Human Computer Interface Design and Evaluation

Assignment 2

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Contents

1. Introduction of the evaluation experiment

1.1 Target users

We plan to choose three users for the evaluation experiment
Fiona
A middle-age woman who immigrated to Australia from China. She can speak English has been in Australia for 3 years. She is interested in culture and art. She has been to Parliament and has basic skills about computer operation.
Gabby
A postgraduate with the program of computing. She has finished the course of website design at computing school. She has professional knowledge about website design. She is invited to participate in the experiment to give precious advice to us about the design.
Gen
A visiting scholar from china and he is a specialist at geology but has little knowledge about computing operation and English. He seldom browse this kind of website because he has bad eyesight and cannot stare at computing screen for a long time. He is also easy to lose patience for long content on the screen.

1.2 Objective for the evaluation

One thing we would like to find out from the evaluation is that the extent of interface comfort, which is related to whether users feel comfortable about our interface. It consists of chosen color, font, the grid based layout and navigation.
The reason why we focus on the interface comfort is that it is the first impression it gives users and whether it looks comfortable decides whether some users will take the next step to finish the online visit. An uncomfortable interface is of importance and we hope that it can satisfy all kinds of users and attract more users.
Another thing we care about is whether all kinds of users can have access to what they want. That is, we aim to find more requirement from users through the experiment such as functionality we do not have but they prefer.
Any design is perfect and some new functionality come out every to cater to the taste of user. The completion of functionality is a competitive advantage in the design field. Our thought is limited and some functions cannot be explored until the whole design is tested by practical users who can come up with some new advice to refine the interactive system.

2. Participant Information Sheet

2.1 Researchers

Our names are HCI group 10 and we are conducting a user evaluation of a prototype interactive system as part of our assessment tasks for our Human-Computer Interaction unit (COMP3900 or COMP6390)

2.2 Project Title

Evaluation for prototype of Australian Parliament Gallery.

2.3 General Outline of the Project

In order to present the exhibits from Australian Parliament Gallery better, we designed the online-presentation prototype for it. The system aims to enhance efficiency for users to look for exhibits they desire and enjoy the online presentation. We take the 3D virtualization presentation approach to show the Gallery which means the system present a virtual tour for the visitors to better users' online experience. .

2.4 Participant Involvement:

- Participation in this study is entirely voluntary and participants may without any penalty, decline to take part or withdraw from the research at any time up until the submission of the research report without providing an explanation, or refuse to answer a question. Non-participation will not be held against any potential participant for this study. If you do chose to withdraw from this study, your data will be erased from our digital and hard copy records.
- Participants will be asked to answer basic personal information, the understanding of the online presentation, finish the online operations through the prototype following the guide we offer and leave the advice and compliant for the prototype designing. At the end, answering exit question is required.
- The research will take place in an office or classroom setting on campus at the Australian National University, in an off-campus location to be agreed by the researchers and the participant. Participation in this evaluation is expected to take between **<15 and 30 minutes>.**
- This user evaluation of our prototype is part of our coursework and your participation will contribute to our learning.

2.5 Confidentiality:

- The observations and interview data collected in this study will be used anonymously to write our project report.
- The signed consent forms will be given to the course lecturer for confidential shredding at the end of the semester.

2.6 WRITTEN CONSENT for Participants for the study known as < Evaluation for prototype of Australian Parliament Gallery >

I have read and understood the Information Sheet you have given me about the research project, and I have had any questions and concerns about the project (listed here

_____

_____

_____)

addressed to my satisfaction.   YES ☐   NO

☐

I agree to participate in the project.   YES ☐   NO

☐

I understand that the data collected in this study will be used anonymously and any references to particular data items will use the attribution "Participant 1, Participant 2 or Participant 3"

   YES ☐   NO

☐

Signature:…………………………………………Date:…………………………………

3. Script for the evaluation

3.1 Short operation instructions

- Click the website www. ParliamentGallery. gov.au
- Choose your favorite font size
- Set your preferred language
- Enter the main interface
- Click to enter 3D virtual visiting environment.
- Locate current location on the map
- Search the painting named "painting of camellia" with search tool
- Withdraw the specific painting and go back to the virtual gallery corridor.
- Search the painting named "painting of camellia" using designed category option
- Find out the brief introduction of the painting "painting of camellia".
- Open the sound assist
- Enter the special website designed for the painting "painting of camellia"
- Submit your comment about the painting
- Check other comment from users
- Withdraw from 3D virtual environment and go to the parliament senator

3.2 Matching sequence

- Click the website www. ParliamentGallery. gov.au
  We show users home page of website

- Choose your favorite font size
  We show users different font size in the drop-down menu.
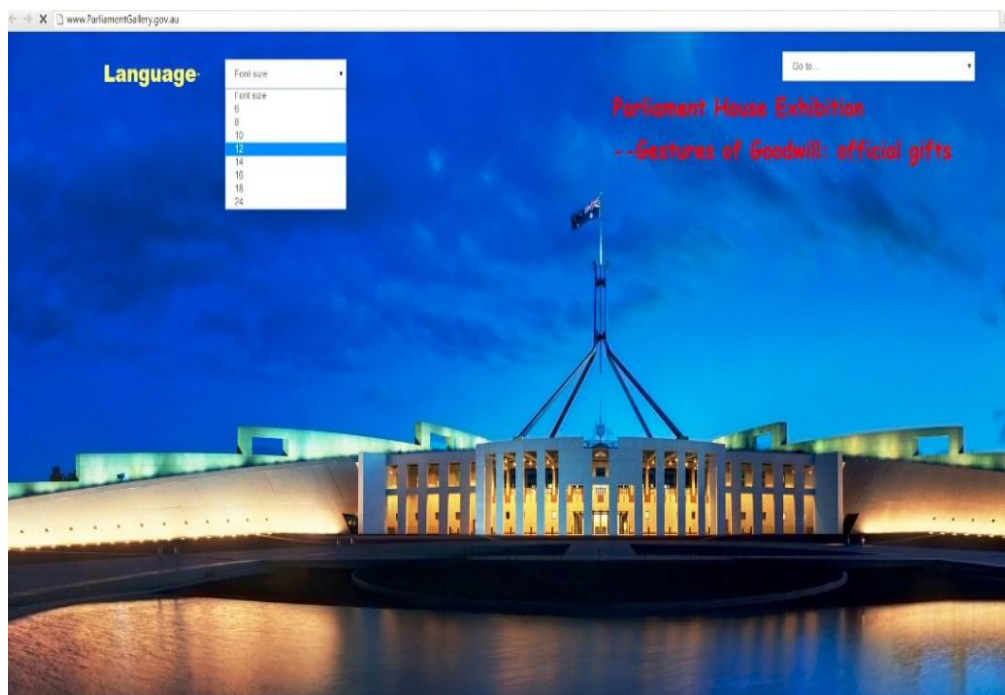
- Set your preferred language

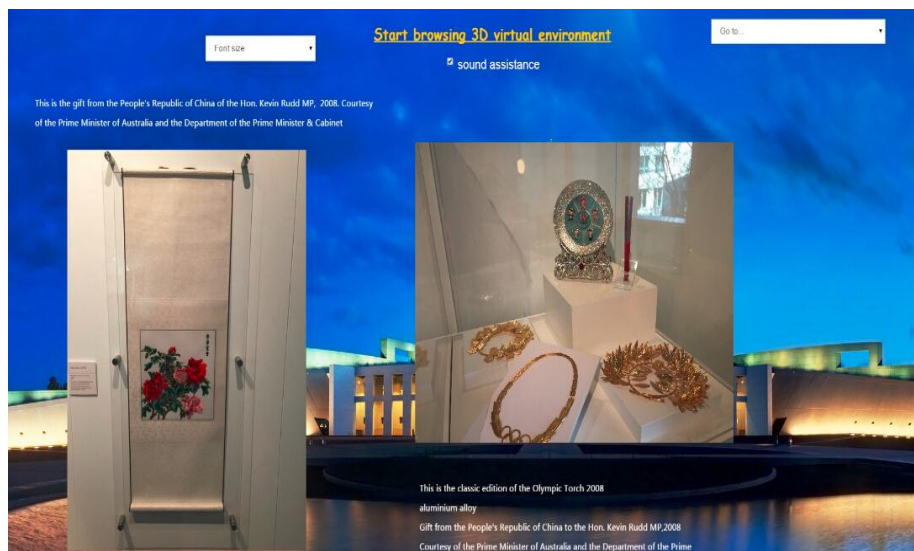 Click on the drop-down box and the set different languages are shown in the drop-down menu

- Enter the main interface

  After choosing the preferred language, the interface will transfer automatically to the main interface.

- Click to enter 3D virtual visiting environment.

  When users click the link of "Start browsing 3D virtual environment", we show them the page of 3D virtual environment.
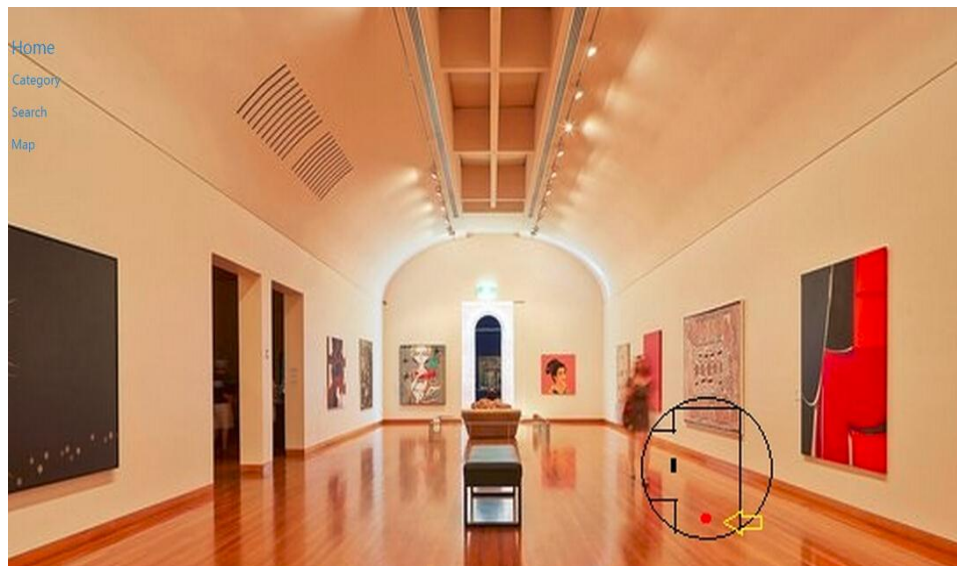
- Locate current location on the map

    When users find their location in the small map, we tell them that they are right.

- Search the painting named "painting of camellia" with search tool

    When users click the navigation of "Search", we show them the page with search tool
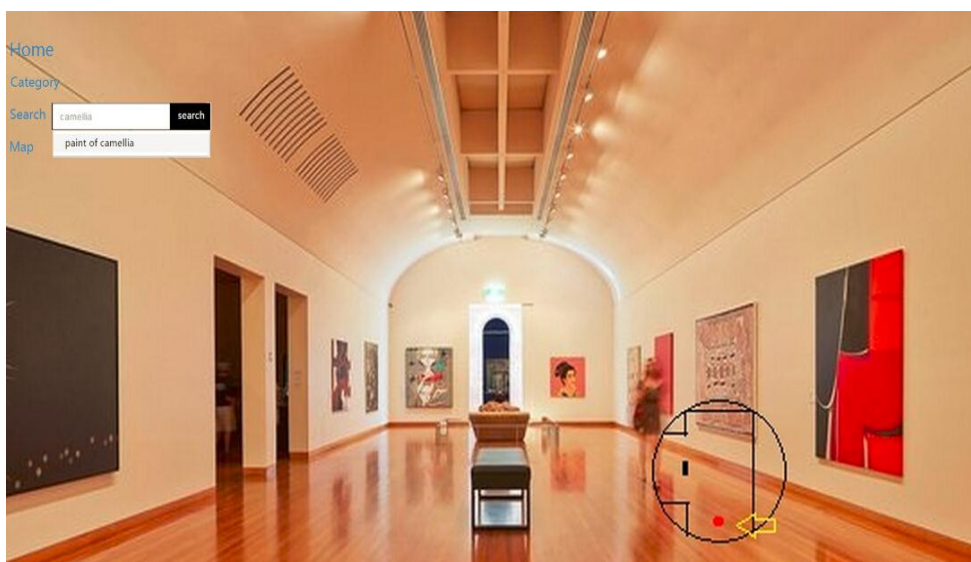
- Withdraw the specific painting and go back to the virtual gallery corridor.

  When users click the back option, we should them the 3D environment again.

- Search painting named "painting of camellia" using designed category option. When users click the "Category" button, we show a page with the function of searching by category.

- Find out the brief introduction of the painting "painting of camellia".

  When users move the mouse on the painting, we show them the page with introduction.

- Open the sound assist.

  When users click the checkbox of sound assist, we tell them an audio will be played. It is out of scope about the prototype.

- Enter the special website designed for the painting "painting of camellia"

  When users click the painting, we show them a page with detail description.
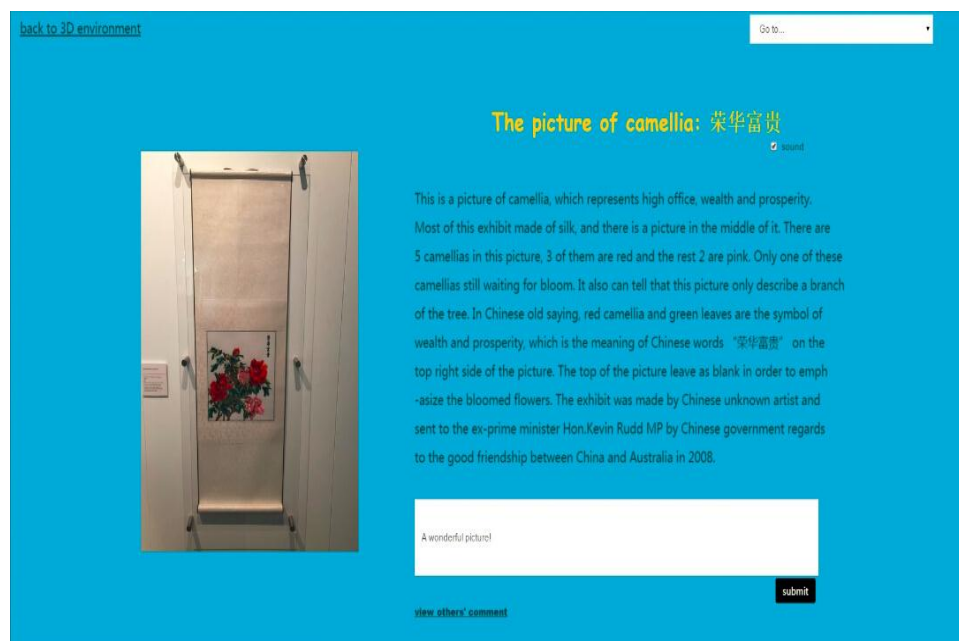
- Submit your comment about the painting

  If users click the blank area and try to type some comments and click the "Submit" button, we will tell users that they have successfully submit a comment.

- Check other comment from users

  When users click the link to view others' comments, we tell them that they will see a page with others' comments.

- Withdraw from the comment page and go to the parliament senator

  When users click the dropdown box of "Go to…" on the page of detail description or go back to main interface and click the dropdown box, we show them a page with a link to other websites.
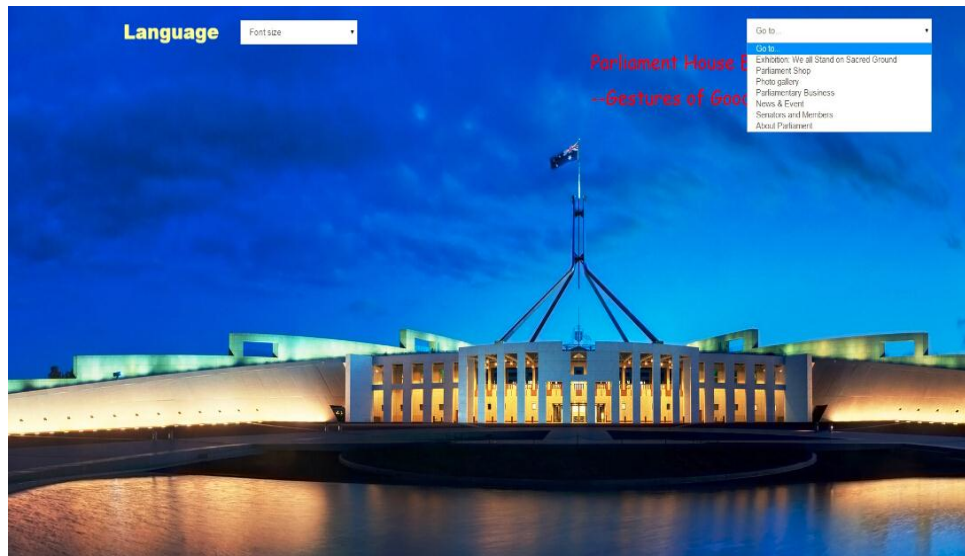
4. Exit question

4.1 Open exit question

Question: Which part of the interface is most unsatisfactory from your perspective?

4.2 Explanation

- It is a straight way to find obvious flaws of the design

According to the answer from different users, we can change the flaws they mentioned to improve the overall system.

- It can collect the different taste from different users.

As we choose the participants with different background, their feedback is most likely to be different in either interface design or content arrangement, which gives us various perspective to better the system and meet requirement of more users.

- It provide a more clear direction to us to reflect design prototype

We can draw lessons from their answer about what they feel annoying when visiting a website. It is a good chance to learn users' taste and avoid the similar designing disadvantage for the next time.

5. Feedback from observation

5.1 Similarities from observation

- All 3 participants show a little hesitate when they see the welcome page. They use a few seconds to figure out where is the font size option, after that, all of them find it's easy to set the preferred language.
- All of them show surprised when the system redirect to the main interface automatically, and all 3 participants can find the "Start 3D" button easily on that page.
- After entering the 3D environment, all 3 participants can locate their self in the virtual map, also they can find the search tool to search the specific exhibit by name. Also, sound assist be activated by all users.
- However all of participants find it's difficult to find the exhibit by category. The common issue is they did not know which country they should choose.
- All 3 participants have found lost when they have to visit other parts of Parliament House and they found it is hard to understand what "Go to" box does at beginning.

5.2 Differences from observation:

- One of the participants looks confusing when the system redirect to main interface, and return back to the welcome page, then try to use "Go to" entering the main interface.
- One of the participants clicked the "Home" button return back to the welcome page looking for the search tools on 3D environment.
- Only one of the participants tried to move the mouse during the virtualization environment. Others did not move around and only followed the instruction to finish the evaluation.
- One of the participants completely ignored the brief introduction of the exhibit and entered the specific introduction website by mistake. Other one even gave up this setup because it's hard to understand. Only one of them found the brief introduction of the exhibit.
- Two of them still found difficult to find the link to parliament senator and cannot understand what "Go to" does after long time.

5.3 Learned from observation:

5.3.1 Learned from similarities:

- Generally welcome page design is good, but users feel hard to set the font size at beginning. The system default font size is not user friendly enough and it makes user hard to find where the check box is.
- The main interface design is good, but it looks not good enough to represent to user. And user seems has no interests about the content on the main interface.
- Virtual map and search tool design is easy to use according to user's reaction, and search tool is good for user to understand. Also, sound assist can well accepted by users.
- Category only by country is hard to use by user, user feels difficult to find an exhibit when they did not know the country. Instead of giving user more category options, let user use a filter to narrow down the option and find what he expected would be a better choice.
- "Go to" box is difficult to understand and use by users. It should include more clear instructions like "Navigate" to help user understand what this button does.

5.3.2 Learned from differences:

- The instruction of main interface is unclear, again, the presentation of the main interface should be more user friendly and easier understand by users.
- The options on 3D environment page could be clearer, another colour may be applied to make these options easier to find out by users.
- The system should give user more freedom to browse during the 3D virtualization, the virtual tour should be more interesting and more attractive.
- The approach to present brief introduction is hard understand by user, and way of presentation of brief introduction is unexpected by user. An introduction or a small tip can be added here to help user understand such as "Put mouse on the exhibit picture to show brief introduction of the exhibit".
- "Go to" button seems unclear and difficult to understand by users, especially for people with little computer knowledge. Again, "Navigate" button may be used to help user understand what this button does.

6. Feedback from exit question

6.1 Similarities

- All of the participants are unsatisfied with the navigations dropdown-box "go to…." They couldn't use it properly at first to go to other pages.
- Neither of them is unsatisfied with the outlooks and color of all the websites. During the browsing, they didn't complain about color confusion. Besides, that neither of them is unsatisfied with the font part, including font size and language. They all can choose the comfortable one smoothly. However, one of them has a little hesitation.

6.2 Differences

- One of the participants is quite unsatisfied with the position of links. She thought links should be at the bottom of pages for comfort and functionality.
- One of the participants is unsatisfied the usage of dropdown boxes most. She thought it is not convenient and comfortable for users to use dropdown boxes so frequently as well as we didn't use dropdown boxes properly which means we made some error usage. In additional, two of the participants had the unsatisfactory on the functions. They said some of our links and buttons were not directive and common compared to their name or outside which might cause confusions and disoperation.
- One of the participants thought we should have an access to support touch screen. It is now unable to use touch screen for we don't have mouse drag effect so that it might cause a lot of error click.

6.3 Learned from exit question

- We need to improve our navigation drop-down box "go to…" for all the participants are unsatisfied with it and it is likely to happen on many users.
- The color and font size as well as language parts are quite good. We need to try our best to keep them when change other items.
- One evaluation which can improve our website a lot is to change the page layout. From the participants, they are satisfied with font size and language.
- Another main evaluation of our website is that we need to make our links, buttons and dropdown boxes more directive and proper as well as change some drop-down boxes to other functional items for we made some improper use in order to make users feel more comfortable and convenient.
- As the wide spread of touch screens, it is vital for us to add mouse drag function to our website to enable touch screens in order to attract more people.

Appendix

Set of observations

Observation of surfing on the ParliamentGallery website
08 Oct 2015/10/9
Overview

I invited Gabby to browse our ParliamentGallery website. She is a postgraduate student with related knowledge about web and interface design. I met her this afternoon at CSIT building and showed her participant information sheet and requested her to sign her name on the consent form.

I told her about all of our prototype in English and gave her the instructions. Then she started browsing followed the given instructions.

- Open the web browser and type in the address www.ParliamentGallery.gov.au and click "go to" button. She was very amazed at the wonderful night picture of parliament house from the background of the website.
- She tried 3 different font sizes and finally chose her favorite font size of 14 from the font size drop-down box with expert practice in 10 seconds.
- She set her common language—English from the language drop-down box on the top left corner and was surprised at automatically skip to next page. Using less than 5 seconds.
- She found the button of "Start 3D" smoothly and made a click to continue her browsing using only 5 seconds.
- Spending more than 30 seconds on understanding the location map of the gallery as well as the whole gallery.
- She was confused with where is the search tool and finally found the search button. Then she clicked it to open the search tool and typed in the name of "painting of camellia" to search the paint. Using about one minute.
- She couldn't understand what means is the instruction "Withdraw the specific painting and go back to the virtual gallery corridor", so she just clicked the search button again and exited the search tool.
- She didn't know the background of the "painting of camellia" so she met some difficulties when she was required to search the painting by using designed category option. She didn't know the country of the painting from so she had to try the countries one by on and finally found it is from China. However, it is obvious to find the painting in the painting category in the second stage. So she clicked the painting button without hesitation. This step cost about one minute in total.
- She was really confused with the words "Move the mouse to look at a brief introduction of the painting". Finally, she didn't understand what to do in this step and gave up and grabbed with it for a long time. It took about 2 minutes.

- It is an obvious symbol so she clicked the check-box to turn the voice assist on. It happened immediately and almost spent no time.
- In this step, she understood the purpose well but didn't know how to do that through instructions. According to her professional knowledge, she tried to find a link around the painting and finally found that the painting itself is a link then clicked in. She spent about half a minute to continue next step.
- Going slow in painting about 3 minutes, she wrote down some comment of the painting and submitted smoothly.
- After submitting, she glanced at the comment board roughly for one minute.
- She found the "back to 3D environment" button and then clicked the "Home" button then back to the home page. This procedure spent 10 seconds. However, she was lost on how to go to "the parliament senator". After 15 seconds, she found that there is a "go to…" drop-down box on the top left and go to that page successfully.

Observation of evaluation for prototype of Australia Parliament Gallery

Target user: Fiona

7th October 2015

Introduction:

I came to the house of Fiona and asked for permission to conduct the evaluation. After she agreed to be participant, I showed her the participant information sheet and requested her to sign her name on the consent form.

Observations:

- I showed Fiona the home page and website and began to give her instruction. I asked her to choose her favorite font size.
- Fiona immediately find out the dropdown box for font size and then click on it. Then, she hesitated for a while and told me that she did not know how big the words of size 12 were. After a few seconds, she clicked on size 12. Time spent: 15 seconds.
- I asked Fiona to set her preferred language
- Fiona clicked the dropdown box of language options and select 中文 (Chinese). Time spent: 4seconds.
- I told Fiona that all of our prototypes are in English and the words are quite easy to understand. And I said that I were sorry, but you could not browse a website in English in this experiment. Then, I asked her to enter main interface.
- Fiona stared at the screen for a few seconds. And she moved mouse to the red words on the homepage, because she thought there would be a link. Then she click on the dropdown box with the words "Go to… ". But these actions did not work. After one minute, she asked me for help. Time spent: 1 minute and 30 seconds.
- I told her that, actually after choosing the language, users would automatically enter the main page.
- Fiona was kind of surprised.
- I showed Fiona the main interface and I asked her to enter 3D virtual environment
- She immediately found the link to 3D environment and clicked it. Time spent: 4 seconds.
- I showed Fiona the 3D environment page and asked her to find out her location on the map. She did not understand my instruction and I repeated it again.
- Fiona hesitated for a few seconds and then pointed at the small map on the right-down corner of the page. Time spent: 10 seconds.
- I asked Fiona to search a painting named "painting of camellia" with search tool.
- For starters, Fiona clicked Home because she though the search tool is in the home page and wanted to go back to homepage. Then she found the search

tool in the 3D environment. And she said it would be better if there were an iron of magnifying glass next to the iron of "Search". Then she clicked the search result. Time spent: 40 seconds.

- I showed her the detail description page for the painting she searched for and then asked her to go back to the 3D environment.
- Fiona immediately found out the link of "back to 3D environment" and clicked it. Time spent: 4 seconds.
- I asked her to search the painting named "painting of camellia" via category option.
- Similar to the step 7, Fiona moved the mouse to the link of "Home" but did not click it. Then she immediately found out that there is a "Category" in the menu of navigation. And then found the painting in the category of Chinese painting. Time spent: 30 seconds.
- I showed her the brief introduction of the painting. And let her browse this page by herself.
- After reading the brief introduction, Fiona tried to click the Sound Assistance button under the brief introduction. However, she did not click the painting. Time spent: 10 seconds.
- Then I asked her to enter the detail description page for the painting again.
- Fiona hesitated for a few seconds and went back to the 3D environment. And then searched for the painting and entered the detail description page. Time spent: 40seconds.
- Note: Our design is to bring users to the detail description page by clicking the painting in the brief introduction page. However, Fiona did not click it and she entered the detail description in the 3D environment.
- I showed her the detail description page and asked to write some comment and checked others question.
- Fiona found it easy to submit comments and check others' comments. Time spent: 20 seconds.
- I said that, assuming you want to visit website of other parts of Parliament House and what would you do.
- After staring at the detail description page for a few seconds. Fiona click the back button and returned to 3D environment.   She tried to click "Map" but it did not work. Then she moved the mouse all over the screen. After that, she entered the main interface. Finally, she clicked the dropdown box "Go to…" and found the link to other websites.

Observation of one of the target user using Parliament Gallery website.

Overview

One night after we have dinner together, I take him to my room and give him the instruction page, ask him if he able to help me complete the evaluation. He feels happy to take it. The evaluation started from about 8.30pm.

Observation

- He open the browser and enter the url of the target website – www.ParliamentGallery.gov.au
- He look at the website welcome page for 10 seconds and have no idea how to change font size, he feels confusing about how to change font size.
- Around 1 minute later, he finally found the box to choose font size.
- He choose "24" from font size box and select "English" option in Language box.
- The system redirect to the main interface after the preferred language has chosen.
- He shows no interest in the content on the main interface, and click start button to active 3D virtualization environment.
- In the virtualization environment, he easily locate the location of himself in the map, but did not use the Map button in the system.
- He found it is impossible to move the virtual camera using his touch screen computer, then he choose to use the mouse to control the direction.
- He took 2 minutes rest before he started again, because he feels pain for his eyes.
- He use the search tool, and enter "painting of camellia" to show the exhibit.
- He spend 15 seconds to find the exit button.
- He choose the category button in the virtualization environment and can not find the painting. He checked the country one by one and choose the painting to find the painting of camellia again, it costs 2 minutes.
- He move the mouse on the picture and click to enter the special website for detail introduction, he did not see there is a brief introduction when he move the mouse on the picture.
- He click the sound assist listen to the introduction of the exhibit and rest his eyes as well.
- He wrote "This is an interesting picture" in the comment box, and submitted it.
- Then, he also checked other people's comments about this picture as well.
- Then, he feels confusing again how to go to the parliament senator.
- He withdraw from the specific introduction website and return welcome page by using "Home" button.
- He spent 2 minutes figure out use "Go to" box and redirect to parliament senator. The whole observation took 12 minutes in total.

Set of exit question

Which part of interface is most unsatisfactory from your perspective?

Answer: Some functions of your buttons and boxes are not proper which affect me a lot to continue browsing. For example, when I choose English, it automatically go to the main interface without any other click. It is not common. Besides that, location map is available at the beginning of that page so that the button "Map" is vague. From our knowledge, click the map button it would appear a map. We might think it would appear a new whole map of the gallery. But actually it is the switch of the location map. In all, you need to improve all your functions more directive and efficient.

Which part of interface is most unsatisfactory from your perspective?

Answer: For my part, your links to other websites needs improvement. The links are not obvious enough and you should not use dropdown box for it. Because it is hard for user to find these links if he/she has to click the dropdown box to view these links. Besides, you may also need to change the position of links. They should be at the bottom of web page, and many websites do put links there. Users can view the website more comfortably if the links are at the bottom and most users tend to find links at the bottom.

Which part of the interface is most unsatisfactory from your perspective?

Answer: First of all, the system seems does not support touch screen, when I use my hand touch the screen, it will trigger some buttons, and does not expect as I thought. For example, I try to move the virtual camera, but the system will take me to an exhibit when I touch the screen, also I cannot move the mouse on the picture to show the brief introduction because the system will take me a specific introduction website when I touch the screen. Second thing I unsatisfactory is the navigation, the system says "Go to" but I cannot understand what it used for.

Division of the evaluation task

Xiaolei Wang: prepare evaluation materials and instruction
Yihang Xu: observe and interview target user Gabby
Zhongzhen Zhang: observe and interview target user Gen
Dexiao Ye: observe and interview target user Fiona