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Between Virtual Space and Real Space: Transition Spaces

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Abstract

The space that is virtual in the planning processes is the one that is not experienced physically. With unlimited changes in virtual space 2/3 dimensional sketches/drawings, the desired location is reached in a short time. The structures which are implemented, after the planning process had finished, space is now a real space that can be experienced physically, its boundaries are defined and transformed. However, unlike virtual space, it may require serious cost and time for changes caused by small errors, revisions, or needs that will occur. Starting from this point, decoupling between the transitional spaces in the virtual and real space are described in the study. The main emphasis of the study is to explain how to transition spaces are separated from virtual and real spaces and what are their advantages and disadvantages during use with selected examples. The empirical method, which is one of the quantitative research types, was used. First of all, the meaning pattern of the concept of space was examined within the framework of the concept definitions of virtuality, reality, and transitivity. Virtual, real, and transitional spaces are explained by literature surveys. The transition locations were analyzed with selected samples. As a result, when the characteristics of the spaces are compared, it is seen that the transition spaces, with their flexibility, easy changeability, limitlessness, and timelessness, can analyze the spaces needed before building new buildings. It has been seen that the transition from the physical being space to another space and the space in which the transition is made can be experienced mentally.

Keywords: *Virtual Space, real space, transition space.*

Sanal Mekân ve Gerçek Mekân Ara Kesitinde: Geçiş Mekanlar

Öz

Planlama süreçlerinde sanal olan mekân, fizikken deneyimlenmeyen zihnen 2/3 boyutlu eskiz/çizimlerle sınırsız değişiklikle kısa sürede istenen mekân çözümlerine ulaşılabilir. Planlama sürecinden sonra uygulanan yapılarda mekân artık fizikken deneyimlenebilen sınırları belli ve dönüşebilen gerçek mekanlardır. Fakat yapılacak küçük hatalardan, revizelerden veya ihtiyaçlardan kaynaklı değişimler için sanal mekândan farklı olarak ciddi maliyet ve zaman gerektirebilir. Bu noktadan hareketle çalışmada sanal ve gerçek mekân ara kesitindeki geçiş mekanlar açıklanmıştır. Çalışmanın temel vurgusu geçiş mekanlarının, sanal ve gerçek mekândan nasıl ayrıldığını, kullanım süresince avantajlarının ve dezavantajlarının neler olduğunun seçilen örneklerle açıklanmasıdır. İlk olarak mekân kavramının anlam örüntüsü; sanallık, gerçeklik ve geçişlilik kavram tanımlamaları çerçevesinde incelenmiş; sanal, gerçek ve geçiş mekanlar literatür taramalarıyla açıklanmıştır. Geçiş mekanlar seçilen örneklerle analiz edilmiştir. Sonuç olarak mekanların özellikleri karşılaştırıldığında geçiş mekanlarının; esnekliği, kolay değişilebilirliği, sınırsızlığı ve zamansızlığıyla yeni binalar inşa etmeden ihtiyaç duyulan mekanların çözümlenebileceği fiziki olarak bulunulan mekândan başka mekâna geçişin ve geçiş yapılan mekânın zihnen deneyimlenebileceği görülmüştür.

Anahtar kelimeler: *Sanal mekân, gerçek mekân, geçiş mekân.*

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1. Introduction

The concept of space, which separates people from the environment in which they live with certain boundaries, has brought innovations to globalized life. Technological developments and industrialization that emerged with the industrial revolution started a new era in the World (Yalçınkaya & Karadeniz, 2022). Developing and changing technology has created a new space where there are quite a lot of interactions by giving digital qualities to the spaces. This human-space relationship, Harvey (2003), who argues that space is only a very effective dimension in a person's life without an ontological equivalent, states that social processes and spatial forms are shapes (Güngör, 2019). On the other hand, Soja (1996) talks about Lefebvre's third conceptualization of space based on the "spaces of representation". all the factors are together in this third-mentioned place. The subject of hybridity, in which coexistence is fictionalized in various forms without obvious distinctions such as subjective-objective, ordinary-unusual, and concrete-abstract, is emphasized. The transition spaces considered within the framework of the study are the spaces decoupled between abstract and concrete. In other words, they are existing or non-existent spaces that can arise in accordance with the need. When time, economy, and preintervention are considered, these structures have a minimum margin of error. They provide easy revision opportunities on projects. They are at the cross-section of experiencing the virtual without transforming without acquiring. The space covered in the study was compared over the selected structures. As a result, compared to other spaces, the differences and similarities of the characteristics of transition spaces are explained. It has been stated that transition spaces will turn into a great advantage for interior designers if it used correctly. Therefore, to understand transition spaces, it is necessary to explain the concepts of virtuality, virtual space, reality, real space, and transitivity.

1.1. Conceptual Definitions

To understand architecture and architectural spaces, space must first be perceived. It is important for people to have a perception of space and to know where it is (Ak, 2006). The ability of a person to perceive space does not consist only of its characteristics. It is also related to the characteristics of the place. Therefore, to understand space, it is necessary to define the physical and fictional characteristics of space. In this section, the concepts and definitions of space related to real space, virtual space, and transition spaces discussed within the scope of the research will be explained. Their characteristics and by which subheadings they are addressed will be expressed. The connections between them will be explained.

1.1.1. The concept of reality and real space

The concept of space, which has been explained in various ways in different disciplines throughout history, corresponds to the place, house, dormitory, and space found in the Dictionary of the Turkish Language Institution (2022). In the same dictionary, reality is defined as basic, principal, principal, and non-artificial. In architecture, reality can correspond to a concrete structure that exists physically, not an abstract one. Lowry (1967) explains physical space as a space that is measured and determined through geometric concepts. Real space, on the other hand, is defined as the space that can be perceived physically, whose boundaries can be determined, that can be physically found within the specified limits, and where it continues and terminates its life (Göktepe, 2013). In real space, place and time are not neglected. It is the transformation of architectural design into a real, physically experienced, concrete structure (Figure 1).

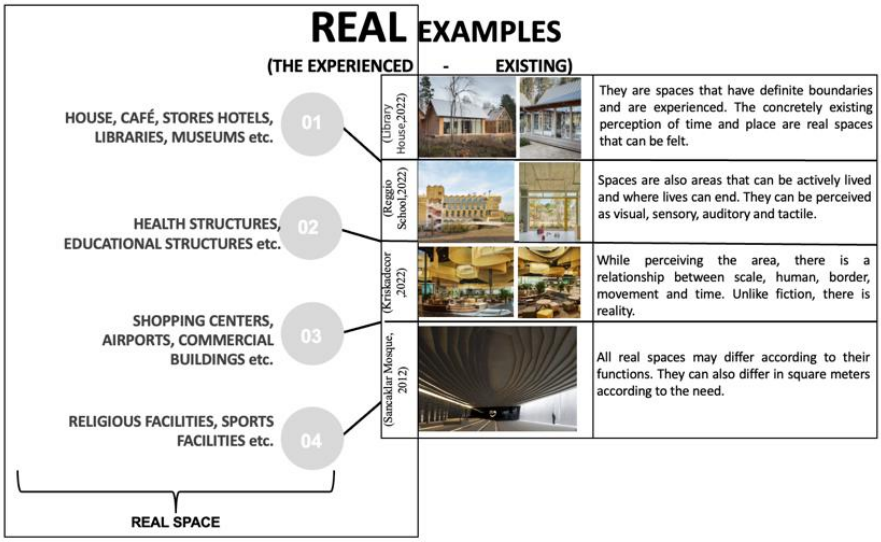


Figure 1. Realspace examples

Realspace; existing physical space is a space that can be perceived visually, dimensionally, auditorily, olfactorily, and tactilely by the user with five sensory organs. Visual perception gives faster and more effective results than our other sensory organs. Because the sense of vision allows more data flow compared to other senses (Yüntem, 2022). While dimensional perception is based on the human scale, auditory perception perceives positive or negative sounds, such as music, noise, or a human voice, coming to the ear. In olfactory perception, for example, it is the recollection of a place experienced through a previously experienced smell in another place when the same smell is encountered. In tactile perception, which is a complement to eye vision, direct contact and interaction with space is the issue. All perceptual sensations can be experienced in physical spaces.

1.1.2. Virtuality and virtual space concept

Before the modern period, the concepts of space and place were used with the same meanings (Güngör, 2019). According to Giddens (1999), with the capitalist economic outputs that dominate the modern period and the world as a whole, space has gone beyond being just a concrete concept and separated from face-to-face interaction. However, space, which is also separated from its physical properties, has become a concept that can be arranged and partitioned in the desired way at any time. The fact that the communication established together with the perception of the new digital culture has reached global dimensions has revealed virtual spaces.

The virtual concept (Kayapa, 2003), which is the opposite of the real concept and not the real concept, is one of the layers of reality (Güngör, 2019). While this concept is also the equivalent of reality, it is also equivalent to the intangible (Franck, 2000). Virtual space, on the other hand, is one with a floor independent of real space, where there are variations, there is no flexibility or distinctness, and there is no definition. There are no physical rules in this cyberspace, which has no boundaries and is free; it was created by thinking like a projection of real space, and there is a new order of reality (Güngör, 2019). Therefore, in this new reality, a space is formed whose boundaries are not defined and which is built without the need for physical shaping and where there are infinite parameters for change.

Time is frozen in virtual spaces. People are not in physical contact. There are forms in which there are no social encounters (Robins, 1999). According to Demirkaya (1999), virtual space: is an environment designed in an electronic environment that connects the level of perception of a person and the virtual level of digital information. However, some factors enable the perception of space in virtual space. Therefore, places that are not physically experienced, but allow a person to perceive space in 2 dimensions or 3 dimensions, can also be shown as examples of virtual spaces.

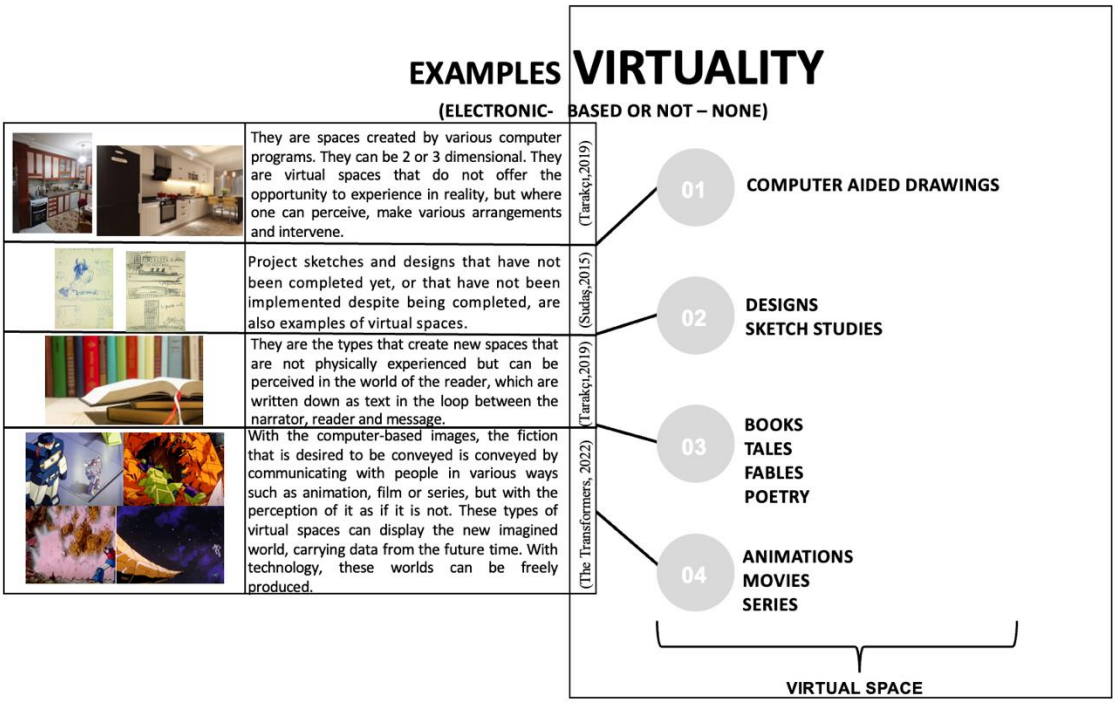


Figure 2. Virtual space examples

The framework of the virtual space considered in Figure 2 within the scope of the study is not just a world based on an electronic basis. In addition, it has been discussed within the framework of working in a space that can perceive a fictional space. For example, sketches that are at the design stage or completed by hand drawing, all 2-dimensional and 3-dimensional drawings created in computer-aided programs, books, fairy tales, fables, poems, animations, movies, or series, have been considered within the framework of virtual space. These spaces can be touched, deleted, changed, edited, and reproduced. In Figure 3, a comparison of real space and virtual space was given, and it was requested that you explain how it was handled within the scope of the study. The concrete, non-electronic environment of real space is space that can be experienced physically, have boundaries, does not change, and the perception of time and place can be grasped. Virtual spaces, on the other hand, are abstract spaces that can be produced with electronic media or can be fictionalized in 2 dimensions, have no boundaries, are dynamic, can be changed, and have no perception of time and place.

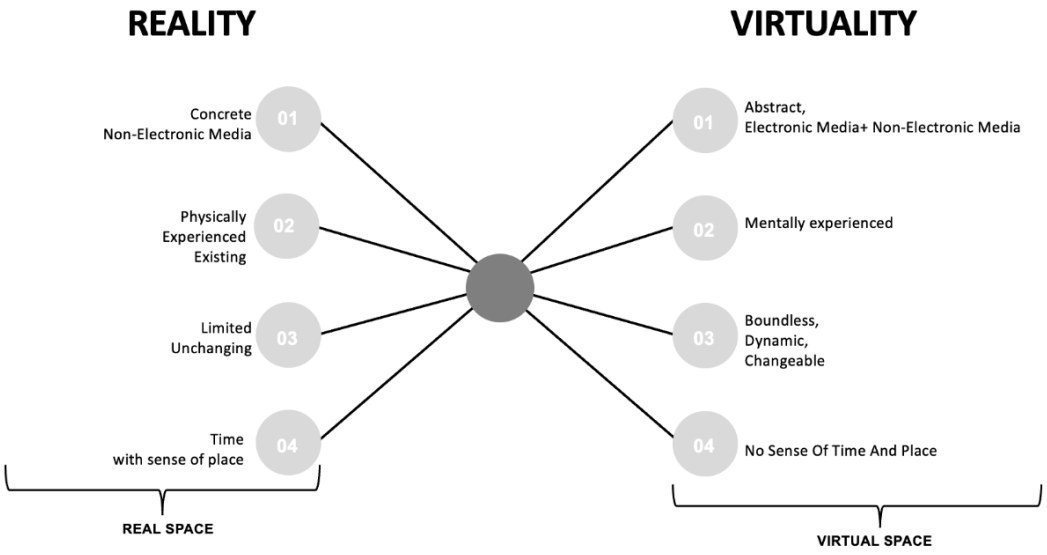


Figure 3. Realspace and virtual space comparison

Starting from this point, the concept of transitional space, which exists but can disappear, change and move, the perception of space and time varies depending on the user, an instantaneous transition from a physically located space to another space, should be explained in the decagonal of virtual space and real space.

1.1.3. Transitivity and the concept of transition space

The word transition is defined in the Dictionary of the Turkish Language Institution (2022); the verb transition is defined as a change in any situation, while transitivity corresponds to a transition state. It can be defined as changing between two states or connecting to the other. Transition space, on the other hand, Ak (2006) says that 'Reflection in the physical environment are cyber-experiences embedded in space and are invisible' In fact, it refers to a new type of space that changes and decays between real + virtual space. Within the scope of the study, transition space is considered as the existing-decaying spaces between the existing, concreteness mentioned in the real space and the abstraction that does not exist in the virtual space (Figure 4). It is the state of existence in another space with a mobile-enabled structure that allows people to physically move from the space they are into another space within the same boundaries, sometimes with or without computer-based movement structurally.

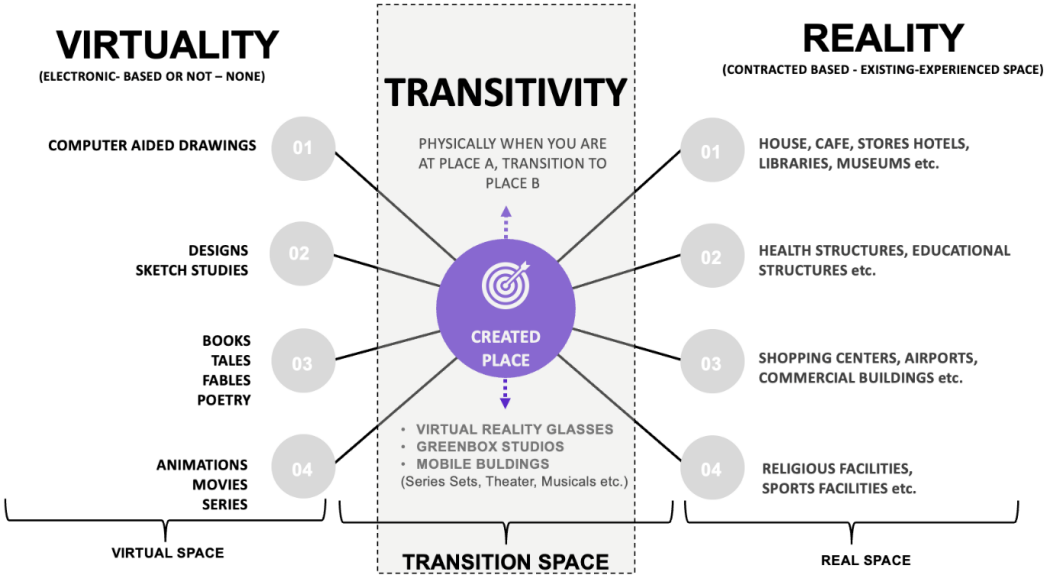


Figure 4. Between virtual space and real space: Transition spaces

2. Material and Method

Information related to the subject within the scope of the study data was collected through literature research. Numerous examples of real spaces, virtual spaces, and transition spaces. By compiling the information obtained through conceptual research, real space, virtual space, and transition spaces are mentioned. In this context, a sample group was formed. While making the selection, examples where the differences between the spaces used in the interior architecture can be explained and different visuals and explanations can be accessed were discussed. Another point (that) is taken into account when selecting samples is that they are created with tools that are often used today. Examples that can express the transition space well have been considered. The empirical method, which is one of the quantitative research types, was used. As a result of the examination, feature comparisons of the spaces in the real space, transition space, and virtual space examples are presented in the tables created.

3. Findings and Discussion

As an example of a transitional space, virtual reality glasses are an alternative presentation method used in design processes in different disciplines such as architecture, interior architecture, and city

planning. It consists of a case carrying the electronic part, glasses reflecting the screen, and a glove or controller that provides on-screen movement.

Table 1. Example of a transition space: Using virtual glasses (VR)

VIRTUAL REALITY GLASSES (VR)	
	Production Year: 1993
	Inventor: Ivan Sutherland
	Usage Area In Example: Interior Architecture
	Source: (Johanhanegraaf, 2019)

It offers the possibility of a semi-interactive space, such as experiencing it physically and mentally, walking around in it, and making changes. These glasses, which are distinguished by technology from long-time drawing techniques such as sketching, which are treated as a virtual space, save time. Another difference is that hearing and touch perceptions can be experienced with these glasses. The materials used in the real space in the transition spaces and the cost caused by technical errors in the application phase turn into an advantage in this space. With these glasses, which are more easily detected, errors can be seen in advance and prevented. Serious financial savings can be achieved in this way. Instant revisions can be made to the components and elements of the space. This can save time. The disadvantage is that it can lead to disorientation and eye fatigue during long-term use.

Real Space	**Transition Space**	**Virtual Space**
		
(Decorilla, 2016)	(Johanhanegraaf, 2019)	(Decorilla, 2016)

In Table 1, the use of virtual reality glasses, the difference between real/virtual space, advantages, disadvantages, and the way of handling the technology within the scope of the study are explained with visuals.

Greenbox Studios is a shooting trick achieved by overlapping two different images at the same time. In these studios, a special technique and green and blue colors are usually used.

Table 2. Example of a transition space: Greenbox studios

GREENBOX STUDIOS	
	Production Year:1940
	Inventor: Larry Butler
	Usage Area In Example: Studıo
	Source: (SelisMedya,2022)

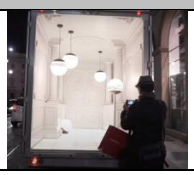
Although they are physically located in the same place, Greenbox Studios, which allows them to be in a different place with screen tricks, gives a real feeling in terms of sound and image. But touching and feeling are out of the question. The difference that distinguishes it from virtual space is that you can walk around in it and act as if you live in that space while also transporting a person to another place at the same time. There is a question of variability in time and speed in the change of location. In this example of a transitional space without borders, diversity, economy, and easy convertibility are among the great advantages. It requires good equipment and conscious use.

Real Space	**Transition Space**	**Virtual Space**
		
(Sanat Yapım, 2022)	(SelisMedya,2022)	(SelisMedya,2022)

In Table 2, the use of Greenbox Studio, its difference from real or virtual space, advantages, disadvantages, and the way it is handled within the scope of the study are explained with visuals.

Mobile stages are platforms that are ready-made stage systems that come about for entertainment, political, or commercial reasons. Scenes that are portable can be moved through a vehicle, as well as they can be resolved and transported as part of the vehicle's equipment. With the disassembly system, they can re-install and remove the structure with a short installation time. In this sense, these spaces, which save time by preventing a continuous new construction process, are solution-oriented, economical, and practical.

Table 3. Example of a transitional space: Mobile scenes

MOBILE SCENES	
	Production Year: 2016 Invert on: Lee Broom Usage Area In Example: Enstalasyon Studio Source: (Hobson,2016)
Mobile stages, studios, exhibitions, or theaters that are motion-enabled can be moved from one city to another city, as well as offer the possibility of moving from one place to another. The fact that a structure that exists (a vehicle or a micro-volume area) can disappear by moving or transforming and re-decking into another space, that is, it can be installed and dismantled, recreated, or replaced between existence and nonexistence during the process of virtualization, The decoupling of a scene shot on the TV series sets followed by another location shooting in the same area is an example of this variable or nonexistent transition space. This situation profits from time and cost, as well as destroying the perception of borders. Being mobile, which provides variety and functionality, can create changes in the perception of time and place.	
Real Space	**Transition Space** / **Virtual Space**
	 
(Hobson, 2016)	

In Table 3, the use of the mobile stage, its difference from real/virtual space, advantages, disadvantages, and the way of handling it within the scope of the study are explained with visuals.

4. Conclusion and Suggestions

Within the framework of the study, real space, virtual space, and transition spaces were conceptually explained and examined through examples. As a result of the study, the characteristics of the places are given in Table 4.

Table 4. Features of spaces

FEATURES OF SPACES		
Real Space	**Transition Space**	**Virtual Space**
Concrete	Concrete + Abstract	Abstract
Physically Experienced Existing Perception of time	Physically + Physically Experienced Between İmaginary space and existing Time variability, leap	Mentally Experienced Imaginart Space Time perception incomprehensible
Limited	Limited + Limitless	Limitless
Definite, permanent, unchanging 3D	Changeable, portable, mobile, temporary 3D+4D	Indefinite, changeable, fluid 2D+3D+4D
Material Not Electronically based	Material + Without material Electronic based+not based	Without material Electronic based+not based
Interactive	Interactive + Non-Interactive	Non- Interactive

Real spaces are concrete-based, physically experiential, existing, time and place perceptible, have boundaries, take a lot of time to change, are 3-dimensional, material, interactive, and non-electronic-

based spaces; Virtual spaces are abstract, mentally experienced, disappearing, time and place perception cannot be grasped, unlimited, fluid, changeable, uncertain, have different dimensions, and are electronically based or non-electronically based spaces; Transition spaces, on the other hand, can be experienced both abstractly and concretely, physically and mentally; there can be inter-existence, time variability, and deceleration; boundaries can be defined or unlimited; interactive or not; electronically based or not; changeable, portable, mobile, and temporary spaces. Table 5 shows the comparisons between the locations.

Table 5. Comparison of spaces

COMPARISON OF SPACES			
	Real Space	**Transition Space**	**Virtual Space**
Tactile Perception	✓	✓	-
Visual Perception	✓	✓	✓
Auditory Perception	✓	✓	-
Odor Perception	✓	-	-
Error Tolerance	-	✓	✓
Change in Desing (Revised)	-	✓	✓
Saving on time	-	✓	✓

While there is a completely direct relationship between the types of perception in physically experienced, existing real spaces, it seems that margins of error tolerance, design revisions, and time savings make it more difficult to make changes due to user requests or errors that occur than in other spaces. Transitional spaces are spaces that have a margin of error tolerance while addressing tactile, visual, auditory, and tactile perception sensations, and offer the opportunity to save time by revising the design. Thanks to the correct design, planning, and developing technology, it becomes easier to experience spaces, and being able to intervene and change them instantly reduces the error rate in practice and has a positive impact. With these interventions, time savings are provided, as well as an economically more advantageous situation will be achieved.

As a result, the planning process should be well-designed and considered before the space is created. Although the space that remains virtual during the planning process is not physically experienced, the desired interior solutions can be reached mentally with 2-dimensional sketches, drawings, or unlimited changes in the 3-dimensional environment in a short time. With this study conducted on transition spaces located in the virtuality and reality interface, it has been seen that the flexibility, ease of changeability, immensity, diversity, and timelessness of space facilitate the transition from a physically existing space to another space, where the necessary functions or spaces can be deciphered without building new buildings, and the space that is being transitioned can be experienced mentally. In addition, it is thought that marketing services in the architecture sector can be facilitated by the use of transition spaces, interventions in the spaces that people want can be faster and more practical, and errors can be minimized.

Acknowledgments and Information Note

The article complies with national and international research and publication ethics. The study also did not require the approval of the ethics committee.

Author Contribution and Conflict of Interest Declaration Information

Each author contributed to the article at the same rate. There is no conflict of interest.

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