The role of Wi-Fi network in producing social space in Mentri Supeno Park Semarang, Indonesia

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Abstract. Mentri Supeno Park is an open public space in the form of a park located in the middle of the city in which its position is a strategic location as a social space. This park has various facilities, one of them is the Wi-Fi Network. A combination of open space and Wi-Fi has become a necessity in almost all levels of society to form community activity points that spread to both individual and groups on each side of the park. The purpose of this study was to find out how the role of Wi-Fi in generating social space in open spaces in the park, so it could be known the types of created social spaces and management of spaces that were obtained. This study used a qualitative method with a behavioral mapping approach as its analysis technique. The results of this study showed five types of social space activities, with types of individual and collective activities. With the results obtained, it is expected to provide recommendations for the management of social space, so it does not lead to uncontrolled things. Moreover, it can help build the character of the community and align with the regional development agenda.

1. Introduction
Nowadays, many parks in urban areas have more attractive and newer idea designs. The results also make the park more attractive and comfortable for residents of the city, especially for those who have a family because the parks are now a comfortable space for children, a married couple, ordinary citizens and even students or school children who need refreshment from their daily routines [1]. Not only interesting, parks with attractive designs are also usually equipped with attractive facilities. With its facilities, city parks can function as greening land, family recreation, regional activities, sports arena, children's playground, internet access and so on. Wi-Fi is one of the facilities that is almost always available in urban thematic parks [2].

The thematic park area is a strategic area that is now very in demand and visited by the community. One of the advantages of this thematic park is that free Wi-Fi facilities can have an impact on people's desire to visit the city park which is forgotten due to lack of care [3]. Even this also happened in Mentri Supeno Park, the existence of Wi-Fi becomes the attracting factor of visitors and activities in the park [4,5].

The availability of public Wi-Fi hotspots has opened up new ways for people to do activities and work, make our space connected with digital information networks, develop new conceptual categories that integrate digital and physical space. Therefore, Wi-Fi networks interact with socio-economic factors to reconfigure people, places, and information in physical space [6]. Interestingly, the role of Wi-Fi in reconfiguring communication makes the writer want to examine how the role of Wi-Fi in re-creating social spaces in Mentri Supeno Park and what activities arise as to its result.
2. Literature review

Provision of public space has become a public concern. It is also enacted in the law, but only in the quantitative or proportional stages. On the aspects of comfort, security, and user interaction in the provision of public space it has not received the same attention [7]. This is what shapes the existence of city parks to be attractive by providing free internet facilities which later become specifications of city parks based on information and communication technology in order to attract visitors [8].

Access to communication can have an important role in the development of regional socio-economics, especially in third world countries. For affordability, the choice of technology to achieve this is a significant aspect [9]. While Wi-Fi is originally designed as a local area access network, it has grown with the spread of increasingly extensive Wi-Fi network. In urban environments, it often complements a number of existing access to technologies, including cable broadband networks, 3G cellular, and commercial Wi-Fi hotspots [10]. The development of this technology has helped to change the style of communication in the public social environment [11].

The process of forming a social space is divided into several elements. The first element is the existence of "spatial practices." It can arise from the routine activities of individuals to form systematically from zones and regions. These social practices are constantly routinely concentrated in an artificial environment and landscape. Spatial practices that need to be looked at are about ownership and other forms of capital. The second element is spatial representations. It is a form of knowledge and practices that compose and represent space, especially through planning techniques and the state. The third element is representation spaces or collective experiences of space [12].

One of the figures of social space, Henry Lefebvre explains the concept of space which is interpreted as absolute space. Meanwhile, what other space experts say is that space is abstract space. It gives a limit to the city designers who have a role in the abstract space. While the community as an object of activity will feel roaring as absolute space, it makes Lefebvre give a new concept of space for a social space. Space is a social space that is always associated with a social phenomenon. This is contrary to the concept of space as space itself [13]. Social space starts from social activities in the form of individual space or collective space. Social activities that form "meaning" for a spatial space are conceptualized by the activities that fill and turn on the space. Production of social space is related to how spatial practices are formed through perceptions of the environment. They are built through networks that link social activities such as work, private life, and leisure time. Lefebvre describes this condition as a dialectical relationship between living space (spatial and social), perceived space, and conceptual space. In other word, it is called a "conceptual triad of social space production" [14].

3. Methodology

This study utilized qualitative research methods by using the behavior mapping approach as the basic material for symptom observation of social space generated by Wi-Fi Network. Behavior Mapping is an objective method for observing the behavior related to the components and attributes of the built environment. This provided researchers innovative methods for assessing behavior related to detailed physical characteristics of outdoor areas [15]. Behavior mapping in the research study was conducted every day for 2 weeks with the distribution of morning to midnight time. A mapping behavior was also carried out when certain events were held in the park and on holidays.

Activities at the qualitative data analysis stage were carried out in an interactive way and conducted continuously until the data was saturated. The indicator of data saturation was indicated by no new data or information obtained. Activities in the analysis were data reduction, data display, conclusion drawing and verification [16].
4. Result and discussion
Based on the results of the Interview depth, it could be seen that the Wi-Fi facilities at Menteri Supeno Park were the real reason for visitors to visit the park. Utilization of Wi-fi facilities triggered the distribution of activities in various spaces with various activities.

Of all the sources that were met in the field, the answers were chosen and collected based on the same meaning as the process of finding the saturation point in the field or no new information that was provided by the resource person on the meaning of the produced space.

**Figure 1.** Qualitative data analysis [16].

**Figure 2.** Distribution of Wi-Fi usage activities.
Table 1. Results of Source Interpretation

| Some Same Reasons for Using Wi-Fi by Respondents (representative sample) | Meaning of Space Produced | Formed and Forming Space |
|---|---|---|
| "We are having security gathering, we want to prepare LDK, this is just the first day. Maybe around 29 people. It's good to chat. It's good but it's dirty. The facilities are complete. There is Wi-Fi too, nowadays people need Wi-Fi". We are together with the children. We want to come here, the house is near. Here is free Wi-Fi. Kids are surfing on the internet. Often, 4 times a week. The Best connection here, on the stairs. Usually, the small ones play in the playground but if it's night, it's dark. | Waiting Space and meeting point | Collective Space |
| Playground and Family Space | Individual and Collective Space |
| Just skating. Usually here at 9 o'clock in the morning, Sunday. One play time can be 3 hours. There is a community of more than 10 people from different places, we know each other from skating together so we often gather together. We like to be here, there is free Wi-Fi, near the city. Every day after school, I hang out here. We finish school at half-past four, usually here until 5 before sunset. Just chatting and surfing the web. I am just free, using Wi-Fi, and waiting for BMX training and gathering. The conditions are poorly maintained; we have reported to the government but there is no follow up. There is a community, called Semarang BMX consisting of 15-20 people. Sometimes it can gather every day. The playing time is around, 9 a.m., 5 or 5.30 p.m. I am waiting for the pickup while just using Wi-Fi activities. Every day when waiting, my mother is told to come here (Mentri Supeno Park), my house is in the Pucang Gading area. It is open space, has many trees, good, there is a Wi-Fi network, many foods, and beverages sellers I am just free, using Wi-Fi network and waiting for BMX Gathering. Just playing bicycles around. I started at a quarter past seven, until half-past ten. Then I go home. My home is in North Semarang. Usually, the route is Home - Poncol-Thamrin - UNISBANK - KB Park – Gajah Mada - Home. This is another break here, it is cool, nice, and quiet too. My Hobby is cycling lately on holiday. Yes, Using Wi-Fi too. Doing Assignment, the Wi-Fi is good and it can help finish the assignment. | Waiting Space and meeting point | Collective Space |
| Waiting Space | Collective Space |
| Waiting Space | Collective Space |
| Waiting Space and Meeting Point | Collective Space |
| Waiting Space and Meeting Point | Collective Space |
| Waiting Space | Collective Space |
| Relaxing Space | Individual Space |
| Waiting Space | Collective Space |
| Relaxing Space | Individual Space |
| Assignment Space | Individual and collective space |

From the table above, it can be seen that there are several meanings of space generated by Wi-Fi activities that are functioned for a waiting space, meeting space, playground, family space, lounge, and office/assignment space.

The waiting space was the most created space by Wi-Fi facilities. They made people choose to wait before doing activities such as waiting for BMX community gatherings, skateboarding, or waiting for other activities. The waiting room was formed collectively by the community. The result of this waiting room was the creation of a community that came before the time agreed to do activities so that activities could run according to time or if there was a delay on schedule, it did not make boredom in waiting.

Meeting space or appointment space was also formed by Wi-Fi. The community made Taman Mentri Supeno a meeting point for activities or a pick-up point for some communities. Like the waiting room,
Wi-Fi facilities reduced the boredom of the people when waiting for meetings and appointments in the designated space. This meeting point was formed into a collective space.

Playground, technological advancements made changes to activities including contemporary playing activities. When space met technology, it was very different from the conventional view of space so far. Wi-Fi at Mentri Supeno Park was used as a facility to play online surfing with cell phones as its stuff. This activity did not occur incidentally but it became a routine activity of individuals to the community. This activity formed both individual and collective space.

Family space was almost the same as the playground above. Wi-Fi at Mentri Supeno Park was a facility to become a family space. Everyone needed refreshment and so was a family. Some visitors chose family as the reason to go to Mentri Supeno Park to find the availability of Wi-Fi. It made space have facilities such as online games for children and social media for adults so that space became a facility with a complete package for the family. The gathering activities of the family formed a collective space.

Relaxing space was different from the previous spaces formed into a collective space. Relaxing space formed individual spaces. The lounge was an individual place to enjoy time alone in Mentri Supeno Park. This activity was created because Wi-Fi provided internet facilities such as browsing, online games, social media, and video streaming. Apparently, the space that looked empty but abstractly, the room was full of entertainment.

Assignment Space was a space used as a place to work on school assignments. The position of Mentri Supeno park which is located between two schools and in the middle of the city has become this strategic place for school children activities. Assignment Space became the second space besides the playground that experiences changed from social activities in physical space to virtual space activities. The assignment space at Mentri Supeno Park was created when space met technology. This space formed an individual space but dominantly it created a collective space.

Changes in the media and communication landscape have pressured public infrastructure investment, but also need to reflect on the challenges raised by investment in technology infrastructure for broader sustainability and development issues [17]. The social function of the park was expected to provide highly productive social interactions [18]. On the other hand, technological development has required a lot of interaction development, this is also offered by many mobile social networking applications that are increasingly focused on user interaction [19]. This is what makes the formation of collective and individual social spaces. Collective space provides more productive social functions when compared to individual space. The following is a figure of the Role of Wi-Fi in Producing Social Space at Mentri Supeno Park, Semarang.
5. Conclusion
The conclusion obtained from this research was that there was a change in the behavior of social spaces when social space met Wi-Fi technology. It could be seen from the playground and family space. It transformed active social space (playing) into passive play and family space (online games and browsing) but it still formed a collective space. Wi-Fi also transformed Mentri Supeno Park Space into a waiting and assignment space. The existence of Wi-Fi made people willing to come and wait before the promised time to carry out an activity. Production of social space was well worth for the initial socialization. Likewise, with assignment space, space that might be difficult to find in other parks in Semarang City. This social space was produced to form individual and collective spaces. It was a good value space to support the Education agenda and human resource development. The explanation above also shows that with the presence of Wi-Fi in the park, there has been a shift from conventional social spaces (meetings between people) to technology-based social spaces (virtual meetings) so that the fulfillment of designs and facilities must begin to pay attention to those needs. The recommendation given from this study is to improve the production of good value social spaces such as assignment, waiting and meeting point space by supporting the provision of facilities that are designed comfortably from architectural and landscape aspects. Restricting the Wi-Fi system is like having to reconnect the network every 15-30 minutes so that the community has a pause when they are in the virtual room (internet world). This break is expected to reduce passive and individual activities produced by Wi-Fi. Planners and urban design must begin to take into account the Wi-Fi component in its planning aspect. Wi-Fi has made space not only empty or only in the form of an arrangement of physical space (absolute) but also space that has an invisible space value. So, Wi-Fi is used properly by all planners in accordance with the urban development agenda, for example utilizing assignment space in harmony with study hours or cities with education promotion programs launched by the government. Waiting space can be utilized for community discipline as personal change programs from coming late habit when arriving earlier (because of the values in the waiting room).

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