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Innovation Housing and Settlement Technology

Bandung, 11 November 2013

School of Architecture, Planning and Policy Development
Institut Teknologi Bandung
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CONTENTS

LIVING WITH GADGETS: WHAT'S INSIDE YOUR BAG?

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ABSTRACT

In this era of connectivity, any forms of information can be easily accessed through the emergence of various media. This phenomenon affects how people access economic activities, public services, and everything becomes interconnected. This connectivity issue requires human to be able to do their activities in such limited time and efficiently. Living and working are associated with the priority and needs of having an internet access, smartphone, notebook, tablet, and other forms of gadgets. The gadgets can connect information from different spaces which are physically separated via virtual space. This issue eventually raises a question on the geography of our living space; whether the living space could be extended beyond its geographical location.

This paper address that issue by identifying how we see our living space in a different way because of the mixed up between physical and virtual spaces. In particular, this paper discusses the interaction that happens between people and their gadgets, different types of gadgets and their role in everyday living, connections between gadgets, how the virtual spaces of gadget layer human's physical spaces, and how they eventually affects our living space. The use of gadgets may reflect the changes in our interaction with living space. The definition of our living space is also redefined by the roles of gadgets as important elements of space. The findings of this study suggest that the presence of gadgets change the way of our everyday living and extends the idea of our living spaces.

Keywords: living spaces, virtual space, gadgets, connectivity

1. GADGETS AS A PART OF DAILY ACTIVITIES

Mobile phones, notebook, digital camera, tablet, mention anything else that you want. In everyday life the common word for these things are gadgets. In this paper, the term gadget stands for a small electronic or mechanical device that can do particular function. Nowadays, all of these things are everywhere around us. Experiences with technology are perceived in everyday life, especially in styles of communication (Tully 2003). As written by Townsend, "...the mobile phone is more and more becoming perceived as an extension of

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the body, again though perhaps more in a virtual sense than a purely physical one." (Townsend 2000: p.7).

Manovich even writes "You can already directly stream video using your laptop or mobile phone, and it is only a matter of time before constant broadcasting of one's live becomes as common as email" (Manovich 2008). It was a future possibility from what he sees at the current condition. Furthermore, the main purpose of this technology is to "reduce spatial and temporal interdependencies among activities" (Mitchell 2002). It means that it is quite possible to do things without being limited by the physical boundaries. Therefore, the presence of gadgets might have some implications to our living space and how it is defined by the boundaries of our space.

The phenomenon is even stronger among young people, who are growing up with the rises of digital telecommunication development (Tully 2003). These young people are adopting the gadgets quickly into their living space because they see that through technologies, they can catch up with the world development (Tully 2003). Moreover, Mitchell writes that online information-as a part of digital telecommunication-could show up at anytime, anywhere, no matter where it physically exists (Mitchell 2003). With the easiness to collect information, the way we do our daily activities and our working spaces have been changed. It is also exemplified by Mitchell,

> For example, office work used to require filing cabinets filled with paper, a desktop and a typewriter; now the desktop has virtualised and shrunk to a laptop screen, files are accessible online, the typewriter has transmuted into word-processing software, and the telephone fits into a pocket (Mitchell 2002).

Although the information goes online, actually the gadgets itself are still present in the physical space. As written by Shepherd et al., the gadgets are not a pure function. "They are material objects that have weight, shape, colour, and extend in space" (Shepherd et al. 2007: p.3). Further, different technologies or in this case different gadgets, mean different configuration in space (Shepherd et al. 2007). For instance, the difference between an iPod and a 17" notebook in size demands a different arrangement in the material space. Moreover, the problem is not only regarding the dimensions of the gadgets but also the space required by our activities with them (Shepherd et al. 2007).

As gadgets start entering our everyday life, the world is shifting to the more fluid and flexible relationships world which is full of connection and networks, hence this connectivity becomes a characteristic of our urban condition (Mitchell 2003). This raises a question of whether our living space could stay the same. In this paper we attempt to find out how the gadgets change our living and working space. In particular we would like to discover how the presence of gadgets that people bring "in their bags" shapes the way they conduct activities, and connect to one another in the living space. The objective is to redefine our understanding of living space with the presence of gadgets.

2. IDENTIFYING GADGETS IN YOUNG PEOPLE'S LIVING SPACE

In order to explore how gadgets change the way people are connected with others, we did a case study by interviewing twelve people from various

background; architecture, interior architecture, engineering, fiscal administration, and disaster management program. These people's ages are between 20–28 years old—so they can be called the young people—and their occupations are students or lecturers. In particular we are looking into their types of gadgets, the kind of activities done with the gadgets, their roles, and the connectivity around them. Due to the limitation of space in this paper, we only present selected cases that could demonstrate the ideas of connectivity.

2.1. Gadgets and Personal Life

From the interviews, we found that having different daily activities and different backgrounds inflicts different needs for gadgets. As an example, architecture students-who likely have to save a couple of big sized 3D files for their assignment-have a tendency to bring external hard drive rather than fiscal administration students. Each person also has a different arrangement in managing their gadgets. For instance, a respondent always brings two USB sticks, one to store her crucial data and one for sharing data with others, while another respondent just brings one USB stick for every purpose. As Manovich points out, "people build their worlds and identities out of these readily available objects by using different tactics: bricolage, assembly, customisation, and – to use the term which was not a part of De Certeau's vocabulary but which has become important today – remix" (Manovich 2008).

These tactics represent the way these young people do their daily activities with their gadgets, in search of the most appropriate arrangement. The same gadget used by different people will result in different ways to operate and different purposes of its usage. Doing these tactics build the idea of identity of the user, which is reflected in the uses of gadgets.

2.2. Gadgets and Activities

In relation to the purpose of gadgets usage we may classify three general activities: completing task, entertaining, and communicating. As mentioned at the beginning of this paper, gadget can do particular function. When the gadgets run its function, it means the user has completed a task through his gadget, either it is typing, drawing, calculating, or anything else. For this activity alone one may just need to be focus on himself, and connection becomes unnecessary.

The second activity is entertaining. Which is done when people search for a relief in their daily activity. We found most of the respondents have some music or movies stored in their notebooks or mobile phones. One of the respondents said that she always listens to the music from her notebook while another uses his mobile phone for music listening. The third activity is communicating. When a person wants to share a result of his work or something entertaining, he needs to communicate. Whereas completing task and entertaining can be done alone, communicate involves other party. It means there is a connection between both parties, and to achieve this condition, certain medium is needed.

These three activities can occur alone or cross-cutting each other. For instance, a man can type while listen to the music (completing task and entertaining), chatting with companion while working on a design (completing task and

communicating), streaming a movie from YouTube (communicating and entertaining), or even doing them all simultaneously.

2.3. Role of Gadgets

Based on the interviews we found two types of gadgets: primary gadgets and supporting gadgets. Primary gadgets are the main mobile electronic device that can be used to complete the tasks such as notebooks, mobile phones, tablets, or digital cameras. On the other hand, supporting gadgets are the one that help or boost the function of primary gadgets. This kind of gadgets consists of chargers, USB sticks, external hard drive, mouse, etc. However, beside the gadgets these young people also carried the containers. Usually, the container can be divided into those that compile smaller gadgets and those that accommodate all the gadgets including the smaller containers.

3. EXPLORATION ON CONNECTIVITY

To obtain a description on how the gadgets shape the connectivity of actors and activities in living space, the followings are the illustration on the use of gadgets by three of our respondents.

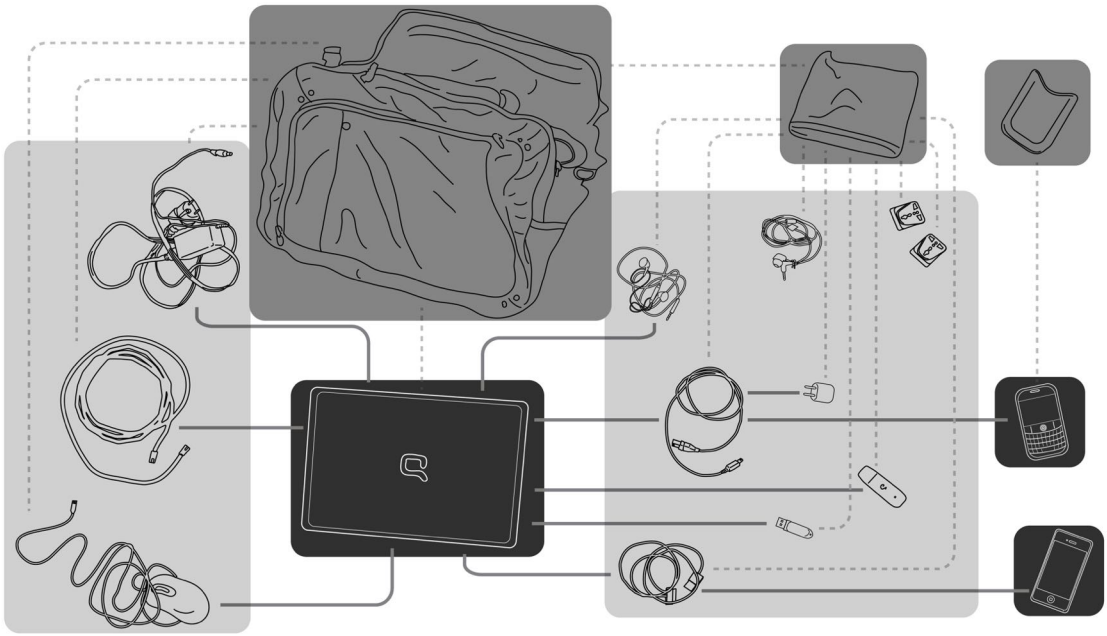

Figure 1: Respondent #1's Gadget Connectivity

The first respondent is a graduate student and employee at public relations sector. For him, communication and being mobile are substantial. Figure 1 shows that his primary gadgets are a notebook and two mobile phones which are physically connected to the notebook via USB cable. This person said that although they are connected most of the time, main usage of USB cable is just to charges the phones. The mobile phones have nothing to do with the contents of notebook and vice versa, even each phone has a different purpose. One phone is for business, whereas the other one is used for family and friend matter.

The supporting gadgets that he possesses are marked by the light grey colour; consists of a notebook charger, a mouse, two USB cables for the phones, two

headsets, three electrical adaptors, a USB stick, a USB modem, and a LAN cable. According to the respondent, although he always brings two headsets, he just uses one of them. The other one was only for a backup in case the first headset cannot work properly. The USB stick is used for data backup in addition for transferring data to and from other people. His 4GB-USB stick stores plenty of his working documents, college assignments, music, and some movies.

This gadgets arrangement, suggest that internet connections become the key for him to achieve mobility and easiness in communication. The respondent said that if he could not find a wireless internet access, he would go with the LAN cable which means he needs to be in a place that has an ethernet socket. Then, if he could not find an ethernet socket, he would use his USB modem to access internet. While LAN cable may provide faster internet access, not every place has an ethernet socket. Even if a socket is found, the activity space is limited to the existing length of LAN cable. Unlike LAN cable, USB modem gives more flexible space, although the internet speed is unstable depends on the strength of signal. This illustration indicates that people have some strategies and preferences about how they will be connected with others via gadgets in a certain space.

Gadgets and the activity tied to them occupy both material and virtual space (Shepherd et al. 2007). It means when this person decides to include the gadgets as his daily needs, he should provide more space in his regular container to carry not only the main gadgets but also its supporting gadgets and even additional containers if needed. This man decides to put his notebook, the charger and the mouse in his backpack, while a pack of smaller cables and USB devices are stored in a small fabric case before put into the backpack. According to the respondent, this arrangement was based on some personal considerations regarding easier grouping, gadget protection, and the weight of the loads.

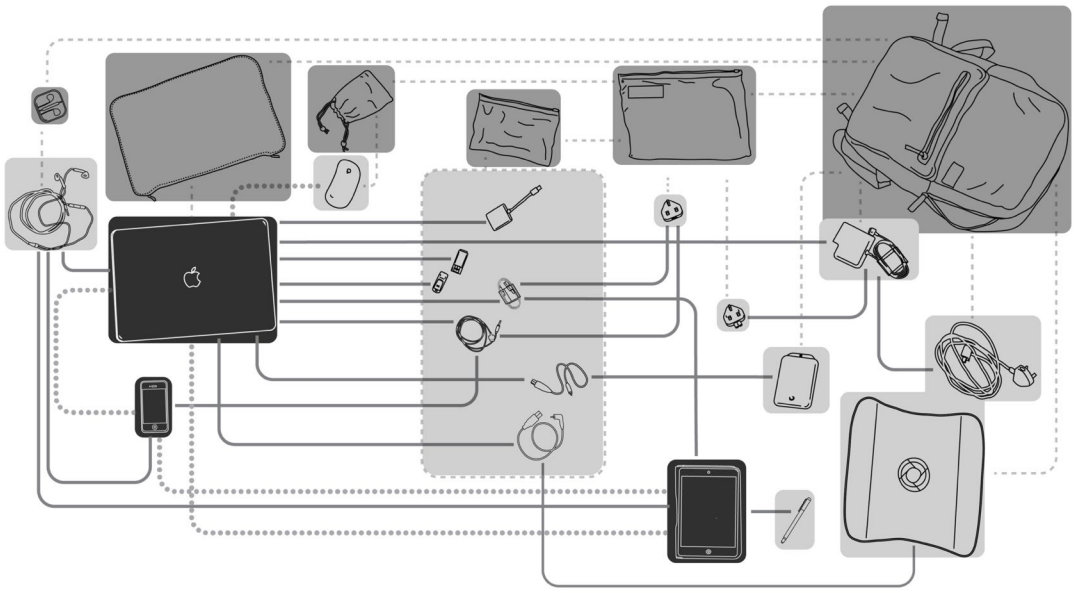

Figure 2: Respondent #2's Gadget Connectivity

Figure 2 illustrate the gadgets possesses by a student. The primary gadgets consist of a notebook, a tablet, and a mobile phone. The tablet and the phone

are connected to the notebook physically via a USB cable and all of them are virtually interconnected via the internet. Aside from charging the phone and the tablet, the respondent thinks that the main reason for having this connection is to make sure that every content in each primary gadget got synchronised. For instance, when a document is modified in the tablet, that document will also be automatically modified in the notebook, and vice versa. In other words, it is a form of tactic about how to speed up the work, or if we borrow Mitchell's statement "reduce temporal interdependencies among activities" (Mitchell 2002).

This person has plenty of supporting gadgets inside his bag; USB cables, electrical adaptors, a notebook charger, a notebook fan, a mouse, a stylus, a projector's connector, a headset, two USB sticks, and an external hard drive. Two USB sticks are only used to share data, while an external hard drive is used as a data backup and additional documents storage due to limited internal hard drive space. Similar to arrangement in Figure 1, this person has preference on how he will charge his mobile phone or tablet. When the notebook is being used, he prefers to plug his phone or tablet into the notebook to charge as well as synchronise them with the notebook. On the other hand, when his notebook is off, the mobile phone and the tablet are being charged on the power socket.

Because of the large number of gadgets that he brings, for this person, the protection issues become the major consideration in arranging the containers for these gadgets. Hence, most of the gadgets have a specific container; the smaller supporting gadgets are put into a plastic case before they go inside the bag, whereas the bigger ones are inserted directly into the bag. Consequently, almost the entire space inside his bag is dedicated to gadgets and a little space is left to put other stuffs for daily activity. This illustrates what Tully (2003) describes: "The increasing importance of digital media corresponds to the decreasing importance of classical print media" (Tully 2003). It demonstrates a possibility that our major daily activities began to shift to become more dependent and relied on the gadgets.

In contrast, Figure 3 shows a less complex arrangement in the use of gadgets. This respondent has a notebook and a mobile phone as the primary gadgets; and the chargers, a mouse and a USB stick as supporting gadgets. However, in this arrangement, each primary gadgets have its own connection, which means the notebook and its supporting gadgets are unrelated with the mobile phone in any circumstances. The notebook connectivity system includes a mouse, USB stick, and charger, while his mobile phone is only connected to its charger. This way, he has no other option to keep connected through his mobile phone because no supporting gadgets are available for it.

A 2GB USB stick is only used for transferring data-mostly the college assignment-and for immediately storing the data into his notebook as his own virtual space. There is no other transferring media. This means that he has less option to be connected to his virtual space. He also mentioned that he does not has any backup data anywhere, which means a higher risk of losing his data. Meanwhile, he connects his mouse to the notebook for the purpose of playing games; in this case the mouse acts as a supporting gadget for entertainment.

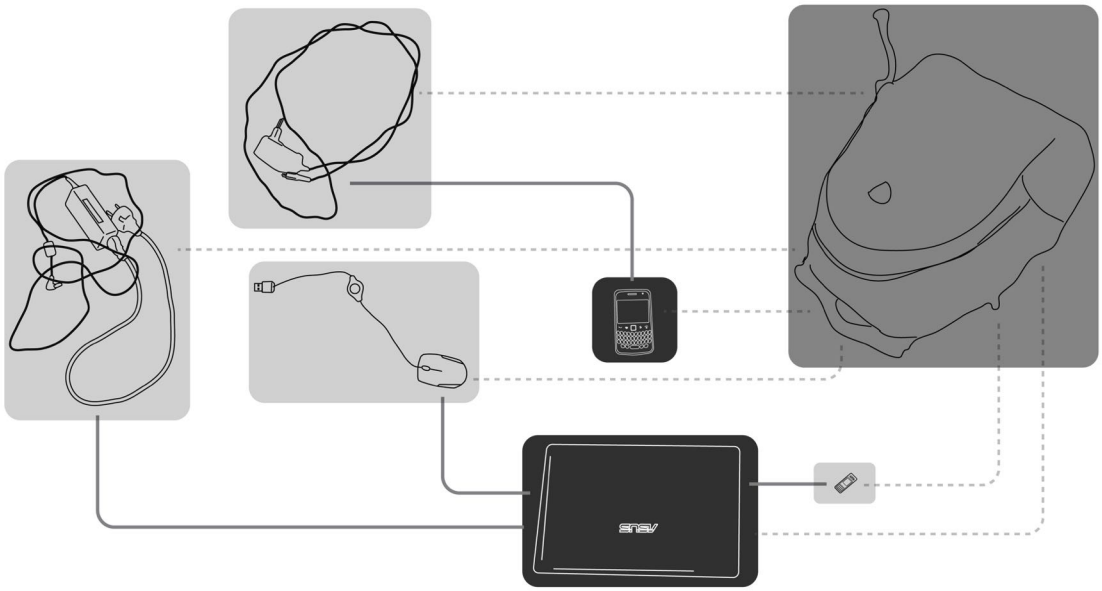

Figure 3: Man #3's Gadget Connectivity

Compared to previous gadget arrangements, in Figure 3 there is only one gadget's container that accommodates all gadgets directly into it. We may presume that fewer gadgets mean fewer consideration about how to bring it, and fewer material space occupied by the gadgets. From this illustration, we found that although this kind of arrangement allows fewer material space requirement, in return it reduces the user's connectivity.

4. UNDERSTANDING OF LIVING SPACE BASED ON CONNECTIVITY

Based on description above, connectivity indeed changes the way we see our living space and how we live it. The followings are three ideas of living in the world based on connectivity.

4.1. Living Space of Network

With the gadgets, living space nowadays is not only about how the gadgets exist in physical space, but also more about how the networking is formed. Networks now bound our habitat-rather than the walls or other physical boundaries-so our habitats may become fragmented and dispersed (Mitchell 2003). Daily activities now could be done at separated physical place but connected in terms of its virtual space. For instance, a respondent physically present at his university doing his assignment, but at the same time he could complete his office task so his office partner could process it later. It means that an event happens virtually affect the events that occur in physical space (Mitchell 2003). The importance of networking also depends on the gadget personalisation by the users. One could restrain how wide his network would be. On the other hand, to live in this new living space, creating flexible and diverse space is more important than a space with such rigid programs (Mitchell 2003). Such situation suggests a new definition of living space, which is not depend on physical boundaries and rigid program, but defined by the network connecting users and activities.

4.2. The Space of Connectivity is Defined by Supporting Gadget

The illustrations above show that various types of media are needed to obtain the connectivity between the actors and their activities. In fact, we found that the supporting gadgets become the medium. It is possible that primary gadgets can be connected to other things with an internet access, but supporting gadgets play an important role to help us connected with the bigger network system. A phone charger is needed to connect a mobile phone to electricity, while a mouse and stylus are connected to our body in order to gain better control of primary gadgets. As another example, in a place without internet access we may use a USB stick to transfer data from our notebook to other people. When the data gets bigger, an external hard drive is needed. Therefore, supporting gadgets are very important in defining the extent of our connectivity in our living space; more supporting gadgets would increase our connectivity.

4.3. Affected Productivity

The presence of gadgets in material space, with its form, size, and weight become a consideration when people want to use them in daily activity space. As seen at Figure 3, the actor decides to not backup his virtual space contents anywhere in order to have a fewer physical arrangement of gadgets. At this moment it may not have any effects on the user, but when something happens and his data is lost, there is a possibility that he can not work or finishing any task given to him.

Another actor shows a different strategy. She moves the substance in her notebook's virtual space to an external hard drive's virtual space. This way she reduces the need to bring a larger and heavier gadget but still got productive in her working space. The cloud technology, which became increasingly popular also helps people to keep being productive. This system cuts the time we need to get some data by reducing the need for searching (Mitchell 2003). These examples suggest that the negotiation between physical space and connectivity may affect productivity in our living space.

5. CONCLUSIONS

We may conclude that the presence of gadgets changes the platform of our living space. The world we inhabit have been shifting into a mix of physical and virtual space, where network become the new boundaries of living space. Young people see gadgets as a way to reach the networking they need and the connection depends on the use and arrangement of their supporting gadgets. With such connectivity, daily activities might be fragmented into several physical spaces but still connected virtually to one another. Negotiation between the physical space arrangement of the gadget and its connectivity may affect productivity and the way people operate in their living and working space. In the end, we suggest that new space arrangement is required to support the people's dynamic activities and moment between physical spaces.

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