January 13, 2019

Oliver Mills

Q12339911

Advanced games programming ae2

cgp600

Contents

[Design Changes 1](#_Toc535174316)

[New Things that weren’t planned 1](#_Toc535174317)

[Things that changed 1](#_Toc535174318)

[Things That weren’t implemented 1](#_Toc535174319)

[Things that stayed the same 2](#_Toc535174320)

[Testing 2](#_Toc535174321)

[Conclusion 3](#_Toc535174322)

Mechanics

Movement

Simple movement with WASD and space, for activating the jetpack

Enemies - they terrible

Graphics

Textures – multi

I developed a system to allow models to have either one or two textures where the second texture will appear on top of the primary texture. Which is what was planned. This worked together with the texture manager which would store all the textures to prevent loading duplicates.

Lighting :’( #hlsl cookbook pg15

Text – alpha blending

I use text to display the FPS using a custom font I created which is intended for use with alpha blending which I also implemented. Which is simply implemented by changing the blend state for when then the text is draw.

Design patterns

OOD - classes n

Double buffering – we did do that right?

Game loop

Time ? singleton

Texture and model manager

Logic

Loading a level with a text file.

A simple level creation system where strings are passed into a vector and they looped through character at a time, and compared against cases of a switch and then the defined

Collision - tri and sphere no AABB

Collision changed a lot from how I intended to do it originally, as after looking at the assignments marking scheme I realised a lot of the marks were locked behind implementing triangle collision. In attempting to implement it I spent a solid three-four days struggling to implement it. To end up with it working inconsistently and to arguably look like sphere collision.   
which it isn’t   
as sphere collision only allows the triangle collision to be checked.

Design Changes

New Things that weren’t planned

Triangle collision x

Things that changed

Collision – from planned to tri collision + sphere collision x

Things That weren’t implemented

Aabb box collision X

Psudeo bsp

My entire class diagram concept entirely scrapped x

Procgen :’(

Use of the pixel shader for lighting :’( x

Geometry shader being used ( what a idiot I was thinking I’d get that in)

Lighting stretch goals point spot attenuation ( I just basically don’t understand lighting in the slightest ) x

AI steering

AI stretch goal – A\*

Menu’s

Pausing

Music

Game flow

Mipmapping

Texture filtering

Things that stayed the same

Loading a level with a text file.

Ambient lighting & directional lighting

Design patterns - double buffering

Game loop

Testing

Black Box Test Plan

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ID | Feature | Test | Predicted Outcome | Actual Outcome | Actions Taken |
|  | Movement | Press ‘W’ |  |  |  |
|  | Sphere Collision |  |  |  |  |
|  | Triangle Collision |  |  |  |  |
|  | Lighting |  |  |  |  |
|  | Enemies |  |  |  |  |
|  | textures |  |  |  |  |
|  | Level loading |  |  |  |  |
|  | jumping |  |  |  |  |

White box Test Plan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Function Name | Syntax & form | logic | outcome | Actions to be taken |
|  | Is it good? does it need to be clearer? | Does it provide the right answers | Does it need improving? | What to improve? |
|  |  |  |  |  |
|  |  |  |  |  |

Conclusion

Discussion on problems and how they were solved