MUSEUM EXPERIENCE DESIGN FOR **BLIND** AND VISUALLY **IMPAIRED** PEOPLE

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mage 2. Photo of outside Shanghai Museum from http://www.mafengwo.cn/i/3127268.html

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EXECUTIVE SUMMARY

In China, **blind and visually impaired people** is a forgotten group as they are rarely seen. However, it's not due to its small group number, but the **lack of accessibility** to the society for them. **The Shanghai Museum**, as one of the biggest public cultural facility and **the symbol of Shanghai**, should show more **inclusiveness** for blind and visually impaired people. It could become an important touch point for **making a transition** back to society for blind and visually impaired people.

In this project, we focusing on facilitating a fulfilled experience in Shanghai Museum for blind and visually impaired people. The challenge is how to help them make a transition back to society, so they can more fully enjoy life and have enriched experiences. Shanghai Museum aims to provide a unified experience for visitors in terms of exhibition, putting an emphasize on aesthetic values. However, aesthetic values cannot be well communicated because of the lack of interaction among visitors and limited perception of information. Besides, the lack of communication between staff and visitors may have negative effective on people to people interaction, preventing visitors from getting a fulfilled experience. More importantly, Shanghai Museum has overlooked the social value and ethical value concerning the disabled, especially the blind and the visually impaired. This is reflected in the inconvenient physical environment which can be unfriendly to the blind and the visually impaired. The lack of empathy and concern for the blind and visually impaired has led to their inchoate experience. Integrate service, interaction, product, environmental and communication design to deliver moral, social and aesthetic value to in order to facilitate a fulfilled experience in Shanghai Museum for blind and visually impaired people. The blind and the visually impaired is a vulnerable group, whose benefits are often neglected by the majority of the Chinese society. It is important that we raise concern over their rights and status in society. As one of the biggest public cultural facility and the symbol of Shanghai, Shanghai Museum serves as the opportunity site for our design. The inclusiveness for blind and visually impaired people in Shanghai Museum has great social and ethical values.

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DESIGN CHALLENGE

Blind and visually impaired people have difficulty fully participating in social and cultural life. The challenge is how to help them **make a transition back to society**, so they can more fully enjoy life and have enriched experiences.

SITE SELECTION

SHANGHAI MUSEUM



Image 4. Photo of outside Shanghai Museum from www.baike.baidu.com $_{\rm 03}$

GENERAL PURPOSE

To facilitate the experience in Shanghai Museum for blind and visually impaired people in order to **provide them accessibility to society**

ORGANIZATION PROFILE

Shanghai Museum

The Shanghai Museum was **founded in 1952**, originally located at the old Shanghai Race Club, 325 West Nanjing Road, since when it has steadily developed. The museum was relocated in the old Zhonghui Building, 16 South Henan Road in October 1959. In 1992, the Shanghai Municipal Government decided to allocate People's Square, the very center of the city, as the new site of Shanghai Museum.

The construction of the new premises of the Shanghai Museum started in August 1993 and was completed and opened to the public on October 12, 1996. Covering a total area of 39,200m2, with a height of 29.5m, the round celestial dome and the square earth base which symbolize the philosophy of a spherical heaven and a square earth, form an extraordinary visual effect. The Shanghai Museum is a distinguished architectural combination of traditional culture and modern spirit, making her unique among many museums in the world. The new Shanghai Museum has **ten galleries for permanent collections** and **three temporary exhibition spaces**. It extends a warm welcome to visitors from all over the world.

As a large museum of ancient Chinese art, the Shanghai Museum boasts a collection of **140,000 precious** relics, featuring bronzes, ceramics, paintings and calligraphy. The abundance and quality of the collection have enjoyed a high reputation both at home and abroad.

Image 5. Photo of inner space of Shanghai Museum from www.huitu.com Information source: www.shanghaimuseum.net

THEORIES

1.Facial Engagement —— Erving Goffman

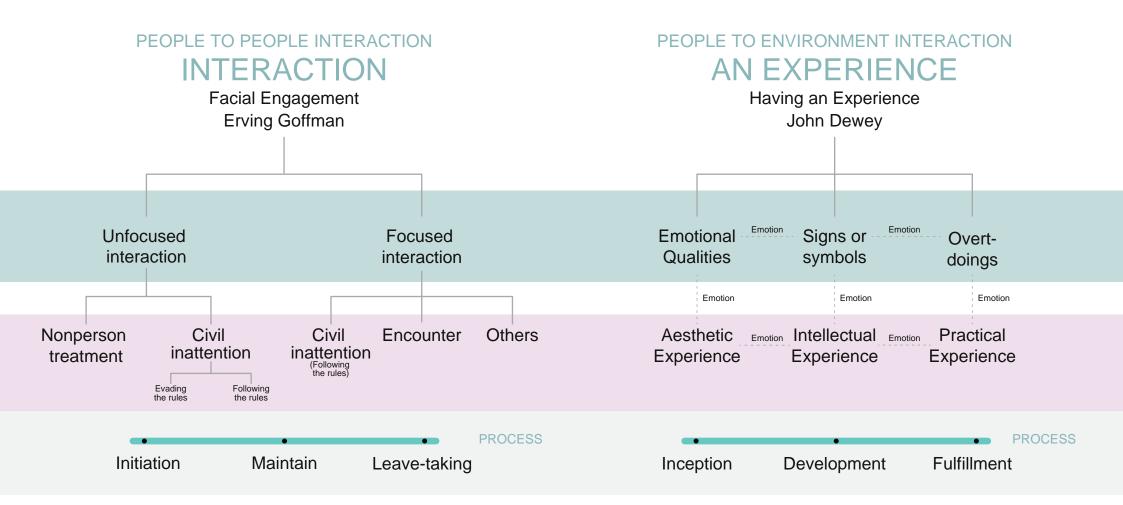
People to People Interaction INTERACTION

2.Having an Experience—John Dewey

People to Environment Interaction AN EXPERIENCE

3.Identity of Culture—Yu Yingshi





LITERATURE 2. John Dewey. Having an Experience

FIGURE 1. Illustration of theory of "Facial Engagement" from Erving Goffman and theory of "Having an Experience" from John Dewey.

CONCEPT MAP OF CULTURE

Source:

Yu Yingshi 余英时

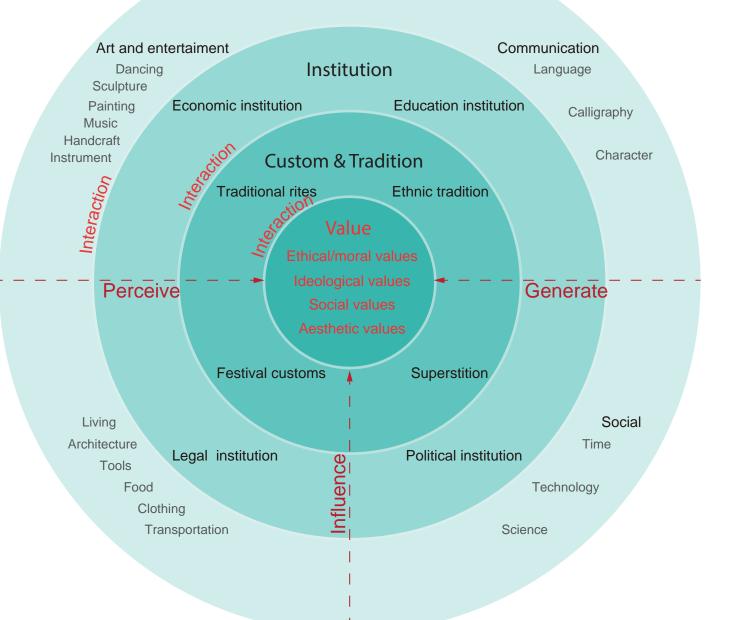
Historist, schalor of Han culture, achedemician of Acdemia Sinica, achedemicia of American Philosophy. Professor in Havard, Michigan, Yale John W. Kluge Prize

Definition from Yu Yingshi

Culture is the way of living of an ethnic group. Culture can be seen in narrow or generalized sense. Culture is holistic. It has four layers including material, institution, custom and tradition and value, situated in concentric circles.

Our Own Definition

Culture is a set of tangible and intangible exsitence people develop that derives from their values.



Material

CONCEPT MAP OF IDENTITY OF PLACE

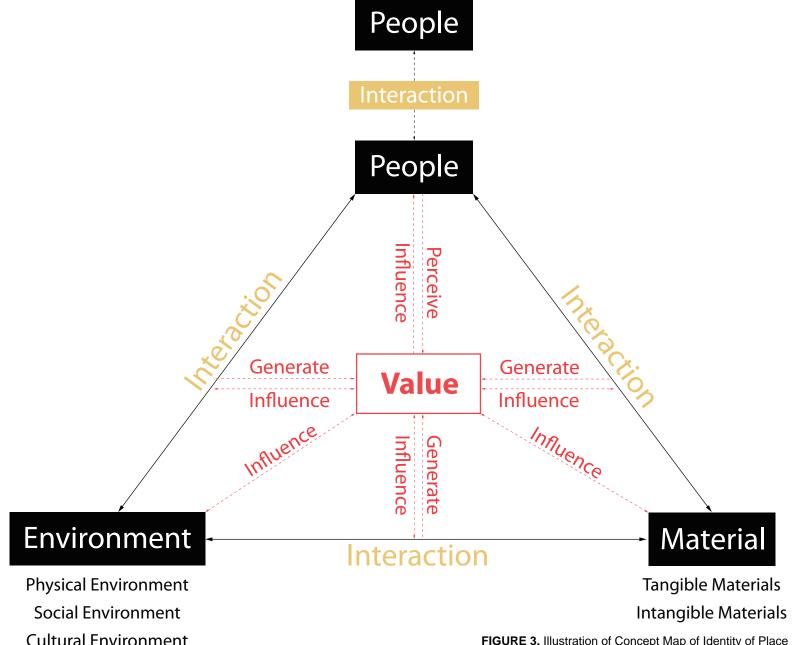
Purpose

To confirm the meaning of interaction in place, and relationship between value and three key aspects, which are environment, material and people.

This map was created by ourselves and inspired by culture map. Interaction happen between any two aspects.

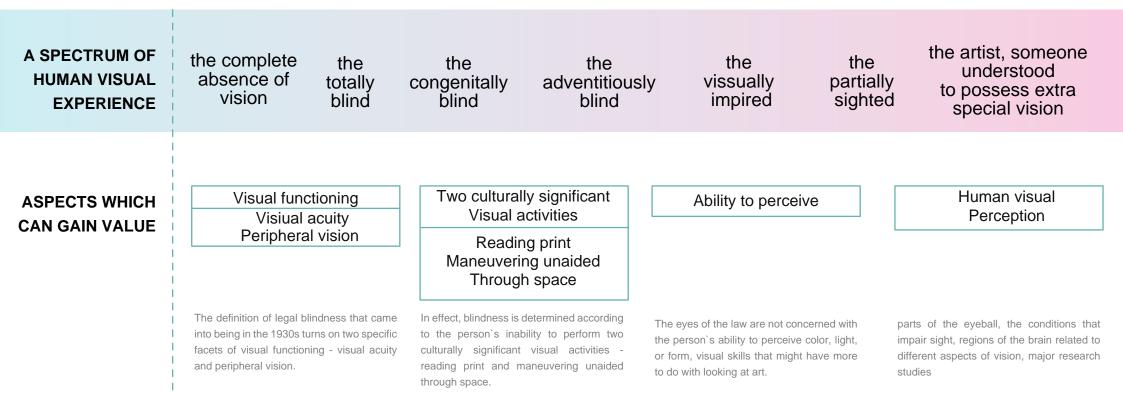
The interaction between people and people can perceive the value, as human consciousness. And interaction between each two key elements could also generate value in different ways. On the contrary, value itself can influence all of these interactions as well as people, envrionment and materials themselves.

Value was put in the center of the map, because it highly relevant to three key elements and also its position is corresponding with the position of value in concentric circles of concept map.



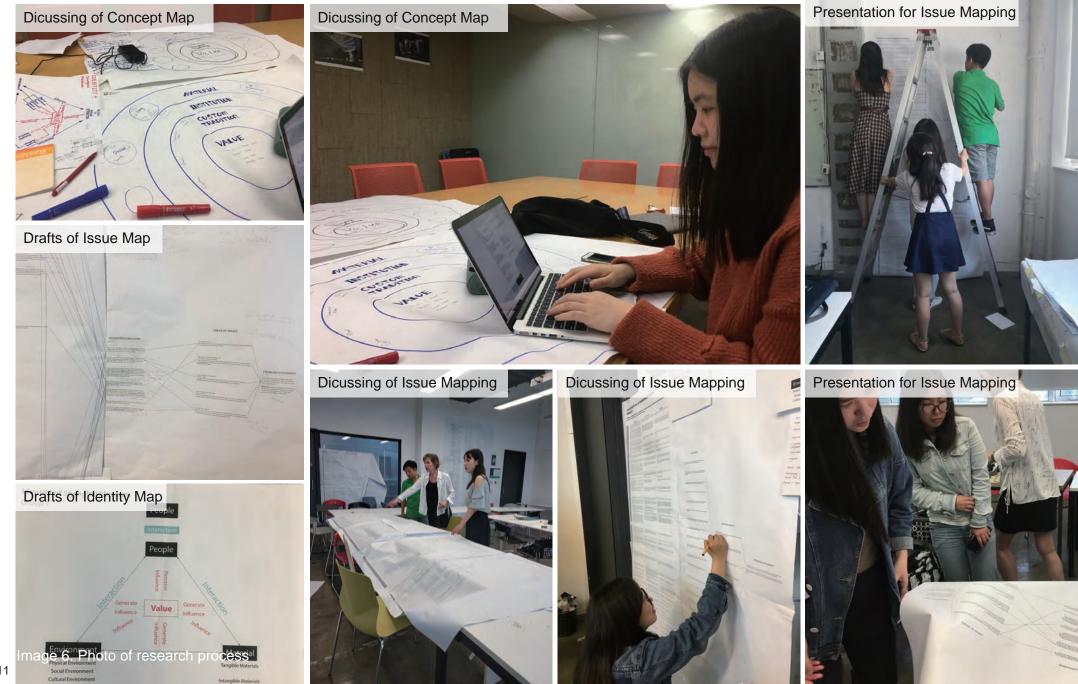
CONCEPT MAP OF BLINDNESS

Source: Georgina Kleege «MORE THAN MEETS THE EYE» What Blindness Brings to Atis

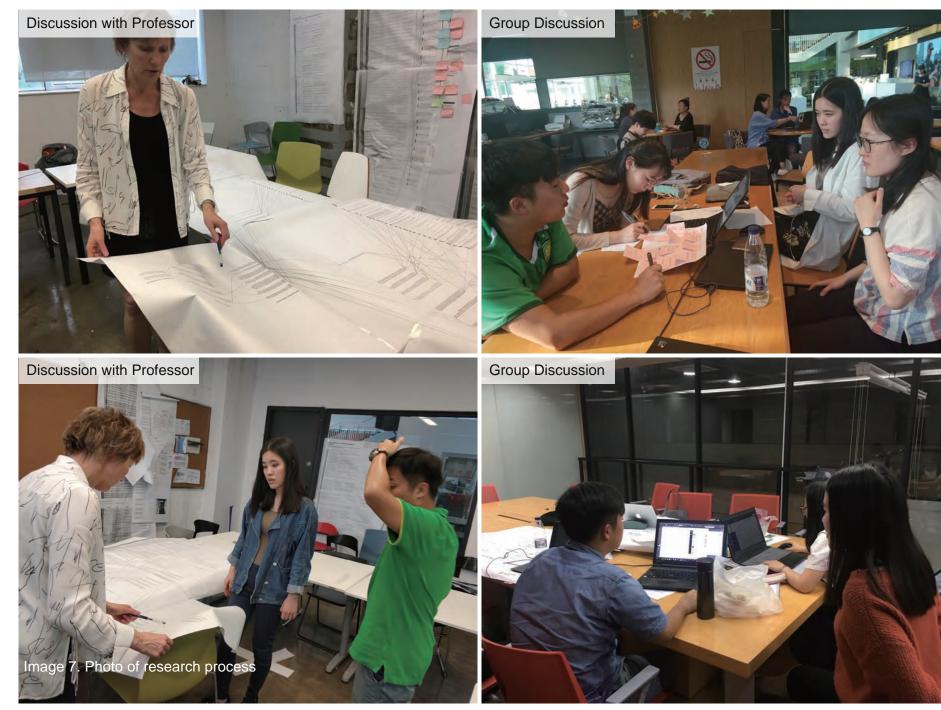


Definition of Blindness: Blindness refers to lack of perception of not only visual acuity and peripheral vision, but only color, light, or firm, visual skills, et al.

RESEARCH PROCESS



RESEARCH PROCESS



DEFINITION

' Issue Mapping is a strategy for an unfolding discovery process for the purpose of discovering problematic situations and places for issues that finally discloses the central problem based on evidence.'

——Kaja Tooming Buchannan

ISSUE MAPPING OF SHANGHAI MUSEUM

GENERAL PURPOSE: To facilitate the experience in Shanghai museum for the blind and visually impaired people in order to offer them accessibility to society.

PHENOMENOLOGICAL OBSERVATION

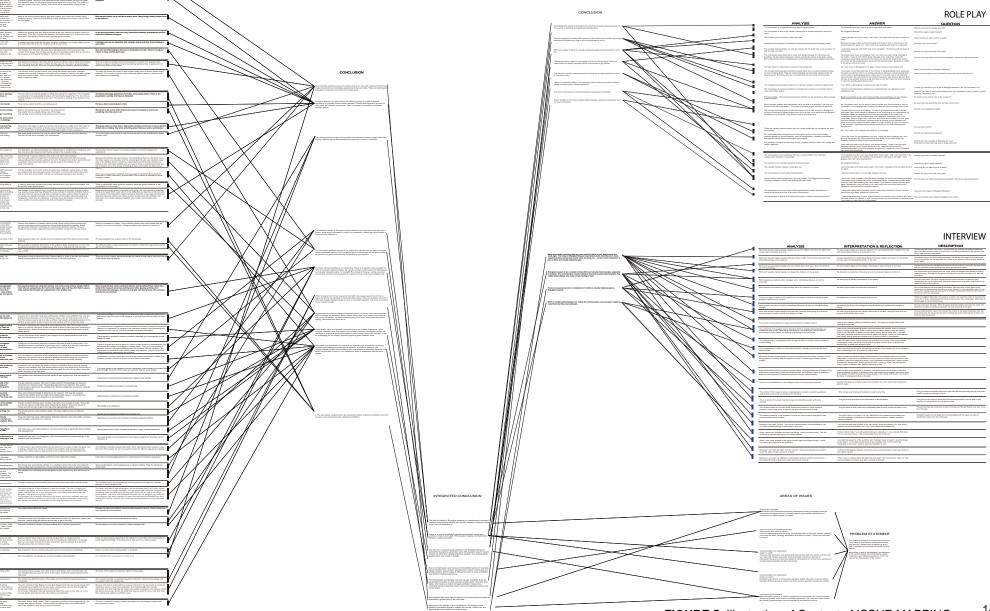
Goal: To gain a better understanding of the people to people, and people to environment interaction by observing visitors' behaviour.

ROLE PLAY

Goal: To gain a direct understanding of the experience and feeling of blind or visually impired people in Shanghai Museum.

INTERVIEW

Goal: To get direct data from interview of blind or visually impired people in order to understand the blind and visually impaired people's life experience for fascilitating their experience in Shanghai Museum and offering them accessibility to society.



ISSUE MAPPING-INFORMATION OF PARTICIPATOR

1.PHENOMENOLOGICAL OBSERVATION



Observers: Zidi Bai Keke Wang Denise Yang Dian He Qingshi Li

2.ROLE PLAY



Role Player: Zidi Bai Denise Yang



Observers of Role Player: Dian He Keke Wang

3.INTERVIEW

Interviewees: 2 blind technician in massage shop

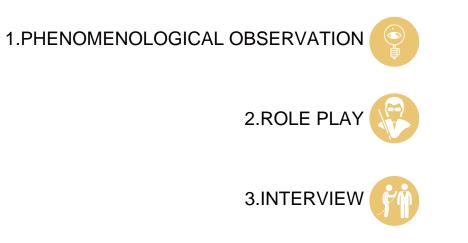


Interviewers: Zidi Bai Qingshi Li

GOAL OF ISSUE MAPPING

To integrate phenomenological observation, role play and interview in order to define the problem of Shanghai Museum which can be a starting point for initiating ideas.

ISSUE MAPPING-METHODS USED



METHODS

ISSUE MAPPING-STRUCTURE

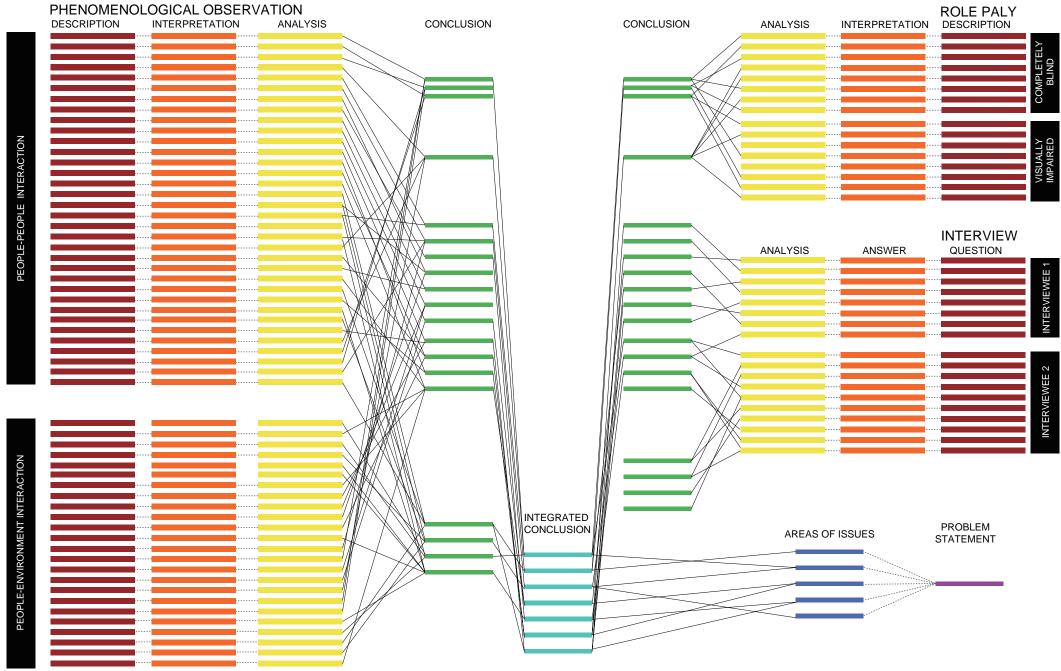


FIGURE 6. Illustration of Structure of ISSUE MAPPING

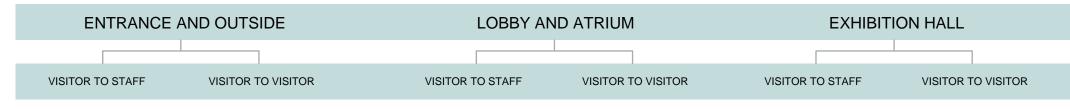
The method was designed by : Prof. Kaja Tooming Buchanan The visulization was inspired by 2017 project report of Man LI, Helena STENING, Bingyi YAN, Yuanxing ZHAO.

PHENOMENOLOGICAL OBSERVATION GOAL

To gain understanding of the people to people, and people to environment interaction by observing visitors' behaviour.

PHENOMENOLOGICAL OBSERVATION ASPECTS

PEOPLE TO PEOPLE INTERACTION



PEOPLE TO ENVIRONMENT INTERACTION



FIGURE 7. Illustration of Aspects of Phenonmenological Observation inspired by theories of John Dewey (Having an Experience) and Erving Goffman (Facial Engagements).

PHENOMENOLOGICAL OBSERVATION CONTENT

PEOPLE-PEOPLE INTERACTION

	On Apr. 29th, outside the exhibition hall, away from the entrance of museum, a woman in blue dress, starts to queue at 9:10 in the morning, she is chatting with another woman who stands close to her until they gets into the museum at the main entrance at	They seem to be friends who is visiting the museum together. The woman in blue dress is complaining about the waiting process for several times and she is tired of it. It tooks	During the holiday, it takes a long time to wait before enter the museum which makes
	10:30. The woman in blue dress says the waiting time is too long for several times and shows impatient expression.	is comparining about the walting process to several times and she is tired of it. It tooks the visitor more than one hour to get into the museum.	Doling the holiday, is takes a long whe to wait before entre intermosedim which makes visitors impatient.
11(01	A young man with black hair and brown eyes, wearing a benef is introducing the museum to how whose language is not Chanse with engine and the speaks loadly and shows exciting expression on his face. Those listness tooked at him and listness all his time. Some visitors anound them who speak chinese look at them and a young woman told a boy tanchs closely to her to look at them and the said "Look at toom while and the turn his eyes to the young woman with a satisfied come while and the turn his eyes to the young woman with a satisfied preservice of the woman within a satisfied spression on his face which attracted some attentions from other people around and made the woman smills. The boy then glanced at those wisitors who have a blonde and and not one and satisf 22 meters away from his you they doit in tools that.	The young man is a low guide who guides a group of foreign people to the museum. He introduced the museum passionaries without and mose foreign visitors listened carefully. Those chanses people who stands close to them are curious about hem. The woman serves to be the body mother and the wants her son to be also to the young tour guide. The boy is also attracted by the foreign tourists and the tour guide also way product of her son. The boy also shows will to attract those foreigners but held.	The toor guide is excited and proud of the musem, he arouse the curicely of those foreigner visitors back the musemum and chrises culture. Some chinese visitons are also curious about this group of people and they show some admiration to the tour guide. The boy is proud of his english skill and want to communicate with those foreignen.
	Approximately inheteen of twenty visitors come to the museum with someone else. There is two young visitors, a male and a female standing closely to each other and taking all the way walling with smiles on their face. Three visitors who are a woman, a man and a child are quixing while the two adults are including the museum to the child. There is another three people validing in line, both of them are young gifs. Approximately not hird of the visitors speak foreign languages.	Most of the visitors come together with other people, they come with friends, family members, lowers. There are many elderly people coming to the museum, lots of them are foreigners.	Most people choose not to visit the museum alone. Many foreign elderly people come to the museum.
	Visitors who come to the museum together stands closely next to each other. Some of them are talking about the weather, the museum and the have some small talk with each other all the way wailing. However those who don't talk to each other and have no interaction with others keep approximately half a meter distance with each other.	Visitors are chatting with their fellow persons all the way wailing and stands closely to each other. Their topic includes the weather, the museum itself, etc. Visitors who don't know each other keep a distance and have few communication.	In the queuing process, there are many interactions between acquaintances but few interactions between strangers.
	A middle aged man who speaks chinese let a elderly woman with blonde hair who stands in one line with him go first and smiles to her. The woman responses with aother smile and says "thank you!".	A chinese man who looks like 40 years old gives recedence to a foreign elderly woman who looks about 60 years old. And they smile to each other.	A chinese man has an interaction with a foreign woman and they show kindness to each other.
	An adult man who speaks chinese told the woman who stands next to him to leave the queuing line, find a seat and come back once he contacts her. A young man who speaks chinese is making a phone call and asking "Where are you? I'm waiting in the middle of the queue, call me once you arrives."	The chinese man who look 40 years old is asking his wife to find a seat and wait outside of the queue. The chinese young man is contacting his fellow who is coming to the museum to and asking his fellow to call him in order to meet.	One can't sit while waiting so the man is caring about his wife. There is no sign for visitors to meet and find each other.
	A female visitor with black hair who is waiting in line turn her eyes to an adult man who is in security guard suit and standing close to the queue and asked him "How long will it take to get into the museum" ⁷ and the man answered "About half an hour." The visitor shows no excitement or disappointment in her face.	The woman is a Chinese who looks like 40 years old. She is curious about the stand-by time and trying to get an exact number. So she asks the man who is a security guard and maitaining the order. She has no obvious feeling and reflection about the answer.	There is a need to arrange some security guard to maintain the queuing order. There is no sign to show how long is the queuing stand-by time. A waiting time of half an hour is fine to the visitor.
VISIOF IO SIAI	Every velocity who has a bag is asked by a man who wears a security quard sait to pd insher bag on the security inspector methons and take the phone out of thehat pocket. Male visions are asked whether they have a lighter or not. The man who is in suit told a male addl vision who just took the lighter out of his bag to take a random one from a basked whether contains more than ten lighters once he leaves the museum. There are two stadl vision who just pass by the security check gate and make it alianns with a tool. A male stafl is checking male who wear a security gated suit. They are obtained the visions who just pass by the security check gate and make it alianns with a tool. A male stafl checking male visions and the feature staff is checking female visitors. The male staff touched a visitor's thouser pocket and asked hm what's in his pocket. The visitor answered h / key and he was then alianced to pocket on	The security check porces is strict, every thing the visitors also will be checked. Lighters are extended (checked on the cock into the mount. But one can take a lighter back once heighte leaves. There is a certain division of the job for male and female staffs to search a visitor.	The staff who allows the visitor to take a lighter every ence he leaves shows some humanity. The distion of job for male and female staffs to search a visitor avoids embarrassment successfully.
	There are 20 people gathering together at the first floor of the lobby. A man is having a speech. 18 people are listening to the man with staring eyes. A man looks up. A woman looks down at her camera.	The man who is having the speech is telling them about his viewpoints. The 18 people are listening to him expressing his ideas and teaching his experience. The man who is looking upstairs is not listening to the man. The woman is looking at the pictures in the camera.	Among the 20 people gathering in the lobby, some people doesn't listen to the presentation carefully and they are distracted.
	At the first floor of the lobby, next to the 20 people gathering together, a man stands three meters away watching them.	He is curious about what they are talking about.	He has a desire to participate in them.
	In the corner of the hall, seven young men are sitting in a row. Five of them are looking at the smart phone, and two are chaning. An addeny man stilling on the bench incode with a baby in the baby cartage is punching the mit powder with a water giass. A white haired of bady and a white haired old man are sitting on the bench and looking towards the attrium. The lady is holding a cloth bag on her legs. The man is holding a wacuum cop in his hands.	Most of the young man are focusing on the smart phone. The elderly man is carefully taking care of the baby. The old lady and the old man look leisurely and not alone.	The bench in the comer of the hall provides space for people to rest and do something what they want to do.
	In the lobby of the museum, a group of uniformed people stopped in the hall and they looked at the ceiling together and talked to each other. After a certain period of time, other people in the same uniform joined the group and talked.	They stay in the lobby for quite a long time and stand in the middle of the hall, seem to jam the passage of the lobby. In the process of standing in the hall, they are discuss ing the construction of this building and continued to wait for their companions.	This group seems to come from a high school, and they come here to have a special school visit on holiday, they know something about history as well as architecture.
VISION 10 SIGN	Two women were standing in front of the audio guide rental reception. While one workna was wailing for the service to fach the device for her; the other was waiting with cash and ID card in her hand.	The audio guide rental service must be paid in cash. The service process took time. The service was done manually, not automatcally.	The audio guide rental service is time-consuming and can be substituted by digital museum APP.
	Two girls with blond hair are disturbed by a man when they are talking with a paper on the hand. After 10 minutes, three of them go to another place.	Two foreigners are discussing about the visiting routes in exhibition for a long time, and then they are called away by their friends and go to the reception desk.	The brochure of the museum is not clear enough or is not for foreigners to understand.
	In the oil parking axhibition hall, 100-150 viators are watching the parkings, when they rear watking, people's shoulders and tooldes can tool-teach other. And a person who is wearing a black uniform with a stick holding in his hand and he shuttles around the shohbition from time to time, he stoped waking from time to time and looked this phone, and he table to burists when tourist bouch the exhibit or get too close to the shohbits.	There are lots of person walking in this space, the half is very crowded. There man with undrem is respecid for the security personnel in this hall, but he was always distrated by his phone and stop his work. He talks to the visitors very loudly and rude. When to unstrist souched exhibits or got too close to the exhibits, he will socid them stemly.	Because the exhibits are very precious, lots of people go there to visit which made the whole space very crowded. And the security guard is also very careful to take care of the exhibits. Since it will be the responsibility of hull in those exhibits are broken or lost. And these exhibits are very easily to break of lost because there are lost of willow. It is very serious to booking at them and montot the behaviors of tosts of willow.
V ISII	In the center of the callingrehy hall, an English-speaking man and an English-speaking woman are talking to a main i uniform. The two visitors en kolding on a black electronic device, and the English-speaking man talks to the main in uniform, at the same time he used his hand to point to the electronic device, and the main in uniform gave same responses. After they taked for 10 minutes, the main in uniform took the electronic device any the halt.	The two foreigner don't know what is the electronic interpreter tailing about, so they are asking for the surcurity guard some information. And they didn't spend to much time to finish this conversation, and the surcurity guard also gave their answers.	There have always been confusion among foreigners whatever about electonic interpreter or other information, and the staff in the museum is improtant to those foreigner visitors.
	A women stands too close to the interactive screen, a men wearing a uniform talks to the women, "Stay far away from exhibits."	A security personnel reproach the women because she is too close to the exhibit, and the women looks embarrassed.	There is not enough visual guide for people to know the proper distance or the visualization is not enough.
VISIOI LO SIGIL	At the entrance of ceramics exhibition hull, there are 30 people standing in front of a exhibits, which is also standing on the corridor of the half. A man with uniform in bioding a laser ponter and pointing at the exhibits, at the same time he tails to the audence for 30 minutes, and atter "frang Standing coccepts are in program habitorial position in a laser ponter and a term of the same time he tails to the audence the same time of the same time here the same time here the same time of a same time to the same time of the same time of the same time of the same time frang Stancia was born in the Tang Dynasity has its cultural origin. First of all, meture pervanite technology is the material basis for the birth of trang Stancia; secondly, the prevaling sayle of thurial in the Tang Dynasity has the direct reason that led to lis birth; Thaid, the fistory and culture of the vacuios fields in the Tang Dynasity part within to basis at the group, and runs to freed the group.	The number of this group is huge, and have a tendence to increase, and the location they stand is worn, and they blocked the main confort of creamics exhibition half or a long time. This man spend a long time to introduce to other visions about Tangsancal, in speaks very fuely and clearly, he speaks lot of information about the history of the speak very lough and clearly, he speaks lot of information about the history of moves quickly when she enters in this hall and found this speaker.	Because of the large number of people in this group, the main lecture is speaking loudy and claryh which made valids in the whole half can ben his words, and also the contents of his speaking is ready interesting, this team is very eye-catching, and standarke that doe valids can choose a show and they end the schölloth half. A show the valids can choose a show and they end the schölloth half. A seriously.

PHENOMENOLOGICAL OBSERVATION CONTENT

	ment	In a survey day, violant are waiting under the surveives. Some queuing young people who speak Chinese are holding unbeeslas, paper etc. above their head, some other violates are wasning sur glasses. Some of those who don't have an unbersite show an	There is few shadow for quesing violons to hide. Some young Chinese people are trying to avoid the sunshine and some of them looks fring in the sunshine. Some young people without an unchesian are compliaining about the resulter. However,	There is no shelter for violons. Young chinese people have more trouble with transhine and care for their skin. Foreigners seem to be used to the surshine.
	sical enviro	violition raw vestoring tain galaxies. Some of those sinds don't have an indexestite show and whose and expression. The groung comment whose an investorial numbers are sublect with whose other, signing that the westher is table because it is no blacking and the sumthine is too storage. In the meanship, no cover whose provides to longin tablegase are holding anything above them hand and their thad a spreascon is moreal. Three of the visitors are longing amount while welfing Ganes people take pictures of the storage.	An express wave strater response source the surphise compare to chinese velocit.	The queuing place has a good vision of the surroudino.
	to phys	surrounding buildings with their phone or camera while waiting. Some people looks into reflective glass on the entranceof the museum before they get	buildings. Some people is looking at themselves in the relective glass, treating it as a minor. The	The reflective glass creates opportunity for visitors to check their appearance to
	People	Time of the victors are locking ansured while waiting dome people take pictures of the summaring buildings with their phone or camers while waiting. Some people locking the interfaciling lates on the entranced fire tunnaum before they get in A young trans is locking at historial in the glass and artism, show satisfad operation. A mean effect where the interface the data waiting the picture of the effect of the satisface of the satisface his white and sum his floper through his hard. A gir is holding her phone, and taking a picture of hereit is the interface glass and unitse.	young looks satisfied with his appearance. The man is adjusting his cloth and hair optim The gift is also satisfied with her appearance and using the glass as a minor to take a satis.	The reflective glass creates opportunity for visitors to check their appearance get into the museum.
Entrance and outside	People to social environment	The second of the second secon	The given is long ord their air many values working in order to get into the material form quarky popular balandoused and that if the walky process	There are a lot of vibron during the holdby so I takes a long time to wait and vibron some hold experiment.
	leope to output all environment. F	These of feesting quanting obtains are using their phones. All of them have young people with open downs, that of every quanting obtains are subject for phones in the same standing obtained of the same that the same standing of the same sta	Free questing valence are using their phones, only some young choose parage. Hell of them who are using phones, during ones with reports also and they part that is appear who which all the phones are unsignment in the database.	Some young chinese visitors using their private during waiting "House visitors come to the measure lakes their refering to it is white quarking and they durin metatotic the use of phone.
	•	A got request at the cornor near the walk to play mobile phones, sometimes the sees the courd and commitmes the looks at the aubilits. A women squats to take photos of autibilits and her mouth slightly rises.	It seems the is four after long time watching the exhibits in the exhibition hal, and she looked around the plane can not find usate to have a next. So the chose to all on the foor. The women seems wants to take a nethods, slight-raily and detailing because of the exhibits so the equate to take photos. And the tackafes with the photo ahe takes.	The root of exhibition is too long and no temporary area or easts for visitors and have a next. The place of the sculpture is this hall is too low for visitors to photos.
		A women is taking to a child with gesture in form of a sulpture, the conversation basis 5 minutes then they lish together. The girl raid "Thanks! more, I understand "Then the women and the child keep taking in front of the acrosen, and basis around 3 minutes.	A mother is explaining the meaning of the sculpture to her child. The mother and her child try to use the instructive acress and wants to know if there are some interesting in the acress hard it seems like there is not many interesting things in that screen as they knows quickly.	The explanation the visualization of the exhibits is not clear or attractive en- children to understand. The context of the interactive screen is not interval attractive enough and do not have valuable and useful information.
		A gray-haired man squated down to look an exhibit, and he tilts his body then he supports on the ground with a hand. There is a woman next to a gray-haired and she holds a hand on the marks shoulder.	The old man wants to see details of the sculpture but he almost fell down due to his age, and wife gives him a hand.	The aculpture is too low for observe carefully, especially it is inconvenient to people to watch. There is no good and special place for visitors to take photos to commemor
		holds alwad on the man's thoulder. A block-based man and a block-based women are speaking in front of a scalpture. Three invokes alwar the convension, the man book a picture for the women. Single-based man also the dolfs have base the speaking and of the test of each scaleture. Alwar that, the child pulsed the grap-based man's hand and walked quickly to the test behaviors.	Foreigness are discussing about the sculpture and want to take a photoe with it. The granditative wants his grandition to issue there every wahible and read the explorations corresponding to each sculpture. The grandition wants to go outside.	old people and children have different reading habits. They go to the exhibit together, but they may spend different time and routes to see the exhibition explanations of exhibits and the visiting routes are the same. There is no sp visiting experience designed by the museum.
	×	A man holds an electronic interpreter with his hand and puts it near his ear and passes through each withbit in the ainbition hail is turn. A women holding a electronic interpreter walking sound the ai hourcase which is in the module of enhibition hail, after 2 minutes they lawses.	The main wants to comprehensively understand every webbins so he nert a electronic interprete. The women wants to get more detailed information about the accipters to the latence the electronic interpreter canadaly while looking at exhibit canadaly. An old main rate not detailed the matter to see the exhibitions and more latencies.	The museum provide visitors with tools that can explain the exhibits in detail museum provide a chance to visitors to learn about the exhibits.
	nvironmen	A white-haired man looks around exhibition hall in the middle of the halway and do not get closes to the exhibits A woman walks into the food store, staying in hort of the counter and looking at the cales for 5 minutes before she leaving	An old man can not decide the routes to see the exhibitions and so he keep looking around in the exhibition half. The women serent brang and works to buy some thing to each in the look dock but all he holdsons that the seas the price of the caket, finally the leaves the cause of the high price. The exhibits have seminided the leavie addust of their experiences, and had served as topics.	The visual guide of the exhibition and the introduction of the content is not o good enough. The price of the cakes are relatively high for some people.
	vysioal o	Two female adults were standing in front of a wasthobe. One female bowed to look at the label. Then she started to talk about how she was able to buy ebony furniture directly from factory for her new house.		People love to share previous experiences related to the exhibits.
	People to physical	A gift was taking pictures of the introduction of each painting and the details of the paintings as well. Five pools were standing in host of a painting, cleaning and photographing. It kernels came and within a tool 15 seconds, the sar on the ground, socking up at the painting with a smile on her box.	The gif could be a student. She want to keep record of the paintings and relevant internation for reference later. The painting attracted much attention. The weatern ternals wants to appreciate the painting from different perspective so that she could get the full experience.	People try to observe the object in a holietic way.
		A male and a gif was standing in fourt of a JIA GUI (Food Vessel) . They were sharing an exphone plugged into one mobile phone, litering while observing the vessel. When help was finished standing, they takks about the exhibit. The male tried to look inside the vessel standing on 5p toe.	They were using technology to experience the museum. The way the museum presents the exhibits does not clearly demonstrate each supect. It is possible that sepects mentioned in the introduction is not observable.	Digital museum experience is accepted by people.
		Two makes with leadies and a bottle of water in hand were taiking in hort of the subbits while reading the leaflet. The two moved when a girl came forward to observe the exhibits.	There's no direct driving water, so they must take or buy a bothe of water. They want to know the relevant information while observing the objects. They were aware of others and doin or ware to get in the way while appreciating whichs: The female and the male could be couple. The male might be kneen on Chinese	The facility is not adequate.
		A male was taking pictures with his phone in front of a row of Chinese paintings. He took picture of the paintings one by one. A female was with him.	painting.	People want to document exhibits that interests him.
itonhal		Seven boys and pits in identical red T-shin were walking past a row of minority conturnes, three of them stopped at one eithbit and talked about it. Two of them ran- shead and disappeared at the course: The other two were walking stowly behind. Score they were out of sight, all of these was within one minute.	They were from the same visiting group. Children's attention were more shifty, and they were energiesc and loved to run around.	Kids tend to run around, their attention not fixed to specific whibles.
Exh		A male, with blue eyes and high cheekbone, with a cowboy hat on top and leafler in hand was moving alowly, observing each exhibit. He atopped in front of a Tiber atobbard, and took about two minutes to examine it.	The thale was a very careful observer. He took a lot of time to appreciate those exhibits that interested him.	Some people want to have a careful observation to gain a deep experience
		A female adult was taking pictures with her mobile. She took one photo of the interior of the Ming and Qing Fumium Paulion. Then the took another picture showing lights and shodows projected on the wall by a Chinese carved window.	The formals was keen on photography. She was interested in the interior design of the museum and documented it.	The visual quality is very important for the museum experience that they wa document it.
		A child takes out his mobile phones to take photos while running around a men who is taking in the exhibition half. A women is taking picture in host of a subpare, the child point to in host of the subpare, the women takes a picture of the child and the subpare. Alter that, the women said in a sharp voice, "GNI Nos go somewhere else to histor."	A child waters to some exhibits quickly and he waters do not waters to laters the guide who is taking a life bit load. So he is running in the exhibition had and takes pictures quickly T& moher waters to size pictures of the a cupital had and her. People would like to take leaflest and find our more about the exhibits.	The axhibition hall allow people taik loudy, which may datach other people to the abox. The museum do not have specific routes for different age group of p information and knowledge gained is an important part of museum experience
	e	Two male adults were taking leaflet. The younger one picked one leaflet (Chinese version), looked at it a bit and walked away. The other was at first not able to pull out the leaflet (Chinese version) with one hand, so he used bedy.		
	ervir on me	Hands behind her back, a female adult was standing in host of the well displaying Ming summery. She instead up and down for about thing accords and moved Two female adults were looking at the introduction in the Dyeing, weaking and	The female was scanning the whible, in a careless manner. The male only looked at those whibits that interested him. He was wandering about without a specific purpose. The exhibits have reminded the female adults of their experiences, and had served as spice.	Some people prefer a more relaxing way to observe objects. They do not have certain goal.
	o social	Two fermis adults were looking at the introduction in the Dyeing, wearing and entroteloring sector. One termals talked about the experience in Zhuang district. The other made sense commain adults and then valked sectors the enable, litelinead by the companion. They talked about the printing on one testile and agreed that it was a the result.		
	applet	A men takes the lens cap and rolls it on the ground. The man chased the lens cover in the subbility.	The men is playing in the exhibition hall and make some noise, which disturb others.	The exhibition hall is not equipped with security personnel to stop the impolis behavior in each exhibition hall.
		Balow the historican based of preserve which hall, there was 15-50 peoples and building at the minimum balow of minih happing on a golf and halling which the shall "-List assertamenting than this board, and their year can use the knowledge to your class, my deser disciption" that are minimum. The going particing the historican of board, historic heads is alternaming backing at the board and the gift. The sup people keep taking for 30 minimum. And a there will be board and the gift. The sup people keep taking for 30 minimum. And a there will be board and the gift. The sup people keep taking for 30 minimum. And a there using at the orbit on the board in that of the partiest in the sub- rel and address and the sup of the board in the the list partiest in the sup of the partiest in the minimum. And alter board go the constraints on the board in the off the partiest in the partiest is the partiest in the sup of the partiest is the partiest in the sup of the partiest in the sup of the partiest in the sup of the partiest is the partiest in the sup of the partiest is the sup of the partiest in the sup of the partiest in the sup of the partiest in the sup of the partiest is the sup of the partiest in the sup of the partiest is the sup of the partiest in the sup of the partiest is the sup of the partiest in the sup of the partiest is the sup of the partiest in the sup of the partiest is the sup of the partiest i	The piece and approximation is the followed in a third in consist. They many in tegging the location were regardly and a training the provide state the training with the protory sublicitor that is in a very grant but allow any anticular waters taking with the location of the proton of the state of the state of the training the state of the location of the state of the state of the based, then is were constant when the the torongene can't monophics Database of the based, then is were constant of the the state of the theorem to the state of the based of the term the the theorem of the electricic time period in the state of the based.	The tates is denied of their to caugater will be be because them is too many amound them, and a topografium triggin, and the tates many amount and the same takes and a same takes and a same takes and a same takes the facult to lakes. The takes are langered trigging and the trigging that have a plastate or later to m this based workput they the integrater that have a plastate or later to m this based workput they the integrater that have a plastate or later to m this based workput they the integrater that have a plastate or later to m this based workput they the integrate that have a plastate or later to m this based workput they have a same take and a situating the integrate to be the exclusion devices.
	nvironment	A male adult and a female adult was holding hands: the male adult was pointing at a wash basin stand while adult you have been adult. The female adult and something and they moved on. Before they turned away the male adult pointed at the whibit again to any something.	The couple tailed about the exhibit.	Exhibits can serve as media for communication between visitors. Visitors rela own-superience to the exhibits.
	a prinal o	A male adult was taking pictures of a female adult in front of the illuminating introduction wall of "Landscape of the Mind". After it is done they went away.	The picture looks nice so people tend to take picture in host of it. But since it was at the entrance, people taking the picture did not want to get in the way. The three looking to picture of the second staffacts from a wanters commonly.	People follow certain social exigueste while visiting. The perception and value is based on visions' backgrounds.
	People to outbural env	Three people with American score reverse to locking at three reverses. Two of them white backed is made as in americk, the hold og kit. The mate scoped at a HU (Were Vessal) and stad: "Allen would low this." The get said: "I'm not sure." Then they waked away.		
5	wirorment 8	In front of the railings on the third floor, a boy under one meter is standing on the step and locking at the hall. A nean desisted in black is watching his pack. A man with no hair on his head standings hall a meter away from the nailing in randing a block. A block holding her ann on the nailing is stepping on the step-with her left toot and exciding upwards.	The boy doesn't know what is do and fast no idea that is dangerous here. The mean seems to have nothing to do and he is mading the information on the goal. The mean cart seems to hare the voluce assume him and his attention is in the book. The lady looks thred and wants to telax.	There are some people gathering at the naling of the third floor and most people some fragmented things. They stay here to relax as if it is a leasure spece.
and at	sical en	In the atrium of the second floor, a lady is carrying a baby in her arms and watching around.	She is trying her best to hold the baby and seems to be looking for something.	Actium is a place where people gather or separate.
Lobby a	People to physical	An elderly women is standing near the elevator door and looking around.	She has vailed for the elevator for a while and looks a little imposers.	The waiting time for the elevator is a little long.
	nont F	A woman walks into the food store, staying in form of the counter and looking at the cakes for 5 minutes before she leaving.	The women seems hungry and wants to buy some thing to eat in the food store, but she heatbest after the sees the price of the cakes, finally the leavest because of the high price.	The price of the cakes are relatively high for some people.
house	arviron	A woman orders three cakes and then goes to pay and takes cakes to the seats in 3 minutes.	The women can allord the price of the cakes and she thinks the payment process is convenient.	The museum provide a convenient payment method for visitors to buy things have great control the people flow.
T as hou	People to social of	People in the test house are alting on the chain and they are sating bod whose patage are offlerent with the patage of bod said in the test house. And a result to a source from they any doction the rest, if the one specifies, if part were taken the fitted bod then a price rag, the lower plot of diverse is 30 km. After 20 minutes, or gain come on the bases, they load shound the surrounding trafty, and they load at the loader and tak with each other is in instander. If the her the part of the other of the other doct and the should be the first instander the her part of the second second second second test the should be the first instander.	The price of load is high, Selfors the four girls bought load inthe tea house people don't eart body which is bought from here housen, tested, they eart bod they trought by thermakive. Some poople just work to a the here. As to move 4 little girls, they talk about what cakes they want to buy, they run to the counter quickly and they buy this cake without any hestation.	Because this food is add inside the musum, the food is the two house is em- epending, which is much more separately than house booght from outdio messaurant. And they right to the massare why having nonpole in the musuan boy food in tash base, and for the most time they just want to have a nest after time visiting and waiking in exhibition area.
Sowenir shop	Nople to cultural environment	In the source struct struct where are source out of its number of the source structure of the source $T_{\rm max}$ is not as a source $T_{\rm max}$ in the source structure of the source $T_{\rm max}$ is a source source $T_$	The series of lower among paints." This is a series proving vary strating, we decompared outputs of the holds also segare on the series of the series of the series of the paint. They just lake a very divid to buy the sourcest.	The spice of assesses to about weathern philosophy as that banginer violants had aroung instance in them.

PHENOMENOLOGICAL OBSERVATION CONCLUSION

Flow including waiting process and visiting route is not very well organized which may cause incovenience and inchoate experience during rush days. There are handicapped passages in museums, but they are not really used.

Shanghai Museum is a place where has different groups of people and great opportunity to promote communication between Chinese and foreigners as some of them show the intention, but actually, there is a sense of unfamilier and distance between people.

The visiting experience spurs conversation and interaction between people. Blind and visually impaired people feel detached and may have a sense of insecurity.

The visiting experience spurs conversation and interaction between people. Blind and visually impaired people feel detached and may have a sense of insecurity.

The exhibition design of Shanghai museum doesn't have clear focus and logic and it doesn't bring rhythm sensation to visitors, so sometimes, visitors don't know where to focus and pay attention to.

The information guidance system of the museum is not clear and not easy for people without disabilities and low vision people to figure it out the best the exhibition routes. And there is no good route planning for different group of people.

PHENOMENOLOGICAL OBSERVATION CONCLUSION

The basic services facilities is not satisfactory. There is no specific service design for blind and visually impaired people, e.g. specific access in the museum for blind people and visually impaired people, for example, the access of lining up, visiting, rest area and so forth. And there are few place for visitors to have a rest in the exhibition hall.

When foreigner wants to buy souvenirs from staff, they always spend lots of time to figure this goods out, because of communication issues. There is no specifc service for blind and visually impaired people to have a convenient payment. The price of products in the museum is high.

Impolite behaviors occurs sometime because there is no formal rules and not enough staff to manage the situations. Some visitors break rules in the museum,for example, they touch the exhibits, because sometimes they don't know what is the rules board saying, sometimes they didn't see it.

Visual quality takes an especially important role in the museum experience, which contains aesthetic value that visitors want to keep. However, sometimes exhibits are displayed in a way that some visual aspects can be hardly observable. Besides, it can be challenging for the visually impaired people to grasp aesthetic value.

Information and introduction of exhibits is an important part of museum experience, embodying knowledge and educational values for the visitors. However, the visually-impaired people are not able to fully understand the information because it is either not provided for them or very abstract for them to understand without visual guides.

In the open space, people tends to get preparation before visiting the exhibition and tend to have a rest and reunion after visiting the exhibition.

ROLE PLAY GOAL

To gain a direct understanding of the current experience and feeling of blind or visually impired people in Shanghai museum.



COMPLETELY BLIND

OBSERVER

ROLE PLAYER

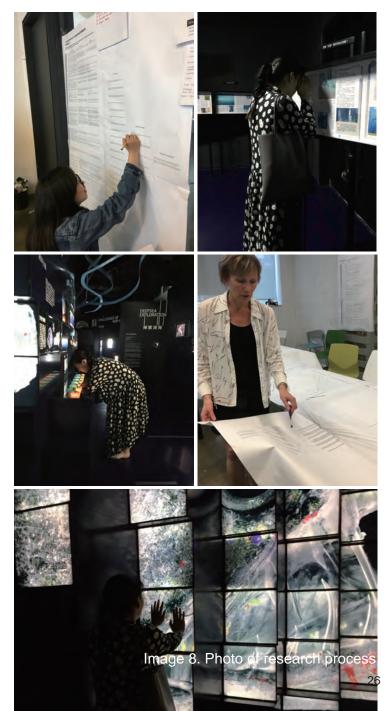
VISUALLY IMPAIRED

OBSERVER

ROLE PLAYER

FIGURE 8. Illustration of Aspects of Role Play Developed by Ourselves

RESEARCH PROCESS



ROLE PLAY CONTENT

DESCRIPTION	INTERPRETATION & REFLECTION	ANALYSIS
He touched the frame of the door, up and down for 3 times. He walked inside the door. He stuck out the crutch in front of him, knocking constantly on the ground from left to right and then backwards.	He was trying to figure out what the object is. He was using the stick to explore the way and check whether there is an obstacle or not.	Blind and visually impired people usually use touch to detect and know the object and using a stick to explore their way.
He walked toward an illuminating showcase. He touched the edge of the showcase then on the glass. He knocked with his crutch at the bottom of the wall and started to move again.	He was attracted by the illuminating thing and trying to figure out what it is. He started to move after he checked the border of the wall.	Blind and visually impired people still have sense of light. They will be attracted by the illuminating things in the museum.
He was turning corner. He lifted one hand and felt the wall on one side. He kept doing this for a while and then put down his hand and used his crutch.	He was trying to figure out the shape of doorway in case he bump to the door.	Blind and visually impired people are very careful about their way. They are afraid of run into something.
His was knocking the ground with his crutch when he stopped and started knocking frequently at an exit sign on the ground. He stuck out one foot to step on it, then he moved on.	He detected an obstacle on the ground and was trying to figure out what it is.	Blind and visually impired people can detect the obstacle on the ground.
He was at the door. His stick knocked at the frame and then he lifted the stick, sweeping in the air, knocking one side of the frame once in a while. After that, he put down the stick and moved on.	He was trying to identify the distance in the space.	Blind people are cautious when changes occur. Identifying distance in mind is important.
He moved towards the illuminating showcase. His hand was on the glass of the showcase. He was touching the texture of the patterns on the showcase with his free hand, and moved slowly up and down for 5 times, during which time his hand was in full contact with the showcase.	He was trying to figure out what the showcase is.	Blind people are sensitive to light and light serve as indicators or guides.
The room was dark. He came to a corner. He used the crutch to knock at the corner for 4 times. He knocked the crutch at the corner, then at the wall. After that, he turned against it and moved away.	He walked into a corner and tried to find the way.	There is no sign or guide of the route so it's very easy for blind and visually impired people to walk into the corners.
He was coming to the gate. When the gate opened sunlight came into the room. He turned to the light and walked outwards. He was frowning at the light.	He realized the exit by the sunlight but was annoyed by it because the sunlight is strong.	Blind people use sense of light to classificate direction but they are afraid of strong sunlight.
He was walking down stairs. He knocked the crutch at the upper staircase, then the lower staircase. He struck out one foot, touching the lower staircase for 5 times and took the step downwards.	He was trying to figure out the shape and border of the stair, using his stick and foot, trying to avoid felling down stairs.	Blind and visually impired people are especially cautious while going up and down stairs because it causes trouble and danger to them.
	I hear a lot of people talking and walking clearly. The sound of people talking and walking annoyed me.	The sound is more obvious to those who are blind or visually impired.
	I hear some visitors exchanging their opinions toward the exhibits, some in chinese, some in foreign languages. Some contents can be heard clearly if they are talking close to me, the other contents can't be heard clearly. But for each chat, I can only hear some seconds and the voice become lighter and lighter. I think it is interesting to hear others talking about the exhibits, but it is hard to follow a conversation.	The content of conversation can be heard by blind or visually impired people, but whether is clear or not, depends on the distance. Conversations can't be heard constantly as most visitors are walking and talking at the same time.
	I hear and feel a lot of visitors waliking up and down around me. Their route sounds complicated. I feel a sense of insurity and can't dare to move and I'm afraid to be bumped into or bump into someone else.	The visiting route is complicated which brings the blind or visually impired people an unsafe feeling.
	I hear someone around me is introducing one exhibit. The introduction of the exhibits is kind of attracting to me. So I listen to it for a while.	The introduction of exhibits can be heard by blind or visually impired people and it attracts them.
	I feel a sudden temperature drop at the entrance of the exhibition hall. And I smell a damp odour in the currency exhibition hall.And I hear the sound of air conditioner and venilator. I hear the background music in the nationality exhibition hall. I think is easier to detect the temperature, sound and smell when I close my eyes. The background music creates a different feel. And it's attracting to me.	Blind and visually impired people can feel the temperature and smell. And they have a strong sense of hearing. Some background music is attracting to visually impired people.
	I feel the light of the entrance of exhibition hall and the light of the display. I feel the different lighting condition of exhibition halls, some seem to be brighter and some seem	Light can be felt by blind or visually impired people. And the middle island display bring them some unsafe feeling Different exhibition halls have different lighting conditions
	to be darker.I'm afraid to bump into those display in the middle of the hall. I can realize the place changing according to the light.	which can be detected by detected by blind or visually impired people.

ROLE PLAY CONTENT

	The girl takes one second each time while she lifts her foot and puts her foot down and her hands are sliding in the air	She moves very slowly and hesitates to walk every time.	The interior of the museum lacks a visual guidance system or auditory guidance system that can provide convenience for the blind.
rver	The girl turns her head in three seconds and stretched her neck to look in the direction of the guide text or the guide picture.	The girl is hard and slow to find information in the exhibition.	There is a lack of museum that planning to provide blind people with route choices.
Obse	The girl touched the showcase for like 5 minutes and the girl bends over and move for 3 minutes.	The girl wants to find a safe and comfortable place to have a seat and have a rest.	The museum does not provide some conspicuous seats for visual impaired people to have a rest and it is hard for the blind to find a place to seat.
	The girl's head is very close to the showcase and her eyes are about 3 centimeters away from the showcase.	The girl's vision is not good. It is very difficult for her to observe the exhibits and find the exhibition route and it is impossible for her to plan a suitable exhibition route for himself.	The reading distance in the museum is too far for visual impaired people to read and learn more about exhibits.
		I can feel the area and location of the light block, I know what shape it is, and i know whether there are characters on it, but i can't figure the contents out.	Because I am highly myopic, I can see the general outline of the exhibitions, but my ability of seeing things in weak light is very poor.
		Without others' help, I can still avoid stricking on obstacles if I move slowly. But when I'm in a very dark space, I still accidentality hit on the showcase	When I have poor eyesight and can't see things, I will look farther away. This will cause me to accidentally bump into nearby objects.
tole player		I can feel the presence of the exhibits, but I must get closer enough to see the shape of the object. In the dark environment of the exhibition hall, I can not see the characters on the wall, I need to open the flashlight to read.	When I was close enough to the object and the light was bright enough, I could see clearly the contents of the exhibition.
		I will touch the display cabinets and glass covers unconsciously if I can't see what's in the cabinet clearly.	Because I can't see the object and the content, I feel uncomfortable and need to touch the object to get a sense of security.
		When I was in a place where the light was very dark, I felt that the floor under my feet was not realistic and there was also no sense of security	Because I can't see any objects in a dark space and the existence of the floor, I feel myself floating in space and I feel unsure and insecure.

ROLE PLAY CONCLUSION

Blind and visually impired people are more sensitive about sound, temperature and smell, light. The noise in Shanghai museum may bothers them. And there isn't much experience about senses like sound, smell, touching, etc., so the experience is poor to blind and visually impired people.

Shanghai museum is too crowded to those blind and visually impired people, especially in holidays. The crowd bring an unsafe feeling to blind and visually impired people. The middle island display also cause unsafe feeling to them.

There is no speical service or consideration for blind or visually impired people in Shanghai museum.

Blind or visually impaired people can realize the communication and interaction happens around them but they can hardly join.

INTERVIEW GOAL

To interview blind or visually impired people in order to understand the blind and visually impaired people's life experience for fascilitating their experience in Shanghai Museum and offering them accessibility to society.

QUESTION

What's your level of visually impired?

How did you get visually impired?

How long do you take a rest in a week?

Why don't you have a rest?

How do you go to the work every day?

Do you have any hobby and personal interests? How do you get entertained?

Have you ever been to Shanghai Museum?

Have you ever been to any museums? If yes, how do you feel about it?

If there is a chance for you to go to Shanghai Museum, are you interested in it?

What do you want to see in the museum? Are you interested in jade, currency, pottery, painting, calligraphy, etc.?

So what do you want to see in the museum?

Do you have any guardians who can take care of you?

How do you usually go outside?

Do you know braille?

How do you feel about Shanghai?

What's the most valuable in Shanghai for you?/ What kind of value that help you to shape your life?

ANSWER

I'm not totally blind but I can only see things within half meter.

By congenital disease.

I work everyday and every week. I don't rest. I only get some rest when there is no client.

Because my eyes make my life inconvenient for most of time, I only focus on my work because I'm good at it. I don't want to do anything else that i'm not good at.

I walk here every day with GAD map voice navigation. Sometimes with the help of passengers.

I like listening to music and singing, but I can't sing very well. Doing massage is my hobby, I enjoy it. And I think doing message is our only hope. I also like travel ling, I enjoy being exposed to the nature and sense the smell of the nature, but I don't like the crowded place because I feel nervous there . Sometimes I listen to broadcast and voice novel.

No, I just come to Shanghai for 10 days, I haven't gone to many places yet.

I have been to the Memorial Hall of The Victims in Nanjing Massacre by Japanese Invaders once before. But it is a terrible experience. Because I joined people with normal vision travelling group alone, there was no one take care of me and they moved so fast. So I was afraid to see exhibits because I was afraid to get lost. But

still saw a few exhibits which are big and close to me. But I dare not touch anything in case the security quard shout at me.

Yes, I think it will be great if someone can take me there.

I think I'm not interested in anything you mentioned just now. Because i never experience that.

Maybe I would like to see some famous things and something I can see. Maybe those things which have some educational and historical significances?

No, I'm always alone, so I'm afraid of being outside and visit somewhere. But I'm not afraid to visit anywhere else if someone takes me there and takes care of me.

I usually take the bus or the subway, if I want to go somewhere close, I will just walk there. But I think the bus of Shanghai is not convinient to me compared to my hometown Hefei, because the word on the bus stop plate is too small to be recog nized by me. And the placename is too difficult to remember. And in my home town, there is a light and a sound to notice you which station is it now. But I think the subway is convenient, because there is handrail on the staircase and there is a sound to notice me which station is it now. Walking is more convinience to me because I can take the blind tracks and there is not much obstacles like bicycles on it.

No, I don't. But I can recognize the word if it is protruding.

I don't like it and I'm so regretted to be here. I think the bus is plaguing me. And there is few people who help me because they think I'm not totally blind. My Disability Certificate doesn't work here sometimes.

Work well and make a lot of money, and always healthy. I hope I can get more attention and help when I travel around the city. I feel that being cared by surround ing people is the most valuable thing for me. It makes my life in Shanghai very warm and meaningful.

INTERVIEW CONTENT

QUESTION

What's your level of visually impired?

How did you get visually impired?

How long do you take a rest in a week?

How do you go to the work every day?

Do you have any hobby and personal interests? How do you get entertained?

Have you ever been to Shanghai Museum?

Do you feel tired while doing message for your client?

ANSWER

I'm not totally blind but I can see things within three meter. But I can't see clear if the environment is dark or the weather is overcasted. I can't see in the night. I have glass es, but I don't like wearing them.

By congenital disease.

I work everyday and nearly every week. I don't rest. I only get some rest when there is no client.

I still have some vision, so I can take subway, bus, etc.

I don't have many hobbies. I just like doing message for others and chatting with them. I especially enjoy chatting with those conversationalists, it makes feel no tired while working. I don't like travelling like other people, I just work and sleep and then work again. Sometimes I play my phone, but I can't play it for more than half an hour other wise I will be blind for a couple of hours.

I never been there before because I think I have to buy ticket for it. But if it is free, I would love to go there sometime in the future.

I used to feel tired when I was a rookie because I'm afraid to hurt my client. But I don't feel tired now as I'm used to it. And I'm very proud of my job because I'm good at it and I can make my client feel very comfortable.

INTERVIEW CONTENT

INTERVIEW CONCLUSION

Comparing with watching entertainments, blind and visually impaired people are more prone to listening and speaking entertainments.

The blind people can hardly fulfil interaction with environment, exhibit and people in exhibition hall without any help or they are permitted to do so.

Blindness makes th blind and visually impaired people lose the diversity of their life.

The transportation system is incomplete in China for blind people, which still make blind and visually impaired people inconvenient to go outside.

The blind and visually impaired people are not given enough respect and care in Chinese society.

Light is an important facility in the exhibition hall for blind and visually impaired people to improve their visiting experience.

The lack of information for them limited their experience of exhibition.

Public facilities for blind and visaully impaired people are not well considered, such as raised characters.

INTEGRATED CONCLUSION

The safety in Shanghai museum is a serious and unsolved question among blind people and visually impaired. The security guard need more focused interaction with blind people and visually impaired.

The emotional experience between vistors and visitors or visitors and staff need to be improved emotionally.Both of visitors and staff shouldn't be so rude with each others. The better they can communicate with each other, the more information they can exchange.

The lack of a museum guide system in the Shanghai Museum makes blind people experience poorly in the museum. First, they did not take them consider that people who are visually impaired. Second, the original guide system were very weak in design. And the fact is that, it's extremely important to have a good guide system to make blind people have a fullfilled experience.

Due to limited space and various of irresistible factors, for example, space function has not been well planned. Visitors' behaviors are greatly restricted, which makes it difficult for them to have a fullfilled and pratical visiting experience.

For blind people and people who are visually impaired, they are particularly sensitive to other senses except vision. The way they obtain information is mainly through aesthetic interactions between people and environment. Specifically, improving the sense of hearing, smell, and touch to enhance the blind people's visiting experience.

Blind people also need special places for rest and special guides or channels to guide them to the rest area.

Because of the design of the visualization, the museum did not do well on building information system, neither the normal visitors nor the blind people could obtain information well.

AREAS OF ISSUES

Lack of Interaction Among Visitors

Experience of the exhibition stimulates needs for interaction among visi tors. However, there are few channels to facilitate interaction between different groups of visitors, for example, there are few activities visitors may do together. Facilitating interaction between visitors adds to social value. Besides, aesthetic values are recognized and perceived by visitors in between interaction, so that they get closer to the fulfillment of experi ence.

Limited Perception of Information Leads to Inchoate Experience

Most information given is in visual or audio form, the perception for visual ly impaired visitors are limited, which leads to inchoate experience. The aesthetic and cultural values the visually impaired drawn from the experience thus become scarce.

Inconvenient Physical Environment

The inactive and inconvenient physical environment, for example, unproperly planned showcases and seats, has limited aesthetic and practical experience and interactions between different group of visitors. This indicates a lack of social and ethical values.

Lack of Communication Between the Visitors and Staff Members

Although there is no formal code of conduct in the Shanghai Museum, people in the museum share the common view that they should follow certain rules. However, since people perceive the rules from their own perspective, there could be gap in between their understandings, espe cially between those of the staff and the visitors. Lack of communication of such understandings may cause conflict and damage people to people interaction.

Lack of Empathy and Concern for the Needs of the Disabled

There is a lack of understanding and caring for visitors, especially for the blind and the visually impaired. Concern for their psychological need is also not emphasized, for example, self-esteem and sense of safety. Social and ethical values are not emphasized in terms of the benefits of

PROBLEM STATEMENT

Shanghai Museum aims to provide a unified experience for visitors in terms of exhibition, putting an emphasize on aesthetic values. How ever, aesthetic values cannot be well communi cated because of the lack of interaction among visitors and limited perception of information. Besides, the lack of communication between staff and visitors may have negative effective on people to people interaction, preventing visitors from getting a fulfilled experience. More impor tantly, Shanghai Museum has overlooked the social value and ethical value concerning the disabled, especially the blind and the visually impaired. This is reflected in the inconvenient physical environment which can be unfriendly to the blind and the visually impaired. The lack of empathy and concern for the blind and visually impaired has led to their inchoate experience.

³⁵ the disabled.

ISSUE MAPPING PROBLEM STATEMENT

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CENTRAL IDEA

We aim to provide the blind and visually impaired people a fulfilled experience in Shanghai Museum by improving of the inconvenient physical environment, showing specific concern for the blind and the visually impaired. Our goal is to implement universal design that benefits not only the blind and the visually impaired, but also other visitors. We enhance the perception of aesthetic values with unique ways of exhibiting. We enhance the perception of social values by facilitating the interaction between them. Our design includes earphone, texture wall and co-creation device.

USER PROFILE

Primary User

Totally blind people

Age: 30-70 years old Nationality: China Occupation: Massagist/retired/unemployed Work hours: 84 hours/week, retired Family: Single, married, family Education level:Mostly special education

Secondary User

Visually impaired people

Age: 30-70 years old Nationality: China Occupation: Massagist/retired/unemployed Work hours: 84 hours/week, retired Family: Single, married, family Education level: Mostly special education

Tertiary User

People without disability

Age: 30-70 years old Nationality: China/Other coutries Occupation: Varied Work hours: 40 hours/week, retired Family: Single, married, family Education level: multiple

User profiles were determined based on phenomenological observation, role play in Shanghai Museum and interview in Blind Massage Shop.

IDEATION PROCESS

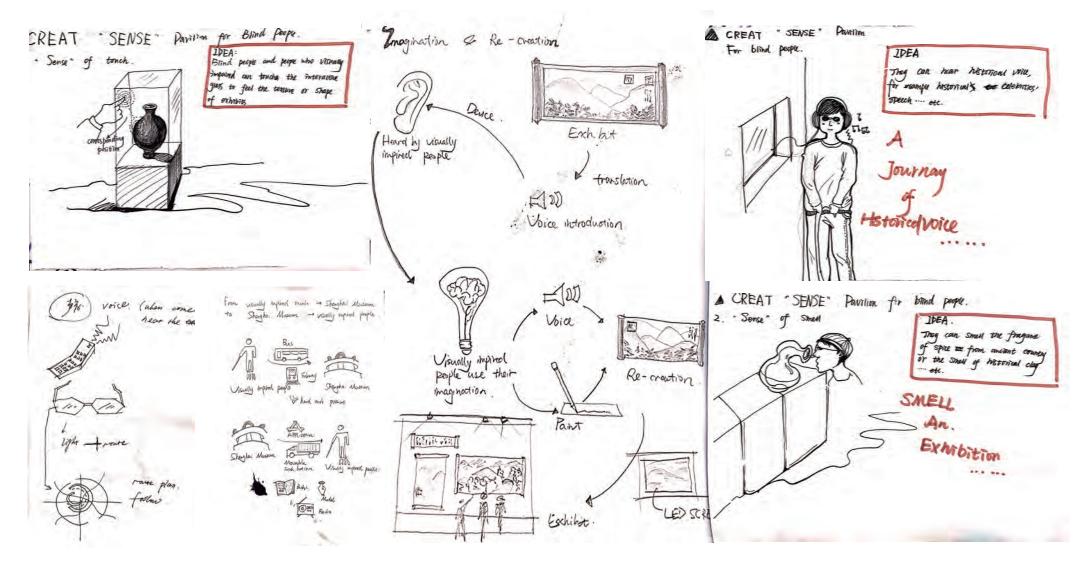


FIGURE 9. Sketches of Initial Ideas

Blind Track

Areas of Issues: Physical Environment



FIGURE 10. Illustration of Blind Track outside the Museum

FIGURE 11. Illustration of Blind Track inside the Museum

Blind and visually impaired peolple can walk on the blind track so that they may not be easily disturbed by others and in this way they can gain more safety when they are walking inside the museum.

Earphone

Areas of Issues: Communication and Relationship, Information and Perception

Guiding Earphone: When the blind and visually impaired people come into the Shanghai Museum, they will be given out a Guiding Earphone each person.

It is designed by our own.

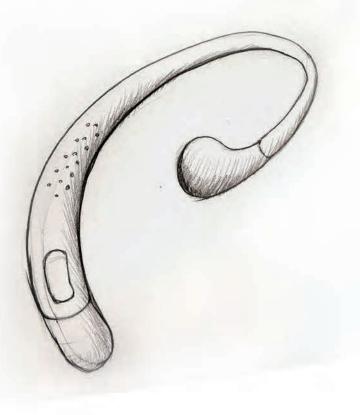
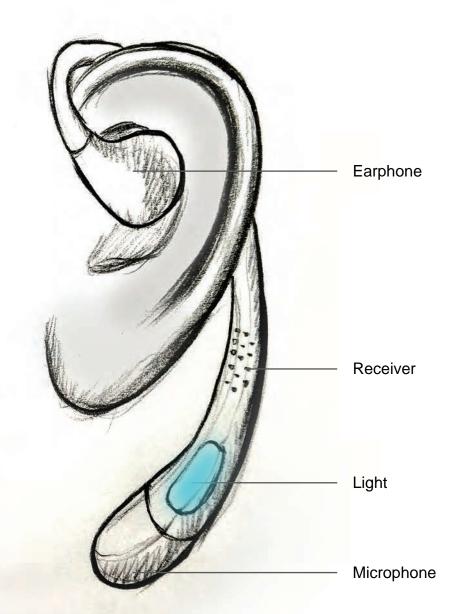


FIGURE 12. Sketch of the Earphone



has bluetooth and can be located

Earphone

Areas of Issues: Communication and Relationship, Information and Perception

FIGURE 13. Illustration of Use of the Earphone(1)

helps correct their directions according to

positioning system.



Background photo source: http://art.ifeng.com/2017/0119/3229878.shtml

Earphone

Areas of Issues: Communication and Relationship

FIGURE 14. Illustration of Use of the Earphone(2)



Texture Wall

Areas of Issues: Information and Perception



Texture Wall: It will be put in the exhibition hall with different theme, the blind and visually impaired people can touch texture of exhibits by their hands. It fulfils their exhibition experience by touching.

FIGURE 15. Illustration of the Texture Wall

Co-creation Device

Areas of Issues: Inner Harmony and Psychological Need, Communication and Relationship, Information and Perception

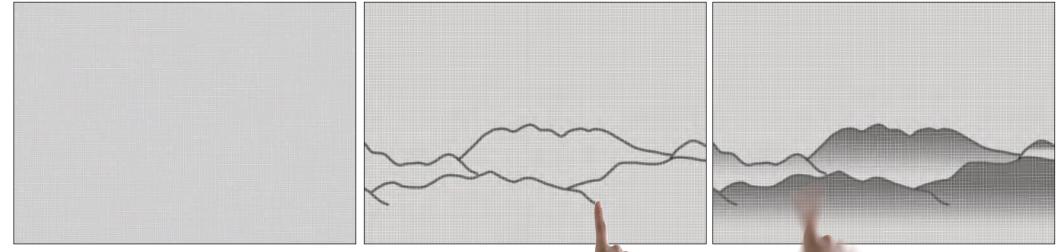


FIGURE 16. Illustration of the Co-Creation Device Inspired by 'Feel the View' Designed by Ford(1)

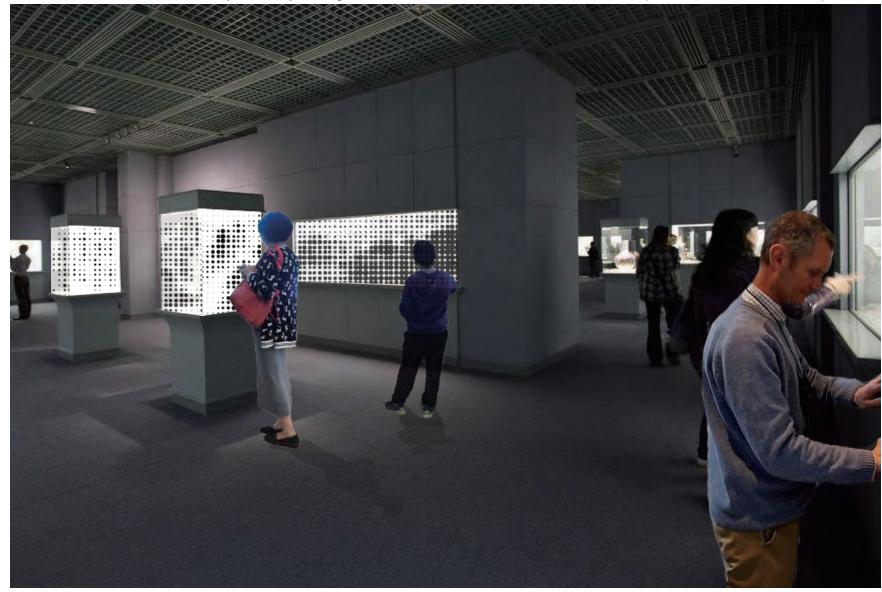
There is screen with dense movable units.

When someone use his/her finger to pass over the surface, the units which he/her touches will move backward thus create shadows which show the shape of the line. The line can also be perceived by blind and visually impaired people so they can admire and draw paintings as well.

One can also use finger to create special effect, such as gradual change of color in order to draw a good picture.

Co-creation Device

Areas of Issues: Inner Harmony and Psychological Need, Communication and Relationship, Information and Perception



Background photo source: www.vcg.com

FIGURE 17. Illustration of the Co-Creation Device Inspired by 'Feel the View' Designed by Ford(2)

Co-creation Device

Areas of Issues: Inner Harmony and Psychological Need, Communication and Relationship, Information and Perception

Visitors can create the painting together. During the co-creating process, visitors will use the aesthetic value they gain from the museum. They can also gain social values by collaborating and communicating with others. Blind and visually impaired people can gain moral values as they have the same opportunity.

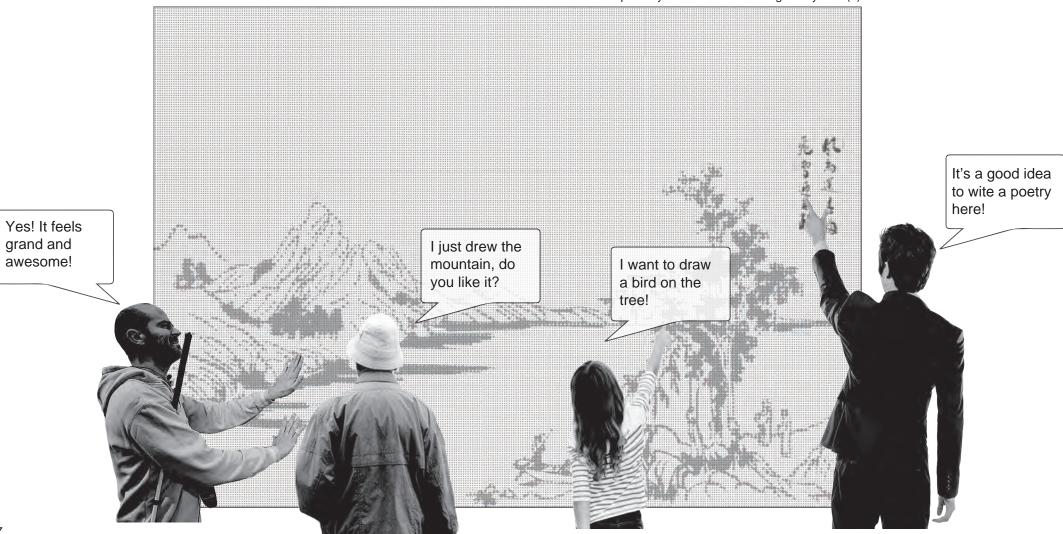
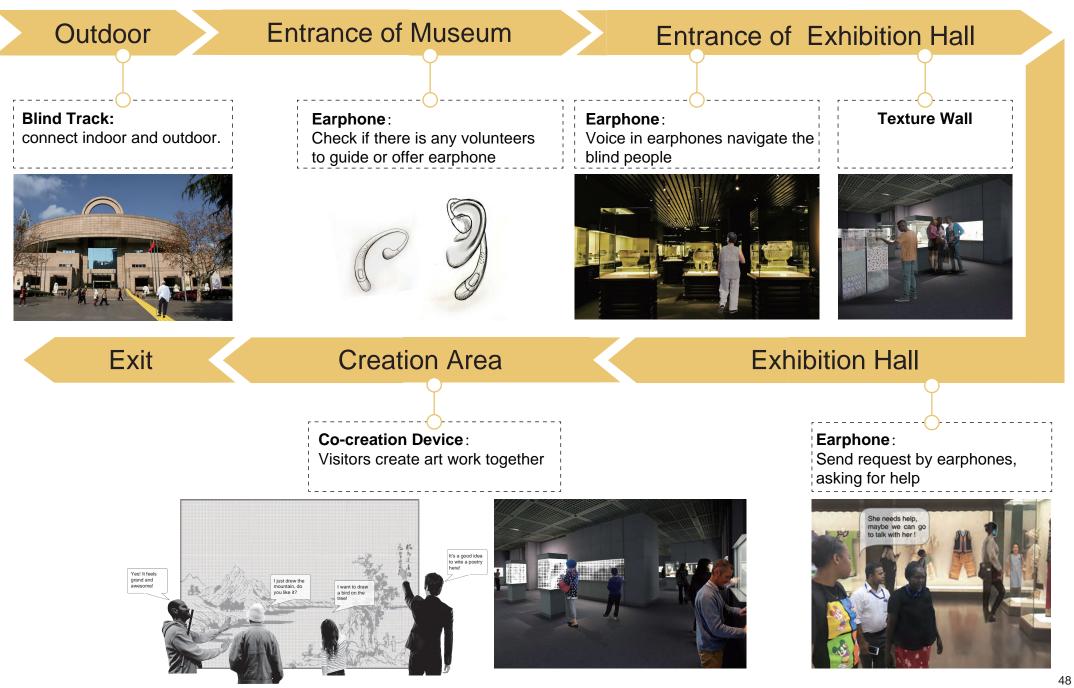


FIGURE 18. Illustration of the Co-Creation Device Inspired by 'Feel the View' Designed by Ford(3)

CUSTOMER JOURNEY



SIGNIFICANCE

Blind and visually impaired people is a vulnerable group, whose benefits are often neglected by the majority of the Chinese society. It is important that we raise concern over their rights and status in society. As one of the biggest public cultural facility and the symbol of Shanghai, Shanghai Museum serves as the opportunity site for our design. The inclusiveness for blind and visually impaired people in Shanghai Museum has great social and ethical values. and places for issues that finally discloses the central problem based on evidence.

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FIGURE 4. Illustration of Variety of Blindness and Aspects Which can Gain Value.

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FIGURE 12. Sketch of the Earphone

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IMAGE 4. Photo of outside Shanghai Museum from www.baike.baidu.com
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IMAGE 6. Photo of research process
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IMAGE 8. Photo of research process

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LITERATURE 1. Erving Goffman. Facial Engagement LITERATURE 2. John Dewey. Having an Experience LITERATURE 3. Georgina Kleege. More than Meets the Eye