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Face to Face Communicating Area Design

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FACE TO FACE COMMUNICATING AREA DESIGN
by Yuhan Wei

A Thesis Submitted in Partial Fulfillment of the
Requirements for the Degree of MFA Industrial Design
School of Design
College of Imaging Arts and Sciences
Rochester Institute of Technology

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Rochester, New York
December 2016
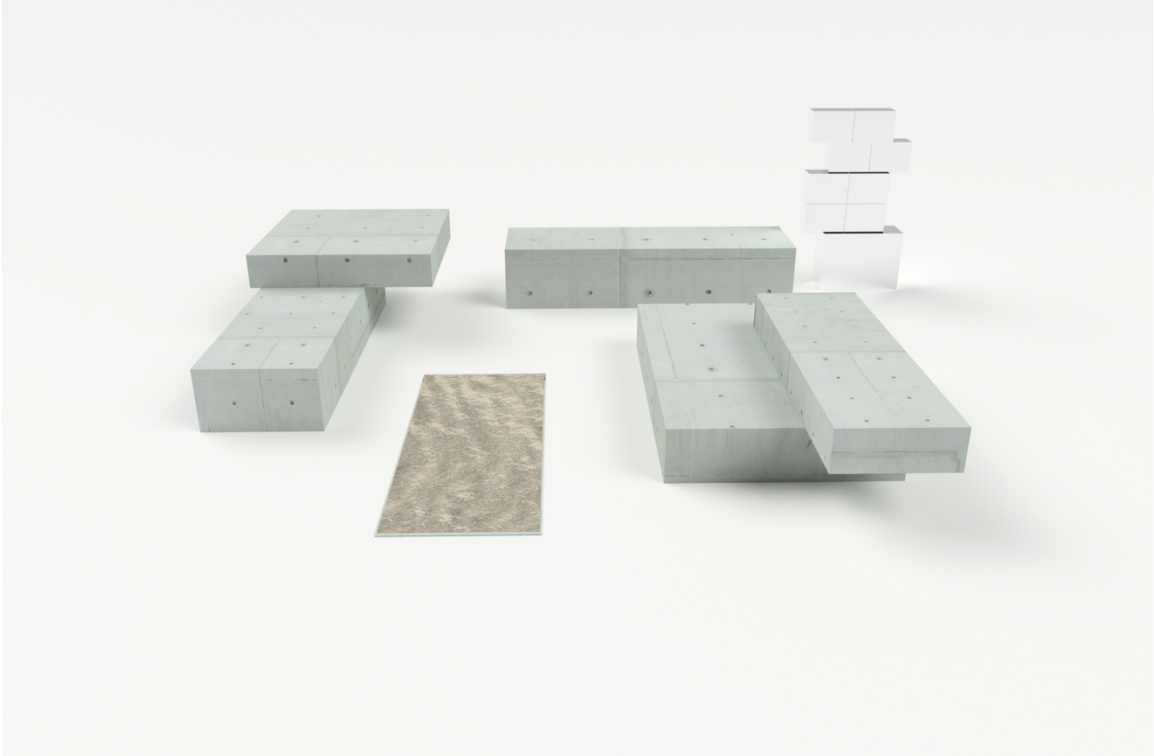
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Abstract:

More and more people are using digital technology and social media in their daily lives. As a result, it seems like there is a lack of emotional interaction with each other. For example, more people prefer to stay at home and just connect with the outside world through the Internet and their digital devices. Even when they have dinner with others, they often focus on their smartphones and seldom talk with each other. Unfortunately, these scenarios indicate that many people can only communicate electronically, which is very common nowadays.

This project is focused on creating a way of communicating that motivates people to relate with each other in person instead of being addicted to social media and smart phones. The idea is to create a communicating zone that can separate digital devices from the users and encourage them to enjoy face-to-face interaction.

The communicating zone will be designed to accommodate the outside area especially on campus. The whole design will be simple and clean. In addition, the space design will attract people to go there and result in helping them not be so addicted to the virtual world.

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Project vision and problem (or opportunity) statement

Digital technology and social media is becoming more popular in our daily lives. From my observation, many people prefer to connect with the outside world through their digital devices and seldom communicate with their family and friends in person. Even when they are together, people often pay more attention to their smartphones than to each other. It is easy to conclude that many people can only communicate electronically and this addictive behavior may be causing them to lose their ability to communicate in person.

Research shows digital addiction is becoming a serious problem around the world, and there are more than two billion active social media users worldwide -- that is a huge number. In a survey, Bennett shows that 18 percent of social media users cannot go a few hours without checking Facebook, and 28 percent of iPhone users check their Twitter feed before getting up in the morning (Bennett 2014).

A Harvard study showed that five to ten percent of people online are defined as suffering from overuse of the Internet. With nearly eighty percent of Americans online, between twelve and twenty million of them have at least a mild addiction. In addition, Americans spend an average of 15 hours a week online, including 3 hours a day on their cell phone. More and more of us are unaware of how overly reliant we have become on the digital world. The critical voices have become fewer and farther between, because computer and mobile device are widely used (Lamb 2010).

Watching the movie *Her* and an English drama, *Black Mirror*, made me realize that nowadays people are living in a virtual world or digital world instead of the real world. The more they interact with their digital devices, the more they feel empty in their heart. In other words, people's addiction to the digital world may explain their lack of emotional communication with their friends and family members. They can gain some comfort and warm feelings through interacting with an Artificial Intelligence.

This type of interaction comes with a range of new problems. For example, smartphones take us into a future that may not be healthy for us. In our daily lives, we are waiting for that message or feedback from our smartphones all the time. It becomes a dependency and a situation that leaves us eventually resentful. We over rely on that feedback as if we will disappear if we do not get it in time, which is somewhat weird but common today. When this happens, we tend not to fully apply our attention to our current surroundings for fear we might miss something from our social media platform (C. L. Hohlbaum 2013).

This kind of escape is something we all do with our minds from time to time. However, there are levels of escape that are unhealthy; e.g., always worrying about the future, spending more time thinking about the people you are not with than the people right in front of you, dwelling on events that *might occur* if you take your attention away from them even for a moment (C. L. Hohlbaum 2013).

Such absence of mind will expand that dark hole that we are trying to fill by any means. Consequently, no number of phone calls or texts will keep us in an abundant state of awareness (C. L. Hohlbaum 2013). Sometimes, we just cannot live in the moment and focus on what we are doing now. However, we do not want to lose our ability to communicate and build friendships with others in reality.

Therefore, it is time to face up to our digital addictions.

2. Project context

When we rely on digital devices too much in our lives, we are you going to have certain questions on our mind. For example, "Does technology make us more alone?" "Do you find yourself surrounded by people who are staring at their screens instead of having face-to-face conversations?" "Are you ever guilty of doing that, too?" "Is our obsession with documenting everything through photographs and videos preventing us from living in the moment?"

Upon considering these questions, I realized that there is need to design something that can motivate people to interact with each other in reality instead of being too addicted to the digital world. It also means spending time with real people and choosing a walk outside over one last Facebook posting, email, or Tweet. Tackling addictions is always easier when you are not alone. So, I want to encourage people to communicate with each other in real time and places. This kind of place can motivate people to feel the real world around them and just enjoy the moment.

3. Design research

3.1 Problem analysis and target market profile

Many types of addiction encompass this problem, and their effects are causing us many problems.

3.1.1 What is Digital Addiction?

The term *digital addiction* is quite broad; usually, it includes video games, the Internet, social media, and technology.

Digital addiction can be described on the same behavioral basis as most other addictions—when you continue doing something to the point that it causes problems in your daily life. You could not make it stop even if you tried, and you feel uncomfortable when you cannot use it (Digital Addiction: This Is Your Brain Online 2015).

3.1.2 What is Internet addiction?

Internet addiction is an impulse control disorder. Some Internet users may develop an emotional connection to on-line friends and activities they create through their computer. Meanwhile, they may enjoy the Internet, which allows them to communicate and exchange ideas through social networking website, or *virtual communities* (Taylor 2013).

3.1.3 What is social media addiction?

Social media addiction is when someone spends too much time using Twitter, Facebook, and other forms of social media platform -- so much so that it interferes with other aspects of daily life (Walker 2016).

3.1.4 What are the negative effects of social media addiction?

Social Disconnection

Instead of making us more connected, our smartphones could be making us more isolated. We are also becoming less connected to our peers on a deeper level because we are more distracted and less able to concentrate in social scenarios. A survey from the University of Essex shows that people who discussed personally meaningful topics when a cellphone was nearby reported lower relationship quality and less trust in their peer. They also felt their peer was less empathetic to their concerns. Researchers from the University of Maryland indicated that smartphone use is also likely to make us less engaged in *prosocial* behavior (Leonard 2015), and this can lead to a number of physical concerns.

Anxiety and Depression

When you spend lots of time staring at a screen, it can cause anxiety and even depression as people expect frequent updates and communication from friends, and they worry when these are not received. Researchers from Northwestern University said that the more time people spend on their phones, the more likely they are to be depressed (Leonard 2015).

A study from Baylor University in Waco, Texas revealed that people who check their phone constantly may be trying to improve how they feel emotionally. "Incessant checking of emails, sending texts, tweeting, and surfing the web may act as pacifiers for the unstable individual distracting him or herself from the worries of the day and providing solace, albeit temporarily, from such concerns" (Freeman 2015).

Digital Dementia

Attention disorders, memory deficits, and emotional flattening among young people is Digital Dementia. This happens when they spend too much time using texting and multimedia on smartphones (Didymus 2013).

The Digital Dilemma

You may think your digital communications seem more friendly or personalized, but it also can be misinterpreted sometimes. "When we assume that other people know what we're thinking, and what we are expecting of them, we do them a real disservice. Assuming that we've been clear about what we wanted, we blame them when things don't go as planned."– Heidi Grant Halvorson, Forbes (The Importance of Face-to-Face Communication 2013)

3.1.5 How many times a day do you check your smartphone?

A recent study reveals that American checks their cellphone every six-and-a-half minutes, or nearly 150 times every day. Another survey shows that the number is even higher: as many as 300 times a day. Approximately 53 percent of people between the ages of 15 and 30 said they would sooner give up their sense of taste than their smartphones (Roberts 2016). An additional survey shows that college students spend an average of 8 hours and 48 minutes on their smartphones every day (Roberts 2016).

3.1.6 What might make someone susceptible to smartphone addiction?

Many causes contribute to a smartphone addiction:

1) The addiction comes from the human need for self-expression, which urges feedback from others. Sometimes, we are likely to forget to enjoy and embrace the moment because of our need to share it immediately. The YouTube video, "I forgot my iPhone," clearly emphasizes this point and reflects our social behavior. Our mobile devices have provided us a convenient way to have human contact and social interaction (Itzkovitch 2013).

2) A *sense of being connected* is an important reason behind smartphone use. Roberts even reported that extroverted college students (who often go to parties and enjoy connecting with those around them) were more inclined to be addicted to their smartphones than introverted ones (Roberts 2016).

3) Smartphones have replaced many other devices of daily use. A variety of apps made us more and more *hooked up*. Checking social media, watching videos, and playing online games became an indispensable part of our daily routines (Jeong, et al., Smartphone Addiction 2013).

4) As social animals, we always want to feel that we are belonging to a larger group and being accepted. Smartphone and social media make this happen by providing Facebook chat groups, meetup groups, and other instant messaging groups (Roy 2015).

3.1.7 Recent Solutions to Mobile Device Addiction

Freeing ourselves from this mobile device addiction will not be easy for many. However, some available solutions are aimed at solving this problem. For example:

1) Go on a Cell Phone Diet, which means spending some time away from your phone. Focus on the here-and-now. Try to be in the present moment by focusing on what is currently going on, including your own thoughts and reactions. This can help you concentrate and likely reduce your reliance on cell phone use (Schuder 2015).

2) Consider alternatives to using your cell phone. Accomplish social tasks in another way. Meet up with a friend for coffee or a meal instead of texting through cell phones. Invite a family member over and talk with him/her about your experience other than posting your photos on Instagram. These ways of connection are likely to bring an increase in quality intimacy (Schuder 2015).

3) Plan face-to-face interaction. It is important to engage on a personal and intimate level other than just getting social support through your cell phone. For instance, plan an activity with family or friends and create meaningful memories with them. This way your energy is used in a productive way (Schuder 2015).

4) Regain your independence a step at a time. By limiting the amount of time that you spend each day with your phone, you will eventually regain your independence from it. By doing so, you will regard it as a communication tool instead of a lifeline to a digital world. In the long run, you can focus on face-to-face conversations more (Ginn n.d.).

According to my research, the best way to solve this digital addiction is to enhance the connection of people in real life. Create a proper, face-to-face communication environment to motivate people to interact with and enjoy the time with each other.

3.1.8 What is face-to-face interaction?

Face-to-face interaction is social interaction that requires no mediating technology (Crowley and Mitchell 1994) and a number of benefits.

3.1.9 What are the benefits of face-to-face conversation?

1) **Expressing feelings**: Face-to-face communication helps people express their feelings and ideas better than electronic communication. People can use eye contact and verbal language to show their opinions rather than only using words when they communicate through emails or phones (What is face-to-face conversation? | Advantages and disadvantages n.d.).

2) **Receiving responses immediately**: People can get a response immediately without misunderstanding during the face-to-face conversation. People can guess what will happen next and how the conversation is going to be (What is face-to-face conversation? | Advantages and disadvantages n.d.).

3) **Taking a 'vitamin' for depression**: A report from the Journal of the American Geriatrics Society Monday shows that people who gather together with family members and friends regularly are about half as likely to feel depression as those who have little face-to-face contact "We see a dose dependent effect with in-person contact," Teo says. "The more face-to-face meetings the lower the rates go." (Carroll 2015)

3.1.10 Why do we still need face-to-face communication in the digital age?

Although our online friends offer us a great deal, it is not a true supplement for real-life interaction. Real-life friends help us learn about others and ultimately ourselves. Online interaction lacks the ability to provide us with deep and lasting emotional closeness. (Shelley Galasso Bonanno 2016).

3.1.11 Why are young people more easily addicted to social media?

Social media provides multiple ways of information seeking and new forms of interaction for most young people. Besides that, we all know that young people are always easily attracted by modern technology, especially their digital devices.

So, our target users are mainly youth (especially college students who are addicted to the digital world).

3.2 Environment profile

Figure 1. Public Space Area (Microsoft Campus Cafeteria)

Based on my observation, the design focuses on the public space area, as depicted in Figure 1, because young people are more likely to go to this kind of area to socialize in order to communicate with their friends or to make new friends.

3.2.1 Why did I choose public spaces to encourage strangers to interact?

There are many *non-place*s in our daily lives. These are locations where people are strangers to one another and have no impetus to interact (MITCHELL 2012). In a modern world of non-places, cell phones act as a *comfort zone* for most individuals. In this circumstance, most people would choose cell phones rather than meeting each other. This leads to people continually looking at their phones instead of experiencing the world and the people around them. Therefore, I thought about how public areas could be created in a way that would make people comfortable enough that they could interact with each other without their cell phones.

3.2.2 How could I encourage people to interact in a public area?

Figure 2. Outdoor Dining Area

Figure 3. Campus Life

Figure 4. Elmhurst City Centre

To get the busy crowd to stop and get their attention away from their phones and laptops and back to real life, I looked into many public areas that are considered the best places for people to easily interact with each other. Examples of these areas are cafeterias, outside dining area of restaurants, and campus lawns and lobbies, as shown in Figures 2 - 4. I found that these areas have some traits in common, and I analyzed those traits and addressed them in my design work.

From this, I found some important traits for a comfortable communicating area where it is easy to create intimate feelings and build friendships:

1. A specific area where people can sit or lie down comfortably
2. An open space where people are can feel relaxed, delightful, and have fun
3. Some platforms where people can place their food.

3.3 Reference technology profile

Considering my design is mainly about anti-technology, I am not going to use any high technology in my design, and I would prefer to use some environmental-friendly material in my design. In this way, it would be easy for users to interact with the surroundings.

3.4 Product competitive benchmarking and assessment

3.4.1 The High Line New York

Figure 5. The High Line

Figure 6. The High Line - New York City

Moving towards Lower Manhattan in the meat market area, we can see one of New York City's park playgrounds, The High Line, shown in Figures 5 and 6. While there are benches everywhere along its pathway, you can sit and rest well as watch the city. I have been there before and admit that it is a great place to relax. You can always enjoy the beauty of the city and nature. Sometimes, I noticed that walkers would just lay on the benches and mind their own business. It is not a perfect place to create conversation with strangers and build friendships. In addition, there are some people who always keep their cellphones with them and cannot really move their eyes away.

3.4.2 The Pavilion at Bean Tree

The Pavilion at Bean Tree's main lobby, as shown in Figure 7, is a well-designed place for students to catch up with friends and relax. This comfort area is a favorite hot spot for older students who want to hang out with friends during the break time and a hip spot to catch up on the latest news, check out the latest social trends, or read a book. Although this place is mainly designed for students, it represents what a vivid communicating zone should be like. However, in my point of view, this place cannot provide the environment where people can separate from their cellphones (or digital devices) totally. Sometimes, students are likely to check their phones as often as possible.

3.4.3 RIT Global Village

Figure 8. RIT Global Village Plaza

As I am an RIT student, Global Village is always a great place for me to hang out with my friends. The sitting area near the fireplace, shown in Figure 8, is popular and always attracts us. This may be because we always want to go there, and we can catch up with

some new friends. Nevertheless, it is kind of sad that we cannot focus on our talks because sometimes it is hard to keep us from checking our cellphones.

3.4.4 IKEA Hotplate Table

The design team at IKEA Taiwan created a way of getting people to communicate during the mealtime rather than looking at their phones. The more phones that you put under the hotplate, as shown in Figure 9, the hotter it will get. This encourages people to put down their phone if they want to cook their meals. In this way, conversation can start up naturally and meals become social without cellphones. This is a nice way to separate the cellphones from people as well as create a nice communication atmosphere. However, that only happens when we have a hotplate table. What about other situations? How can we encourage people to interact without cellphones in our daily lives?

3.5 Design brief (product definition based on the research findings)

I would like to create an open space for youth. When people enter this area, they would like to put their phones and social media things away in order to just enjoy the moment with their friends for face-to-face communication and interaction (including interacting with people and also objects).

This environment would provide them with kind of intimacy feeling and motivate them to create conversation with others. During this time, they are attracted in this delightful and relax atmosphere. In this way, they would be more likely to concentrate on the communication.

4. Product development

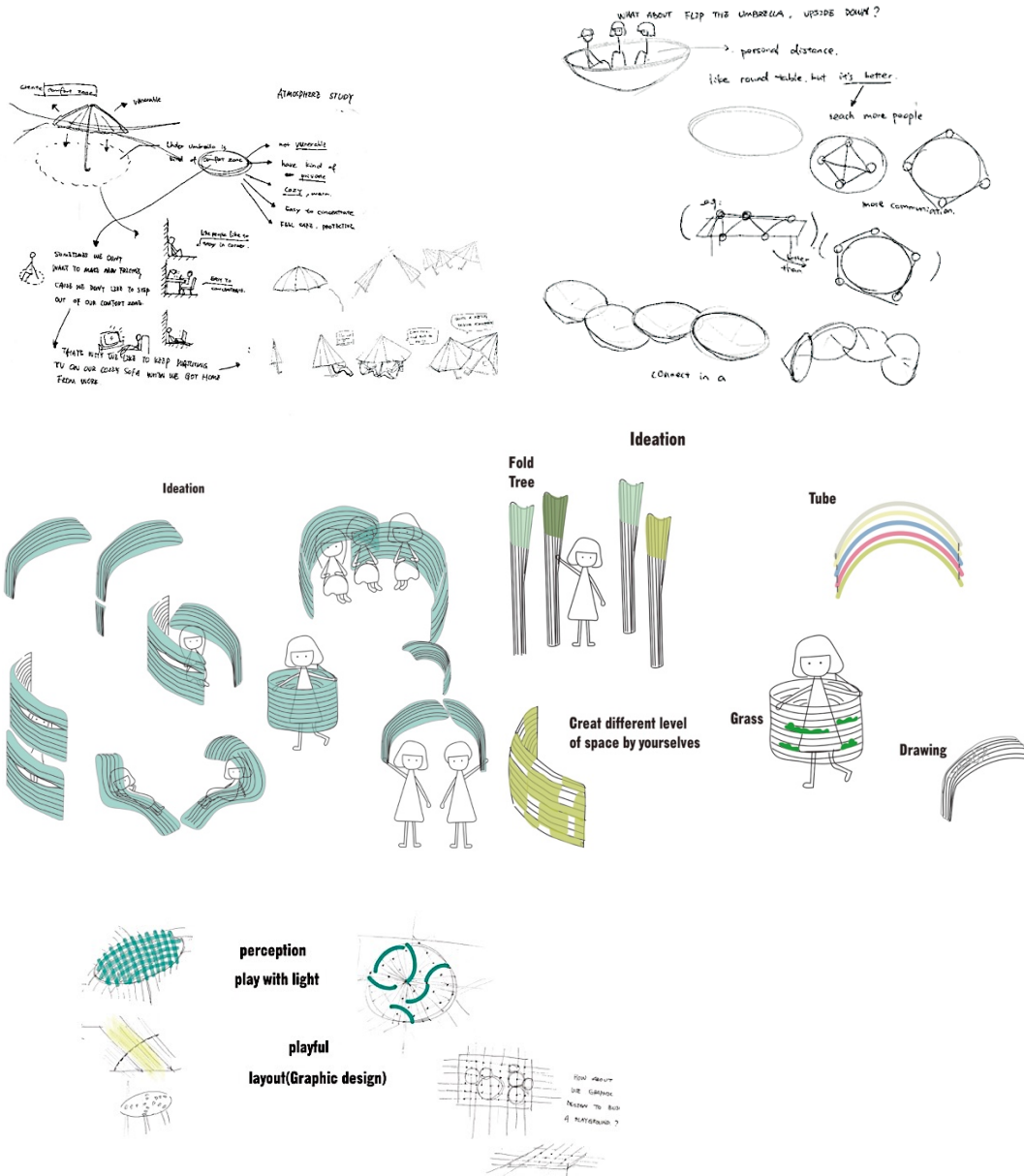## 4.1 Product concept ideation/brainstorming

Concept A

Figure 10. Concept A

The idea for Concept A, shown in Figure 10, came from the shape of an umbrella. The point is to create a shelter or private space for communication. Meanwhile, the flexible shape is for people to interact with and is playful.
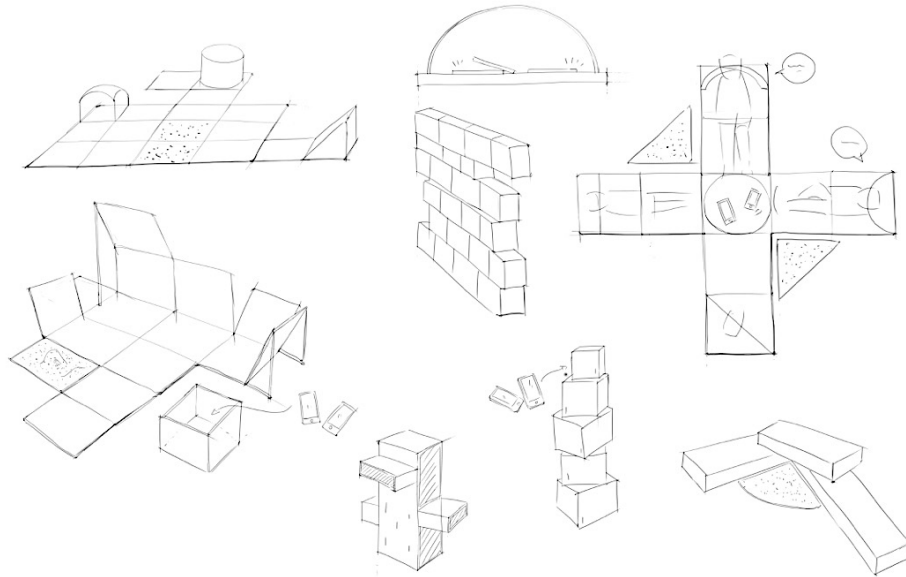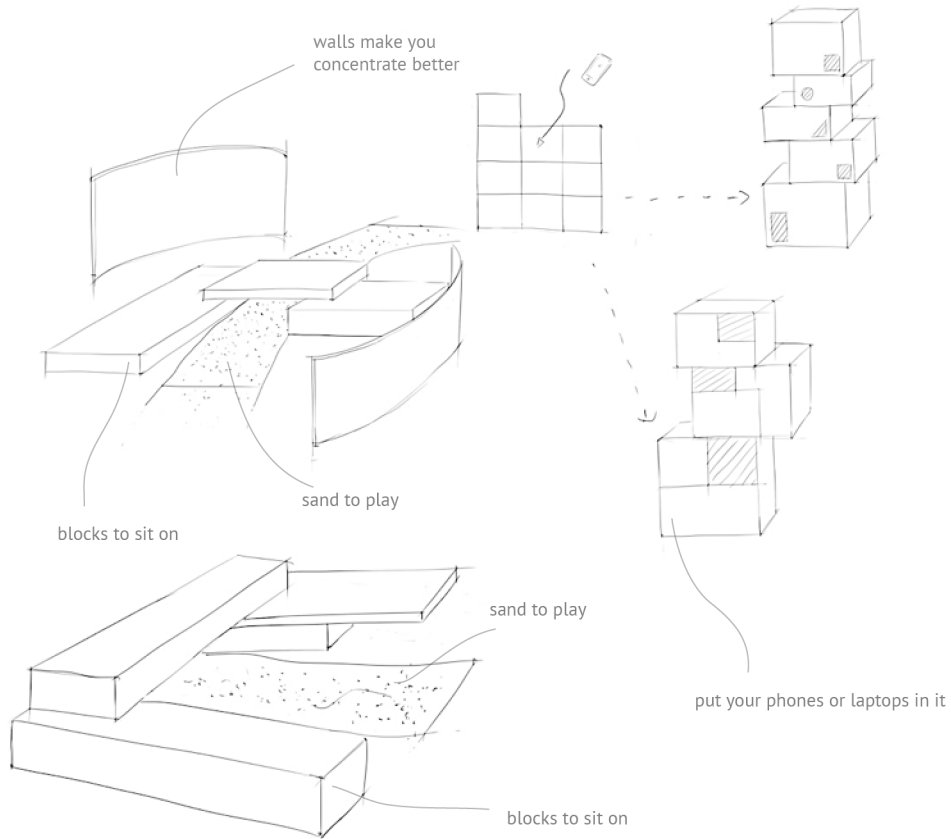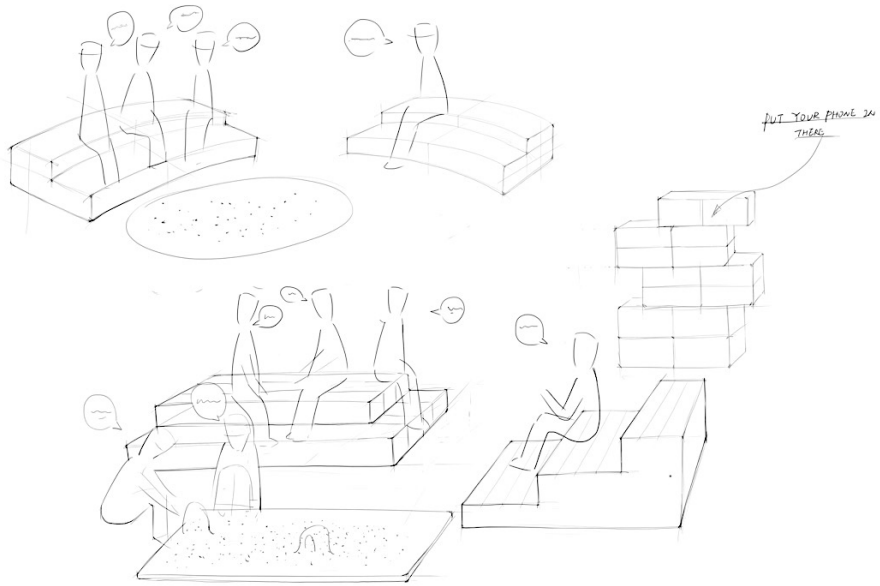
Concept B

Figure 11. Concept B

Concept B, shown in Figure 11, mainly focuses on separating phones from people. They can put their phones into those containers or boxes. In this way, they can focus on the face-to-face communication.

Concept C

walls make you
concentrate better

sand to play

blocks to sit on

sand to play

put your phones or laptops in it

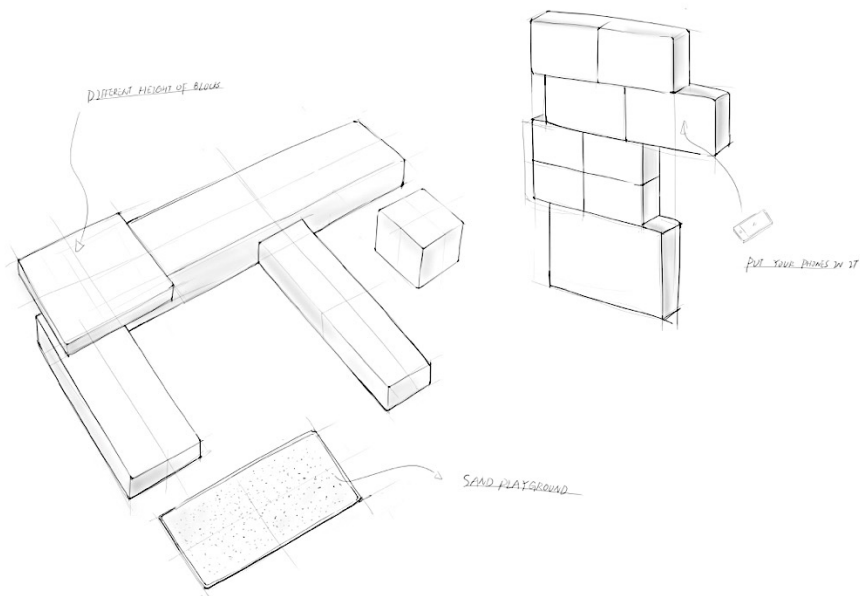blocks to sit on

PUT YOUR PHONE IN
THERE

Figure 12. Concept C

In Concept C, shown in Figure 12, the design element is block. I use blocks to create the communicating zone as well as the cellphone lockers in order to keep it simple and clean. Also, I put a sand tray to interact with and to attract people to go there.
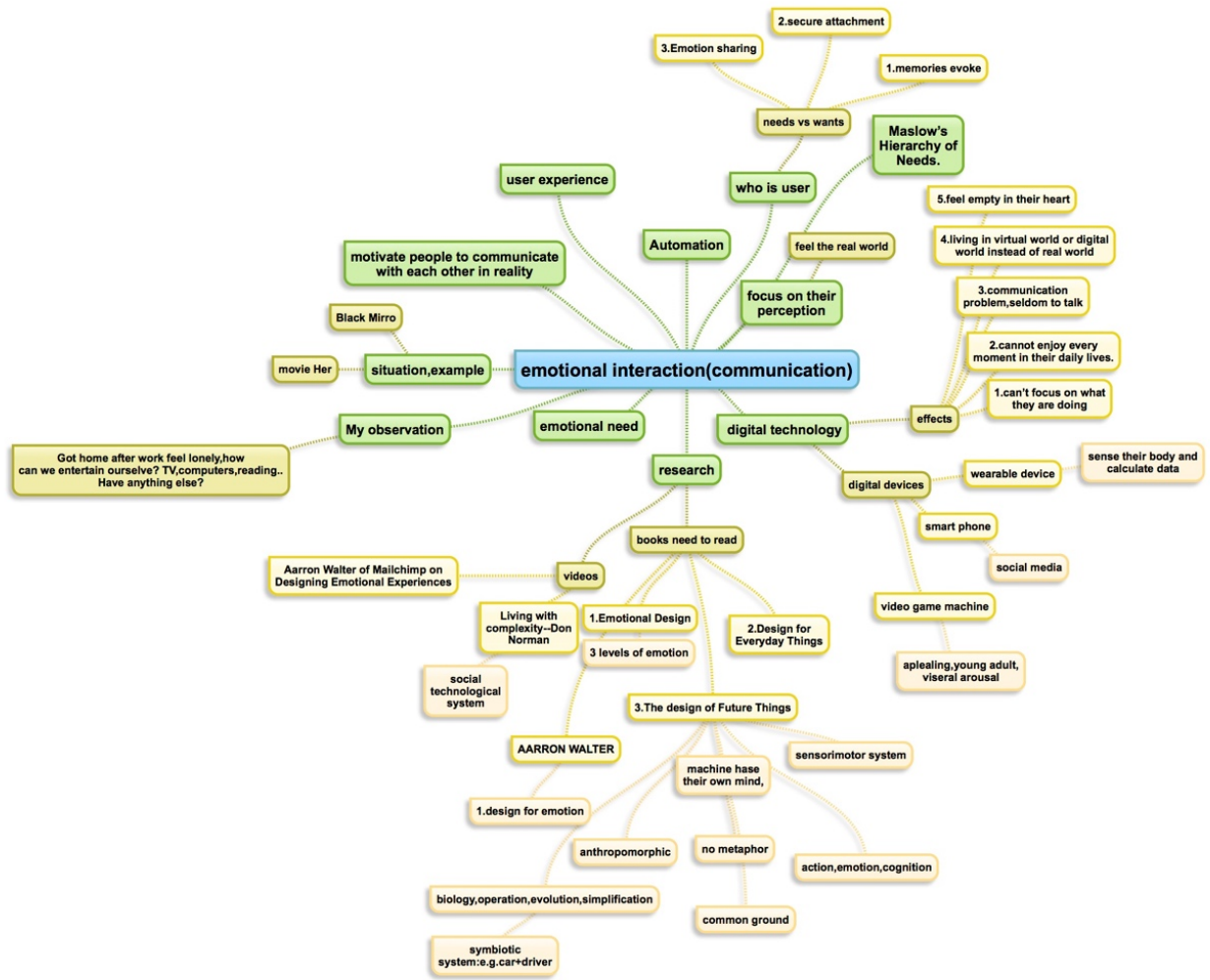
4.2 Ideation

Figure 13. Mind Mapping

The mind mapping, shown in Figure 13, emphasizes the emotional interaction (communication) as the basic need in our daily lives. I analyzed the kinds of digital technology we are usually addicted to and their effects. In addition, I combine research from books about emotional design with my observation. Then, I mainly focus on how to motivate people to interact in reality and feel the real world.

4.3 Design features and inspiration

Therefore, my design has two components: one is for the communicating zone and the other is the cell phone killer cube.
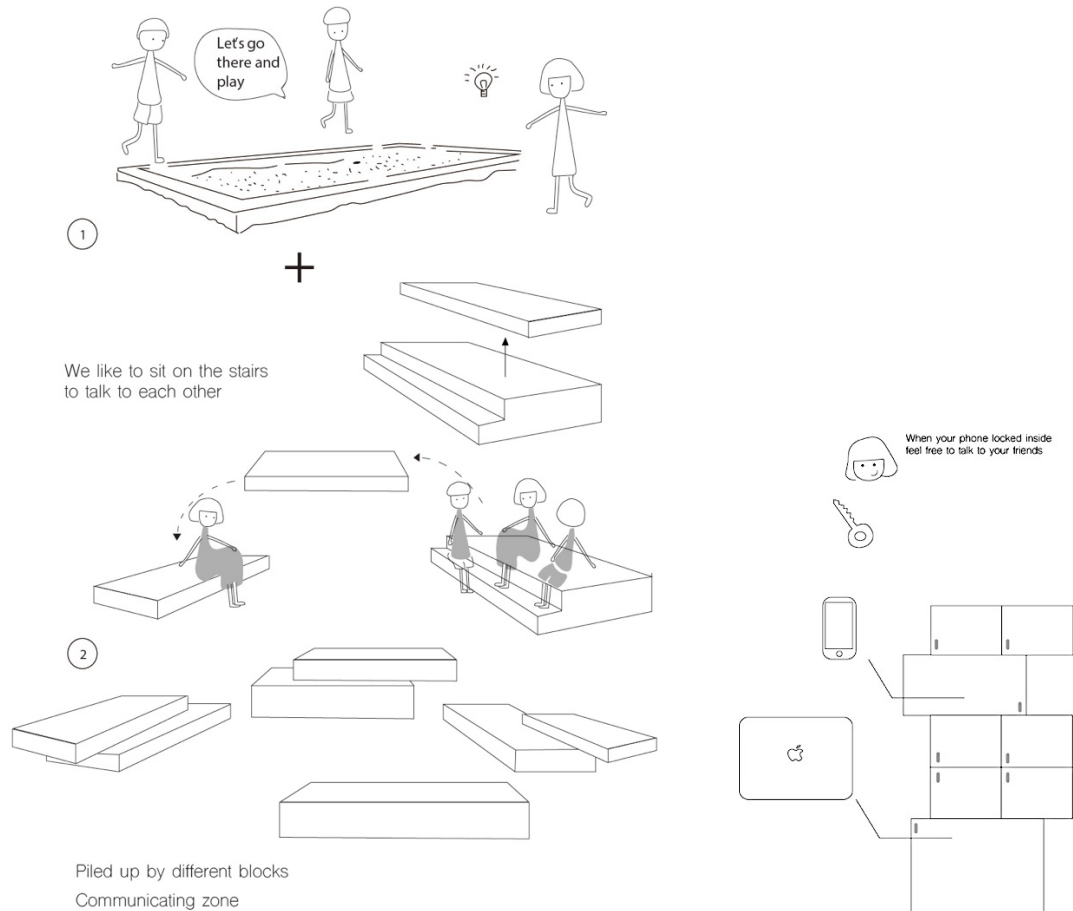
Figure 14, Combined Design

The communicating zone, shown in Figure 14, combines the sitting blocks with the sand tray. It will attract people to go there and enjoy the conversation with their friends. The cellphones killer cubes are built from lockers. People can put their digital devices in those lockers in order to separate themselves from their phones.
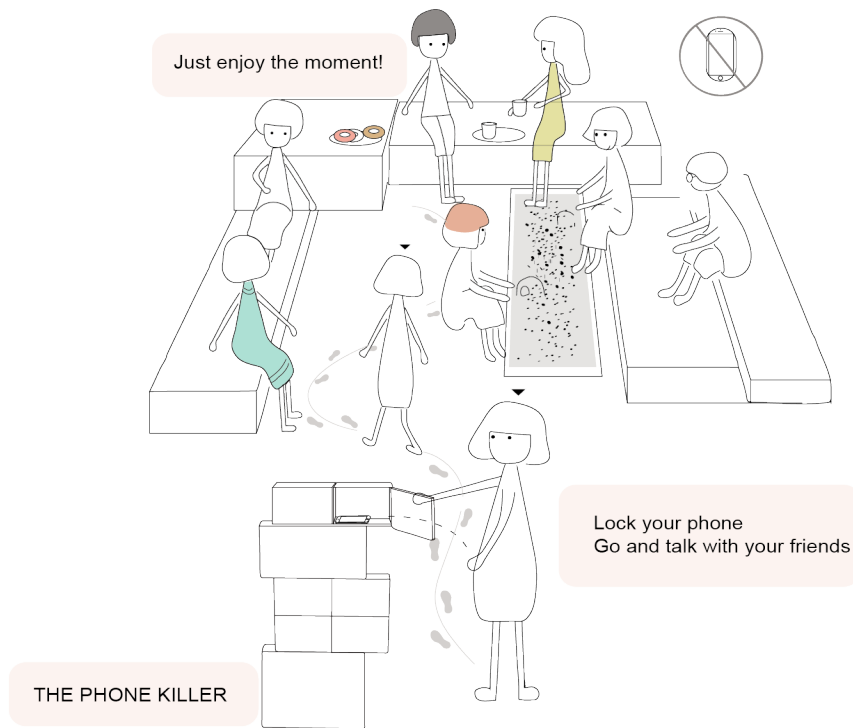
Figure 15. Communicating Area

When people enter this communicating area, shown in Figure 15, their phones will go into the phone killer cubes so they cannot easily get to them. In this way, they will focus on face-to-face interaction with others instead of checking their phones or social media all the time. Parts 1 and 2 further describe these features.

Part 1 Communicating Area

As for the communication area, when I was child I really liked playing at the sand ground with friends. I feel it is a good way to incorporate those good memories into my design. In my opinion, this familiar circumstance would be helpful in creating feelings of intimacy and building friendships. With this kind of sand attraction, people are more

likely to gather in this area not only to spend time with their old friends, but also to build new friendships. In the end, it will encourage people to come because it is delightful and fun.

Figure 16. Sand tray

Research explains why it is advantageous to choose sand:

1) Playing in the sand, as shown in Figure 16, can bring many anxiety-reducing benefits for players. When we play with sand, we can reduce anxiety, inner conflicts, and tensions in our mind. It is tactile and like using comfort objects to reduce anxiety. In other words, it calms the mind, increases mindfulness of the present moment, and reduces your stress (Peterson 2015).

2) "Most people have had contact with sand as children. Handling it can help us go back to a childlike way of feeling, a free-flowing way of being in the moment," Aya Husni Bey says, a London-based *creative counsellor* (Hicks 2016).

Figure 17. Talking on stairs

In the communicating area, there would be different zones with different levels of blocks. This would allow people to be in their most comfortable position.

From personal observations, people are likely to sit on the stairs and talk with their friends, as shown in Figure 17. So, I think it would be a proper environment where individuals feel comfortable and easily and put down their guard.

I found some good examples of people sitting on stairs.

Figure 18. TKTS Times Square

The Red Stairs, the top of theTKTS Broadway ticket booth, shown in Figure 18, is made of red illuminated translucent glass and offers a perfect viewing point of the surrounding Times Square. If you sit there for a long time you may see almost a million people passing by (Brill 2012). Also, it is common to see passengers take a seat and start a conversation with their friends.

Figure 19. Broadway Plaza

The Broadway Plaza on Broadway and 65th Street, shown in Figure 19, has many steps built in front of Alice Tully Hall. I went there several times before and noticed that people are likely to gather together on the stairs to take a rest as well as start a small talk with their friends.

Part 2 Cellphone Killer Cube

Figure 20. Apartment Mailboxes

Figure 21. Barkli Virgin House Luxury Apartment Residences

In order to separate the cellphones with the users, I found that it is better to put them away and lock them. As a result, people are not inclined to check their phones all the time. Meanwhile, the lockers make users feel safe when their expensive digital devices are locked. I got a lot of inspiration from the mailboxes. They have a simple design, are well-organized, and provide a good way to lock up phones, as shown in Figures 20 and 21. This design is further explained in the balance of this section.

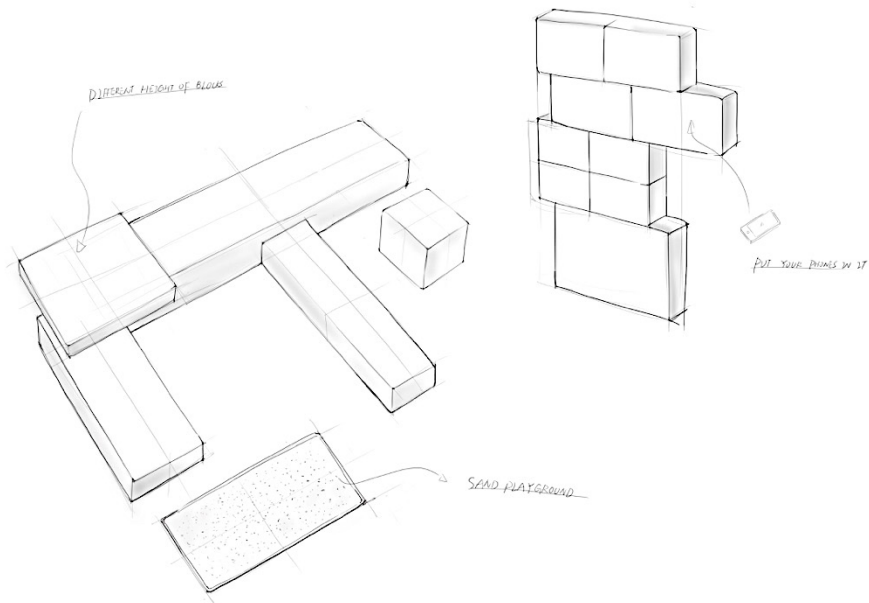# 4.4 Concept selection (hand rendering presentation)

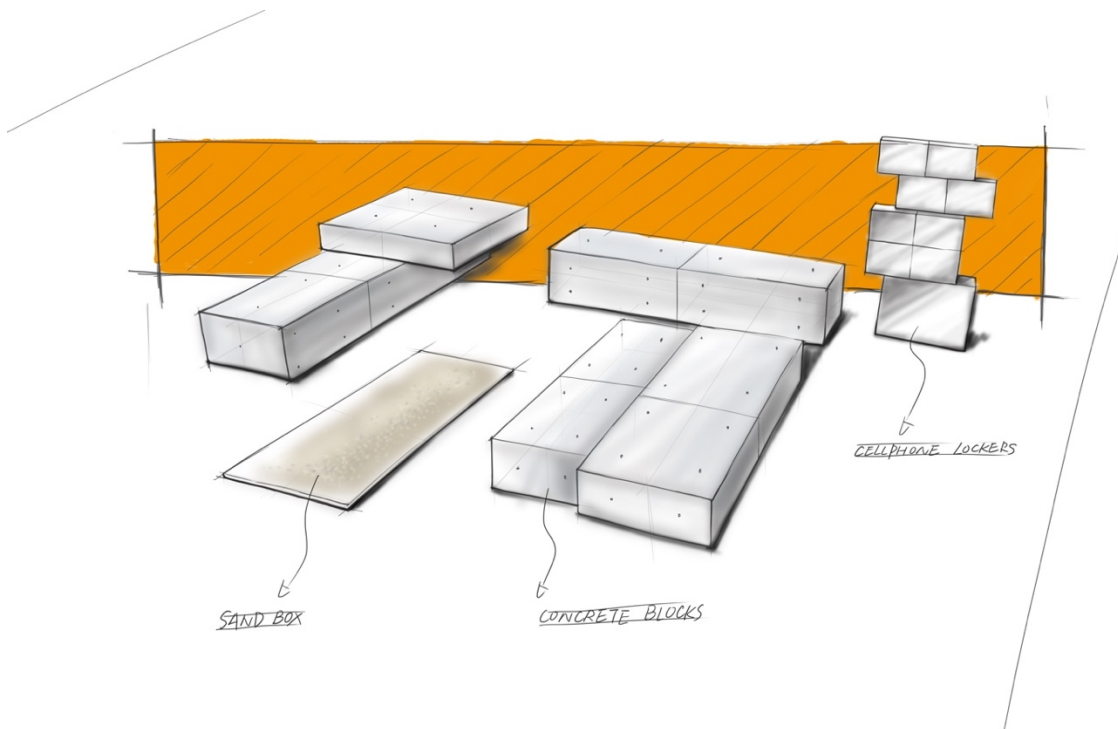*Figure 22. Part 1: Different Levels of Seating*

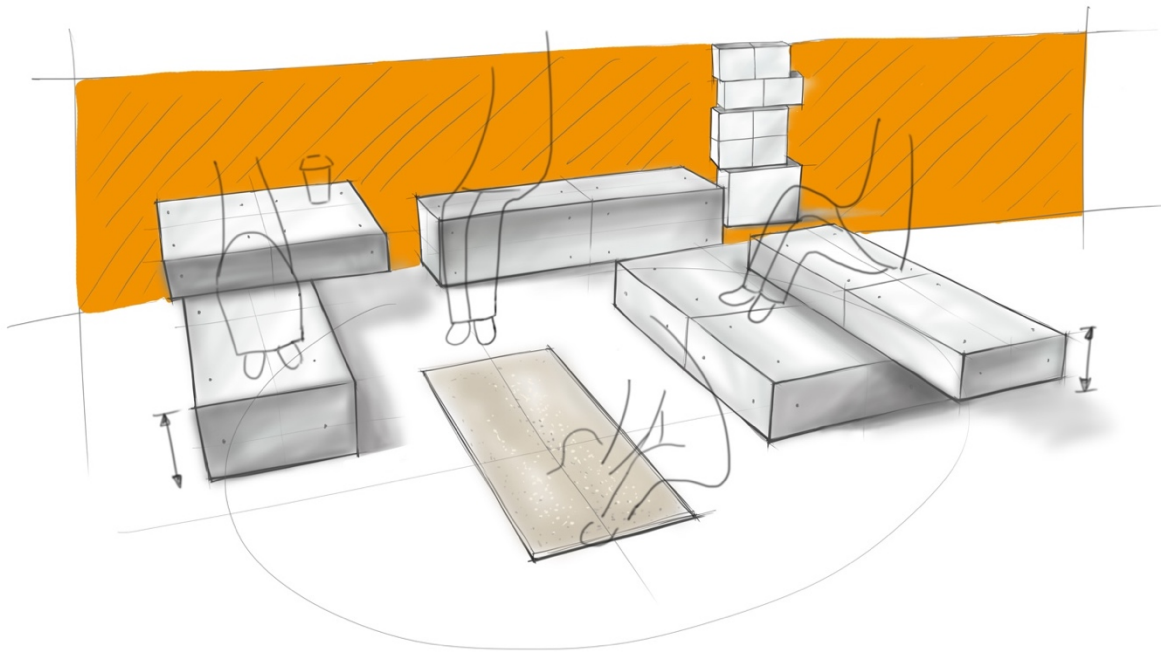*Figure 23. Part 2: Locking Wall for Cellphones*

Figure 24. Part 2: Sand Pond or River

For part 1, I will create different levels of seating in the communicating area with some blocks.

For part 2, there will be a locking wall where people can keep their cellphones safe.

For part 3, there will be a sand pond or river where people can play and interact -- just as children play with sand on the beach. It will intrigue people to go there because it is fun and interesting to play with sand -- using their hands or feet and starting conversations during the process. In the long term, they are likely to build friendships.
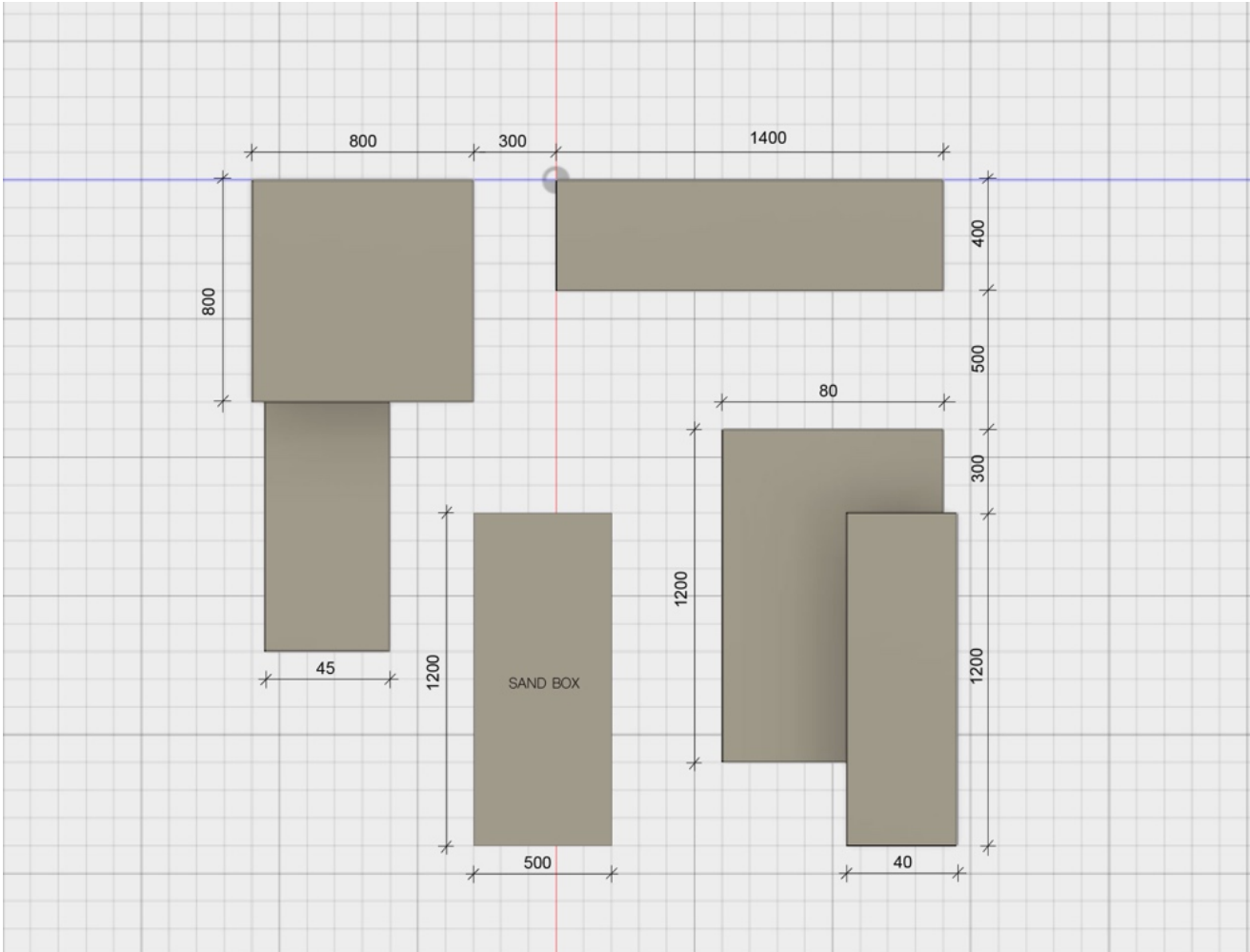
4.5 2D views, 3D exploded views
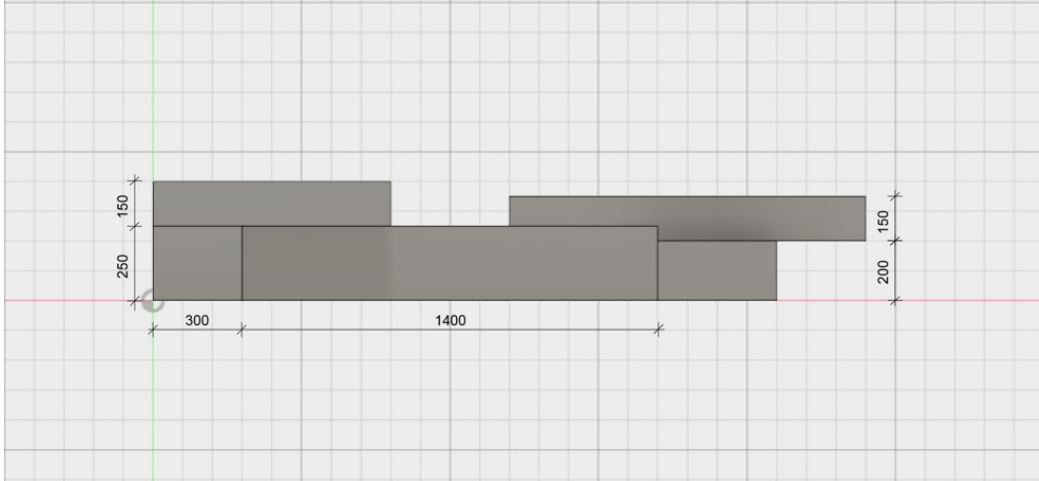

Figure 25. 3D Exploded View (1)
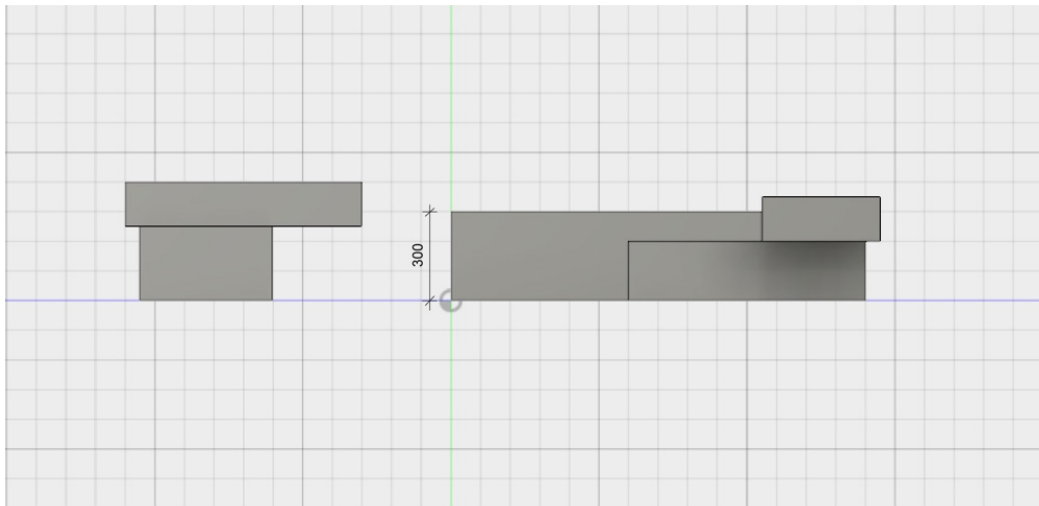
Figure 26. 3D Exploded View (2)

Figure 27. 3D Exploded View (3)
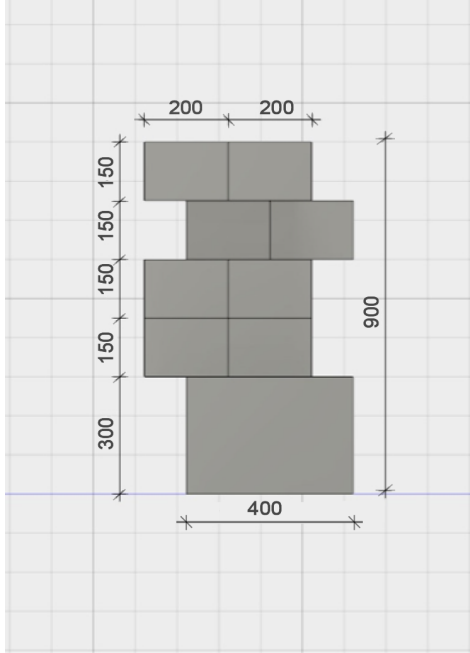
Figure 28. 3D Exploded View (4)
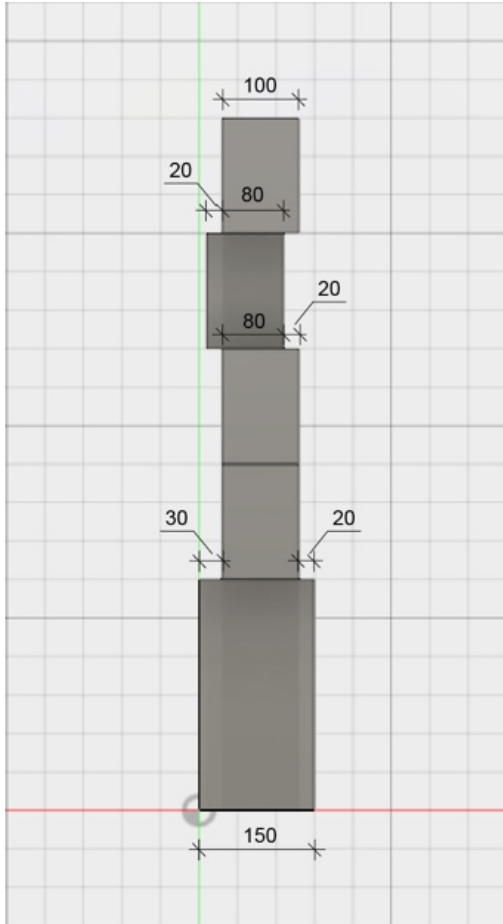
Figure 29. 3D Exploded View (5)

41

Figures 25-29 provide 2D and 3D exploded views of the communicating area, including the cell phone lock and sandbox features.

4.5.1 Analysis of the traffic flow
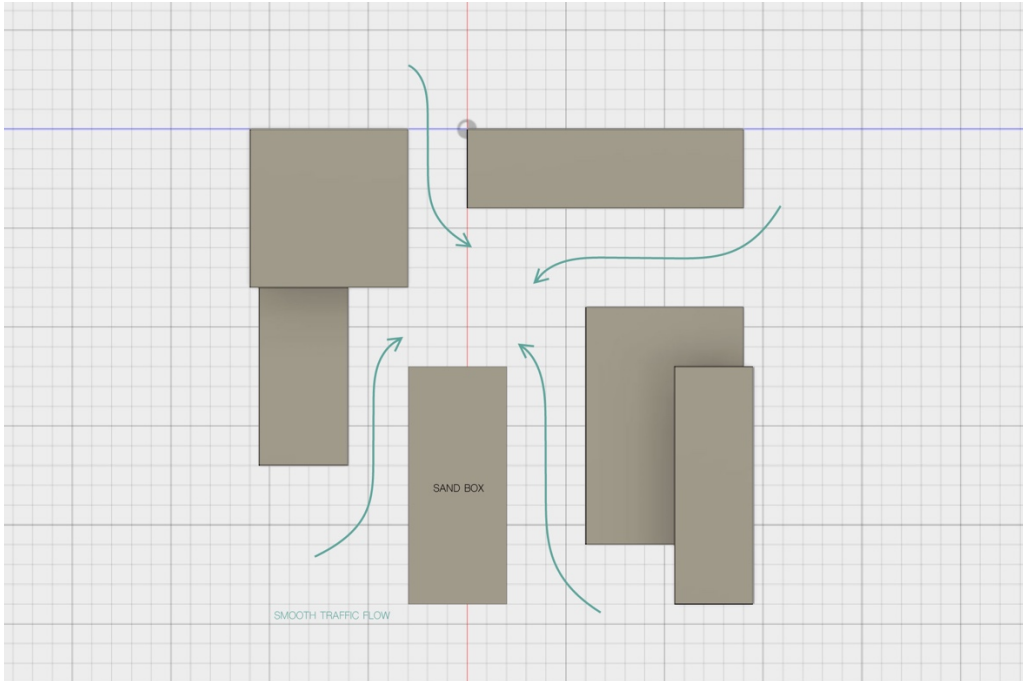
Figure 29. Traffic Flow in Communicating Area

With proper distance between sitting blocks, people can easily enter the communicating area.

4.5.2 3D rendering with Fusion 360
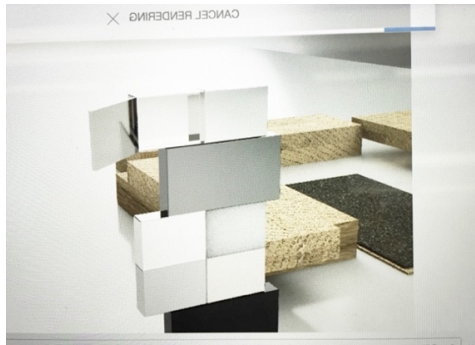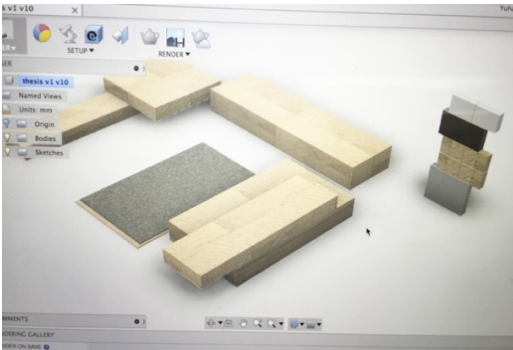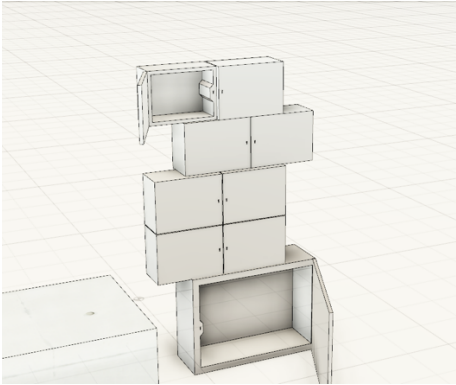
Figure 29. Group of 3D Renderings with Fusion 360 (1)
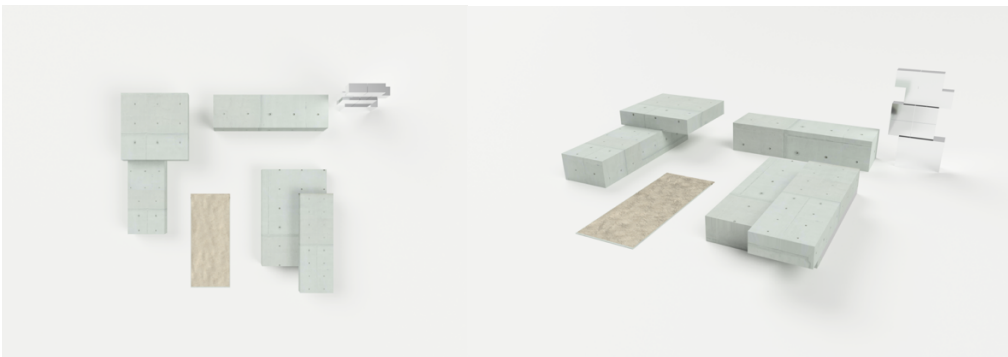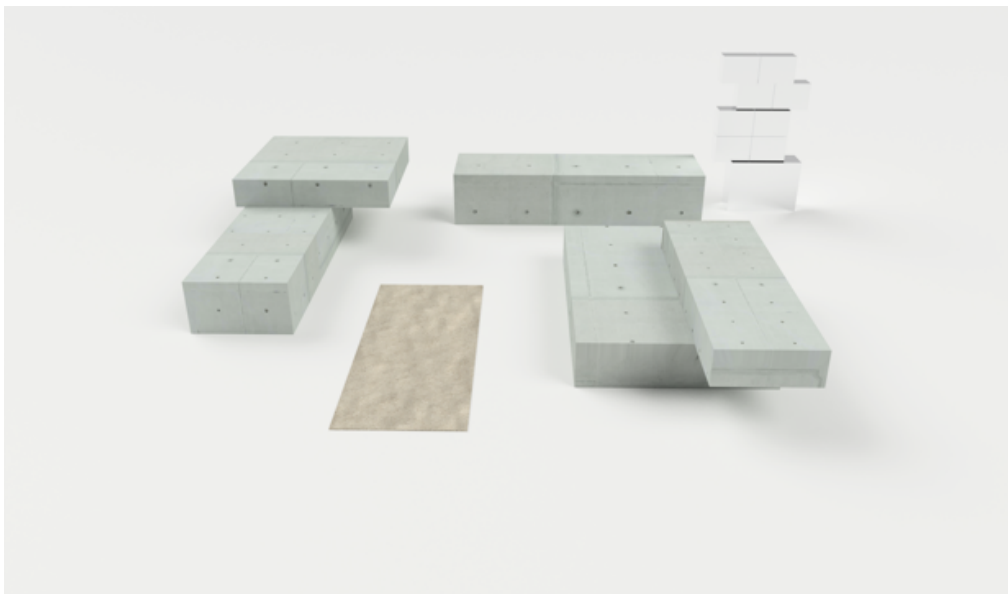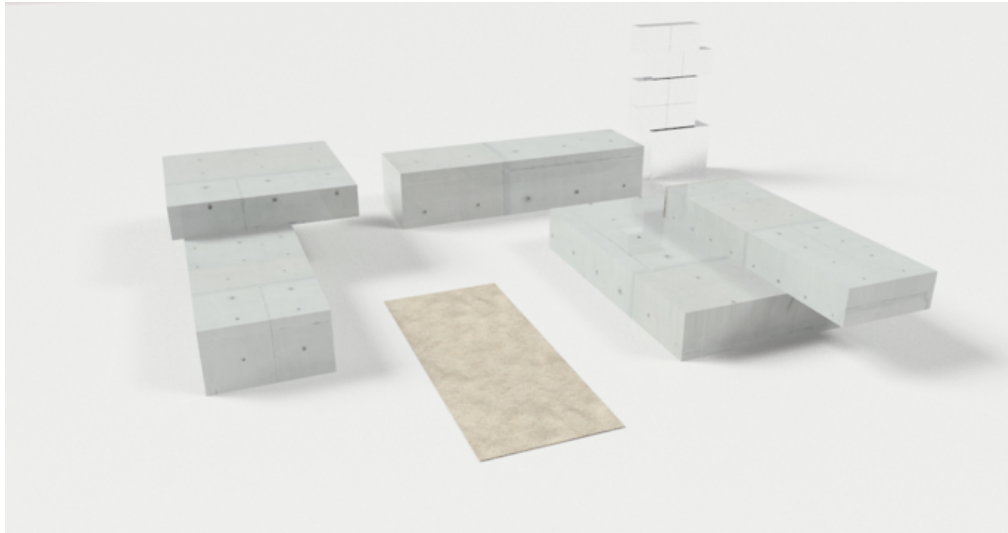
Figure 30. Group of 3D Rendering with Fusion 360 (2)

Figures 29 and 30 present two groups of 3D rendering with Fusion 360.

4.6 3D Trial and error study models

Part 1 Communicating area

Figure 31. Trial and Error Study Models for Communicating Area (Part 1)

PART 2 Cellphone killer cube
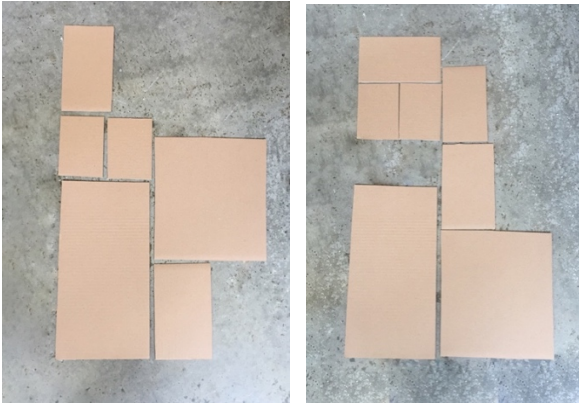
Figure 32. Proportion Analysis of Cellphone Killer Cube (Part 2)

Figure 33. Wood Making Model of Cellphone Killer Cube (Part 2)

Figures 31-33 show trial and error study models for Parts 1 and 2.

4.7 Human factor studies
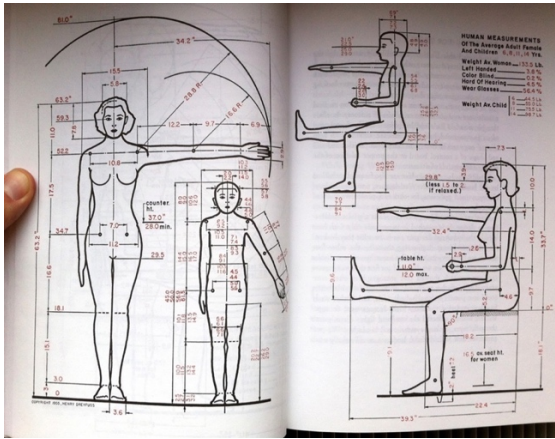
Figure 34. Designing for people-female
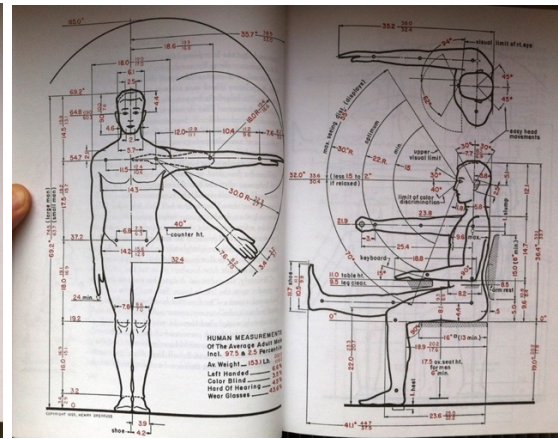
Figure 35. Designing for people-male

As for the human factors, I considered the scale of the sitting bock as well as the cellphone killer cubes. The height of the sitting blocks is no more than 450$_{mm}$,which is considered suitable to sit on. Actually, they are all between 300 and 400$_{mm}$. The width of the sitting blocks is no less than 400$_{mm}$, which is a good fit for both females and males to sit on. This is shown in Figures 34 and 35. The height of the cellphone killer cube is about 900$_{mm}$, which is easy access for users to store their phones.

5. Material selections

5.1 Architectural concrete
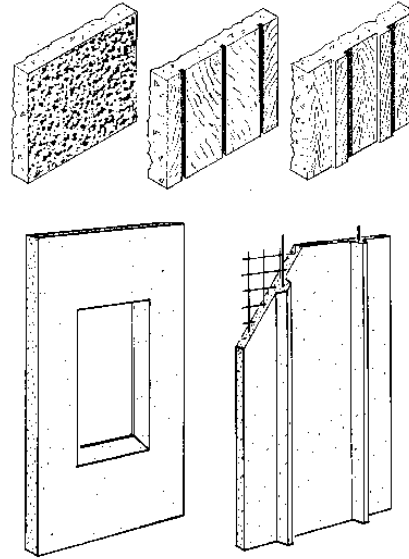
I chose architectural concrete to build the sitting blocks. This type of concrete is frequently cast in a mold and has a pattern on the surface. Structural and nonstructural concrete are shown in Figure 36.

5.1.1 Why did I choose architectural concrete?
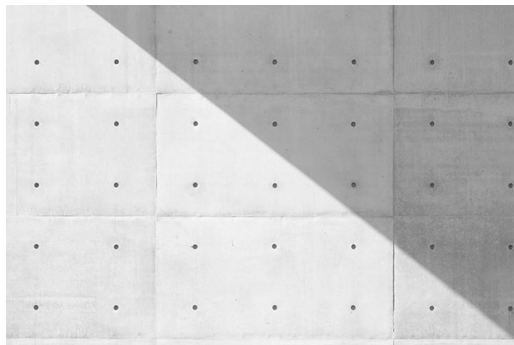
Figure 37. Architectural Concrete

Figure 37 shows an example of architectural concrete.

Figure 38. Outdoor Concrete Patio Bench and Planters

Figure 39. Concrete Stool

Figures 38 and 39 are examples of how architectural concrete is used. Architectural concrete has the following characteristics:

1) Durable**:** Concrete is strong and resilient. You do not need to worry about the damage because it can resist pressure and heavy weight. Also, it is appropriate for any climate (Admin 2013).

2) Easy Maintenance**:** It takes little work to keep concrete looking its best. Depending on the level of traffic, it may need to be sealed or waxed every 3-9 months to maintain the protective layer (Admin 2013).

3) Environmentally Friendly: There is no consumption of resources or carbon footprint when manufacturing architectural concrete. It does not contain any harmful volatile organic compounds because no trees need to be cut down (Admin 2013).

4) Recyclable: Concrete can be broken down to allow it to be used in commercial grade ground installations when it is demolished. Therefore, it does not need to go to a landfill (Admin 2013).

5.2 Aluminum

Figure 40. Aluminum

Figure 41. Many Small Cubes', an Outdoor Installation of Aluminum Cubes

5.2.1 Why did I choose aluminum for the cellphone killer cube material?

Figure 40 is an example of aluminum, and Figure 41 shows an installation using aluminum cubes. Aluminum has the following characteristics:

1) Non-corrosive**:** Aluminum does not rust. It is protected by its own naturally occurring oxide film (The Benefits of Aluminum Extrusion and Framing n.d.).So, we do not need to worry about the weather and other environmental factors.

2) Reflectivity**:** Aluminum is a good reflector of visible light as well as heat (AZoM 2002). In this way, it can reflects the surroundings and environment in order to integrate with the surrounding environment.

3) Metaphor: It feels cold and represents the modern technology (especially digital devices and social media). It represents a metaphor of reality versus the digital world. In this way, it will encourage people to think about the relationship between their cellphones (virtual world) and their daily lives (real world).

4) Recyclability: Aluminum is 100 percent recyclable. The re-melting process of aluminum needs little energy. In the recycling process, it only consumes about 5 percent of the energy needed to produce the primary metal (AZoM 2002).

5) Seamless: You can make different shapes from one-piece extruded sections, and there is no need to use mechanical joining methods. So, it makes aluminum pieces stronger and nearly impossible to leak or loosen over time (The Benefits of Aluminum Extrusion and Framing n.d.).

5.3 Full size model making

Figure 42. Full-size Models Making Process-Communicating Zone

Part 1

The 'communicating zone' models are made of cardboard, foam board, plywood and sand.

Figure 43. Full-size Models--Communicating Zone

Figure 44. Full-size Models-Cellphone Killer Cubes

Part 2

The 'cellphone killer cubes' models are made of wood boxes. And the functional models are mimicked by the safety lockers (purchased from market).

7.Testing: user validation of design


Figure 45. Full-size Models-Cellphone Killer Cubes

I invited 15 students from RIT to test the full size models. They are asked to sit on those blocks as well as change their positon. During the whole testing process they are focused on the proportion of the models and perception.

Also I chose outside campus environment to build the testing scenario in order to mimic the real situation.

Afterwards I let the users to finish the questioner as follows:

"Face to Face" user response
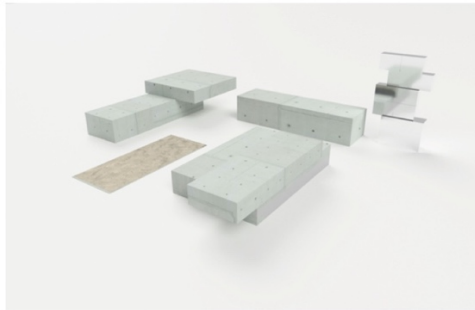
1. How do you feel the dimension of this siting area?

	1	2	3	4	5	6	7	
small	○	○	○	○	○	○	○	large

2. How do you feel the height of this sitting blocks ?

	1	2	3	4	5	6	7	
low	○	○	○	○	○	○	○	high

3. How would you like to lock your phones into this Phone Killer Cube ?

	1	2	3	4	5	6	7	
Not at all	○	○	○	○	○	○	○	Definitely

4.Do you like play sand in this communicating area?

	1	2	3	4	5	6	7	
Not at all	○	○	○	○	○	○	○	Like it so much

5.Do you feel there is need to have chargers in this cellphone killer cube ?

○ Don't need

○ Doesn't matter

○ Better to have it

○ Highly recommend

6.Would you like to go there to hang out with friends or meet new friends ?

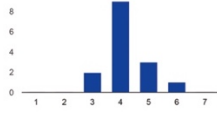|	1	2	3	4	5	6	7	
Not at all	○	○	○	○	○	○	○	Definitely

SUBMIT

Then I collected those ansers and analyzed them.

Summary

[Image]
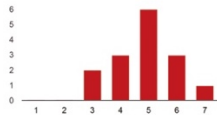
1. How do you feel the dimension of this siting area?

small: 1	0	0%
2	0	0%
3	2	13.3%
4	9	60%
5	3	20%
6	1	6.7%
large: 7	0	0%

2. How do you feel the height of this sitting blocks ?

low: 1	0	0%
2	0	0%
3	5	33.3%
4	9	60%
5	1	6.7%
6	0	0%
high: 7	0	0%

3. How would you like to lock your phones into this Phone Killer Cube ?

Definitely: 7　1　6.7%

4.Do you like play sand in this communicating area?
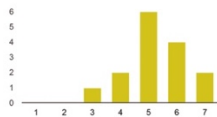
Not at all: 1	0	0%
2	0	0%
3	1	6.7%
4	2	13.3%
5	6	40%
6	4	26.7%
Like it so much: 7	2	13.3%

5.Do you feel there is need to have chargers in this cellphone killer cube ?
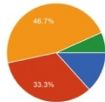
Don't need	2	13.3%
Doesn't matter	5	33.3%
Better to have it	7	46.7%
Highly recommend	1	6.7%

6.Would you like to go there to hang out with friends or meet new friends ?
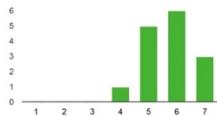
Not at all: 1	0	0%
2	0	0%
3	0	0%
4	1	6.7%
5	5	33.3%
6	6	40%
Definitely: 7	3	20%

According to the data and suggestions from users, I found that most users felt the scale of the communicating zone is proper. And they are willing to lock their cellphones or other digital devices in this circumstance. Besides, the sand tray indeed attracted users attention and made them want to play with it. In the long run they are happy to go there to hang out with their friends in the future.

But it seems like that over half numbers of the users want to have chargers in those lockers. Cause they thought that in this way they don't need to worry about their digital devices are power off during the whole commucation time.
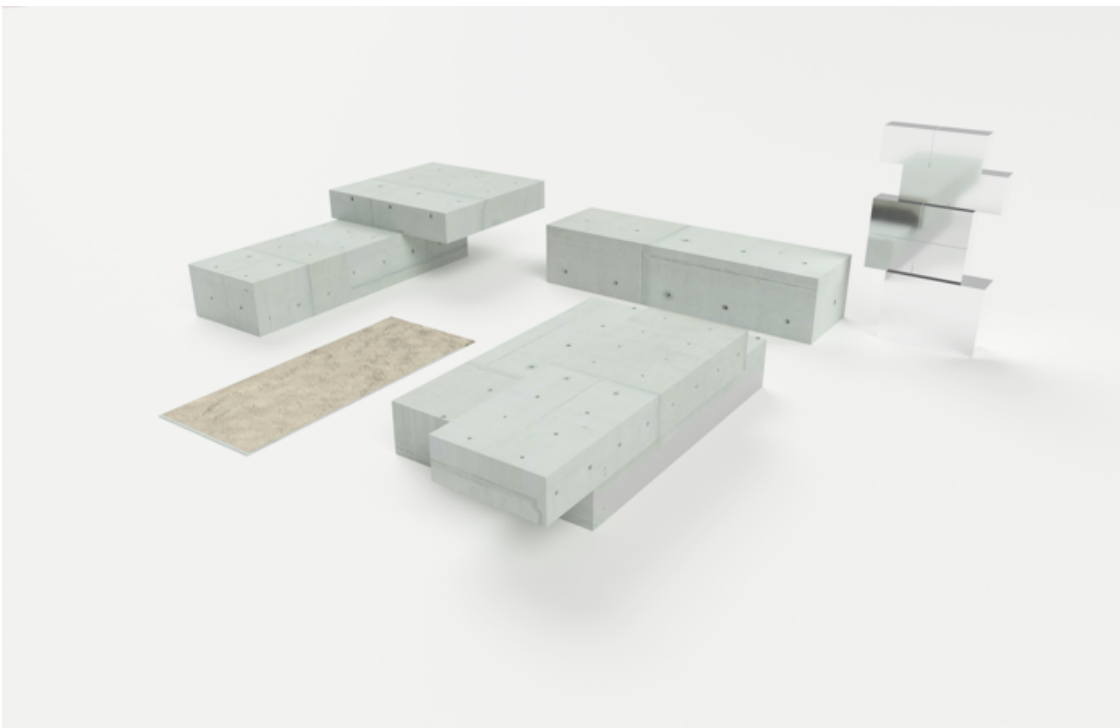
 I will take those feedbacks seriously and refine my design in the future. I still need to work on the details of the "cellphone killer cubes" design as well as the real concrete-casting process.

Figure 46. Final Thesis Show

8. Final model documentation

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