Submission 2 _ Design Report

Design for Interactive Media

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Video:https://media.ed.ac.uk/media/t/1_o81j173v

Background

Historical Context

During the 16th and 17th centuries, was initially colonized by Europeans. Due to the huge demand for different spices like pepper, cinnamon, nutmeg, and cloves in Europe, they sought to obtain a monopoly on the spice trade. Portuguese, Spanish, Dutch, and subsequently French and British spice traders all arrived as a result of this demand. Nearly all of Southeast Asia's countries were compelled to fall under the varied zones of influence of major European powers by the 19th century.

At that time, a dutch photographer called Zeeger Gulden followed the ship to Southeast Asia and spent the next few years doing business with the locals while recording what he saw with his camera. From the 1880s to the late 1950s, cameras were as familiar as the little black phone is today. Although they have large sizes, high exposure requirements, film post-processing trouble, only black and white photos, and other disadvantages, they were still popular among many rich people. In the 19th century, while on his way back to Holland by ship, his suitcase accidentally fell into the sea. His camera and photographs also sank to the bottom of the sea until they were recovered in 2045.

Background

Contextual Summary

One of the CABs collected by The Meadowlark Tritium museum was a suitcase. Based on the documents and items contained therein, it can be inferred that the owner of the chest was a dutchman named Zeeger Gulden. He came to what was then Dutch East Indies in the 19th century to work in the spice business. In his suitcase, they also found a camera, a photo album, and some souvenirs. Although the content of the photos is not very clear, you can still see the view of Southeast Asia back then.

Through this box and its contents, The Meadowlark Tritium museum hopes to show the history of Southeast Asia during the 19th to 20th centuries from the perspective of a businessman and photographer.

Background

Project Goals

In the final interactive exhibition, I wanted to explain the history to the audience by showing the objects in Zeeger's suitcase, hence the title of the exhibition is "Zeeger Gulden's Suitcase". Also, the audience can interact with these objects. I added some animation and interaction to these objects to make the exhibition more interesting.

Methodology

Workflow

For this project, I choose Maya to create my 3D models. As one of the most popular 3D modeling software in the world, Maya has a large number of tutorials and sharing on the Internet, at the same time, teachers and students are also more familiar with the operation of Maya, and it is more convenient to communicate with everyone. Finally, I chose Substance Painter to do the mapping. In Substance Painter, I can easily add metal, fabric, dirt, rust, and other materials to the model via brushes.
In the design and production of the model, I will try to choose the style of the same period, and refer to as many pictures as possible to ensure that they are more natural signs of old.

For the interaction design, I chose to use Unity3D with C# scripts to create this exhibition. The animation of items are also made in Unity. The tutorials on learn provided by Jules helped me a lot in this process, and the video tutorials on YouTube gave me a lot of inspiration for solutions. Choosing Unity for interactive development can significantly improve my efficiency.

Implementation

Suitcase

The production process of the suitcase includes the box body, lid, handle, locks, hinges, edge wraps, and other parts. Because I had to animate the chest later, I referred to many online pictures of the structure of the latches and hinges and tested them repeatedly to make sure that the object would not go through the models during the movement. The lid of this box is currently free to open and close, and the structure of the latch also allows it to rotate open and close.

About the mapping, I chose metal material for the exterior of the suitcase, fabric material for the interior, and leather material for the handle and edge wraps. After completing the baking of the model, I added layers such as dirt, edge, and tears for each part, and I also used a brush to draw the rust for the metal part. I hope that through these operations, can make this suitcase looks old enough.

Coffee Pot

This coffee pot consists of a body, spout, handle, and lid. The lid is separate so I will also do a small animation for it.For the mapping, I chose iron as the material for the coffee pot and added dirt, highlighted edges, damage, and rust layers to it, taking into account the signs of long use and seawater erosion.

Box Camera

The model includes the lens, viewfinder, shutter, film rollers, and hinges. Material overall, choose cowhide material, and for some metal parts choose brass material. The lens and viewfinder are chosen for to picture material.

Spice Box

The spice box as a whole is divided into two parts: the lid and the box body, with irregular treatment on the edges of the box body. The wood material is chosen and irregular indentations are added to the material. On the surface of the box body also pasted a hand painting as the texture.
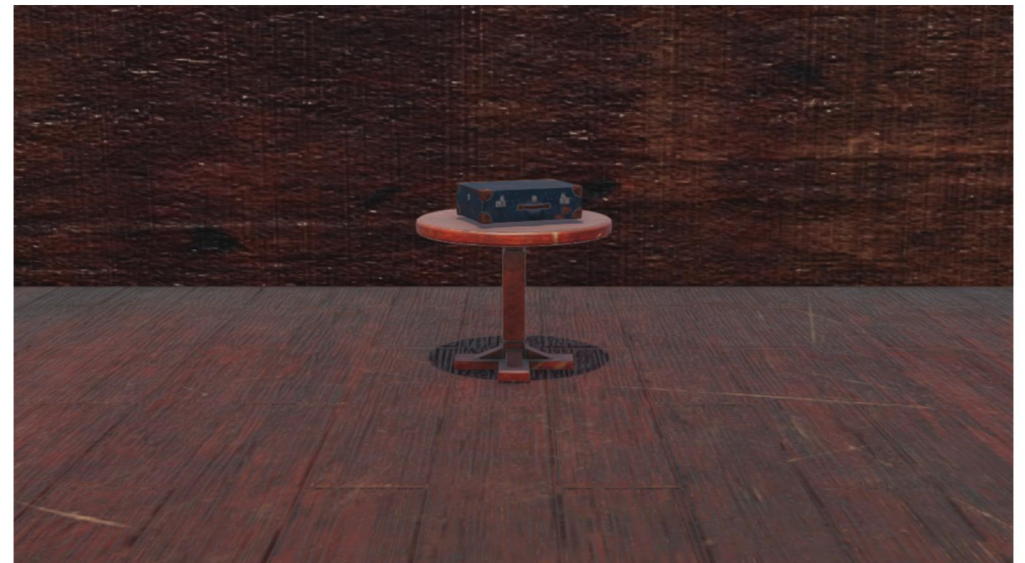
Contextual Item

For the contextual item, I created a passport, a camera description saying, and six old photos. All the contents and photos are Internet footage, and I resized them, added stain textures, added borders, cropped irregular edges through Photoshop, and finally reformatted them so that they could be looked realistic.
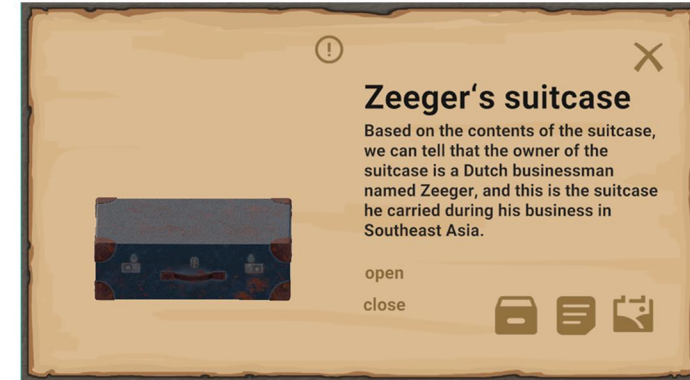
Exhibition-main menu

For the main menu interface, I built a scene in Unity, made a table, floor and other models to place the suitcase. After adjusting the lighting, post processing and other parameters, I modified the camera angle and added canvas. there are three buttons in the main menu: Start, Settings and Quit. Click Settings to adjust the volume of background music. Click Start to enter the exhibition. Click Quit to end the run. I used Timeline to link the start button jump scene event to a suitcase closing animation. I also set the curve animation for the volume panel pop up to make it smoother.

Exhibition-suitcase

The first screen after starting is the screen that introduces the suitcase. In the left half of the interface is the display of the model. Moving the mouse cursor over the exclamation point will bring up a prompt reminding visitors to click on the model and drag to rotate it, and slide the mouse wheel to zoom in and out of the model. The right side of the interface has the introduction of the suitcase, and the button at the bottom can play the animation of the opening or closing of the suitcase. The animation of the item is made in Unity, and the animation is triggered by setting the trigger through the animator.Audiences can lick on the three buttons in the bottom right corner to reach the item, file, and gallery scenes respectively. For this part, I used Render Texture to enable the 3D model to be displayed on canvas.
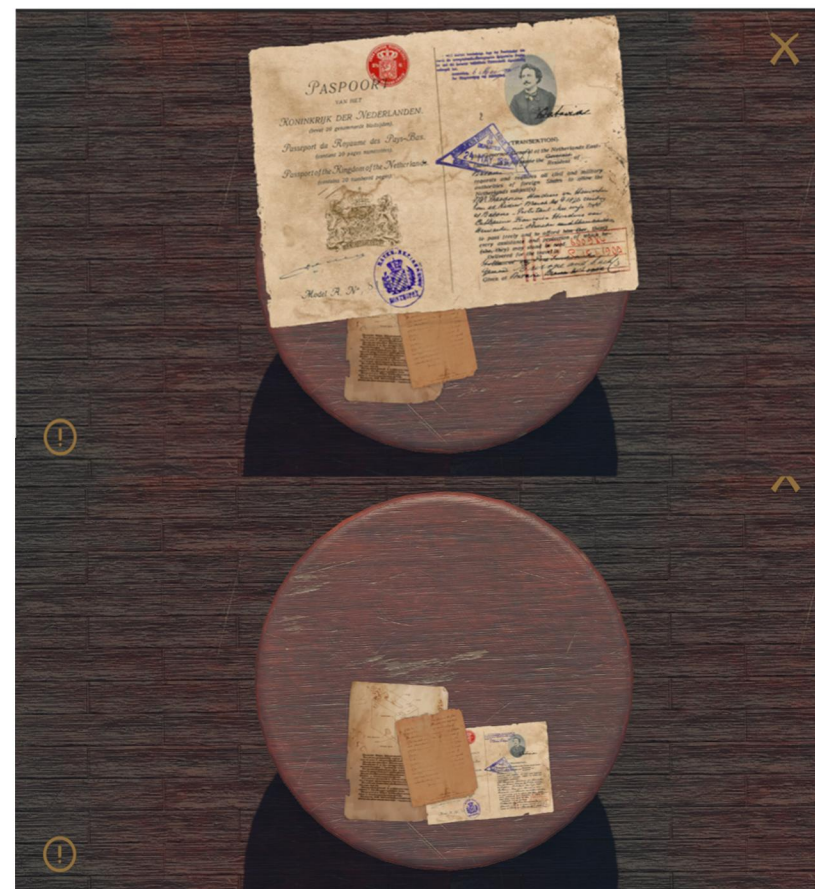

Exhibition-items

The interface of the items and the interface of the suitcase are very similar in layout. In the item interface, the model can also be rotated and scaled by dragging and sliding the mouse wheel. Click the play button to play the model's animation. On the right side of the interface is also an introduction to the model and its background. By clicking the three buttons in the lower left corner, audiences can switch back and forth between the three different items

Exhibition-files

When audiences enter the interface of the files, they can see that three files are placed on a table, they are a passport, a camera instruction, and a handwritten letter. Click on the corresponding file can make it larger for better viewing. Here I refer to the tutorial on Learn for the creation method.

(the letter is from common archive)
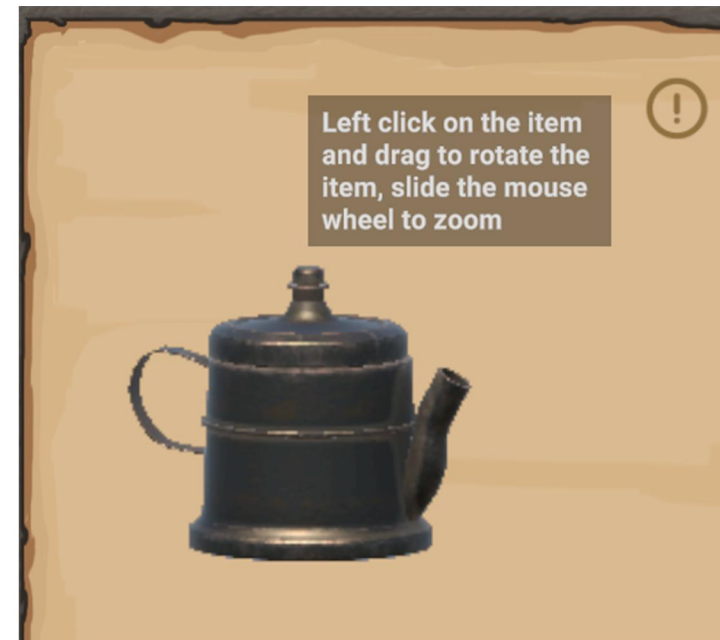

Exhibition-gallery

Finally, there is the gallery interface. When you enter the interface, viewers can see the photos placed horizontally in the middle, and by clicking the adjacent photos or dragging the horizontal layout group, you can switch between different photos for browsing, and the middle photo will be enlarged for better observation.

Implementation

Challenges

When creating the interface for model browsing, I wanted to set a tip area where the user could move the mouse to the hint position and a tip panel would pop up, telling the user how to interact with the model without having to click a button, thus improving the efficiency of the operation. Initially, I found that I could use EventSystem.current. IsPointerOverGameObject method to detect whether the mouse is in contact with the UI, but I found that it can only recognize the whole UI, not a specific image or other elements. After checking the unity manual carefully, I found the EventSystem.current and IsPointerOverGameObject methods and I was able to use them to identify the UI I wanted and activate the tip panel.

Critique & Reflection

This assignment has a lot of imperfections in my opinion, first of all on the model, to save time I used a photo of a lens from the internet as a decal to paste on the lens of my camera model. Obviously, it does not work that well, and when rotating the interaction, the photo does not reflect correctly with the light and looks very unrealistic.

Secondly, when conducting the tour at the end, I found that the mouse cursor style was very abrupt in the scene and could not be identified and replaced with a different cursor style based on different items or UI. Although after a query, I learned that the Cursor.SetCursor() interface could make changes to the cursor style, I was unable to make the changes in the end because it was too late to design the cursor style.

Finally, I think my exhibition design is still a bit simple. My ideal exhibition would have a storyline, and users could follow the clues to browse deeper step by step. There would also be more interaction in the exhibition, and perhaps an inventory system that would allow users to find and collect these items so that the viewer would also have a more immersive experience. Although I couldn't complete these ideas in this submission, I will revise my work step by step in the future.

References

Inspiration:
https://en.wikipedia.org/wiki/Dutch_East_Indies
https://www.bbc.co.uk/news/uk-northern-ireland-48202565
https://www.etsy.com/uk/listing/1009971609/malle-large-old-suitcase-vintage-travel
https://www.pinterest.com/pin/antique-campfire-coffee-pot-kettle-cowboy-camping--526991593910084338/
https://www.etsy.com/ch/listing/1115986170/anpassbare-spieluhr-perfektes-geschenk

Resources:
https://commons.wikimedia.org/w/index.php?search=portrait+photo&title=Special:MediaSearch&go=Go&type=image
https://pixabay.com/photos/paper-old-texture-parchment-1074136/
https://commons.wikimedia.org/wiki/File:IAV_00000081_0426-2.jpg
https://commons.wikimedia.org/wiki/File:Passport_being_used_by_a_diplomat_being_evacuated_from_occupied_Holland_in_1940.jpg
https://commons.wikimedia.org/wiki/File:Thungmo_Thailand_passport_stamp_exit_1.jpg
https://commons.wikimedia.org/wiki/File:Sadao_Thailand_old_style_passport_stamp_exit_3.jpg

References

https://freemusicarchive.org/genre/Soundtrack/

https://freesound.org/people/Robinhood76/sounds/100392/

https://freesound.org/people/The_Frisbee_of_Peace/sounds/573648/

https://www.bbc.co.uk/news/world-asia-pacific-15114517

https://chinadialogue.net/en/food/illustrated-history-of-industrial-palm-oil/

https://www.everyculture.com/Ge-It/Indonesia.html

https://polyhaven.com/a/dark_wood

https://pngimg.com/image/7231

https://pngimg.com/image/7231

https://images.is.ed.ac.uk/luna/servlet/detail/UoEgal~5~5~151394~180539:Musica-Getutscht,-p--48

https://pngimg.com/image/55243

https://www.flickr.com/photos/86413692@N02/21121977959/

https://substance3d.adobe.com/community-assets/assets/f1d8878575c563bdfbb4cecc c5ca5c38b33e2775

Common Archive:/Contextual Items/s2415447context/letter.jpg