

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 2020

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真善美聖

Game-Based Programming: The adventures of Aeneas

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Callen, Han-Kai Ke

Interactive Storybook/ Game Design

Student ID: 405110478

Name: Callen Ke

Group ID: 405110478

Topic	The adventures of Aeneas	Teammate(s)	
Theme	Duty, Braveness, Bloodshed	Location	ES601
Target Users	English majors		
Purpose	To increase their motivation and interest of reading Greek Mythology		
Character(s)	Aeneas, Juno, Harpies, Anchises, Neptune, Cerberus, Sibyl Cumae, Charon, Andromache, Aphrodite		
Plot	Aeneas and his Trojan man have to escape from the war to build there no home in Italy, which Aeneas is destined to establish Rome. During his voyage on sea, he'll face with different challenges, including encountering the harpies, being trapped in a storm, staying in Carthage with Dido and forgets his mission, finding the golden bough to enter the underworld, encountering the ferry man Charon and Cerberus. He will meet his father and be given some advices to build the city Rome in Italy. Furthermore, he will arrive at Italy, fight against the fierce tribes and win the battle. At last, Aeneas and his men will build Rome.		
Game Play and mechanics	The project is to adapt the story, <i>The Adventures of Aeneas</i> into an interactive storybook. It includes some interactions and easy games for my target users to play and enjoy. For instance, there is a scene where players can click on the weapons and kill the Harpies. However, they will find out that one Harpy is undefeatable, so there is a text panel for player to choose to escape to another island and continue his journey. Besides, there's also a scene where players are asked to find four golden boughs hidden in the trees within two minutes. As long as they collected four golden boughs, they can move on to the next scene, which is the underworld. Another than interactions included in the program, there are also sound effects, background music, and narration for players to enjoy more during the process. Last, players has to go through all the trails and reach the place where Aeneas meets his father. Then, the game ends.		
User Interface Design	Cospaces Edu, Merge Cube, Online video converter, Youtube, Text to Speech.		
Flowchart			

You have to take your father and your son with you and sail away to a new home.

You have to select 10 Trojans to join the journey.

Your colleagues and you start the journey.

You have a map with you, and you see three islands that are nearby, respectively, Crete, Siquijor, and Monsta.

You have to decide where to go.

Monsta

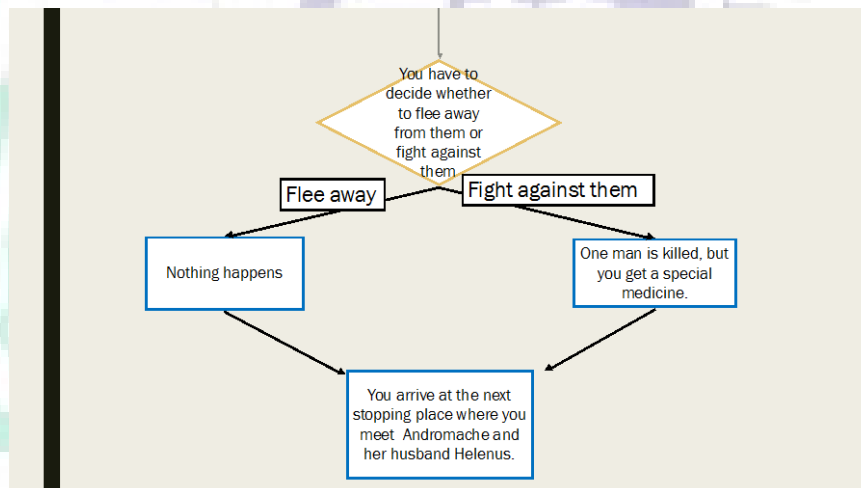
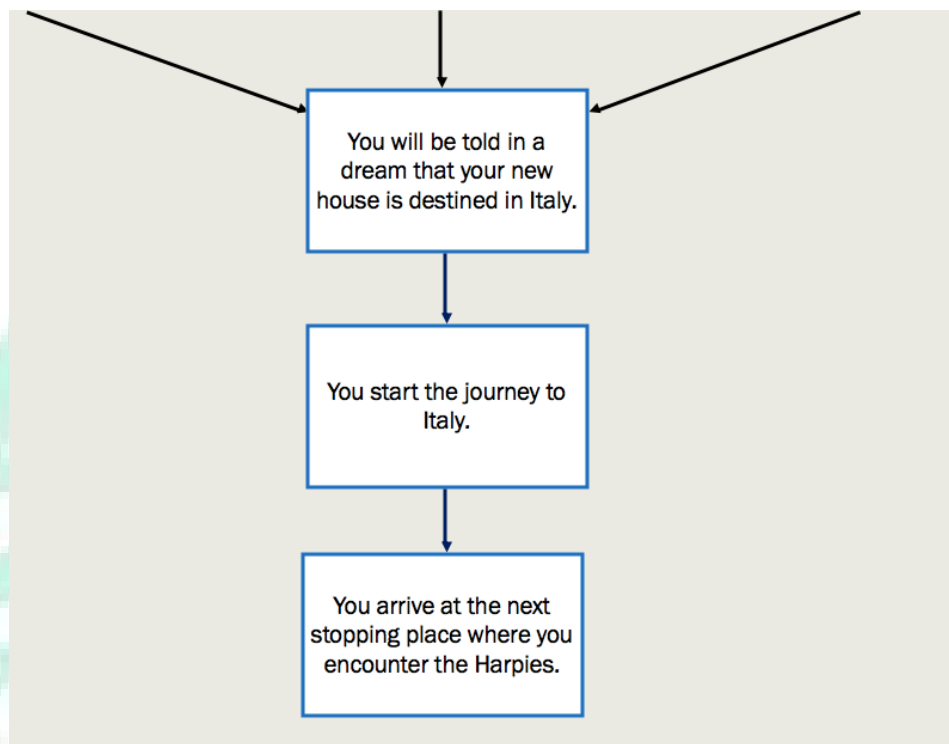
Crete

Siquijor

One colleague is being eaten by wild beasts.

You are safe in this island.

Two colleagues are tempted by beauty witches. They never return.



You will have a conversation with Andromache, and her husband will provide you advices to avoid some dangers.

You leave the place and keep on with your journey. While sailing around Sicily, you are struck by a storm brought by Juno.

You have to decide which God you are going to call for help.

Hades

Neptune

Jupiter

Two men are brought to the underworld

Neptune calms the sea

Nothing happens.

You and your men land on Carthage ruled by Dido. Dido falls in love with you, and you stayed in Carthage for years, forgetting your mission.

Mercury visits you and reminds you to continue your mission.

You have to decide whether to stay or leave.

stay

leave

You are punished and turned into an old and weak guy until you decide to keep on with your journey.

You keep on with your journey, but Dido committed suicide.

You follow Helenus's word to find the Sibyl of Cumae. She tells you that she can take you to the underworld where you will learn all you need to learn from your father, Anchises.

Before going to the underworld, you have to seek a golden bough growing on the tree.

You meet the ferryman, and he refuses to take them to the underworld until you show him your golden bough.

You encounter Cerberus, and you will have to find something that can tame it.

Select from cake, candies, and dog food

Candy

Cerberus eats one man and set you and your men free.

Cake

Cerberus is tamed.

Dog food

Cerberus eats one man and set you and your men free.

You reach the Elysian world where you meet your father Anchises. He gives you instructions on how to establish home in Italy.

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graph TD; A[On the next day, you and your colleagues finally arrive at Italy. Yet, Juno makes the most powerful people of the country, the Latins and the Rutulians oppose to the Trojans. (you lose 2 men)] --> B[One night, Father Tiber visit you in your dream telling you to go find Evander. The king of Evander suggests you to ask for help from Etruscans.]; B --> C[You come back with a large army of Etruscans.]; C --> D[You lead the army to win the victory of the war.]; D --> E([You complete your mission and found the Roman race! Congratulations!]);
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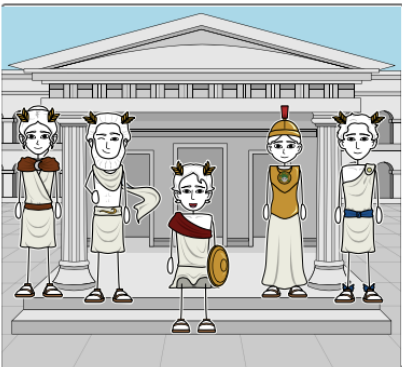
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You lead the army to win the victory of the war.

You complete your mission and found the Roman race!
Congratulations!

Storyboard

Scene	Image		Sound
	Screen shot	Description	
Chap.1 Beginning		After the Trojan war, Aeneas escapes with the help of Venus. He gathers several Trojans to join him to find a new home. He starts his journey with his son, his father, and several Trojans.	My own record of the narration is recorded. I added background music of the war.
Chap.2 Conflict		Aeneas and his men try to find a place to settle, but they face with difficulties. They start their journey to Italy.	
Chap.3 Challenge		Aeneas and his men encounter Harpies. They meet Andromache and Helenus (the prophet) and are given useful advices. They are struck by a fierce storm.	My own record of the narration is recorded. I added background music of tense situation when the players are encountering Harpies. I also add a relaxing background music

		<p>Aeneas has to abandon Dido and leave Carthage to complete his destiny and mission.</p> <p>Aeneas and his men go find the Sibyl of Cumae, and they reach to the underworld to find Aeneas's father Anchises.</p>	<p>when players are asked to find the golden boughs.</p>
<p>Chap.4 Climax</p>		<p>Aeneas and his men arrive Italy.</p> <p>Juno makes the most powerful people of the country, the Latins and the Rutulians oppose to the Trojans. Aeneas comes back with an army of Etruscans.</p>	<p>My own record of the narration is recorded.</p> <p>I added relaxing background music when Aeneas meets his father. And I end my interactive storybook by adding the war background music to remind the readers that Aeneas's adventure is not ended yet.</p>
<p>Chap.5 Resolution</p>		<p>Aeneas leads the army to win the victory of the war.</p> <p>Aeneas founds the Roman race.</p>	

QC Checklist

Student ID 405110478

Name: Callen Ke

Group ID:

No.	Item	Module	Result			Decision
			Major	Minor	Pass	Pass/Hold
1	When play is clicked, the program will play the background music and the narration that I have recorded.	Scene 1		✓	✓	Pass
2.	When click on Trojan man 5, Trojan man 5 says, "Look! There's a boat over there. Let's escape with it." Then, he'll move towards the boat. When he is on the boat, he will say, "Go, go. Let's go."	Scene 1	✓		✓	Pass
3.	When Pirate ship is clicked, it will turn clockwise by 180 degree in 2 seconds. Next, it will move 7 meters forwards in 1 second. Then, it will turn clockwise by 45 degree in 2 second, and move 16 meters forward in 3 second. Last, it will turn clockwise by 30 degree, and move forwards 6 meters in 3 sec to the next island.	Scene 1	✓		✓	Pass
4.	When axe is clicked, turn axe clockwise by 360 degree in 1 second and move to the position of Dragon 4 in 1 second. Then, the Dragon would lie on the ground and disappear after 1 second.	Scene 2	✓		✓	Pass
5.	When sword 1 is clicked, turn axe clockwise by 360 degree in 1 second and move to the position of Dragon 5 in 1 second. Then, the dragon will say, " You can't defeat me!" After that a text panel will pop up and ask you whether to escape. If you choose yes, you'll move to the next scene.	Scene 2	✓		✓	Pass
6.	When cake is clicked, Tiger say, "That's my favorite food for 4 seconds. Next, Tiger will turn clockwise by 35 degrees in 2 seconds and move forwards 1.5 meter to the cake and eat it. Then, the cake disappears.	Scene 7	✓		✓	Pass
7.	When a golden bough is clicked, it will disappear, and the score on the score textbox	Scene 5	✓		✓	Pass

	will add one point. When the player gets 4 points, the player can move to the next scene.					
8.	When the ferryman Charon is clicked, he will roll the boat towards Aeneas and have a conversation with him. After that, Charon will bring Aeneas with him to the underworld.	Scene 6	✓		✓	Pass
9.	When play is clicked, show info with an image beside and play the background music.	Scene 8		✓	✓	Pass
10.	When play is clicked, set opacity of Text to 0 percent.	Scene 8		✓	✓	Pass
11.	When the first background music ends, set opacity of Text to 100 percent, and play the last background music.	Scene 8		✓	✓	Pass



Programming Journal

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

Date: 108/6/27

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1. Project goal/ scope.

To adapt the story from the Greek Mythology- The Adventures of Aeneas into an interactive story book that increases the motivation and interests of English majors to read Greek Mythology.

2. My task(s)

- To decide which significant plots to include in my adaption
- To think about what kind of interactions I can include in my interactive story book design to make it more interesting.
- To be familiar with the functions of CoSpaces Edu
- To practically start the programming process by designing the background for each scene including what objects, characters, or environments to add.
- To start the coding process, trying different ways to make a particular coding work, take the coding from previous works as reference, and learn how the coding works.
- To add background music, sound effects, and narration.
- To see how my project actually looks like in AR environment
- To do the revision

3. Progress.

#.	Task description	Done
1.	Decide which significant plots to include in my adaption.	Around 4/11~4/18. Some revisions were made on the following weeks.
2.	Think about what kinds of interactions can be include in my interactive story book	Around 4/11~4/18. Some revisions were made on the following weeks.
3.	Be familiar with the functions of CoSpaces Edu	Around 4/18~5/16
4.	Start designing the beginning scene where the Trojans are being attacked,	Around

	and add interactions (do the coding).	5/16~6/6
5.	Start designing the scene where Aeneas and his fellows encounters Cerberus and add interaction. (do the coding).	Around 5/20~5/30
6.	Start designing the scene where Aeneas and his fellows were attacked by the Harpies, and add interactions.	Around 5/25~6/6
7.	Start designing the scene where Aeneas and his fellows were struck by a terrible storm.	Around 5/30~6/6
8.	To see how my project actually looks like in AR environment	Around 5/30~6/18
9.	Start designing the scene where Aeneas and his fellows meet Cumae Sibyl and they had to collect golden boughs.	Around 6/6~6/13
10.	Start designing the scene where Aeneas and his fellows were stopped by the Ferryman Charon in the underworld.	Around 6/6~6/18
11.	Start adding background music, sound effects, and narration.	Around 6/13~6/18
12.	Start revising my ppt slides for the final project.	Around 6/16~6/18
13.	Start designing the scene where Aeneas and his fellows stays in Carthage for a long period of time.	Around 6/16~6/18
14.	Start designing the final scene where Aeneas finally meets his father	Around 6/16~6/18

4. Problem solving solutions

#	Problem encountered	Solution(s) tried/ other possible solutions
1.	Not knowing how to attach something to another when there is not a dot on an object for attachment.	Tried functions on the left bar on CoSpaces. First, you select the item you want to attach to another and click attach. Then, you click the object you want to attach to, and then it will work.
2.	Not knowing how to find items that are not build in the system of CoSpaces. For example, the CSspaces did not provide 3D models of fire that I needed.	I learned from professor that I can rely on GIPHY or google poly on CoSpaces which provides free 3d models and GIF.
3.	Not knowing how to shoot an object (a weapon) to four other items (Harpies), and the weapon would appear at its original position.	I tried to turn on the physics function of the two objects to create the effect of collision, but I failed because the objects would drop down first. Professor helped me to make the weapons spin on a parallel and would shoot towards the Harpies in the meantime. Besides, I changed my

		plan, which I added more weapons that would shoot towards different positions.
4.	Not knowing how to create the effect of scoring and countdown timer	I tried to copy the codes from other works to my final project, but I failed to insert a block into another block. That is, although most codes can be copied, I have to adjust some of the coding, and I had problems with this part. Thanks to Professor's help, this problem is solved.

5. Lesson(s) learned.

a. From trial and error

I learned that when you want to attach a square on another square with a different color, you cannot attach the second one too close to the first one. Otherwise, the second one will overlap the first one. Moreover, I realized that when you are creating a scene to attach on a cube, the size of the scene should be about the same as the cube. If not, when you are looking at your project in the AR mode, you'll find it's difficult to see the whole scene through your 3c devices.

b. From team member(s)
(Detail)

c. From other team(s)

I learned that there are other ways of coding to create an attractive and interesting interaction. For instance, by adding physics on two objects and using the code collision, you can create a scene where an object is being driven away by another. Besides, the skills of attaching the main camera on a person also creates great effects which I can learn from. Moreover, I learned that by adding a 360 photo to a scene makes the background more vivid and realistic. Last, by creating choices for players to select, and make each choices lead to different endings will make players feel more engaged in your game.

6. Most impressive conversation/ event.

I think the most impressive event I experienced in this programming course is the final project display. Every groups had a chance to show their final project to others and exchange ideas and comments. I think this is a great way of sharing one's work with other classmates, which is better than just going on stage and giving a presentation. I am thankful for Professor giving us such a precious opportunity to have a closer look at other works. Besides, the project that I am most impressive of is designed by Emily. In her project, she designed many amazing scenes and playful interactions. Players can imagine themselves being a detective, finding clues, and trying to solve problems. I think her project is outstanding, and I can learn a lot from her.

7. Final Project URL: <https://cospac.es/ajAP> (Abridge Prototype)