, as seen with the placement of a wheeled-less office chair on a pink plush carpet. Additionally, not all prompt entries had a significant impact on the final rendering, underscoring that not every word receives a response from the AI.

Prompts created suitable space designs for each character, in general terms. However, when we went into detail, it was understood that the definitions in the memory of artificial intelligence were insufficient. For example, the expressions used

to create a special room that reflects the personality of the character, "Luxury sparkly office interior with red detail, luxury, modern, private space, leopard print accessories", artificial intelligence, "office interior", "modern", "luxury glow" and "red details" to create an image reminiscent of the "Model MG5 Centro Studi desk chair designed by Mart Stam & Marcel Breuer". The render featured an elegant black granite office desk, brass profiles and dark wall designs. This shows that the focus of artificial intelligence on the design of the chair stands out in harmony with the distinctive features of the character. This reveals the existence of user-centered design creation.

To sum up, the ability of artificial intelligence to translate textual clues into visual designs, model recognition and revealing unwritten words with its own interpretation means the development of the AI database. Due to the lack of definitions in memory of certain styles, moods and thematic elements, it cannot adequately reveal it and brings different propositions. Although it is predicted that AI will serve as a valuable tool for creating various interior design concepts, offering creative inspiration and ideas to designers and enthusiasts alike, the development of AI database is an inevitable reality.

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