

天主教輔仁大學英國語文學系學士班畢業成果
ENGLISH DEPARTMENT, FU JEN CATHOLIC UNIVERSITY
GRADUATION PROJECT 2023

指導教授：周德嫵老師

Dr. Lynn Chou

VR Game Design
Viking Age: A Time to Live and Eat

學生：黃永清撰

Jimmy Yung-Ching Huang

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Course Title

電腦應用與程式設計

Applied Computer Technology and Programming

學生：黃永清

English Name: Jimmy Huang

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Final Presentation Viking Age: A Time to Live and Eat

Name: Jimmy Huang

ID: 408110261

Introduction

(Please briefly talk about the background of the project, your motivation of designing this project, and the objectives of it).

Our group would like to introduce the Viking cultures to target users interested in the Viking age or culture. Moreover, our group chose to present the residence and food in the Viking culture.

In the final project, our group has chosen to cooperate with Sharon's presentation, which is about the Viking room. In her presentation, Sharon introduced the geography and climate of the places the Vikings once lived. Moreover, she further explained the characteristics of farmland, houses, and turf in the Viking village. Our group chose to present the farmland, where the Vikings grew their crops to make food, and the longhouse, where the Vikings held feasts and dined to celebrate their victory.

As for the food, our group introduced the food and drink the Viking had: bread, porridge, mead, cider, and herring. In our final project, we planned to put the ingredients of the food and livestock on the farmland. The users could explore the farmland to search for any ingredients used for making Viking food. After that, the users will turn to the longhouse to see the exhibit of the Viking food and drink made from the ingredients presented in the previous scene.

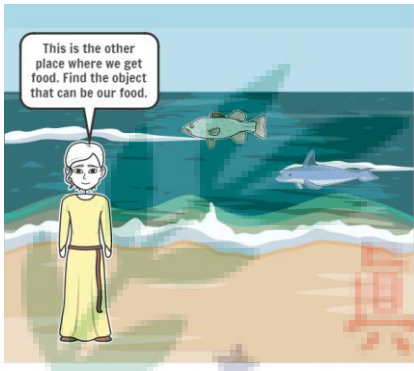



Therefore, our final project hoped to rebuild the village the Vikings had in their ages and introduce the food they had through the scenes of farmland and the longhouse. The users could navigate our final project to experience and see the Viking architecture and be familiar with the Viking food.

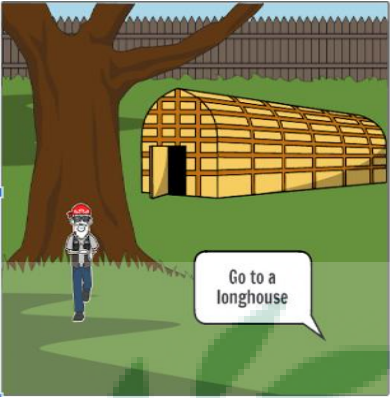


VR Game Design

Student ID: 408110261 Name: Jimmy Huang Group ID: Group 5

Topic	Final Presentation Viking Age: A Time to Live and Eat	Teammate(s)	Ryan Chen Darwin Au Tina Wu Tina Chang	陳柏諺 歐文迪 巫富惠 張婷榕
Theme	The residence, food, and drink the Vikings had	Background	Middle Ages	
Target Users	Everyone interested in Viking Age culture, especially agriculture and food			
Objectives	<ol style="list-style-type: none"> 1. Rebuild the Viking villages through 3D models 2. Introduce the Viking food through the visualized objects and concise description 			
Character(s)	1. Players			
Plot	<p>Plot A:</p> <ol style="list-style-type: none"> 1. The users enter the farmland. 2. The users search for any ingredients or livestock that can be used for making food. 3. The users enter the longhouse through links. 4. After entering the longhouse, the users could watch the objects or images of bread, porridge, mead, cider, and herring with concise descriptions. <p>Plot B:</p> <ol style="list-style-type: none"> 1. The users enter the farmland and then click the link to the longhouse. 2. After entering the longhouse, the users could watch the objects or images of bread, porridge, mead, cider, and herring with concise descriptions. 3. The users click the link to return to the farmland. 4. The users search for any ingredients or livestock that can be used for making food. 			
Game Play and mechanics	The target users could navigate the two rooms our group created. To finish this task, our group used Spoke function in Mozilla Hubs to create two rooms, one for the farmland and the other for the longhouse. Moreover, our group collected the 3D objects from Sketchfab, images and pictures from Google picture, and descriptive words from our storymap assignment.			

Storyboard

Scene	Image		Sound
	Screen shot	Description	
Path A 1-4		<p>The users will first enter the farmland to seek food. In this part, we hope that the users would seek herring first.</p>	No
Path A 2-4		<p>The users will first enter the farmland to seek food. In this part, we hope that the users would seek barley that could make mead, cider, porridge, and bread.</p>	No
Path A 3-4		<p>After seeking food, the users could take a look at what a Viking village looks like. The users then could enter the longhouse.</p>	No
Path A 4-4		<p>After entering the longhouse, the users could take a look at how the ingredients they see in the farmland becomes bread, porridge, mead, cider, and pickled herring.</p>	No

<p>Path B 1-3</p>		<p>After entering the village, the users could first go to the longhouse.</p>	<p>No</p>
<p>Path B 2-3</p>		<p>After entering the longhouse, the users could find the food and drink, bread, porridge, herring, mead, and cider, the Vikings had.</p>	<p>No</p>
<p>Path B 3-3</p>		<p>The users leave the longhouse and find the ingredients that could turn into bread, porridge, herring, mead, and cider.</p>	<p>No</p>

QC Checklist

Student ID: 408110261 Name: Jimmy Huang Group ID: Group 5

No.	Item	Module	Result			Decision
			Pass	Minor issue	Major issue	Pass /Hold
1	Target users will be first induced to find the questions about the Viking climate, crops, livestock, etc, with a short introduction.	Wooden boards	✓		Target uses need to see the board to start their learning.	pass
2	Target users will read questions about and answers to the Viking climate, crops, livestock, etc.	Wooden boards	✓		Target will read questions and answer to learn more about the Viking living and food.	pass
3	Target users will take a look at the exhibition of livestock and crops and go to the longhouse	Horse, pig, goat wheat form	✓		Target uses will be familiar with the livestock and crops and go to the longhouse.	pass
4	Target uses will enter the longhouse and visit the exhibition of the Viking food and drink: bread, porridge, mead, cider, and herring.	Long table, chair, the pictures of bread and porridge, and 3D models of cider, mead, and herring.	✓		Target users will take a look at how the Viking food and drink actually look like.	pass
5	Target users will read questions about and answers to the Viking food and drink, learning more about this topic.	Questions and answers written on the wall	✓		Target users will learn more details and knowledge about the Viking food and drink.	pass

Programming Journal

- Articulate your thoughts
- Free up your mind and improve your concentration.
- Records the history of your progress and development

Date: 14 June 2022 Student ID: 408110261 Group ID: Group 5

1. Project goal/ scope.

We hope that the project allows those interested in Viking culture to have an opportunity to learn the Vikings' living places, food, and drink they had in their ages. We rebuild the village and farmland the Vikings used to live to exhibit the view of their villages and introduce the crops that could make porridge, bread, herring, mead, and cider. Moreover, we also rebuild the longhouse where the Vikings held ceremonies for their victories to exhibit how the Viking food actually looks like.

2. My task(s)

One of my major tasks were to create one of the storyboards. Moreover, I helped lead the discussion, arrange schedule for the teammates, and give out suggestions and ideas for our final project, such as the construction of the longhouse or the materials for village view. Last, I helped Darwin, who helped create our final project with Mozilla hubs, give some objects which he could use to build the scenes our group wanted to exhibit.

3. Progress.

#.	Task description	Done
1.	Choose the topics of the final project	4/25
2.	Discussion for the two flowcharts and two storyboards for the two paths in the final project	5/30
3.	Finish two flowcharts for the two paths in the final project	6/6
4.	Finish two storyboards for the two paths in the final project.	6/6
5.	Discussion for the handout	6/6
6	Discussion for the objects we need in the two scenes in the final project	6/8
7.	Finish the handouts for the target users	6/10
8.	Finish the two scenes for the final project	6/13
9.	Give a presentation for our final project	6/13
10.	Finish the LOD Report Document	6/25

4. Problem solving solutions

#	Problem encountered	Solution(s) tried/ other possible solutions
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1.	Problem rose from distance learning: malfunctional devices/technical problems → inefficient discussion	<ul style="list-style-type: none"> ● Improved personal device ● Underwent discussions more with Microsoft Teams
2.	Problem of co-editing: Story Maps and Jig Space (O) →failed Mozilla Hubs (X)	<ul style="list-style-type: none"> ● Took turns using Jig Space and Story Maps to finish the project ● Assigned one of our teammates, which was Darwin, in charge of creating the two scenes
3.	Familiarity of the Tools We Use: Unfamiliar with the virtual-world-creating platform such as Mozilla spoke	<ul style="list-style-type: none"> ● Spent time learning using it through the tutorials in Mozilla Hubs ● Asked help from teammates and Professor Lynn Chou
4.	Technical Problems: The avatars created and uploaded by ourselves failed to appear on the scene in Mozilla Hubs.	<ul style="list-style-type: none"> ● Asked help from teammates and Professor Lynn ● Tried different models to create our own Avatar ● Checked the connection problems
5.	Too Much To Add: The limitation to the size of the project make us need to cut down on the amount of 3D objects we planned to use.	<ul style="list-style-type: none"> ● Picked the most important objects significant for us to rebuild the Viking village and the longhouse ● Deleted those objects unfit to Mozilla Hubs due to the file compatibility problem and save enough capacity for our final project

5. Lesson(s) learned.

- a. From trial and error
(Detail)

When dropping the objects we would like to put in the two scenes, we encountered the biggest problem, which was that the file format of 3D models was not compatible in Mozilla Hubs. We may not use these 3D models in Mozilla Hubs. As a result, we still spent more time looking for the 3D objects that could be used in Mozilla Hubs. Although we did drop those 3D objects, but we still failed. As a result, we could only use the 3D objects installed in sketchfab in Mozilla Hubs to rebuild our scenes.

Moreover, we met another problem about the paths for the target users. We had planned to develop two paths for the target users. They could start either from the farmland to learn the ingredients of the Viking food and drink first or from the longhouse to take a look at how the Viking food and drink actually look like. We came up with our storyboards and flowcharts according to this idea. Moreover, from Professor Lynn Chou's suggestion, we found the problem about how we should instruct the target users to choose one of the paths. After some discussions, we decided to type some

words descriptions to help the target users to choose the paths they would like to navigate first. By doing so, they could learn the Viking culture from two different perspectives.

b. From team member(s)

(Detail)

Through discussions, I have tried my best to incorporate ideas of my teammates and mine. Before this course, I have taken many courses requiring students to work on projects as a team. In these courses, most of the time the teammates did not give out and articulate their ideas or thoughts. As a result, as the leader, all I needed to do was to articulate my thoughts and finish them. However, in this course, all of my teammates helped give out some ideas, suggestions, and advice to polish our final project. As a result, I could try my best to incorporate these ideas and make the final project more perfect. For example, when building the two scenes, we all gave some thoughts and suggestions about the objects we could use to refine the project. During this process, my teammates and I could try to incorporate every object from our ideas to rebuild an authentic Viking village. The result was satisfactory. As a result, from my teammates, I learned how to incorporate everyone's idea into the fine project to refine and polish it.

c. From other team(s)

(Detail)

When doing evaluation for other groups, I learned how to navigate the target users into the world we would like to introduce. Many groups use multiple scenes to introduce their topics. Some of groups use a good method to let users navigate every scene. For example, Group 6 would put their links to each room in a place easy for users to find. As a result, users will have no difficult visiting each room. I think that's the place we could learn from other groups. In the future, if we need to use Mozilla Hubs to introduce one topic and create multiple scenes, we could use the method Group 6 has used for users to navigate the scenes easily.

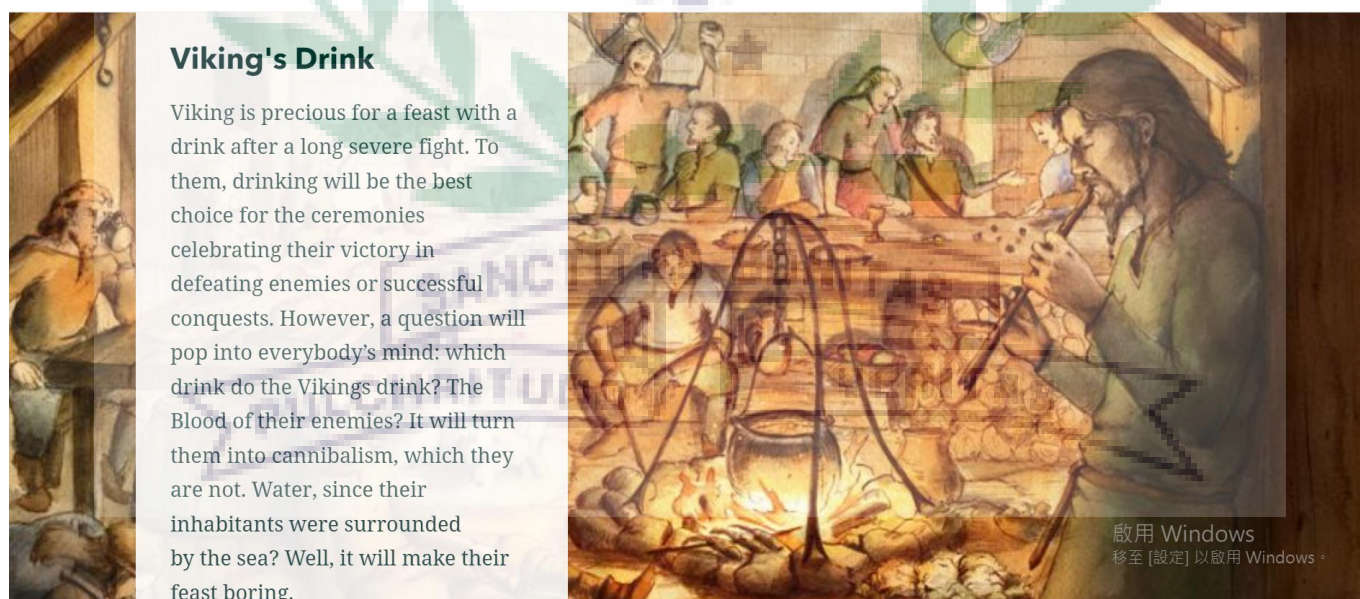
6. Most impressive conversation/ event.

To me, the most impressive event would be the first time Professor Lynn Chou introduced Mozilla Hubs to us. When learning how to use Mozilla hubs, the most interesting thing is to build a space of your own. In Mozilla Hubs, you could articulate every idea and thought about the world in the space. It is a place where you could express your individuality and creativity. After creating a spoke, which is like blank space for users to develop their own chat room or chatting space, one can put every object he or she prefers. It could be a Viking village, a museum, an iced mountain wall covered with snow. In this place, you behave like a god, the only difference is that you can create your own world within seven seconds rather than seven days. When starting using Mozilla Hubs, I am fascinated dropping 3D objects, 2D pictures or any elements that could help build up the world in my mind. As a result, I think learning to use Mozilla Hubs is the most impressive event in this course. In the past, I may not be able to create the world of my own. Now, I could do it myself thanks to Mozilla Hubs.

Your work including Storymap, Jigsaw, and Mozilla hubs. Please screen capture your work and give brief description.

In Storymaps project, our group introduced the Viking food and drink, such as porridge, herring, bread, ale, and cider, with word descriptions. In my part, I mainly introduced which drink the Viking used to have mostly, which is ale. Moreover, I also explained how to brew ale, what ingredients the Vikings needed to the brewery of ale, and who would help brew ale for the Viking villages. Last but not least, I further introduced the place where the Viking would celebrate their victories by holding feast, which is the longhouse, and the container the Vikings used to drink ale.

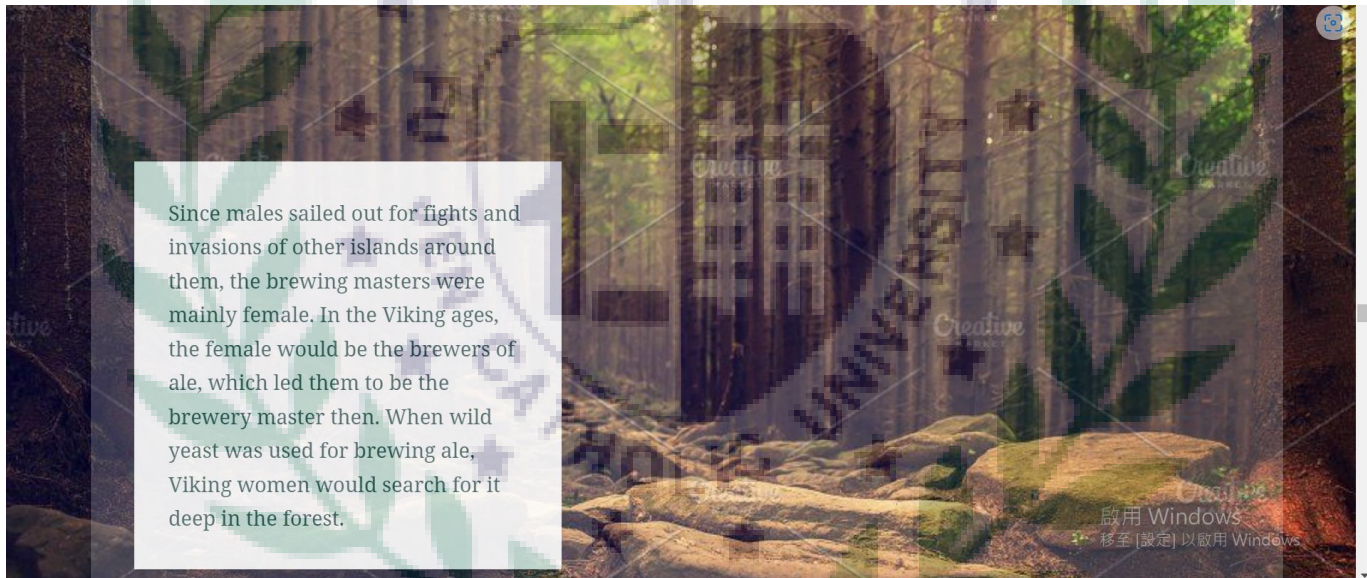
Link: storymaps.arcgis.com/stories/1137271b3b2e49f68206dd998b5e0542.



The Vikings brewed ale from grains in Viking society, such as barley or any other grains the Vikings could grow and find, and boiled in water to extract malt, or called "wort." After these two procedures, the Viking kilned malt over a fire to produce a brown color and flavor. During the brewery process, the Vikings would add herbs, including juniper, alehoof, horehound, and bog myrtle, to name a few, to bring out multiple flavors. In the end, the Vikings would add wild yeast from the forest to brew their



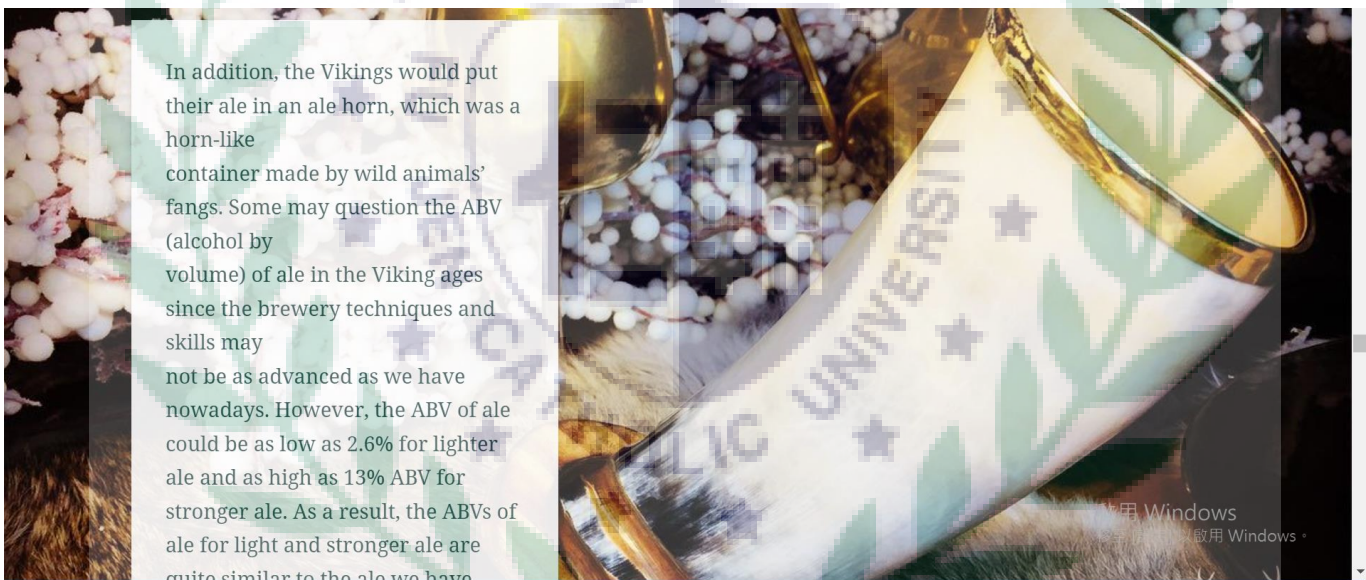
Since males sailed out for fights and invasions of other islands around them, the brewing masters were mainly female. In the Viking ages, the female would be the brewers of ale, which led them to be the brewery master then. When wild yeast was used for brewing ale, Viking women would search for it deep in the forest.





After the long sails and fighting, the Vikings would be in a longhouse, which is also called “Mead Hall,” for their celebration.

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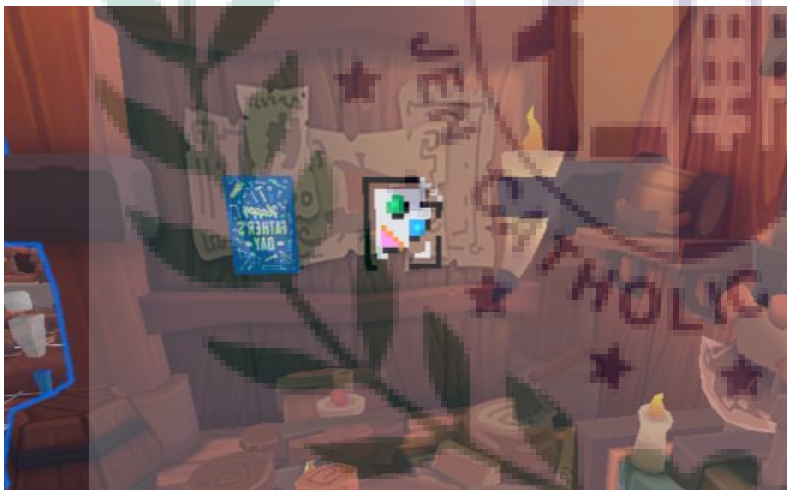
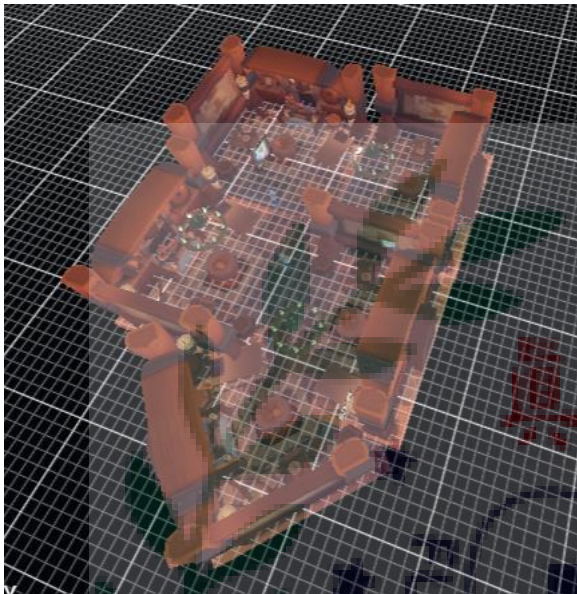


In addition, the Vikings would put their ale in an ale horn, which was a horn-like container made by wild animals' fangs. Some may question the ABV (alcohol by volume) of ale in the Viking ages since the brewery techniques and skills may not be as advanced as we have nowadays. However, the ABV of ale could be as low as 2.6% for lighter ale and as high as 13% ABV for stronger ale. As a result, the ABVs of ale for light and stronger ale are quite similar to the ale we have

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In Mozilla Hubs project, I dropped a 3D model (a Viking room) from Sketchfab, uploaded a 2D GIF file of my own. Moreover, I changed the sizes of the 3D model and the 2D GIF file and published to hubs and post the URL to the TronClass.



Final presentation PPT

Link: docs.google.com/presentation/d/1fvuH5TIBvJUJZ3ZIORJ7io2Lbbyw8qYc_28CCvztoIdU/edit

Final Presentation Viking Age
A Time to Live and Drink

408110261 Jimmy Huang
408110266 Ryan Chen
408110265 Darwin Au
408110268 Tina Chang
408110261 Tina Wu
Farm Link: <https://hub.inkfabry.com/>
Longhouse Link: <https://hub.inkfabry.com/>

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01 Introduction
Jimmy Huang

"Then a bench was cleared in that banquet hall
So that Geats could have room to be together
And the party say, proud in their bearing
Strong and stalwart. An attendant stood by
With a decorated pitcher, pouring bright
Helpings of mead"
— Beowulf (491-96)

Where the Vikings Lived
Group 5: Sharon

Lesson 1: Viking Houses

- Built of wood
- Ship-like outline, lined with clay
- Wooden planks placed vertically into the ground

- Near the farm and longhouse
- Crops that could make food

Purposes

Learning Viking Culture

- Where They Live**: The View of the Viking Villages
- What They Eat**: Introductions to the food they had

02 Target Users Objectives
Ryan Chen

Target Users
Everyone interested in Viking Age culture, especially agriculture and food, is our target user.

Objectives
We hope that through this 3D model, we can use the image to make our description visualization to give players a deeper and more thorough understanding of Viking farming and food.

03 Storyboard
Ryan Chen

First Path: The Longhouse—The Farm

Second Path: The Farm—The Longhouse

Second Path: The Farm—The Longhouse

04 Flowchart
Tina Wu & Tina Chang

Flowchart 16:

```

    graph TD
      Start([Start]) --> GoToFarm[Go to use the Longhouse table]
      GoToFarm --> WhereToGo{Where to go next?}
      WhereToGo --> Longhouse[Longhouse]
      WhereToGo --> Farm[Farm]
      Longhouse --> ClickButton[Click button]
      Farm --> ExplainFarm[Explain the Farm]
      ExplainFarm --> GoToTable[Go to use the table (bread, porridge, wine, fish)]
      GoToTable --> TakeBack[Take a look at the green screen in the Farm]
      TakeBack --> End([End])
  
```

Flowchart 17:

```

    graph TD
      Start([Start]) --> AskAboutFarm[Ask and learn about the history about Viking Farm]
      AskAboutFarm --> AskAboutLonghouse[Ask and learn about the history about Viking Longhouse]
      AskAboutLonghouse --> GoToTable[Go to use the table (bread, porridge, wine, fish)]
      GoToTable --> TakeBack[Take a look at the green screen in the Farm]
      TakeBack --> End([End])
  
```

Flowchart 18:

```

    graph TD
      Start([Start]) --> GoToTable[Go to use the table (bread, porridge, wine, fish)]
      GoToTable --> AskAboutFarm[Ask and learn about the history about Viking Farm]
      AskAboutFarm --> AskAboutLonghouse[Ask and learn about the history about Viking Longhouse]
      AskAboutLonghouse --> ExplainFarm[Explain the Farm]
      ExplainFarm --> ClickButton[Click button]
      ClickButton --> End([End])
  
```




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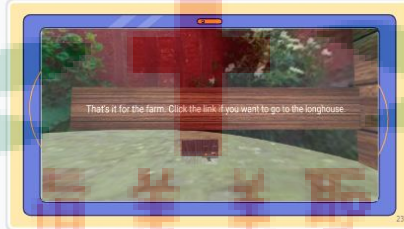
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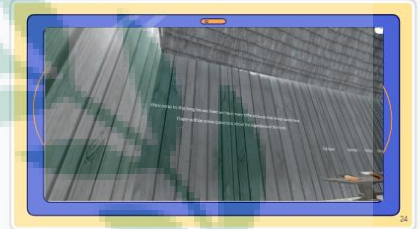
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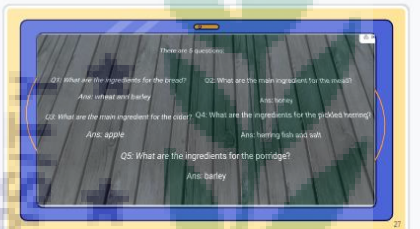
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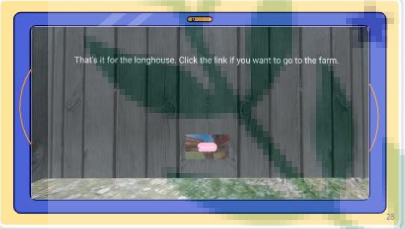
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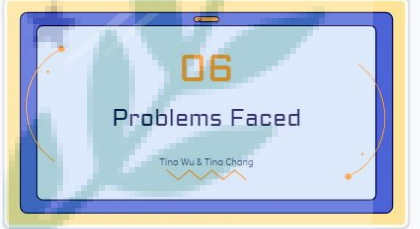
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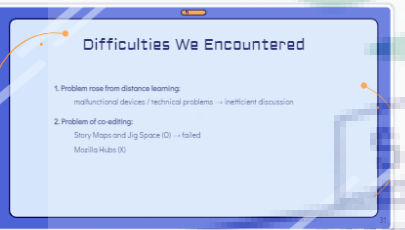
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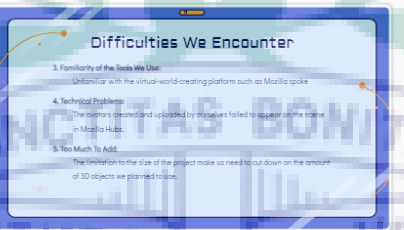
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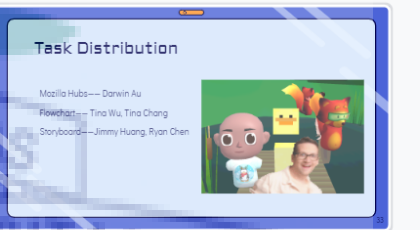
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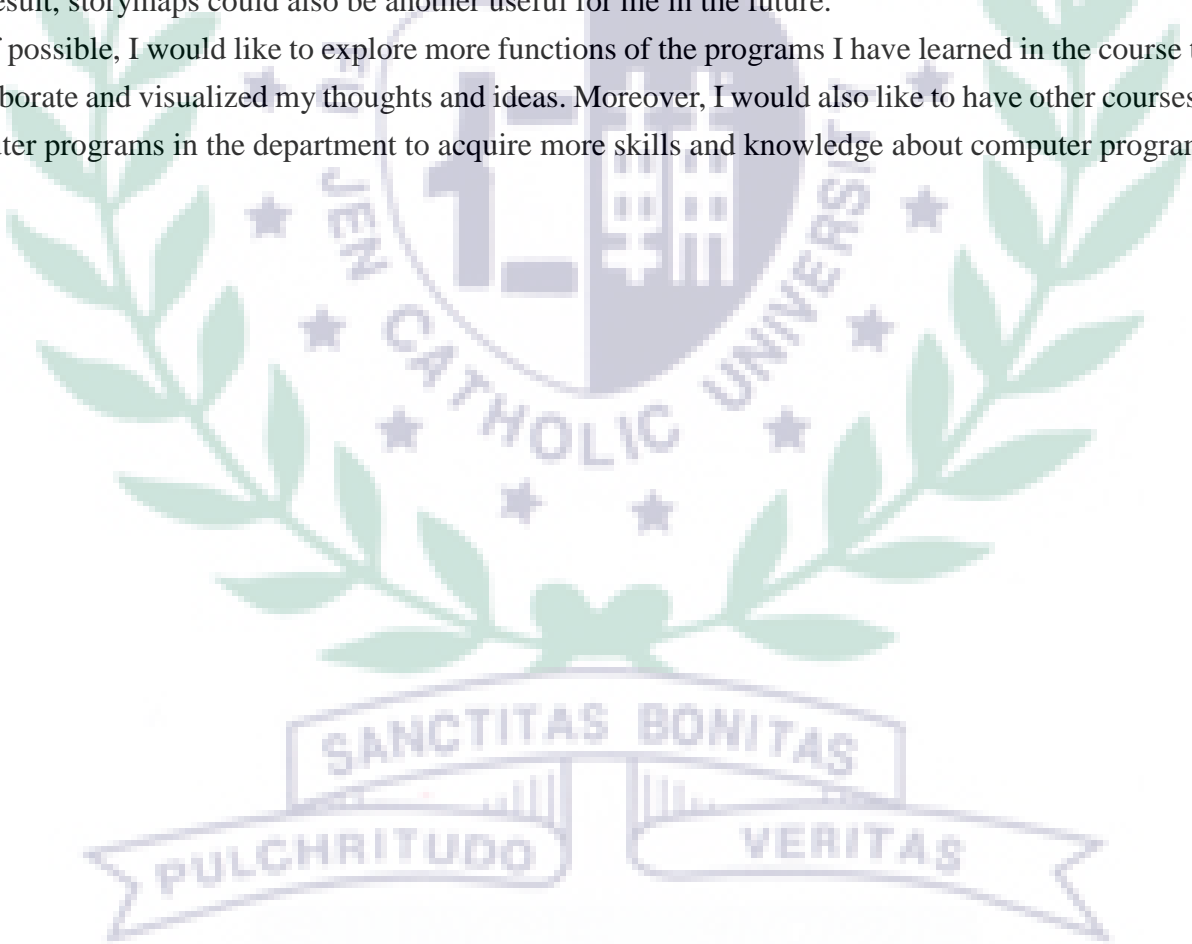


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Reflection and future study

The course is very interesting to me. Before having the course, I have heard of Metauniverse and watched what Metauniverse may look like from *Ready Player One*. However, the term was still a vague concept to me. However, after the course, I have a better understanding about metauniverse. Moreover, the course also allowed us to create our own online chatting room. With the online chat room, we could eliminate the barriers of geographic distance to have discuss with anyone in the world. In addition, the Mozilla Hubs is a useful tool for me. In one of my courses, I had to show up my stage design. Before learning to use Mozilla Hubs, I may need to present my design with my poor drawing. However, with Mozilla Hubs, I could use 3D models to build up the design in my mind. As a result, in the future, Mozilla Hubs could be a useful tool for us to elaborate and visualized our thought more clearly. After all, images and visual aids are way more powerful than words. Last but not least, after learning the use of storymaps, we, as students, have another visual tools for us to do storytelling. This could be a useful tool to reach literature. With the visual aids, one could teach literature with multiple visual aids to present literary works. As a result, storymaps could also be another useful for me in the future.

If possible, I would like to explore more functions of the programs I have learned in the course to help me elaborate and visualized my thoughts and ideas. Moreover, I would also like to have other courses about computer programs in the department to acquire more skills and knowledge about computer programs.



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