

APPENDIX

Appendix I	117	Appendix XIII-A	132
Appendix II	118	Appendix XIII-B	133
Appendix III	119	Appendix XIII-C	134
Appendix IV	120	Appendix XIII-D	136
Appendix V	122	Appendix XIV	141
Appendix VI	123	Appendix XV	142
Appendix VII	124	Appendix XVI	143
Appendix VIII	127	Appendix XVII	144
Appendix IX	128	Appendix XVIII	145
Appendix X	129	Appendix IXX	147
Appendix XI	130	Appendix XX	149
Appendix XII	131		

APPENDIX I

Hello, welcome! As you may be curious about, this is the Smart Frame and it is an exploration setup for presenting 3D printed replicas. Since 3D printed replicas allow you to touch the oil painting as you might be eager to do while visiting a fine art museum. The Smart Frame applies tracking light to let you feel and look at certain details of the painting more clearly. Besides, there is also an audio tour guiding you through the exploration.

APPENDIX II

Consent Form

Experiment:

The influences of individual's art knowledge and art interest on the interaction with oil paintings

Investigator: Jianyu Shao

This study involves research subjects. I will investigate how people's knowledge and interest of art influence their expectation and interaction with paintings. The expected duration of the subject's participation is 30 minutes. The subject will fill in a questionnaire about art knowledge and art interest, and will then have to tell experience with audio guide and text label together with expectations for four types of oil painting. Participation is voluntary. I do not foresee any risk or discomfort resulting from participation. I will record the subject's name, age, gender and content of interview and store this data on protected hardware that can only be accessed by authorised researchers involved in this project. Incidental findings will be handled anonymously. Jianyu Shao may be contacted for answers to pertinent questions about the research and research subjects' rights, and in the event of a research-related injury to the subject. The subject has the opportunity to ask questions and to withdraw at any time from the research without consequences. All personal data will be deleted two years after the end of the research period or sooner if they are no longer needed (i.e. if results have been published). Personal data will not be retained or sent/sold to a third party for further research. The results of the research will be published in international refereed journals / conference proceedings using anonymous presentations or initials.

Please sign if you understand this information and if you consent to participation:

Name

Signature

Date

APPENDIX III

Name:

Age:

Nationality:

To what extent do you KNOW about fine art: (Tick the number)

Threshold ① ② ③ ④ ⑤ Professional

Do you have any expertise regarding following aspect of fine art:

Choose as many as you have

- Appraisal Context of Paintings (when and where it was created)
- Specific Type(s) of Painting
- Specific School(s) or Movement(s) of Paintings are Associated With
- Specific Artist(s) (his/her/their style & career)
- Specific Material(s) Used in the Creation of the Painting
- Specific Content & Subject Matter in the Painting
- Specific Techniques (Composition, Line and Shape, Texture and Brushwork, Colour)
- No

What is your last time art-museum visits:

- In one month
- In two month
- Half year ago
- Last year
- Other....

How deep your interest in fine arts? (Tick the number)

I don't care ① ② ③ ④ ⑤ I am very interested

How do you rate your interest for following aspects when viewing a painting?

(Filling every circle with number) :

I don't care ① ② ③ ④ ⑤ I am very interested

- Painting Context (when and where it was created)
- Type of Painting
- School or Movement the Painting is Associated With
- the Artist (his/her style & career)
- Materials Used in the Creation of the Painting
- Content & Subject Matter in the Painting
- Techniques (Composition, Line and Shape, Texture and Brushwork, Colour)
- Beauty in the Painting
- Other (please indicate):.....

How do you usually interact with paintings in fine art museum?

- Read the information panel / the label beside the painting
 - Listen to the audio guide
 - Look at the painting as close as possible
 - Search information related to the painting online
 - Talk with others about the painting
 - Other (please indicate):....
-

APPENDIX IV

Occupation:	Knowledge	Interest	Painting Context	Type of painting	Moves and so
Master student	1	3	4	4	
Master student	1	4	3	1	
Retired	1	4	5	4	
Retired	1	3	5	3	
unemployed	1	3	2	4	
Masterstudent	3	4	3	1	
Masterstudent	3	4	4	4	
Employee	3	3	4	4	
Freelance Designer	3	3	4	3	
Illustrator	3	5	3	5	
Lighting designer	3	4	5	3	
Employee	4	5	5	3	
Unemployed	4	4	3	4	
Entrepreneur & lecturer	4	4	3	3	
Master student	4	4	2	3	
Master student	4	5	2	4	
Textile artist	4	4	4	4	
Master student	4	3	5	1	
Master student	4	5	2	5	
Master student	4	4	2	3	
Office worker	5	5	5	5	
Visitor Phlip	5	5	5	5	
Visitor Julia	5	4	2	4	
Artist	5	4	5	3	

ment chool	the Artist	Materials Used	Painting Content	Techniques	Beauty
2	5	1	3	3	5
2	4	4	3	5	5
5	5	3	4	3	5
3	3	3	3	3	5
4	5	3	3	5	5
2	3	1	5	2	4
3	3	5	5	4	3
4	5	5	5	5	5
4	3	3	5	3	5
2	5	4	4	4	5
3	5	3	3	4	5
4	5	5	5	5	3
4	4	3	5	4	4
3	3	3	4	3	3
3	3	1	4	4	4
3	4	3	5	3	5
3	3	5	4	3	5
5	5	1	5	4	4
3	3	1	5	4	5
3	3	5	2	5	5
5	5	5	4	5	5
5	5	3	5	5	5
2	5	2	2	4	4
4	5	5	5	4	2

APPENDIX V

```

CORRELATIONS
/VARIABLES=Knowledge Interest
/PRINT=TWOTAIL NOSIG
/MISSING=PAIRWISE.
  
```

Correlations

Notes

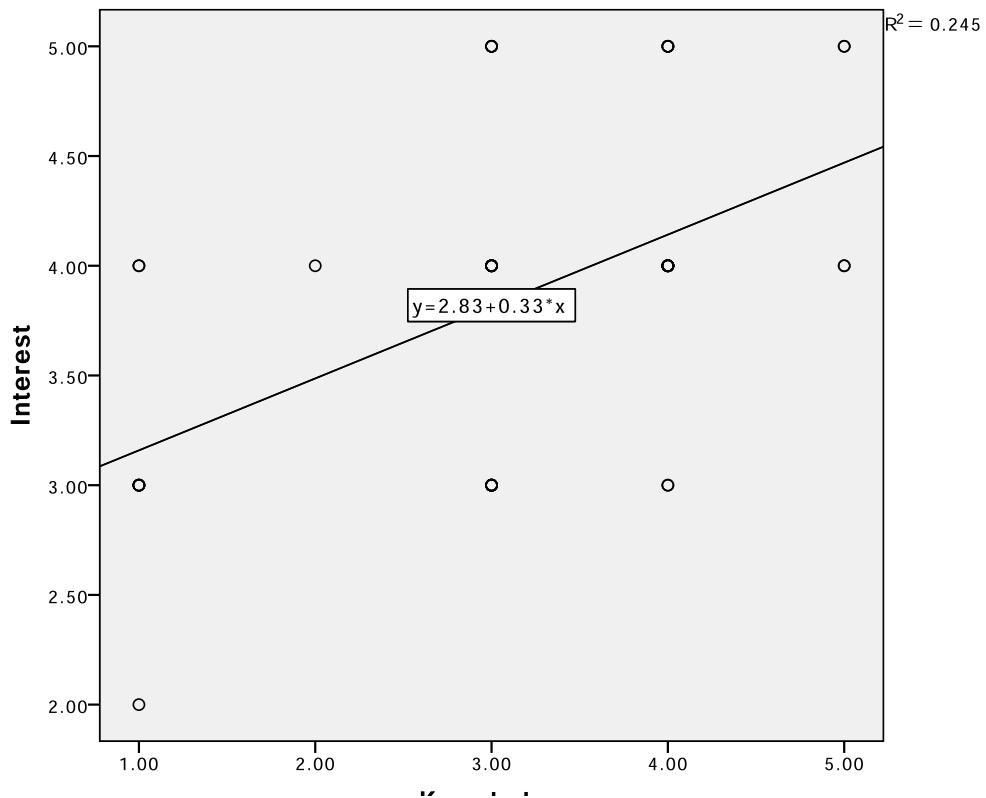
Output Created		23-AUG-2017 22:39:39
Comments		
Input	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	28
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each pair of variables are based on all the cases with valid data for that pair.
Syntax		CORRELATIONS /VARIABLES=Knowledge Interest /PRINT=TWOTAIL NOSIG /MISSING=PAIRWISE.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.00

Correlations

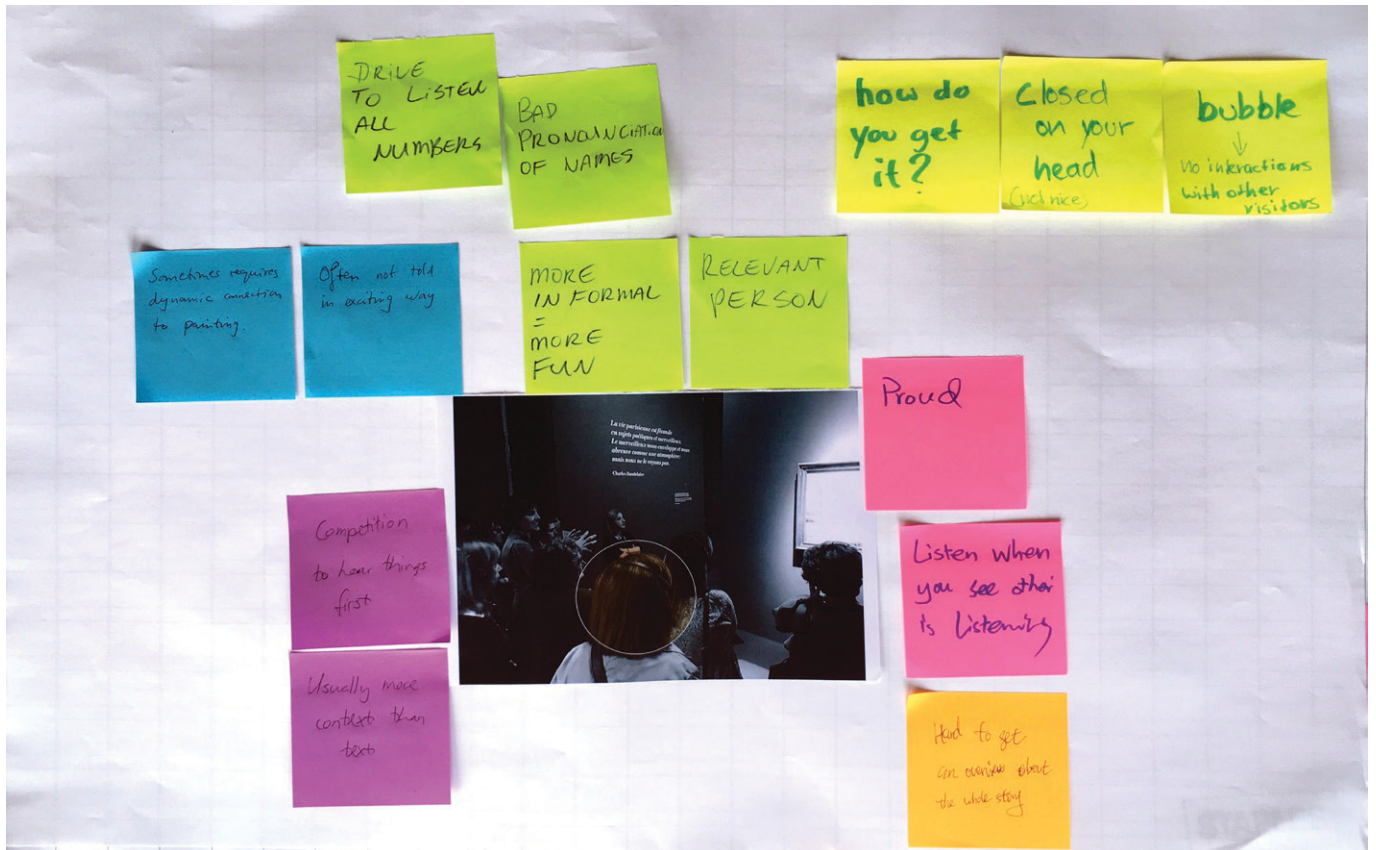
		Knowledge	Interest
Knowledge	Pearson Correlation	1	.566 **
	Sig. (2-tailed)		.002
	N	27	27
Interest	Pearson Correlation	.566 **	1
	Sig. (2-tailed)	.002	
	N	27	27

** . Correlation is significant at the 0.01 level (2-tailed).

APPENDIX VI



APPENDIX VII







APPENDIX VIII

P.p.	Knowl edge level	Girl with a pearl earring	Boat party	Taos mountain	Sunflower
Indian girl	3	Meaning of the eye / Brief of technique and painter	The scene, location, setting, timeframe	Brushstroke, technique Guessing abstract	Artist, techniques, color, material
Retired Dutch madam	1	Movie, story behind	Situation, what's going, where are they sitting, people, context	Author school (reminds me impressionism) and style what's going on	Real one Region of the sunflowers Painter's status
Two Dutch profession als	5	The girl	Style (sweet)	Artist / year of creation style	Prefer Rembrandt style/ rough edges
American visitor	4	Time period of the artist career / who the girl is / why this subject / what does it mean to the artist	Year / context / time period of the artist career (help to understand by linking to painting movement and in relation to the history)/ Particular reason of creating /	Context / how it comes to that style / techniques /	Vincent and his brother talked about the quality which is lovely to read about it (because it gives me meaning) - personal nature/
Colombia Artist	1	Who she was, where is she come from / What is the relation between artist / anything behind the girl	What occasion / What was the exactly / Seasons (from T shirt to dressed up) / why is he dressed up smartly	Who was the gathering of people / the brute brushstroke	Why flowers / the painter Van gogh / the technique impasto
Two Dutch profession als	5	Know everything	Restudy it for its detail	Year / artist / Thickness of the painting/ real size	In real / size /

APPENDIX IX

Transcript of the interview with art teacher

At the moment when you hear that (tour guide), you think wow, this is really something but you do not take home any knowledge. What you bring to home is zero. So what a very good guide is to take a story starting from the objects. So, in a museum, you start from an object and you tell a story belonging to the object, so you make a situation which is based upon an object and then the story that goes with it. So that goes from the concrete to a more abstract level, but still attach to the concrete level.

If you want a bigger story about dutch art of 17th century, I don't start with theory, I don't start with history, I just start with objects that tells. And then for instance, I mentioned, this is the room, which has still life, it has landscape and I explain many artists that specialized in one of this three, four, five things by training so this dutch artist were highly specialized and they learn from their master who also have the same specialization either portrait, landscape, history and etc.

I have a very large knowledge of the culture of the 17th century, And i will bring forward those art which are needed to understand the object.

I start from an object and tell part of the 17th century culture which is related to that object. You can call it object related.

2,3,4,5 people in the private tour. My fee starts with 70 and goes up to 150 per hour...

Usually, I worked 2 to 3 days a week, and usual hour is 2, 3 or 4, sometimes 5.

I find out in the first 5 minutes, with these are scholars, specialist, just tourists maybe a family with children and they may have different area of interest. I got lots of feedback. I do lots of 'question and answer'. It is called Socratic from Socrates, the philosopher. I ask them personal questions so that they themselves develop thoughts and start to understand the painting or the sculptures. So by asking intelligent questions, they themselves work out the answer and I help them done.

I am usually asking what is your briefing, what do you want to have in these 2,3,4 hours with me, what do you feel most interest, do you want middle ages, you want dutch 17th century. Usually, I know that from the email between 2 to 4 from each client.

The education of the clients are quite varied, and I have to plug in the educational level and make my story fit to that education level. So when I am writing an art story, I will put the level of my historian facts and words tenses very high, when I am with a simple family, I will the language that is more simple.

Their interests are influenced by their educational level

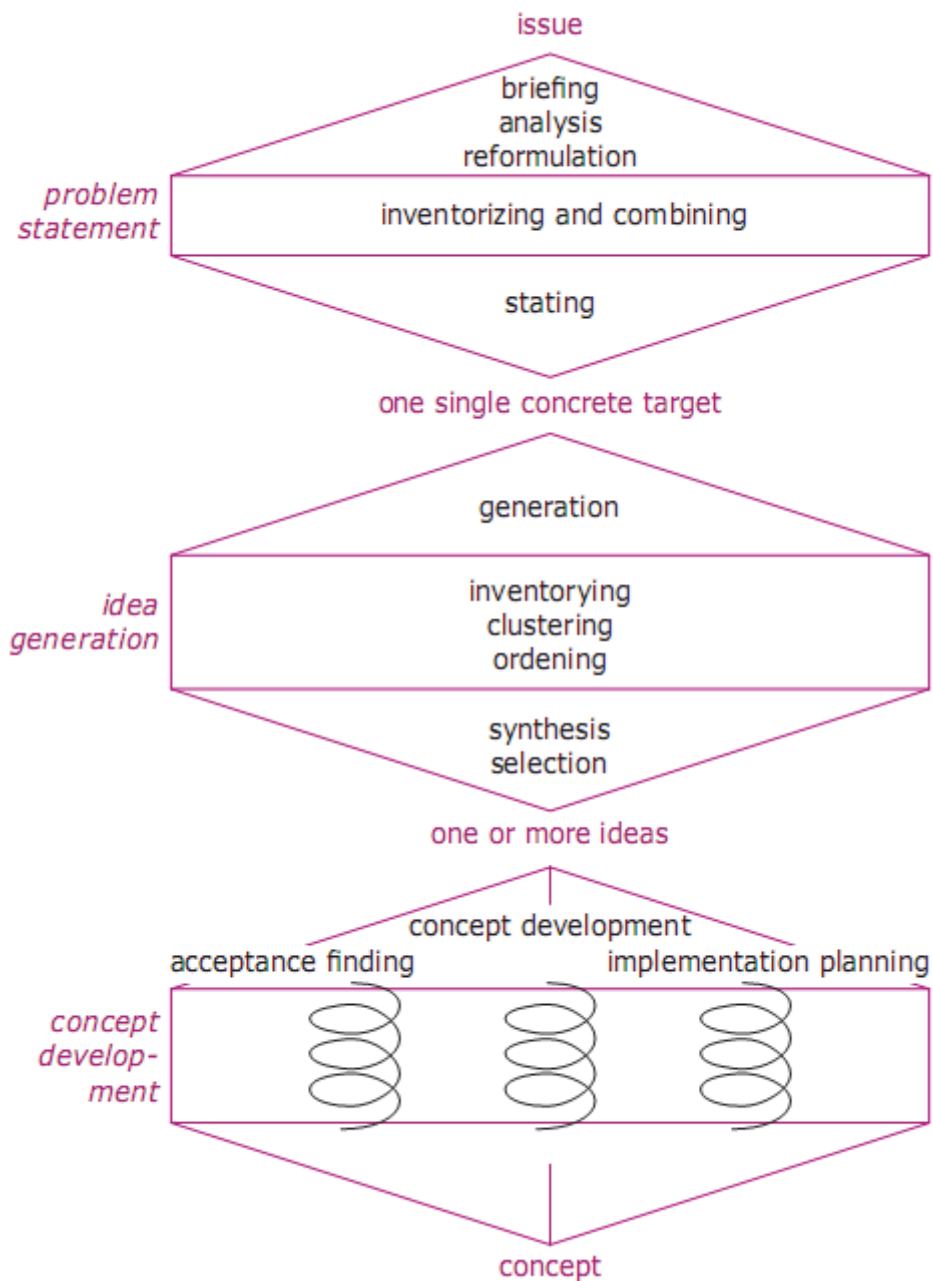
I start with questions. Because i asked questions, they feel free to ask me questions.

I have massive library, folders that I combined by myself

APPENDIX X



APPENDIX XII

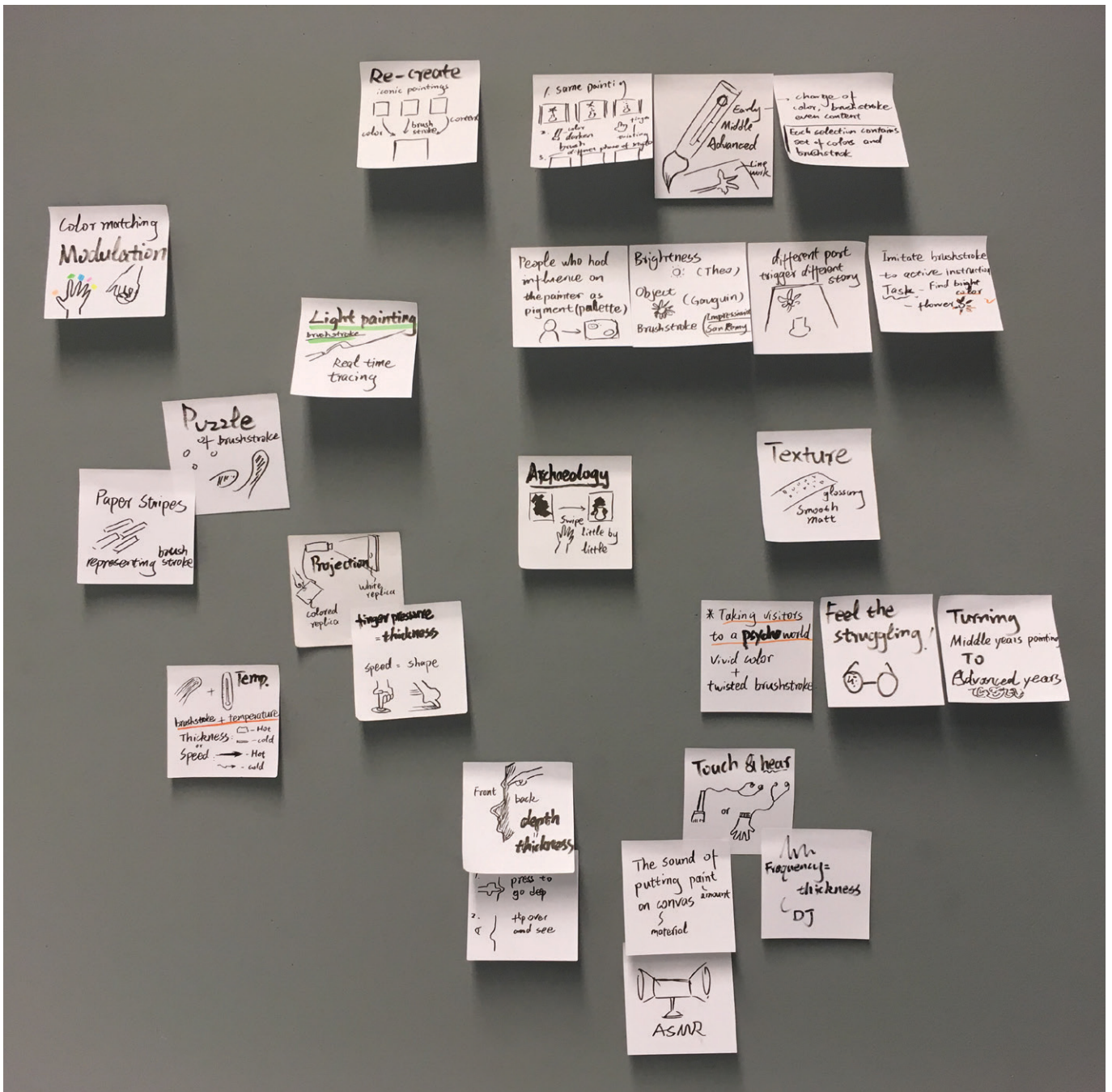


CPS Model by Tassoul and Buijs

APPENDIX XIII-A



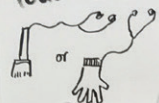
APPENDIX XIII-B



APPENDIX XIII-C

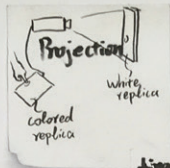
Delightful interaction to engage

Touch & hear



The sound of putting paint on canvas amount & material

Frequency = thickness
DJ



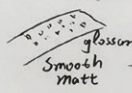
finger pressure = thickness

speed = shape



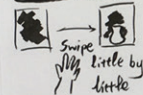
trace
1. press to go deep
2. tip over and see

Texture

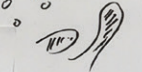


brushstroke + temperature
Thickness: - Hot - cold
Speed: - Hot - cold

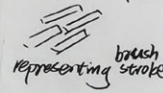
Archaeology



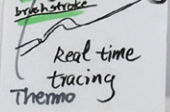
Puzzle of brushstroke



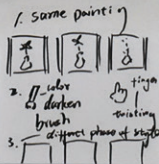
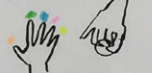
Paper Stripes



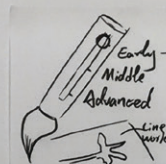
Light painting brushstroke



Color matching Modulation



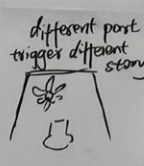
Turning Middle years pointing TO Advanced years



change of color, brushstroke even content
Each selection contains set of colors and brushstroke

People who had influence on the painter as pigment (palette)

Brightness (Theo)
Object (Gauguin)
Brushstroke (Impressionist San Remo)



Imitate brushstroke to active instruction
Task - find bright color - flower

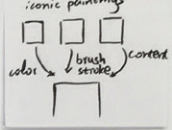
Story of style

* Taking visitors to a psycho world
Vivid color + twisted brushstroke

Feel the struggling!



Re-create iconic paintings



画画的快感
通感

* Taking visitors to a psycho world
Vivid color + twisted brushstroke

Feel the struggling!

风格的转变
牙毛脚特色
而像

Re-create iconic paintings

1. same painting

2. color darker

3. brush different phase of steps

Turning Middle years painting TO Advanced years

Early
Middle
Advanced
change of color, brushstroke even content
Each selection contains set of colors and brushstroke

暑假的 style
1980 大尺幅

People who had influence on the painter as pigment (palette)

Brightness
Thea
Object (Gauguin)
Brushstroke (Impressionist San Remo)

different post trigger different story

Imitate brushstroke to active instruction
Task - find bright color - flower

ASMR

listen to the story (阿尔箱)

Projection

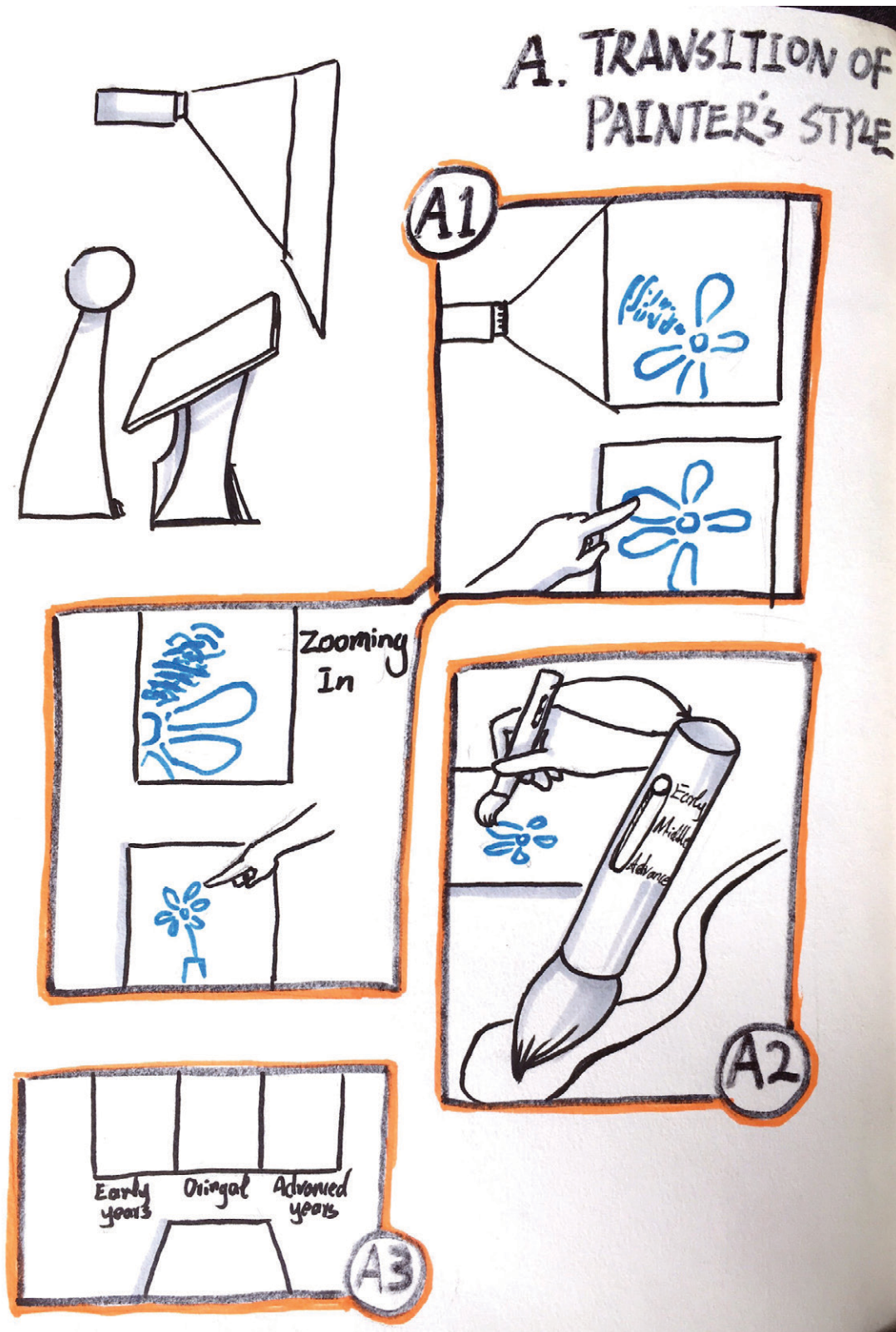
touch white
Projection
Color

The sound of putting paint on canvas amount material

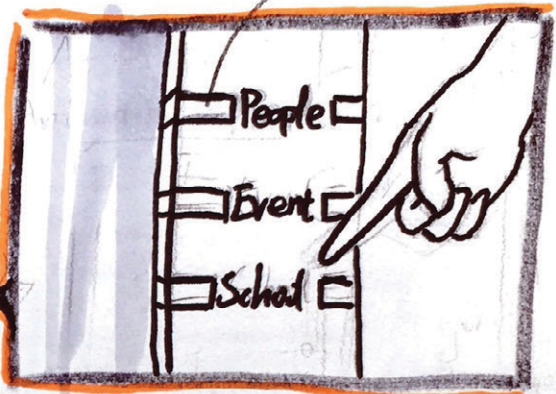
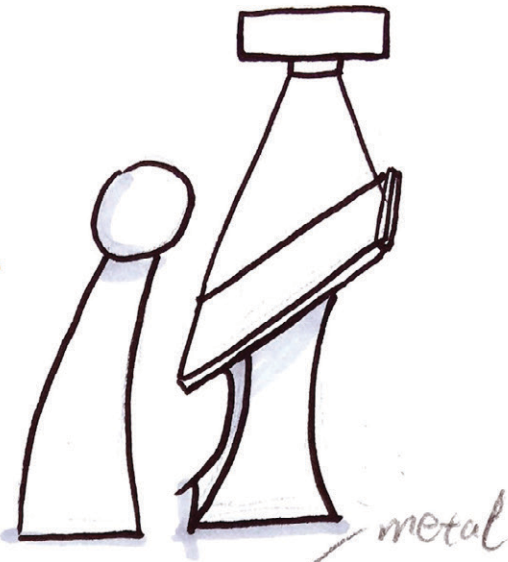
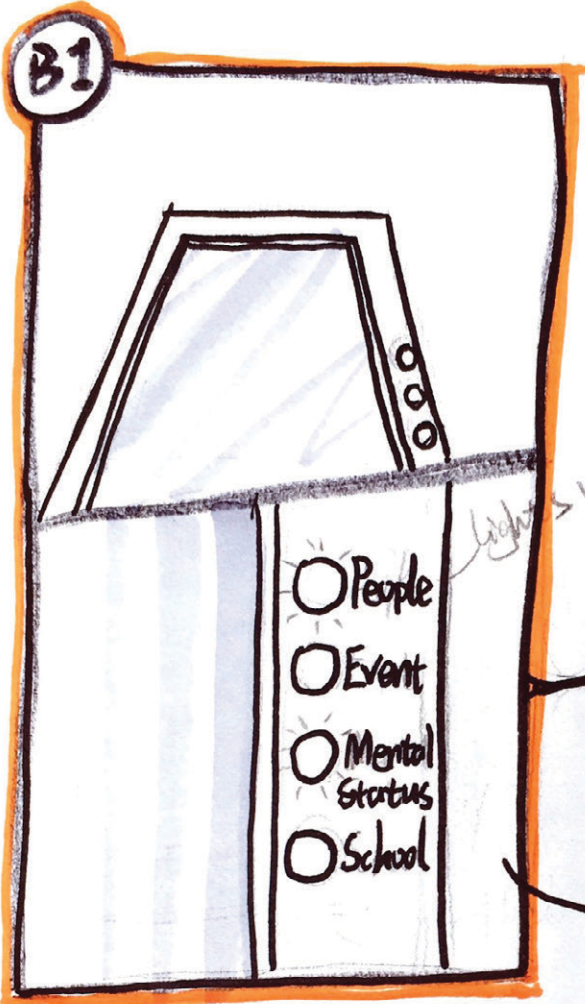
Touch & hear

finger pressure = thickness
speed = shape

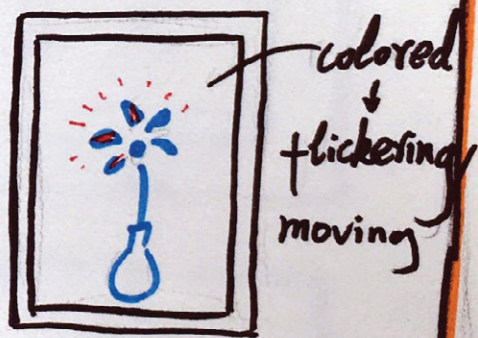
APPENDIX XIII-D



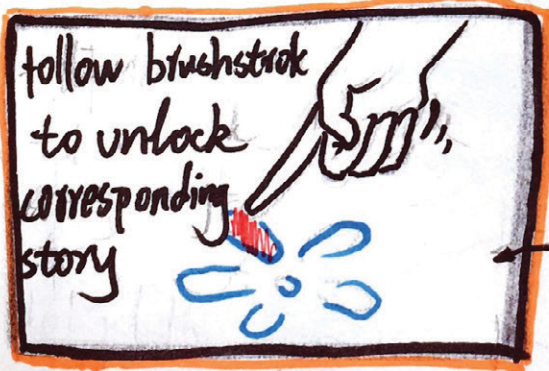
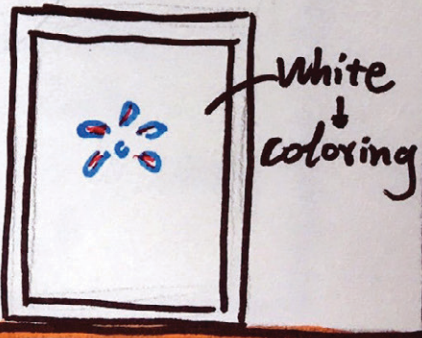
B INFLUENTIAL ELEMENTS



After pressing button
Animation of brushstroke direction

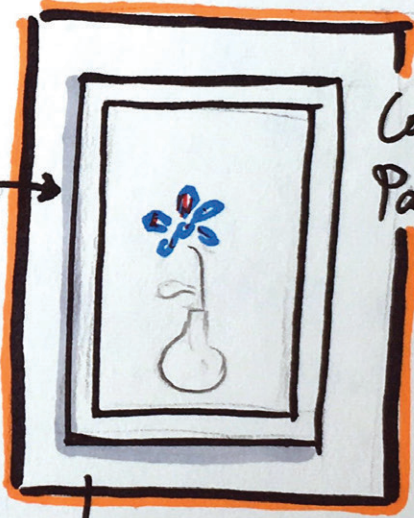
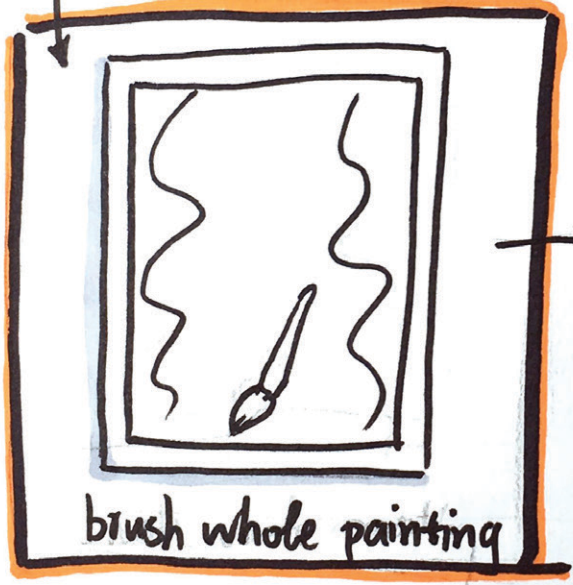
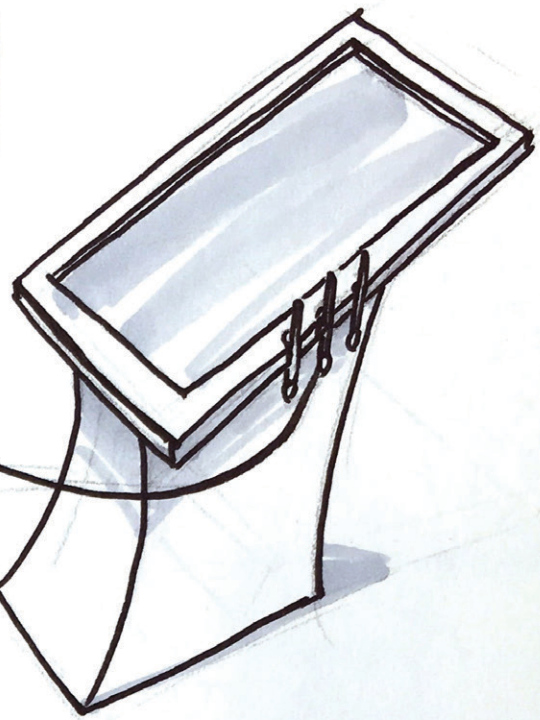
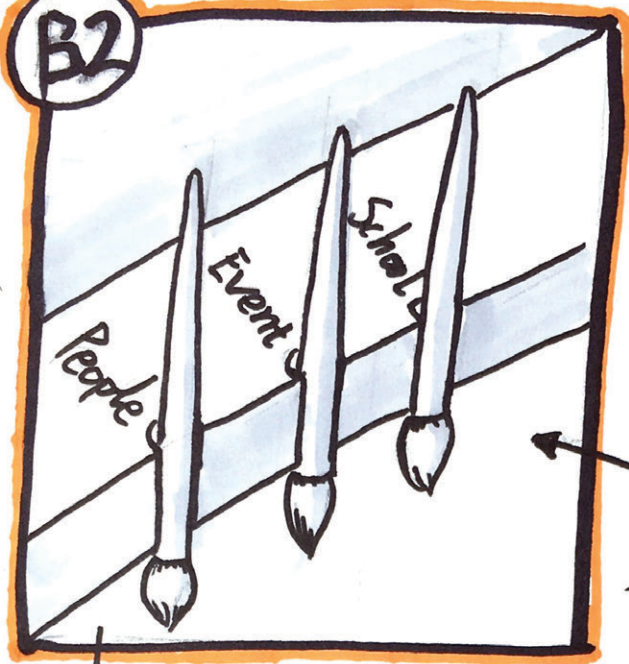


OR

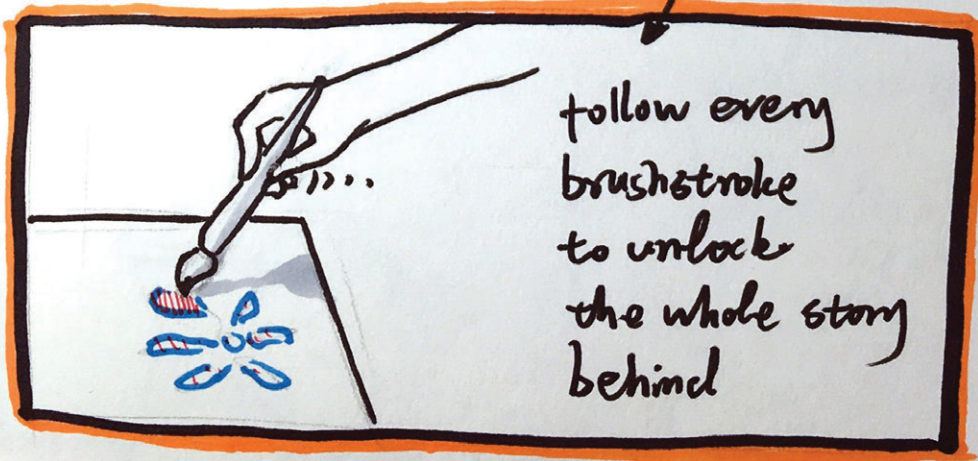


One stroke = One sentence

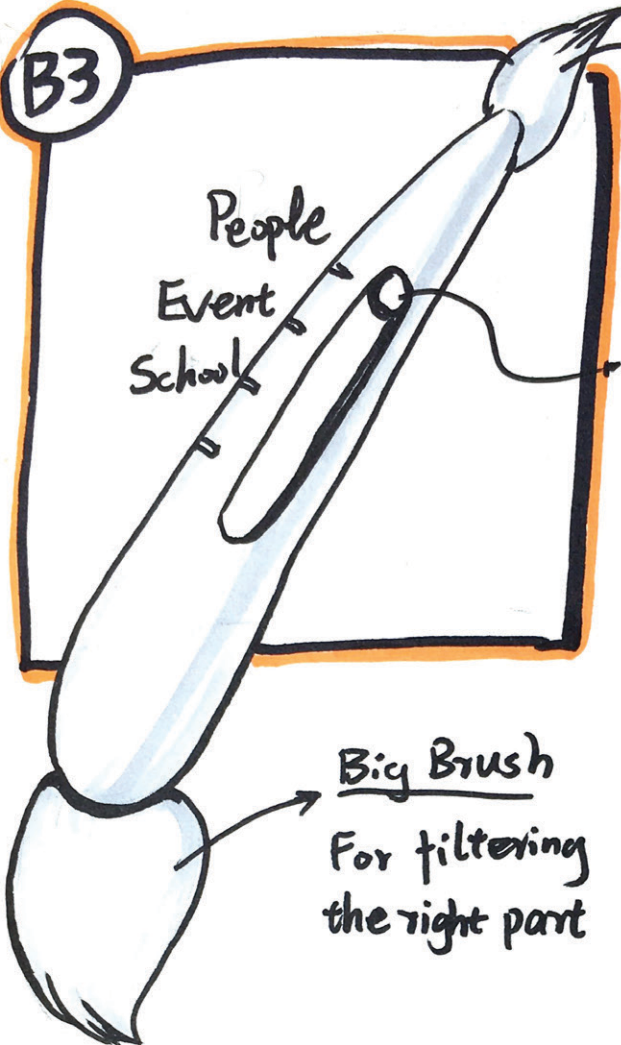
B2



Corresponding Part is colored



B3

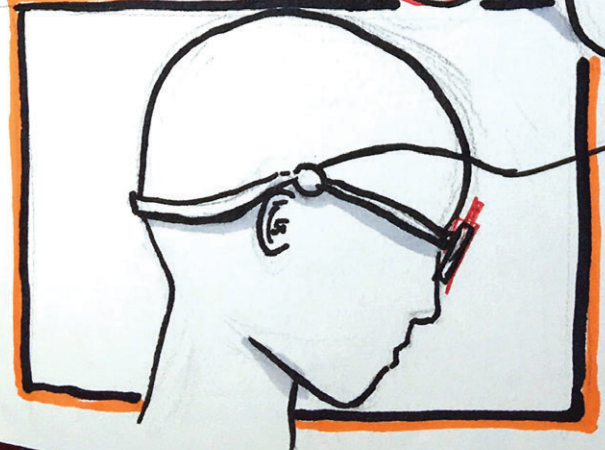
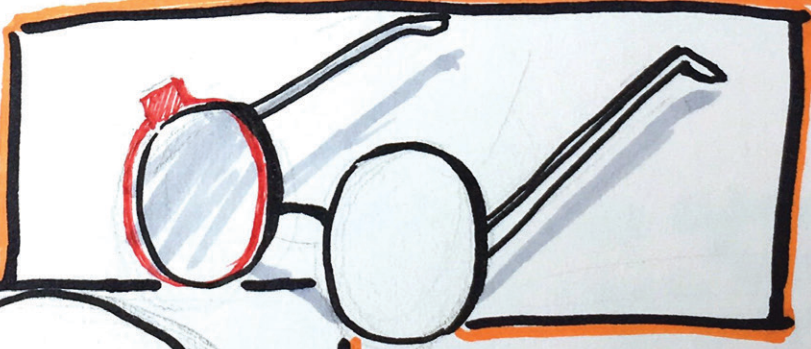
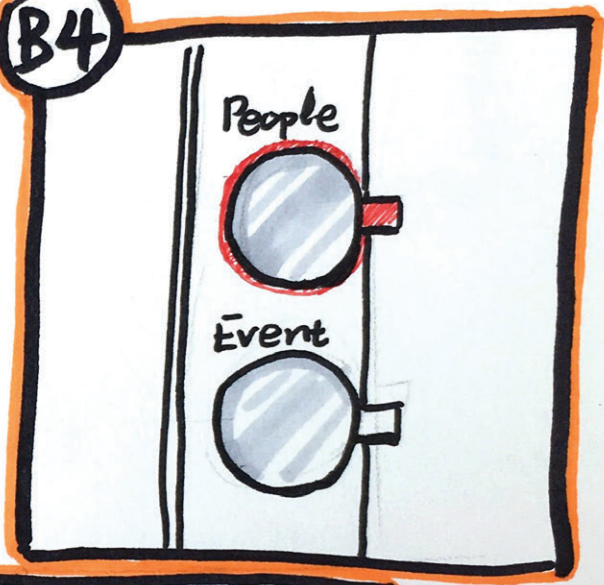


Small Brush
For imitating
brushstroke

Switch

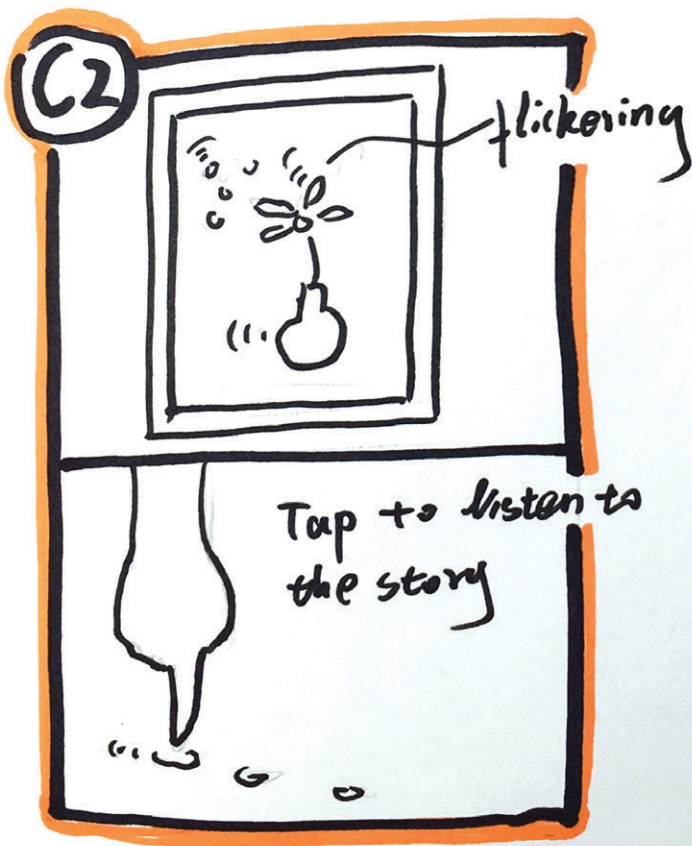
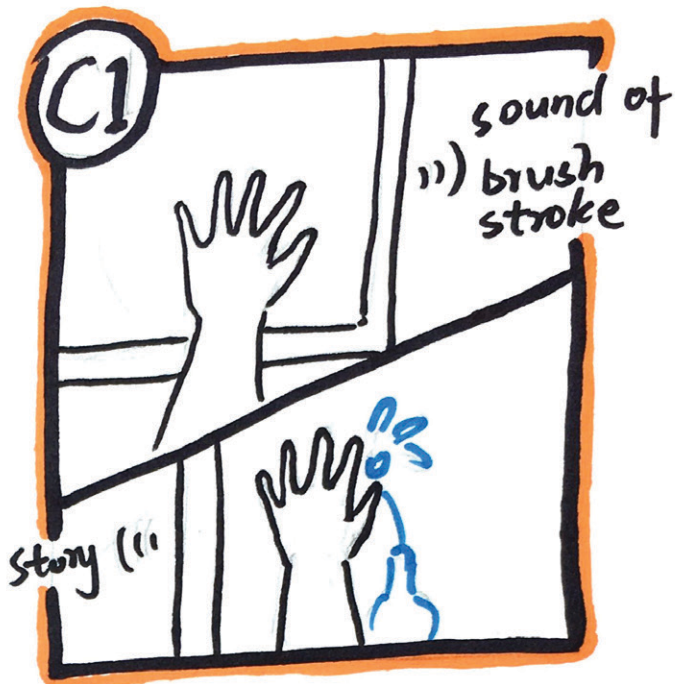
Big Brush
For filtering
the right part

B4

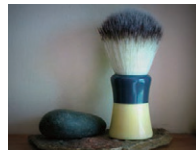


Bone
Conduction

C. STORY IN PAINTING PER SE



APPENDIX XIV



APPENDIX XV

Hello, thank you for participating in this test. The test consist of 2 task and you need to fill in two small questionnaire before and after the test. This test is to find what is art restoration in your mind. It is from your perspective, how it looks like, what kind of process should follow, so there is no right or wrong.

First, I would like you to read this consent form, I will record the whole process but only for my academic use, if you agree with that you can tick the box.

Then there is a questionnaire about your knowledge and interest with art, please fill that in.

OK, now let us start with the test. Imaging you are an art restorater, please design your own working setting based on your understanding and impression of art restoration. You can choose from the pictures, as many as you want, or you can draw something new but there should be some reason behind them.

Can you explain me the reason behind your choices?

Why you choose this table instead of others

Now it comes to task 2, I will give you a card on which there is a description of a characteristic that you need to act out

Autonomous: Imagining you are so confident that you can restore the painting spontaneously by yourself even if limited instruction is given, how will you do your work then?

Explorative: Imagining you are so curious about anything that you want to explore different layers of information and different parts of the painting, how will do your work then?

Dynamic: Imaging you are so imaginative that you always find new way of using tools or combining different tools, how will do your work then?

You can think of way of using specific tool or change the existing function of the tool to express that characteristic but should be practical. You have 2 minutes to prepare... Now please act it out!

Thank you for your role-playing, now there is some final question you need to answer.

If you, as a visitor, can experience art restoration with replica in museum, do you want to experience it? where do they prefer to interact with it and why.

OK this is the end of the test! Thank you again for your participation. Do you have any comments or questions?

APPENDIX XVI

Question for the visitor:

Smart Frame

Learning:

What do you learn from the whole experience?

Is there anything more you want to know?

Delightfulness:

How is your experience? did you enjoy it?

You can answer the question through interaction, storytelling and setting

Crowd:

Do you feel stressful or embarrassed if lots of people are around you while you interact with the device? why?

Smart Easel

Learning:

What do you learn from the whole experience?

Is there anything more you want to know?

Delightfulness:

How is your experience? do you enjoy it?

How do you think of this setting?

You can answer the question through interaction, storytelling and setting

Comparing the Smart frame, which one do you like? why?

Usability:

Do you think the tools give you clear idea how to use them in term of order of using, way of using?

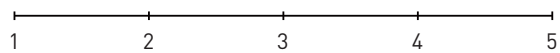
Crowd:

Do you feel stressful or embarrassed if lots of people are around you while you interact with the device? why?

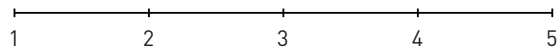
APPENDIX XVII

For the Smart Frame

To what extent do you want to experience it when you see the device



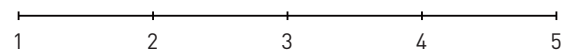
To what extent do you want to experience it while the 'visitor' interacting with the device



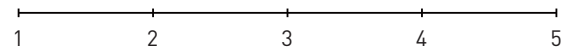
Which part triggers your curiosity in the beginning?
What makes you more (or less) curious ? and why?
[e.g. touching, the audio tour, the appearance...]

For the Smart easel

To what extent do you want to experience it when you see the device



To what extent do you want to experience it while the 'visitor' interacting with the device



Which part triggers your curiosity in the beginning?
What makes you more (or less) curious ? and why?
[e.g. touching, the audio tour, the appearance...]

APPENDIX XVIII

SF:

visitor 1

it tells very detailed knowledge about how it painted.

By touching it, it shows how the brush goes

What I experienced is that the light indicate where to look at, I think it is very intuitive

it added another layer of information on it, did it tell why he paints this painting?

I actually didn't realize people are around me.

visitor 2

I press the 'touch' button to see what will happen but no. It is quite detailed than the exhibition that I have experienced before because sometime I attend the gallery or exhibition I would love to touch the painting by myself, but at that time it is forbidden because touching will hurt the painting. Since I am interested in paintings, I need to feel the texture, color or the pigment. This really help me to imaging if I was painting, what kind of structure and stroke I should use. So I think it is quite helpful with touching the texture and the light, which show me the hint of the painting. But I felt little bit confused where should I start, because I didn't catch up with the introduction of section one. I expect that there should be a spot light or a point as visual index to show which my eyes should start with.

I remember it also tell the secrete of the painting that the painter painted one layer then remove it, after that he added new pigments on it, then it can show me the trace where people can find out. For me it is kinda research or exploration.

SE:

visitor1

I think this one is more interesting than that one, I really like to use the brush to clean the paint, during the experience I can also feel the texture. The cleaning effect is different from here to here.

But this time I don't like reading the story here. I also compare this replica to that one. I firstly attracted by the picture that Van Gogh is painting, then this person, I didn't really read the whole paragraph. this part (brush) is not very clear. I didn't notice you(one of the observer) come really close. Brushing, for me, is better to learn techniques, comparing to touching

visitor2

I think the text in this page is not as same as what I heard when I paint, because I think the voice from the painting itself is mainly focus on the technique or the color, I heard the yellow color... The text is more about the story, background from the picture related the friendship between two painter, Van Gogh and Gauguin. But what I am little bit curious is the pause from the voices, it is because the effect of the stroke of the painting or it is just randomly pause. I feel little bit curious, for when I put on other parts, there is no changes. But when I put on the white part, well, it changed. For me, it is amazing.

From my personal experience, I feel that I am little bit more curious or concentrate on the stroke on painting and interaction itself, so myself is little bit distracted by the behavior that I didn't pay attention to what it is talking. So I can just remember a very few hint of this paint that something about the color, the flower. There are quite small fragments that I cannot put them into a general idea about the paint or about the content they are talking.

If we will do this, maybe I will choose different touch points, not only this one. I guess when I brush on that side, they have the sound, and then I also try this, try this, try this...(different parts of the painting) I guess it will have no influence on it. At first, I expect that when I put the stroke like this and then it will tell me what is related to this part, and with this part, and with this part exactly.

I think it is quite new for me, because usually you cannot just pretend the painter himself and feel the process of his painting experience. I think it is pretty interesting especially in the beginning, I guess what will happen, if it is water when I put on it. And then I found the audio introduction about this painting. I think it is quite exciting for me.

I should say that both way of demonstration have their advantages. Especially for me, as a person who likes painting or those who want to learn detail about the painting, they may prefer this one but the way I expected is that if paint or brush this part it will tell what exactly about this part, and brush here it tell me something about this part, and here and here...Not a information as whole piece but that can be separated or reacted to my behavior. But the light demonstration there, because it has some process, it like a guide for me, so that let me know how I can follow a structure or I can follow a road to understand the meaning of the painting better, so I think they are two different way to show two different experience for different audience.

I thought you didn't tell me I can put this on my head and to see what happened, so I think maybe it just a device put there. I didn't get they (magnifying glasses and brush) have connection.

If I was told so, I would love to, first, wear the glasses then start to paint or start to try.

The paper will be the last one I choose because in traditional museum, we have lots of this kind of information. But for this kind of display, when you focus on this (paper) you cannot focus on this (painting).

I feel more relaxed but maybe I just had that session before. I was concentrate on painting so I forgot people are watching me.

APPENDIX IXX

Audio Tour

Vincent van Gogh - Flower in a Blue Vase

Introduction

"Hey there! I have been waiting for you for a long time. I'm Vincent van Gogh. The painting in front of you is my work, Flower in a Blue Vase, which I painted in the summer of 1887 while I was living in Paris. But, after all these years, I can imagine that several areas of my painting must be deteriorating. So, I'd like to ask you to be my personal art restorator and help me bring back this painting's original, fresh look.

I have prepared you some color for choosing and will provide some hints before you work on it. Now please choose the color then listen carefully what I am going to tell you."

White on Blue Vase

Before Brushing

"For me, art is something very much alive, intense, and strong in color. In my work, I used thick paint, known as impasto, to not just to add dimension to my paintings but to also add emotion and movement. This painting is the successful result of my experiments in color; I tried to make the tone much brighter than before, so I used some pearl white for the vase. Now you can fix it according to your judgment.

After Brushing

"Well done, now the vase looks just like the original. The vase you just restored is placed in the center of the painting and highlighted by the use of pearl white."

You know, sometimes the subject calls for less paint. More than often, the material, along with the the nature of the subject itself, demands impasto.

You have recognized the thick paint and the long strokes, haven't you? Now you can try another color."

<http://www.vangoghreproductions.com/paintings/1887.html>

<http://blog.vangoghgallery.com/index.php/en/2012/12/17/van-goghs-painting-technique-impasto/>

Yellow flowers

Before Brushing

"Both Gauguin, my best friend, and I agree that yellow, spring flowers are some of our favorite sights. I made a number of large sunflower paintings to decorate the Yellow House while I was waiting for Gauguin to live with me. These spring sunflowers could therefore not be missed in this bouquet! Now you can fix it according to your judgment.."

After Brushing

"Good job! Perhaps the yellow flower discolored because it contains bright yellow cadmium, and just like what I used for painting Sunflowers, it was built up with thick brushstrokes to evoke the texture of the seedheads. Now you can try another color."

- <https://www.vangoghmuseum.nl/en/stories/friendships-for-better-and-for-worse#10>

Blue Lilacs

Before Brushing

"I believe that any artist has to truly know and understand nature. And the best way to achieve this is by living and working in the middle of it. An example of this is the period when I only wanted to paint flowers, like lilacs, so that I could accustom myself to a color other than grey, for example, light blue, Now you can fix it according to your judgment."

After Brushing

"Now the blue lilacs look more vivid! I painted the light blue lilacs next to the sunflowers with a slightly different technique. The lilacs are applied with the tip of brush, gently pushing paint from the brush onto the canvas. Now you can try another color"

<https://www.vangoghmuseum.nl/en/stories/nature-and-the-artist#6>

Purple Background

Before brushing

"Most people have heard of the Impressionists. They have great expectations of them and when they see them for the first time they're bitterly, bitterly disappointed. That was my first impression too and that's why I took one year to experiment with my personal style and, finally, with the help of Georges Seurat and Paul Signac, I discovered the stippling technique of neo-impressionism, also called pointillism, which I used for the background in this painting. Now you can fix it according to your judgment."

After Brushing

"Great, I applied pointillism to paint the background in both soft blue and purple in order to let the vase and flowers stand out. I brightened the painting by constructing small, thoughtfully placed dashes of color just as if I was writing "words in a speech or a letter". Now you can try another color. "

<https://www.vangoghmuseum.nl/en/stories/artist-in-paris#9>

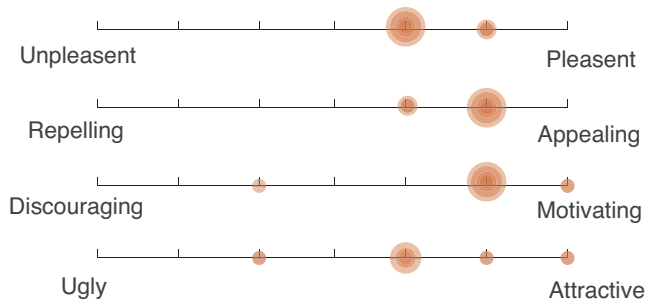
<http://www.vangoghgallery.com/painting/floral.html>

[https://en.wikipedia.org/wiki/Still_life_paintings_by_Vincent_van_Gogh_\(Paris\)](https://en.wikipedia.org/wiki/Still_life_paintings_by_Vincent_van_Gogh_(Paris))

APPENDIX XX

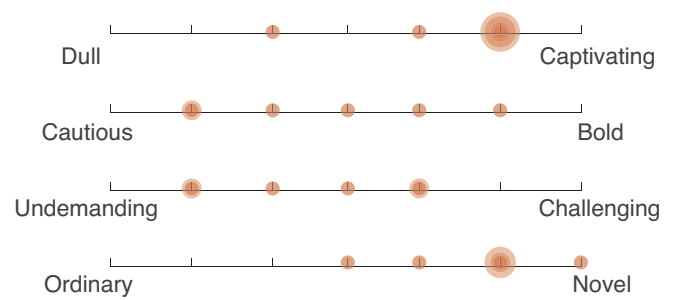
Attractivity

- General aesthetic quality



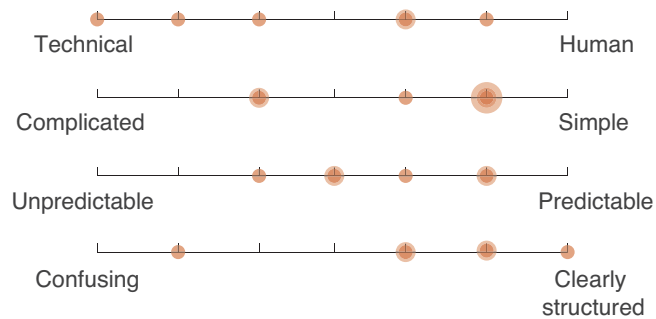
Hedonic quality(stimulation)

- Potential for reaching individual goal as perceived by the user



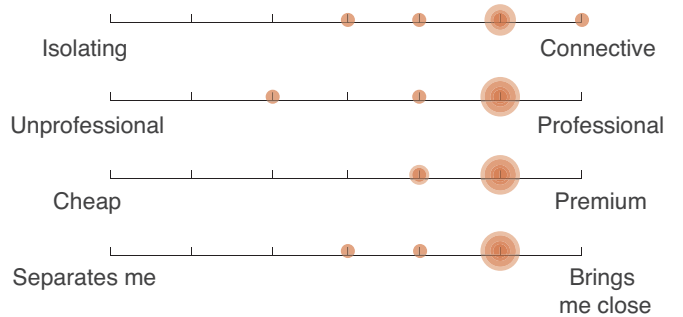
Pragmatic quality

- Clarity of interaction model, usability



Hedonic quality(Identity)

- Resonance between self-perception of user and product



The circle indicate How many people chose on the same point from 4 to 1

