The Effects Of Square Designs On User Behaviors: The Case Of Taksim Square

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Abstract
The squares as indispensable open spaces in the sociological, physiological and psychological context of urban life, not only create common platforms for various activities, but also serve as a communication space between the city and its residents. Human beings are the primary factor of the squares. How square designs affect user behaviors is a crucial question. Accordingly, the present study focused on Taksim Square, one of the important squares of the historical city of Istanbul in sociological, cultural, political, and economic terms, and investigated the relationship between design and user behavior in this particular square. The present study adopted an observational research construct, where the study data were captured on the map of the square as user and action inputs, and analyzed in the context of circulation and usage. The results were indicative of the fact that users might tend to use the square as a transit route in such square designs that fail to offer sufficient space for activities, functional diversity, and urban fixtures. Nevertheless, the squares attracted users and channeled them to spending more time in the square in cases when decorative elements, greenery elements, green textures, and seating units were included in the design.

Keywords
square design; user behaviors; Taksim square; spatial usage

1. Introduction

As an expression of public open spaces dedicated to the community of citizens, squares (Ali et al., 2019; Massaro at all., 2021) take different forms yet accommodating similar activities in different countries. The purpose of square organization is to ensure that individuals come together in larger groups in an open space (Giritlioğlu, 1991). Incorporating physical, social, aesthetic, economic, and political functions, the urban spaces serve as a vivid venue, where architecture and sociology intersect, where people can get rid of loneliness, participate in society, and create synergies (Çelik, Türkyılmaz, 2020; Zölch et al., 2019).

Squares are one of the important public spaces of the cities. These venues are spaces that reflect the identity and quality of the city, provide information about the history of the city, and have an important place in urban designs and planning. Furthermore, squares are also social spaces, where the city inhabitants can socialize, spend their leisure time, carry out their social activities, and mentally relax. Therefore, squares contribute to the generation of the society by preparing the medium for the communication between the individual and the society (Erdönmez Akı, 2005). As a matter of fact, the social impact of the square designs can be better understood when the interaction between the space and the user is taken into consideration. The purpose of the use of the square is to allow interpersonal relations and information exchange. The exchange of information and the mode of interaction may be of a regulated or unregulated nature. Regulated relationships imply interactions based on an order and use subject to certain rules, including official parades, exhibitions, and concerts, etc. Whereas, spontaneous activities that are not planned in advance, that are not subject to certain rules qualify for unregulated relationships (Giritlioglu, 1991).

As a public open space, squares were reported to relieve mental fatigue in individuals (Kaplan, 2001), reduce stress

levels (Nielsen, Hansen, 2007), and meet the daily needs of urban public life (Chen at.al, 2016), and defined as important “focal points” within the open space system, “a surface of contact and communication” for social strata, and “relief spaces” within the densely structured urban fabric (Kürkçüoğlu, 2016). Moughtin suggested that the most important physical quality of the squares was closeness, defining the squares as the places with sculptures, fountains, and lighting, where people met with each other and socialized (Moughtin et al., 2003:123).

The selection of the design elements, which create the squares and provide their unique identity, is important in the design of these spaces. For example, sculpture and plastic elements are utilized both as decorative items and as works of art in squares. Therefore, their location, choices of place, and relations with other elements should be well and compatible with the environment, and their size should be proportional to the square (Çetiner 1979). Water and water surfaces, water mirrors, and water pits can also be used in the squares. Marcus and Francis (1990) suggested that the water elements should be placed close enough to the seating areas for people can hear the sound of the water. Water surfaces have as important effects as the greenery material.

The squares are not merely transit places, they can host a range of different activities. The examples in pedestrian-intensive squares include motion-based sketches, painting and cartooning, singing, playing instruments, pantomime, illusion, dance, reading, and puppet shows among others. The squares as the meeting place for the city inhabitants and visitors, are public spaces where people can be relieved from the city’s chaos, relax, and interact with each other (İnceoğlu and Aytuğ, 2009), where the individuals not only interact with each other but with the city as well. The squares also mitigate the burden of the city as venues for socialization. The design of the square also affects the behavior of the individuals depending on the interaction of the society and individual with the space.

Relevant studies indicated social interactions as the primary factor in public spaces (Askarizad, Safari, 2020; Gehl, 1987; Whyte, 1980). A properly planned square that can meet the demands of the users with an efficiently formulated design can not only improve the quality of socialization of the users, but also strengthen the bond between the city and the city inhabitants.

Observations and investigations showed that people and human activity were the greatest object of attention and interest. Even the modest form of contact based on merely seeing and hearing or being near to others is apparently more rewarding and more in demand than the majority of other attractions offered in the urban public spaces (Gehl, 1987). The higher the number of people using the space, the more attractive the space will be to other users. Furthermore, high visual quality and appropriate arrangements for certain activities, including walking and resting are other attributes that would improve the attractiveness of the space for the urban residents (Barnet, 1982).

Squares are also the primary venues of focused interaction. Focused interaction occurs when individuals pay direct attention to what others say or do. Goffman defines this moment of focused interaction as encounters (Goffman, 1971). People tend to maintain communication with others, even if they do not talk to them directly in squares with intensive focused interaction. The most frequently used venues of the squares are the points with dynamic views (Gehl, 1996).

Another important factor as regards the use of squares is the season (Djukic et al., 2016). Squares as open spaces are mostly preferred during spring and summer season, where activity dramatically drops in winter due to adverse climatic conditions. Furthermore, the times of use of the square are also associated with climatic conditions. As a matter of fact, results of a study by Şavklı and Yılmaz (2013) reported that the most preferred time period for the spring/autumn seasons and summer was 14:00-16:00 hours (29.8%) and 20:00 (31.6%), respectively, where the same was 12:00-14:00 hours for the winter season (31.3%).

In a very general sense, the use of squares can be investigated under the two headings of circulation and activity. Although with varied qualities, almost every square provides both a transit route/circulation and a venue for

activities. As a concept that implies continuous mobility, circulation is of particular importance for the squares. This is because of the fact that squares provide a transition route by assuming the function of circulation, binding the buildings and offering a dynamic space character. In the urban setting, sometimes surprising the user and often providing them with directions, the squares that connect roads and streets have a circulation construct per se. Spaces are dynamically experienced through circulation (Clerkin, 2005). At the same time, squares assume spatial and functional tasks in the city by ensuring mobility and providing directions. This is indicative of the fact that there is a high level of user experience in the squares. Small-sized squares are places, where people can stop and rest, relax, and get rid of the chaos of modern city life, as closeness can be more readily ensured.Successful urban squares are designed for people to enter, stand, have a seat, dance and perform, and watch other people participating in these activities.Çakmaklı classified the activity characters in the squares into two groups: Static space (sitting, resting, a perceived clarity and integrity regarding the space) and dynamic space (circulation, transportation, and being interesting) (1992:5).In addition, squares also allow a variety of activities, including meetings, gatherings, having fun, rest, strolling, and sightseeing, etc. Alexander (1977) suggested that it was important to include areas of activities in square designs, where users could spend good time, use their free time, and not get bored. Functionally versatile squares, which accommodate a range of activities would also serve as centers of attraction for the users. Nevertheless, there may be differences as regards participation between day and night activities in the squares.

Thomas (2007) asserted the necessity of having enough numbers of ergonomic and comfortable seats with backrests and armrests in popular squares. Seating facilities provide the users with the opportunity to watch, observe, and enjoy the environment. Proper seating arrangements would also increase the time the users usually spend in the space. Therefore, due care should be taken for the appearance and orientation of the space in the placement of the seating groups, which should provide the opportunity to sit alone or in groups under the sun or shadow. The seating elements should be oriented directly towards the roads or transit users (Carr, Francis, Rivlin, Stone, 2007; Cartens, 1993).

The squares as open public space also play an important role in ensuring cultural and social sustainability, and in that context, they are a necessity for the society. As the main venue of social interaction, the squares are also an appropriate ground for understanding the relationship between the place and action. Accordingly, the present study aimed to question the existence and quality of the relationship between square designs and user behaviors in consideration of the usage times and activities performed in the squares.

2. Materials and Method

2.1 Case Study Area

The sample area of the study is Taksim Square, which is one of the most important squares of Istanbul in historical, cultural, political, and economic terms. Several strategic urban transportation axes from different parts of the city meet in Taksim Square. Today, the Square acts as a center of energy, where people from different parts of the metropolitan city meet and disperse, and it is well-known also by the domestic and foreign visitors. Thanks to its prevailing position in urban life, it is a central area with an international identity (Gürsel, 2012) (Figure 1). Taksim Square has hosted a number of cultural, historical, and political experiences during the Republican period, and thus, the Square acquired a distinctive identity in the context of Istanbul. Taksim Cumhuriyet (Republic) Square became the most important area in Istanbul by hosting important national day celebrations, and over time, witnessed to prominent social and historical events. In that respect, it has an important place in urban memory (Hasol, 2020).

Figure 1. Taksim Square location (prepared by the authors)

Gezi Park to the north of the square, Atatürk Cultural Center to the east, The Marmara hotel, a well-known building to the south, newly built Taksim Mosque to the south, Hagia Triada Church to the southwest, and a statute of Mustafa Kemal Atatürk, the founder of modern Turkey, in the center. There are also metro, bus and *dolmuş* stations in the square and its periphery. There are cinema halls, theaters, exhibition halls, shops, and showrooms, and eating and drinking places on the roads to the square. Taksim square, which features both vehicle and pedestrian traffic, is also frequently used for political demonstrations, press statements, official ceremonies, and celebrations (Figure 2).

2.2 Method of the Study

Observations and investigations show that people and human activity are the greatest object of attention and interest. Even the modest form of contact of merely seeing and hearing or being near to others is apparently more rewarding and more in demand than the majority of other attractions offered in the public spaces of cities (Gehl, 1987). An observation-based methodological pattern was used for the purposes of the study. In the observation, the first stage of the field study, a non-participant observation strategy was applied in order not to affect the natural behaviors of the users and therefore to obtain as accurate data as possible. In that context, the square was observed at various intervals for 30 days, by means of 30-minute visits, during weekdays and weekends, in the morning, at noon and evening, for a total of 18 occasions. The study was carried out on Saturdays, Sundays, and Mondays in May. The visits were carried out between 07:00-09:00 am, 12:00-02:00 pm, and 20-22 pm on weekdays and weekends. During the observation stage, the most frequently preferred points and the circulation routes followed by the users in case of forced transition were note,d and each observation was captured on the square map as 30 minutes/number of users and action. Accordingly, the points and routes that were more/less frequently preferred by the users were investigated. Thus, it was possible to note how the square designs affected the user behaviors.

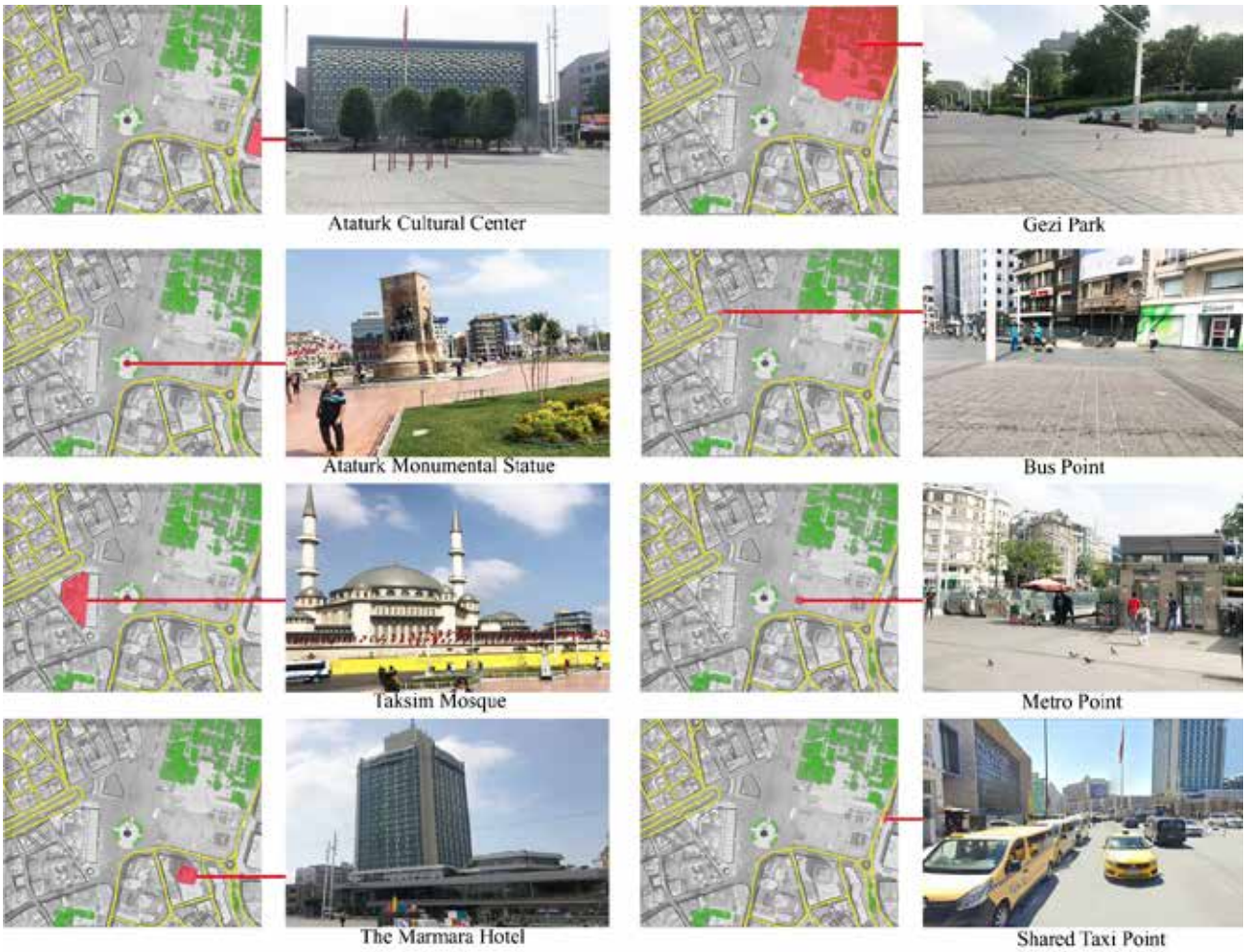

Figure 2. Important Points in Taksim Square (prepared by the authors)

3. Results and Discussion

The present study focused on the relationship between the square designs and user behaviors, included Taksim Square as its case study, and adopted an observation-based methodology for the purposes thereof. The study data were captured on the map of the square and the dynamic routes of the users and the locations, where they stopped/paused were shown on the maps (Figure 3). As mentioned above, those maps were assessed on the basis of the circulation and activities of the users. User movements are shown in purple, stop/pause/rest areas in red, green areas in green, public transportation points in blue, and vehicle passage routes in yellow color on the maps.

Urban public squares should be located so as to provide multiple access routes for traffic and transportation and within the proximity of pedestrian ways. People from or to the metro, bus, and dolmuş stations located in the square and its immediate vicinity create a great deal of activity in the square during the rush hours at noon and evening. The said mobility was mostly observed between the public transportation stations and the alleys. These alleys host a variety of showrooms and cafes, as well as street performers, entertainment venues, a number of associations and clubs. Those axes are lined with historical buildings from the 19th Century (Figure 4). The fact that the square is quite busy at noon and evening although barely used in the morning, indicates that users, who want have

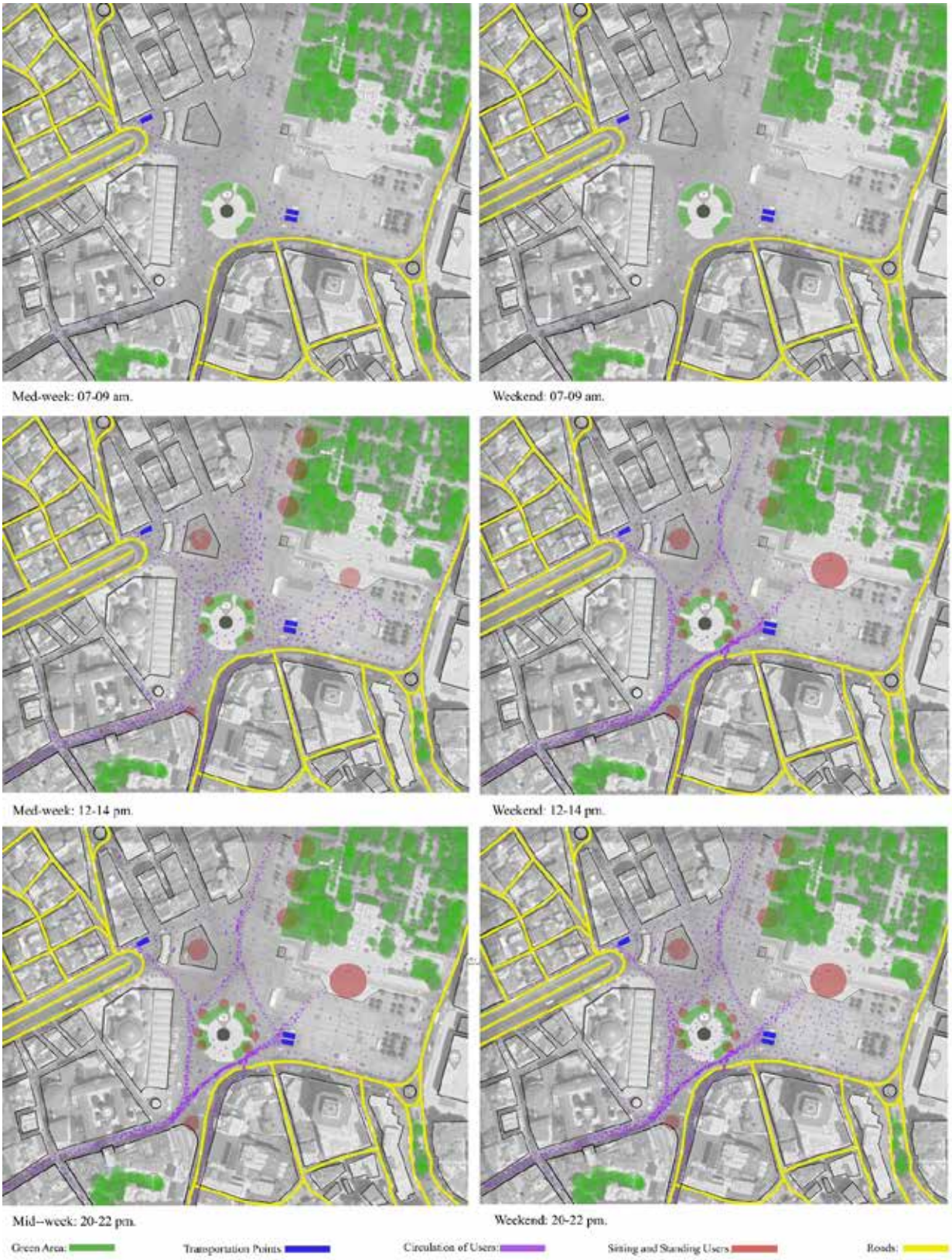

Figure 3. An Observation-Based Analysis of User Behaviors in Taksim Square (drawn by authors)

fun and spend pleasant time, see the square as a passage route to those streets. Waiting, meeting, and transiting are the main activities in the square, where social activities are relatively scarce. However, the fact that squares have a meaning beyond merely a transit route should be taken into consideration in square designs and rich functions should be incorporated so as to allow individuals engage in further activities in such areas. Another issue is that the busy vehicle traffic complicates pedestrian crossing. This also is indicative of the safety problem posed by vehicles for pedestrians.

The results indicated that Taksim Square was less frequently used in the morning hours both on weekdays and weekends, while it became quite crowded in the afternoon and evening hours (Figure 5). Those results were consistent with the results reported in Gehl's study in 1996. Gehl concluded that the squares were most frequently used at noon and afternoon (Gehl, 1996).

Although scarce, there were users, who sit, lingered, stood, and rested in the square. Users made use of the elevation around the monument as well as the seating units for rest. It was observed that the square served a meeting point for users. There were many people waiting to meet in front of the large monument (Figure 6). In this context, seating groups are another consideration of significance in the design of squares. In that regard, urban fixture, where people can sit, relax, watch around, and chat with other people, is important.

Another busy point of the square is the route Gezi Park, the green area. Although there are not many showrooms, eating and drinking places, etc. on this route, users take it as both a passage route and for rest and lingering (Figure 7). The fact that individuals walked into and spent time in the park with greenery and trees once again showed how important the nature and/or natural elements were in the design of squares. This is important especially for the major cities, where green areas are decreasing each day. The inclusion of greenery elements in the square designs would make the square more attractive for the users.

Figure 4. Alleys Opening to the Square (Day and Night) (photographs by the authors)

Figure 5. Morning hours vs. afternoon/evening hours (photographs by the authors)

Figure 6. People sitting and waiting around the monument / people at the seating units (photographs by the authors)

Figure 7. Greenery in the square as a resting place and as a route (photographs by the authors)

4. Conclusions

Carr et al. (1992) suggested that successful public spaces should be accessible to everyone and respond to the needs of the users, emphasizing the necessity of establishing a meaningful relationship between the space and the user. The present study with a special focus on Taksim Square showed based on the spatial behaviors of the users that the design of the square was far from meeting the user's needs, and that the users tended to utilize this square as a transit route rather than an urban space for sociability. The results of the present study suggested that squares had a value beyond merely a transit route, and that should be considered in the design of squares.

As a result of the study, the following recommendations can be made for the purposes of square designs:

- Create rich functional areas in square designs
- Consider circulation and usage areas separately but as a whole
- Use sufficient number of seating units, where users can take a seat, relax, and chat
- Design on the basis of an reachable, accessible, and inclusive approach,
- Make flexible arrangements for different user groups
- Include natural elements and green spaces in square designs
- Consider the square with its immediate surroundings in a context
- Provide appropriate venues for artistic activities for public participation
- Include installations, sculpture, etc. arts objects and attractive items
- Consider seasonal preferences

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