**Proposal of Final Project**

**CS 498 SL Virtual Reality**

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1. **Title of the project**

The Story of Tadpoles(小蝌蚪找妈妈)

1. **Team member’s names and netids**

Ke Lu (kelu2)

Rui An (ruian2)

Stanley Yang (xyang70)

Mingze Xiao (mxiao6)

1. **Motivation and background**

The Story of Tadpoles was a cartoon masterpiece produced in 1960s ink wash painting, representing the golden age of classical Chinese cartoon.

VR is a newly emerging technology that enables users to experience the immersion into the virtual environment. We want to utilize VR to revitalize this Chinese cartoon classic so that viewers can experience and enjoy the story from an entirely new perspective.

With the use of VR, we would be able to combine the techniques from both past and present to provide people with enjoyable visual experience and interactions.

Our project will be based on Unity 3d and Quill, a Oculus tool for graphics.

For what has been done on this project, surprisingly, nothing at all. So we think it is time for us to actually do something.

The following link is the orgininal cartoon on youtube:

https://www.youtube.com/watch?v=Jtjc1-hYfp4

1. **Description**

This project is about reconstructing a classic Chinese 2D cartoon in VR without compromising its story and its era defining ink wash painting style. The whole project is mainly composed of two parts with different interactive methods.

1. One part of the project is VR storytelling. Inspired by Oculus Story Studio’s Dear Angelica, we will heavily rely on Quill to implement this part.
2. In our story, there will be several parts that we plan to give users more direct interactions with the characters in the scene. Those parts will be developed in Unity.

We will apply the Agile Development Methodology in our project to ensure the perfection of the end product but in a streamlined, fast-paced manners. The client-tests will be carried quite often in our development to guarantee the user experience.

1. **Deliverables**

The final project will be a single piece of Unity executables and we plan to present it in the Lab. After experiencing our project, we want our users to be impressed by Ink Water painting, an Old Chinese painting technique and want to explore more on their own. We also want users who previously had experiences in Ink Water painting to form a brand new perspective of how the previously 2D presented art piece can be converted to 3D.

1. **Human Factors**

The virtual reality will be the most comfortable one. Of course, health and safety will be the first priority that we will follow. Secondly, rendering and optimization will be great because our selling point of the project is the graphic design while reducing video memory. We will also follow the best minimum latency and make sure every frame has smooth transition. Head tracking will be followed because we can not violate the nature of the world, which the user moves the same direction in real life and he/she will move the same direction in game. Acceleration will be followed to remain the consistency of the real and virtual world motions. Sound will also be followed in order to add real life simulation. Image safety and photosensitive seizures will be obeyed because our game is designed for all age groups. Controlling the avatar will be the traditional way to use your controller, for example, push the joystick up will make the avatar move forward. The other practices will also be followed if we do not explicitly specify in the following paragraph.

We are breaking position tracking, simply we may not need to track the position of the user.

1. **Milestones**
2. By the end of February, finding a friend in Arts College, who is willing to help us draw the cartoon scenes.
3. By the middle of March, getting familiar with Quill and using it to complete at least the first third part of the scenes.
4. By the end of March, getting familiar with all the recourse of implementing the inserted games. Meanwhile, complete at least the second third part of the scenes.
5. By the end of April, complete at least two games. If time allowed, three.
6. Using the rest of the time to prepare for the presentation.