

# 2019 CAPE SUMMER WORKSHOP

cape

Campus

Asia

Plant

Environment innovation

—  
KOREA





### Overview and Context

The 2018 Summer Workshop of Campus Asia Plant Environment innovation (here in after referred to as CAPE) was held in Korea, in collaboration with Zhejiang University(china), Yonsei University(Korea) and Chiba University(Japan). This workshop aims to propose Universal Design, using real-world case studies to offer creative designs and solutions. Students will develop innovative design solutions by eliminating barriers and improving outcomes for all people, regardless of gender, age, nationality, or disability. Based on the content of Universal Design, it will help the students to explore the physical and psychological viewpoints of persons with disabilities. The understanding of it will also create a community to learn about the value of Universal Design, applying it to reality.

### About Universal Design

Universal Design is a design method and design approach that allows all people, regardless of disability, age, or gender, to safely and conveniently use space, facilities, products, information, and services. Barrier-free, Design for All and Inclusive Design have a similar concept to Universal Design. Barrier-free refers to removing physical barriers, which are inconvenient for people with disabilities and elders. On the other hand, the idea of Universal Design is a step forward from the notion of Barrier-free. Unlike Barrier-free, the target of Universal Design includes both disabled and non-disabled. Overall, Barrier-free design is a partial and passive design approach which facilitates the usage of common area and services among the elders and people with disabilities, while Universal Design is an active and a comprehensive design approach, allowing all people to easily access daily life space, facilities, and information.



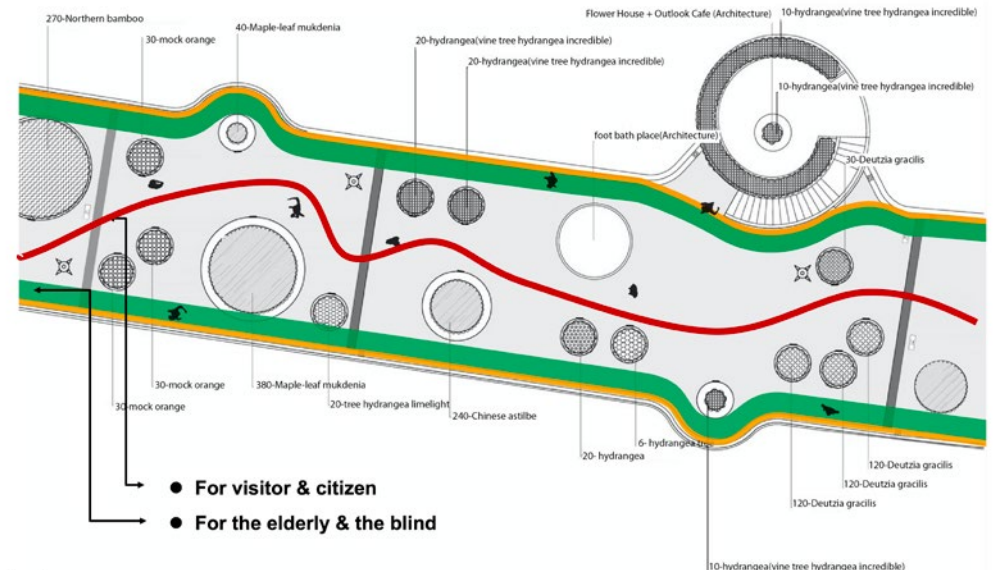
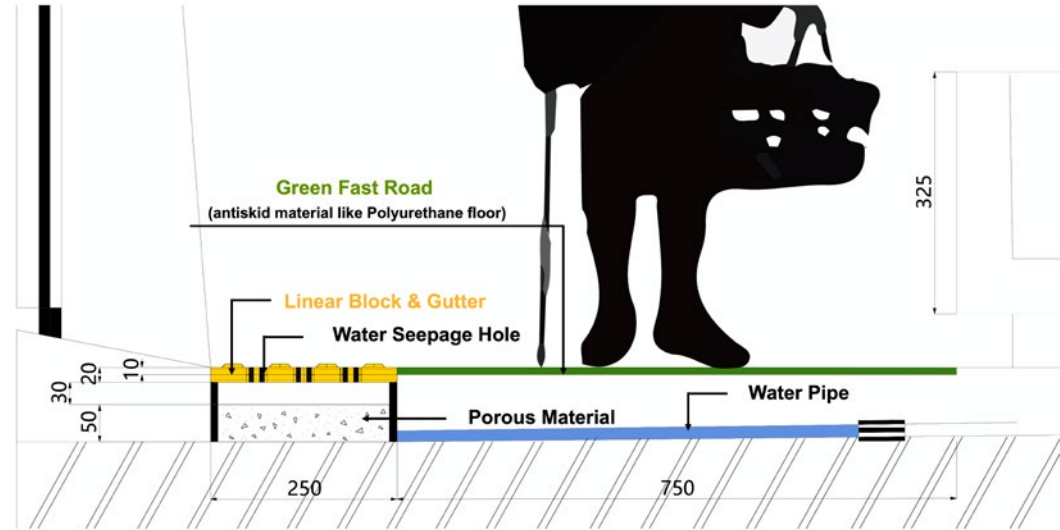


# A GUIDE FOR 'SEOULLO' 7017

- Universal design for the elderly and the blind Service Design

Our theme of this workshop is space and facilities, which aims to have a plan or design for convenient and safe space. The place of research is Seoulo 7017. It is a symbolic structure of Seoul in the industrial age, which was completed in 1970. It is now newly established as a walking tour network with 17 people's road. After field research, we decided to make a guide for Seoulo 7017 and got many useful suggestions from professors in review.

Our target users are the elderly and the blind and aim to make them walk easily, conveniently and with satisfaction. The main road is winding and full of flowerbeds, so we redesign the sidewalk of Seoulo 7017, including four parts: handrail, blind track with gutter, green fast road and walk sign. We combine drainage ditch and blind track into a new block, which can guide the blind and drain off water.



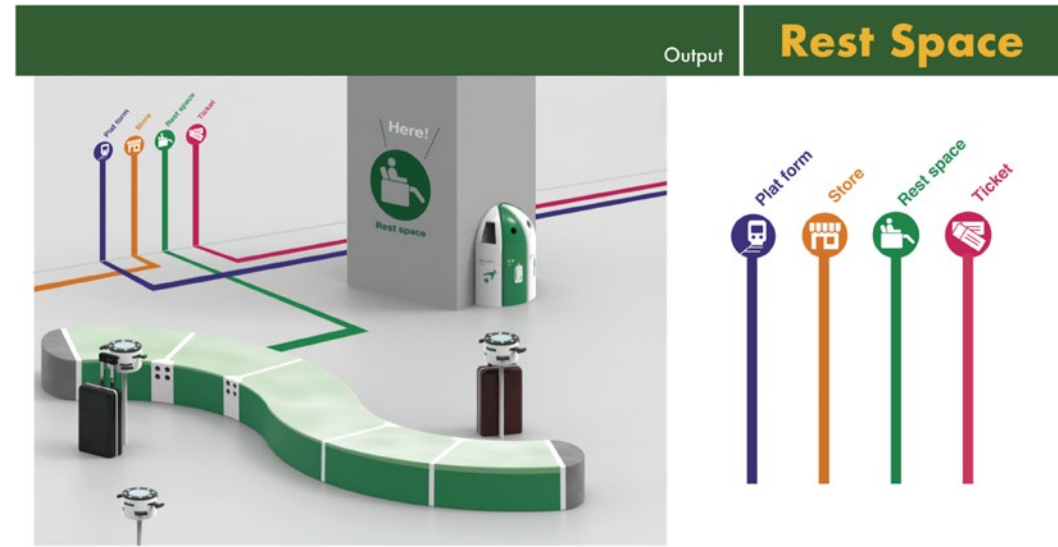
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  - Ruotong Ding -ZJU
  - Wangjun Qian -ZJU
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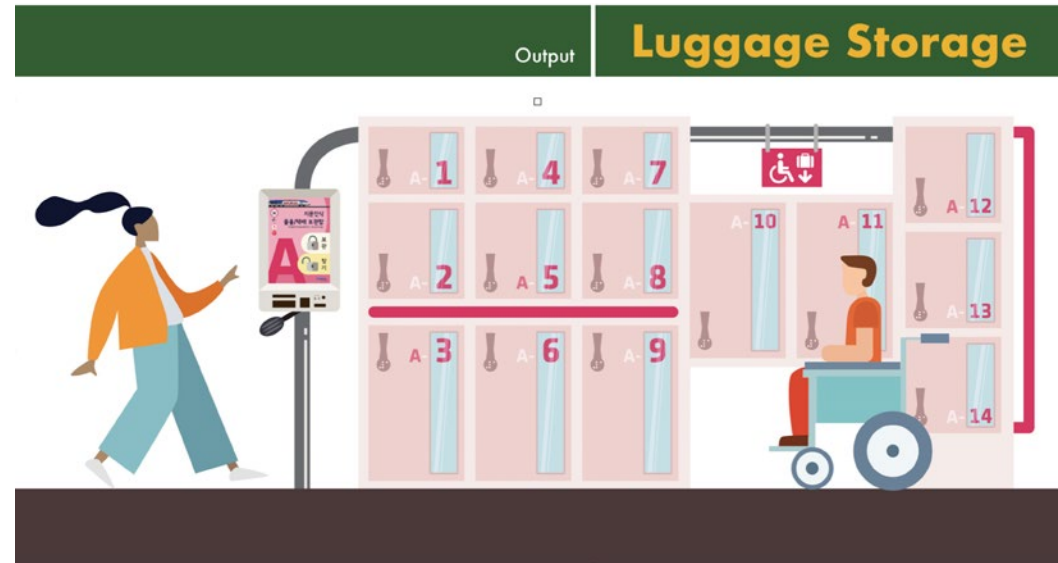
# B REDESIGN SEOUL STATION

- Universal design in Space and Facility

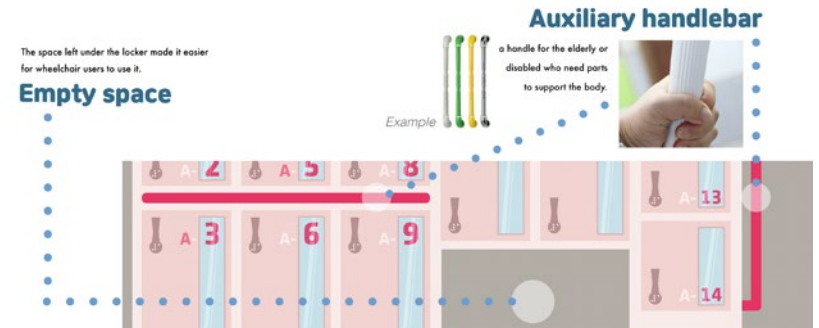
We redesigned the Seoul Station in space and facility. Our target is elderly who like travel alone. The space, we divided the Seoul Station to 4 function areas by different color. Even if you forget how the map looks like, it doesn't matter. Because you can follow these lines on the floor and walls to arrive anywhere you want to go. Also we made each facility with each area color to make the space very clear. The facilities— bench, socket, trash bins and luggage storages. Put luggage keeper and charge socket on bench. Depart trash bins into 4 part to classify trash. The height of trash bins are useful for everyone. The luggage storages full with function. Wheelchair user, visually impaired person and also normal people all can use it very easy.



System		Color and Font
Color	A #e63565	B #473791
	C #159856	D #ee8515
Font	<b>A B C D</b> _Klavika A B C D E _Helvetica 서울 서울 서울 _서울 남산제 서울 _윤고덕 300번대	
		Ticket Platform Bench Store 
We distinguished <b>The Area</b>		
4 areas of different colors for different zones		



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# C BARRIER FREE DESIGN FOR MMCA

- Barrier-free universal design

There are not enough space for rest in MMCA. What's more, most of the chairs are not suitable for elders. So, our topic is for rest, especially chairs. We thought that chairs can adapt to different groups of people, especially for elders. We designed multi-functional charis for MMCA.



### Environment feature

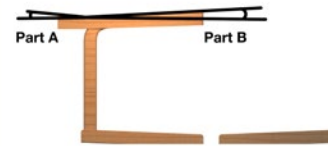
- / High light intensity
- / Large and empty space
- / With windows to see the garden

### Users feature

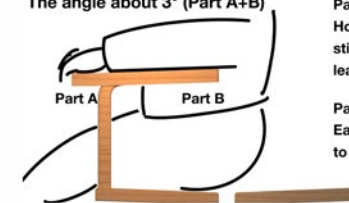
- / Kill time (wait for friends/play cell phone)
- / Plenty of people
- / Sit with partners



Other Details:  
The angle about 3° (Part A+B)



Other Details:  
The angle about 3° (Part A+B)



Part A:  
Hold the bags/walking sticks and easy to leave

Part B:  
Easy and comfortable to sit in chair

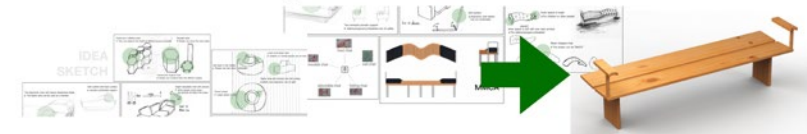


Design for both of visitors and MMCA

MMCA - Modern Art museum

Need to Match the style of MMCA  
The aesthetics of the product is important

Universal Design > Normal Design for MMCA  
We choose to Redesign



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# D MULTI-FUNCTIONAL TAG FOR HOSPITAL

- Universal design of hospital

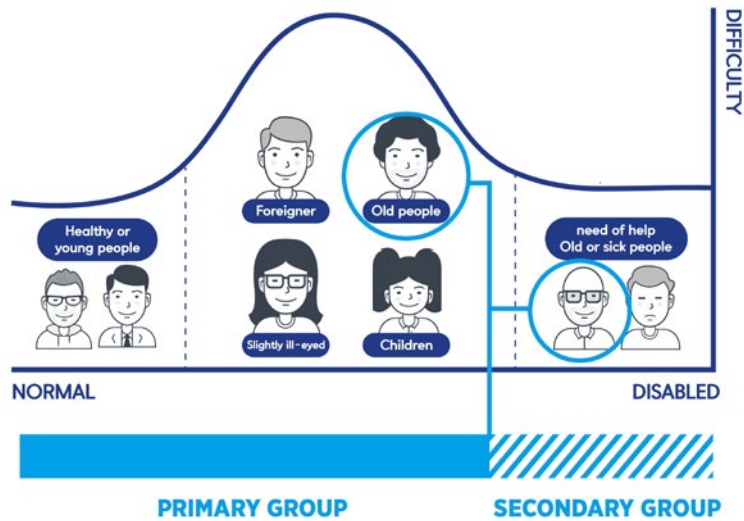
We proposed a device for information assistance services in hospitals. The reason why we select this theme is there is so crowded and people can't see sign well. The targets are elderly people, children and people with low vision. The device features navigation, schedule management and alerts.

The directions will show you where you will go next with a map and direction indicators. Even people with bad eyes can get there. Main function useful for all targets. Schedule management is a function for elderly people. This function informs the schedule when there are multiple items such as a health checkup. Finally, the alert function. This is useful when used with food court call bells for older people who are far away from the ears, hearing-impaired, and healthy people who want to go to the bathroom.



**FINAL IDEA**  
Multi-functional Tag for Hospital

## USERS



## 2. Guides the patient to the place where they need to be.



## SOLUTION

- 1 Get the device from Reception Desk
- 2 Device notifies the patient when their turn comes
- 3 Get guide from the device toward each department
- 4 Patient gets medical service
- 5 The device checks and tells each task
- 6 Return the device at the checkout

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# E NAVIGATION INFORMATION DESIGN IN COEX MALL

- Primarily focused on blindness people and foreigners

In the site research of Coex mall, we found some problems with facilities for disabled people and navigation information for foreigners. There are no facilities for blindness people. Also, navigation information facilities such as direction board or map are difficult to understand and use primarily for foreigners. So, We've design website map which has voice guidance. This website is not just for visually impaired people, but also the non-disabled people. To easily understand navigation information, the site using landmarks in Coex Mall to find out a current place. Also, we've redesigned braille paving block, signboard, and a paper map. In the design of signboard and paper map, we focused on foreigners and people who visit Coex Mall first time. The paper map uses indexing and color classification to quickly find a place of the shop and simulation of color blindness people's view are conducted.

## SOLUTIONS - Smartphone service

### Voice/Map Guidance Website

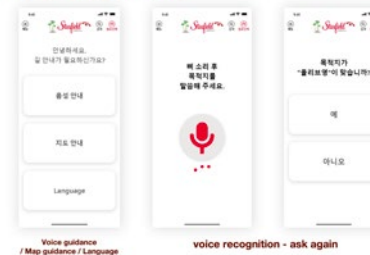
This is a website map that you can use at COEX Mall, which is hard to find a way. This website is available through a QR code scan or SMS service.

This map shows the current location and direction in a room where GPS is not available.

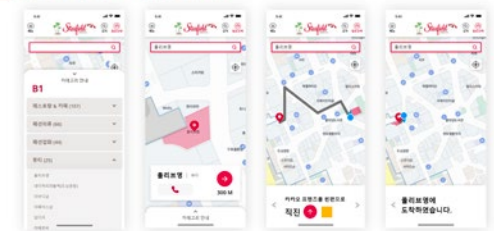
This map has voice guidance and map guidance. It's not just for visually impaired people, but for the non-disabled.



### SOLUTIONS - Voice Guidance



### SOLUTIONS - Map Guidance



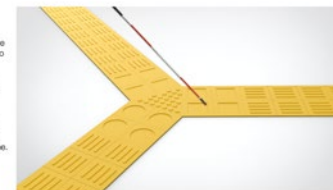
### SOLUTIONS - Braille paving block

#### Guiding blind road

Instead of telling left or right, we will use the direction of clocks. For example, go along the 3 o'clock direction.

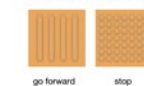
Also, we redesign the common blind road, making it more suitable for the complex environment in the mall.

When the blind people are at the fork, they can distinguish the right direction by scanning bricks with their white cane.



### SOLUTIONS - Braille paving block

#### Two types of basic bricks (convex figure)



go forward stop

Comparing with convex figure, concave figure is easier to distinguish by white cane. The number of corners can be sensed by sliding the white cane along the edge of the concave figure. So we use seven basic figures that are easy to be distinguished.

#### seven types of direction bricks (concave figure)



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# F UNIQUE SIGNBOARD

- Solve boring trip and navigation problem by using signboard

Our team designed new signboard to solve main problems in myeongdong area. First of all, we focus on two personas to find main problems. One is Lucas, an-8 year-old pupil and the other is his mother Kelly. When shopping in Myeongdong, all he can do is to keep up with his mother, so he feels very bored. On the other hand, she enjoys traveling but doesn't have time to take care of her child. So, we found main problems navigation and boredom. To solve these problems, we created unique sign. This sign has two characteristics. One is four(red, blue, yellow, green) gradient color to solve navigation problem. We set gradient color along the street and the darker color is near the main street while the lighter color is far away , so the location could be more clear. In addition, we provide children with ground games to eliminate children.

Background

Persona

**Problem**  
-Eye Level

Solution  
-Sections  
-Colors  
-Gradient  
-Numbers  
-Games  
-Guide Sign  
-Map & Centre Sign  
-Mockup

## Problem

EYE LEVEL



Adults



Child



## Solution

COLORS

The reason why we choose the **4** colors is mainly because:

Entrance from Euljiro 1-ga Station (Line No.2)

Lights from The nightlife and popular Street food

Focal point for Democratic Movement In Korea

Entrance from Myeongdong Station (Line No.4)

## Solution

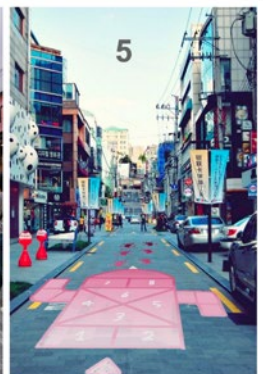
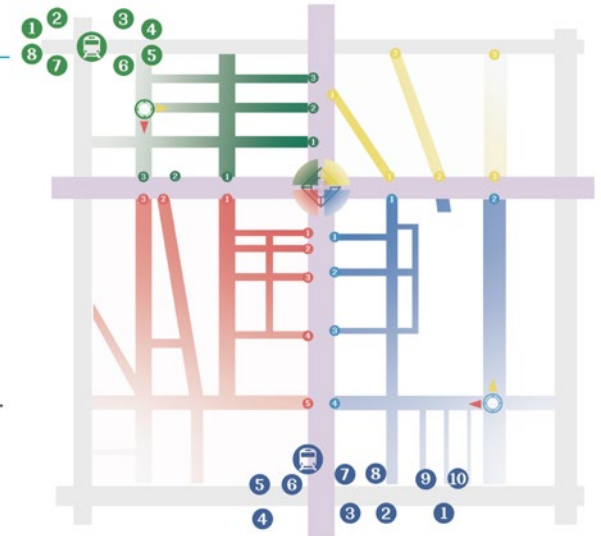
GRADIENT

As you can see, we set the gradient color along the street,

and the darker color is near the main street and the centre,

while the lighter color is far away.

Then the location could be more clear.



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浙江大学  
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2019

CAPE SUMMER DESIGN WORKSHOP

KOREA

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