cs488 Report

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1 Introduction

Game Background: One day, a stranger intruded Lara's house, while she was sleeping. After Lara woke up, she was in a weried city float in the sky, and she was petrified so that she can only walk. Fortunately, her sword Excalibur found her...

Operation by Keyboard :

Walk Forward: UP
Turn Left: LEFT
Turn right: RIGHT

2 objectives

1. Articulate(puppets' joints can work)
2. Animate(waling puppet)
3. Sky box
4. Content "free" building implement correctly (Not Implemented)
5. Texture mapping implemented
6. Transparency works correctly(gradually appear/vanish) (Not Implemented)
7. Particle systems (Not Implemented)
8. Shadows (Not Implemented)
9. Collision system implemented(at least not through wall)
10. Modeling the city (Not Implemented)

Extra Feature:
Background Music

3   Technical Principle

The game is based on cs488 assignment 3. But I let the camera follows the puppet. The puppet is basically the same except arms. In my assignment3, the model was roughly assembled. I have done my best effort to fix the broken skin when walking. Beside, the sword is remodeled with colours and materials. However, I did not have time to import enemy and buildings and others.

I used texture mapping to make a plane looks like ground, and use skybox to simulate that the city in floating in the sky.

For the colision, i just remember the two points of objects, and use if condition to determine if the puppet is in the box.

The sound library was introduced by my friend Monica(the Honorable mention of last term)

4   Reference

texture mapping: http://blog.csdn.net/wangdingqiaoit/article/details/51457675
skybox: http://blog.csdn.net/wangdingqiaoit/article/details/52506893 http://www.custommapmakers.org
image loader library: https://github.com/nothings/stb Sound system: https://www.ambiera.com/irrklang/
helloworld.html Lara's model:
body
https://3dwarehouse.sketchup.com/model/d416450afcdee32f5cc46acc8b45df43/Lara-Croft-Tomb-Raider-Legend-Evening-Dress
arms
https://3dwarehouse.sketchup.com/model/2f704dbee89a45f3f89e7b86262150f/Lara-Croft-Underworld

5   reflective

This project is a kinda failure, as I did not even make it a enjoyable game. I may have spent too much time to analyze the cs488 frameworks, and try to make to compatible to may puppet. I found each obj and mtl files are quite different.
I also find the walking is hard to imitate. I read some papers about, and find it is not just simple since function. Sometime I make it worse and worse, since I had no idea how a real walking is like.
The biggest challenge during developing the project was that I don't have the root permission of school lab computer, so I have write most things by hands, but there are bunch of APIs on the internet. I will continue work on this game

after all my finals, and plan to release it in beginning of next year for free!

All in all, it is a fulfilling experience. Thanks to my all teachers and school and friends.