



MineCube

计算机图形学

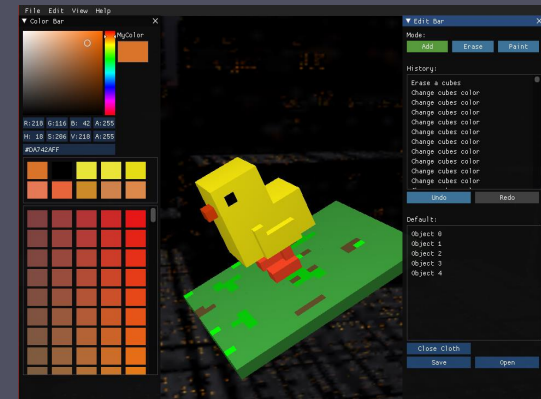
期末项目

What is MineCube?



MineCraft

Build everything in FPS.

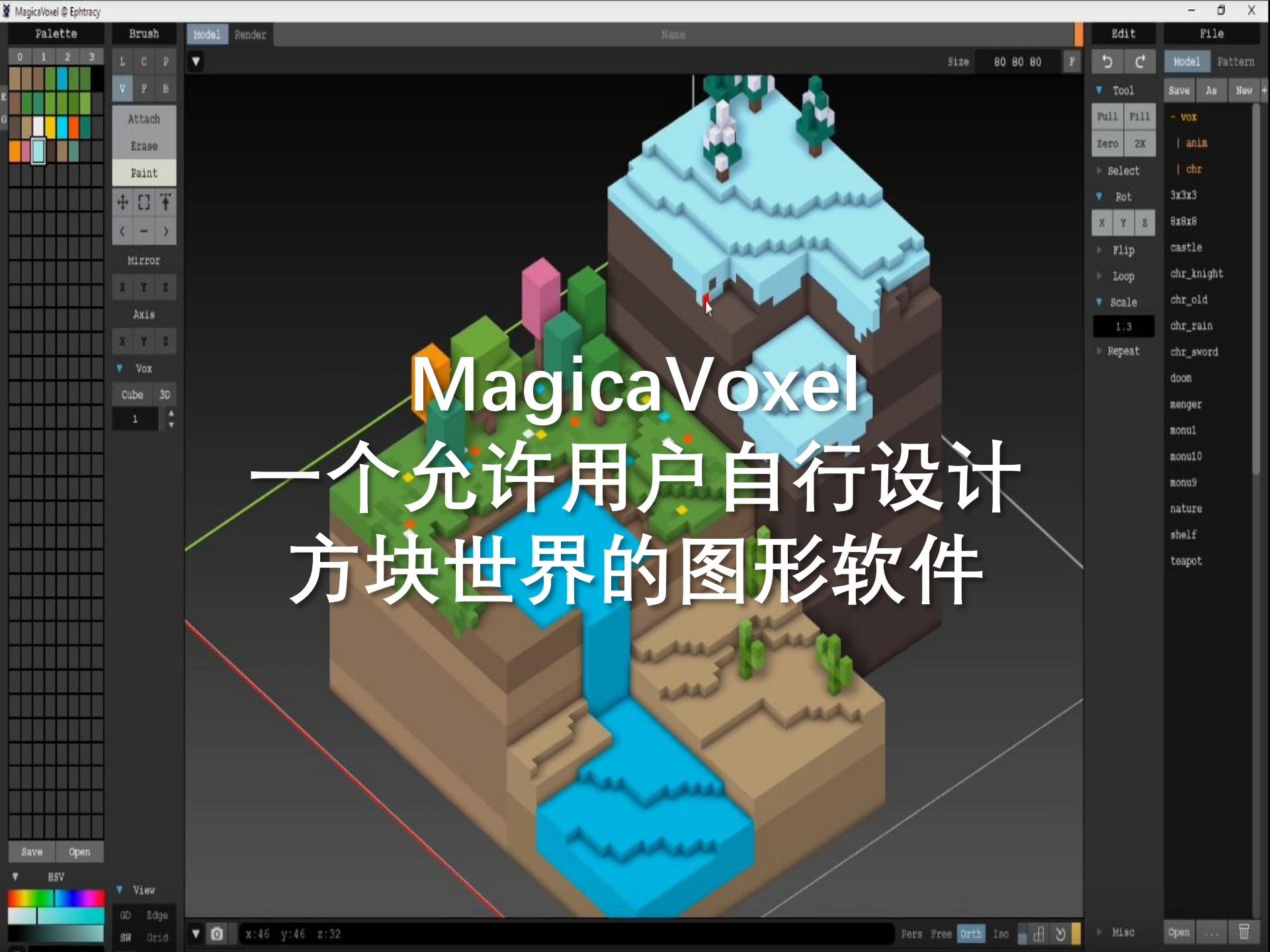


MineCube

Build everything in
God's perspective.

项目灵感

灵感来源介绍



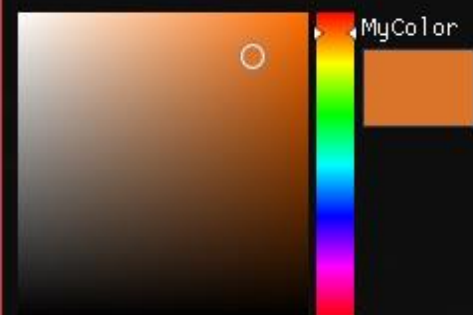
MagicaVoxel

一个允许用户自行设计 方块世界的图形软件



MineCube

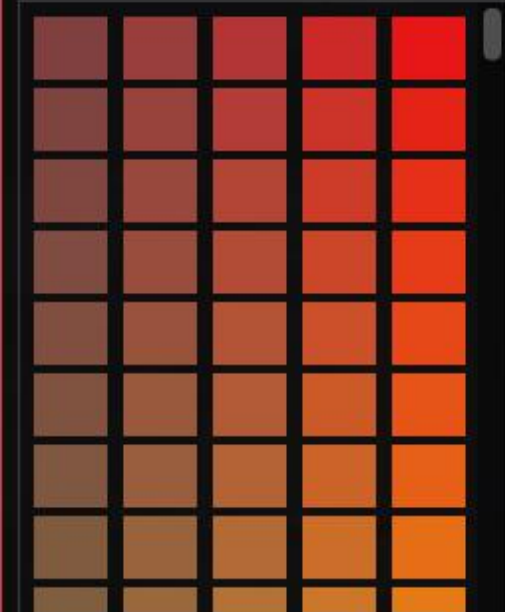
体素制作工具



R:218 G:116 B: 42 A:255

H: 18 S:206 V:218 A:255

#DA742AFF



Mode:

Add

Erase

Paint

History:

Erase a cubes
Change cubes color
Change cubes color
Change cubes color
Change cubes color
Change cubes color
Change cubes color
Change cubes color
Change cubes color
Change cubes color

Undo

Redo

Default:

Object 0
Object 1
Object 2
Object 3
Object 4

Close Cloth

Save

Open

**下面让我们直接
打开程序进行更
详细的展示**

分工及难点讲解

不同工作造成的困难解析

团队成员及当前分工



MineCube

王治鋆

15331304

Camera实现
Shader实现
Shading实现
交互实现
3D拾取
CRUD操作

罗剑杰

15331229

Cmake配置
Shadow实现
重构着色器
底层框架设计
实例化渲染
Face Culling

吴博文

15331310

底层模块构建
方块增删改查
缓存区管理
立方体生成

徐海洋

15331335

天空盒
织物模拟
三力模拟
弹簧质点模型

邱兆丰

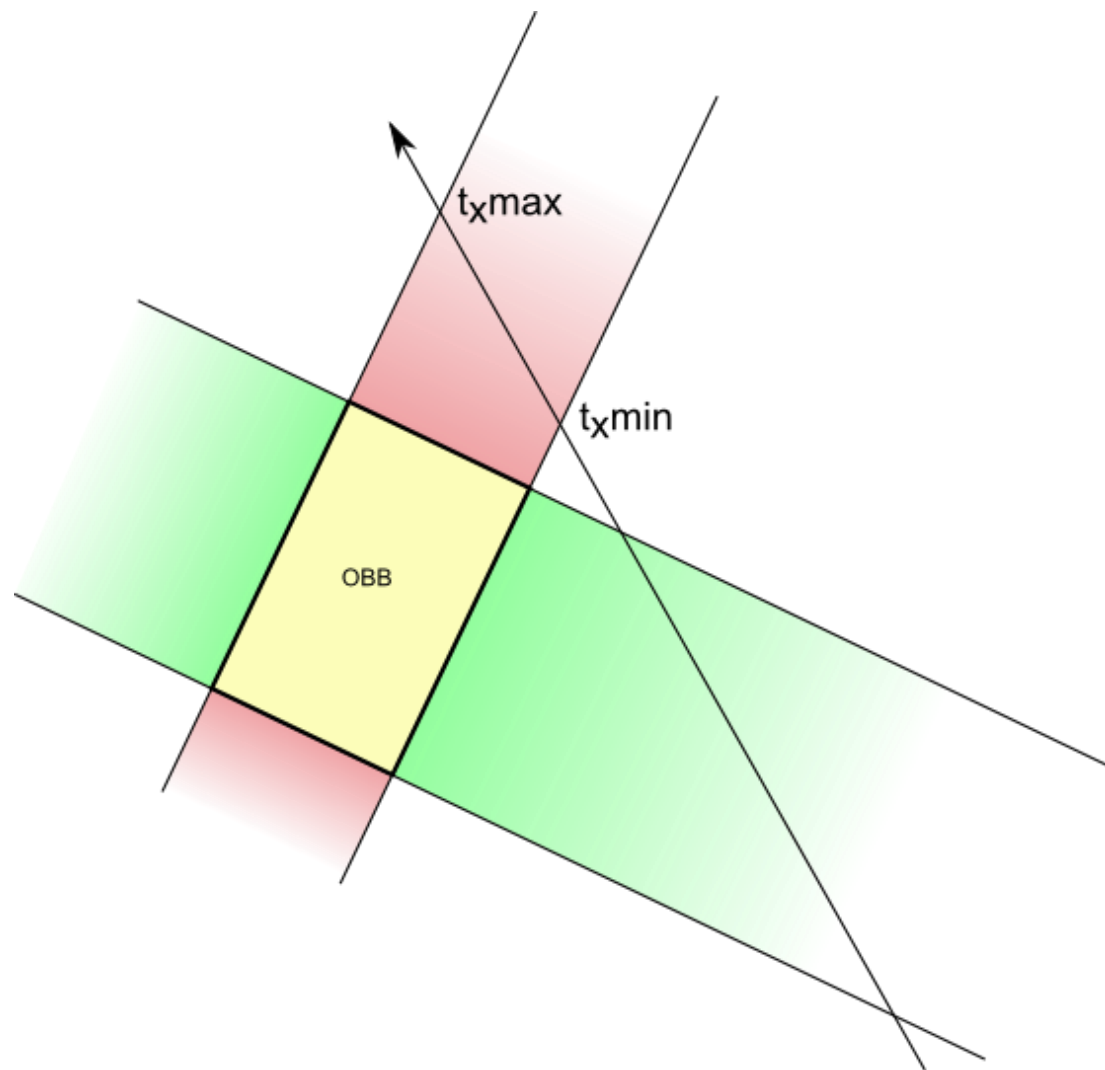
15331260

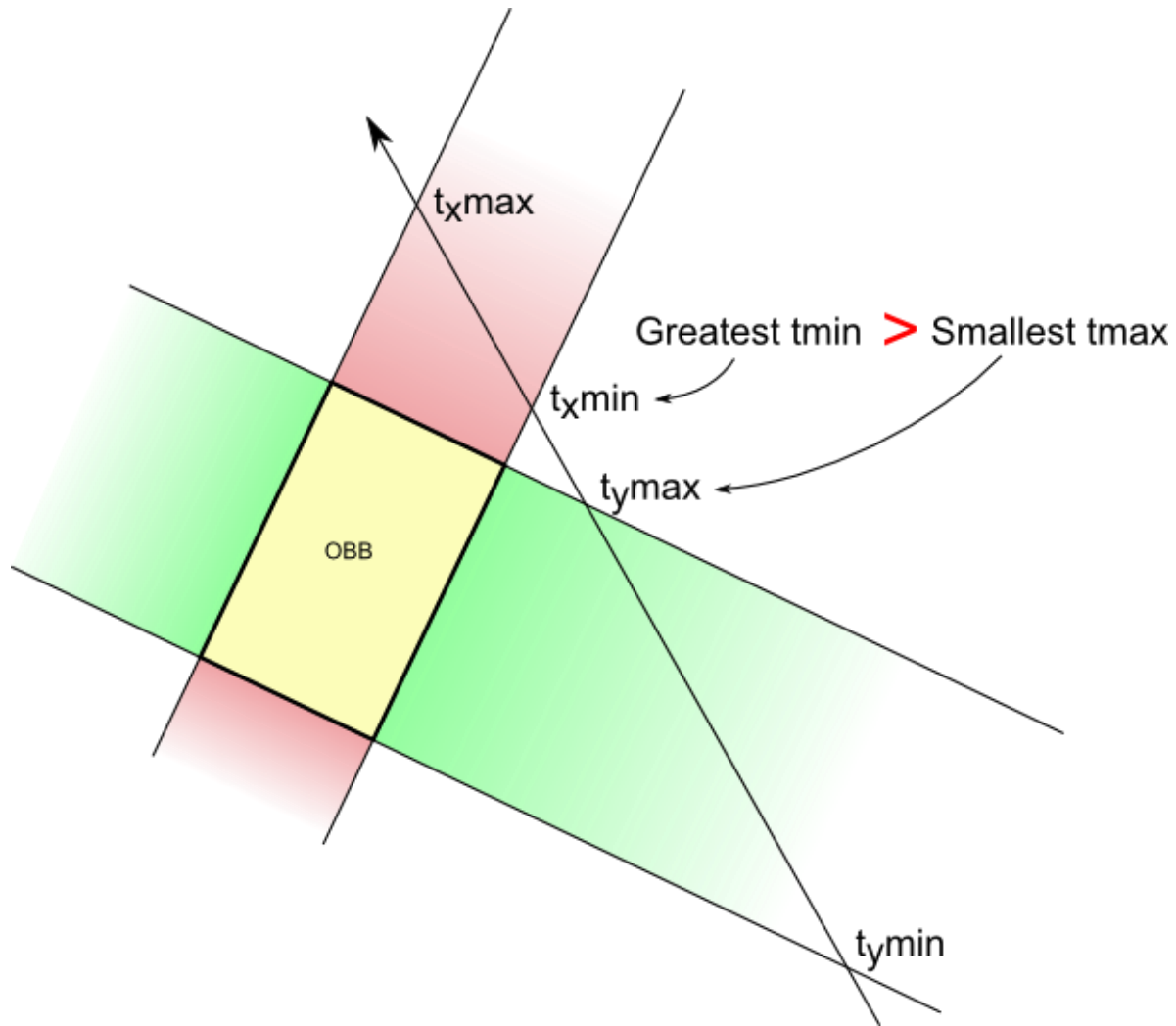
GUI设计实现
CRUD优化
Redo&Undo
渲染到纹理
项目展示相关

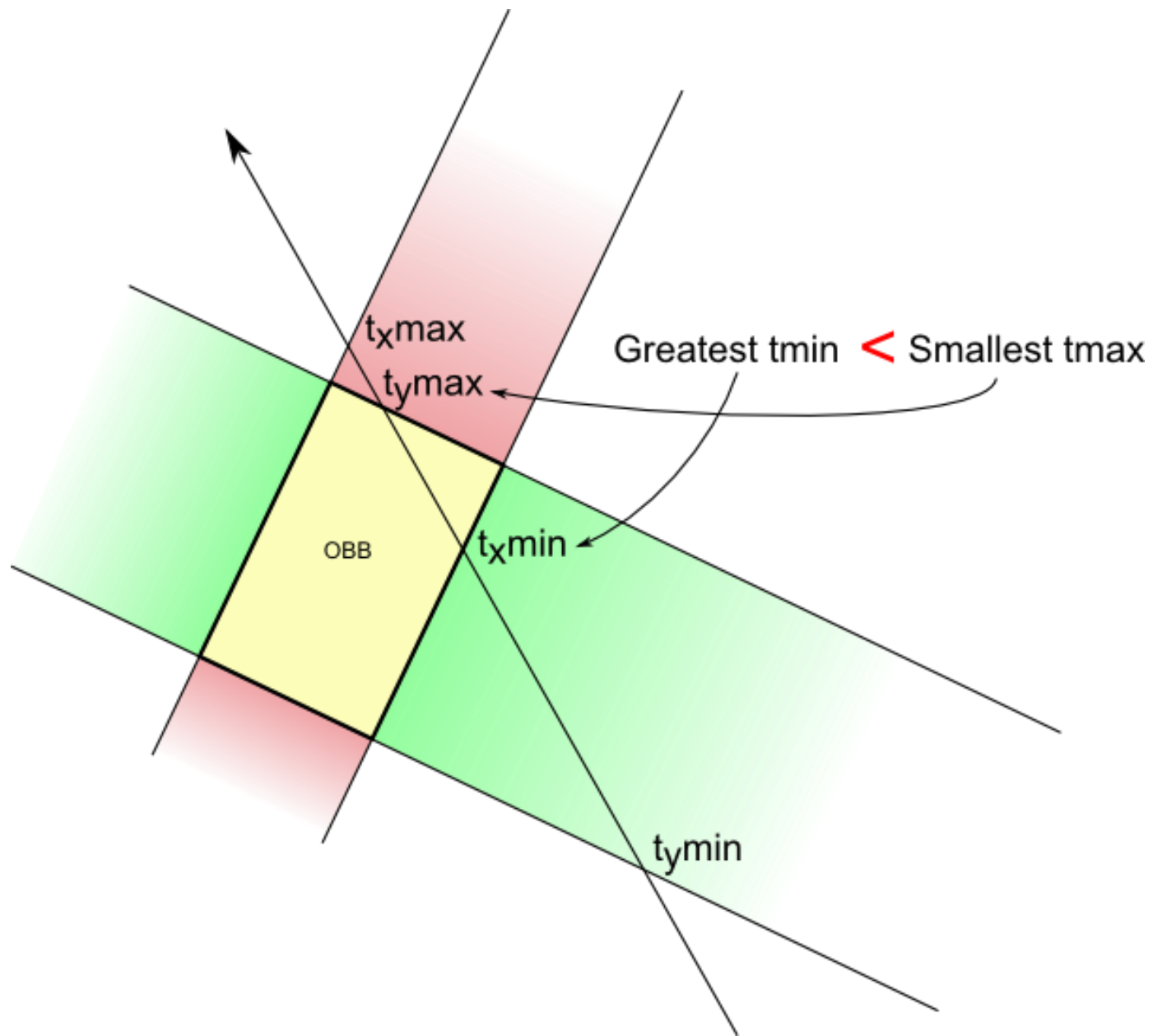
王治鋆

15331304

3D拾取算法







罗剑杰

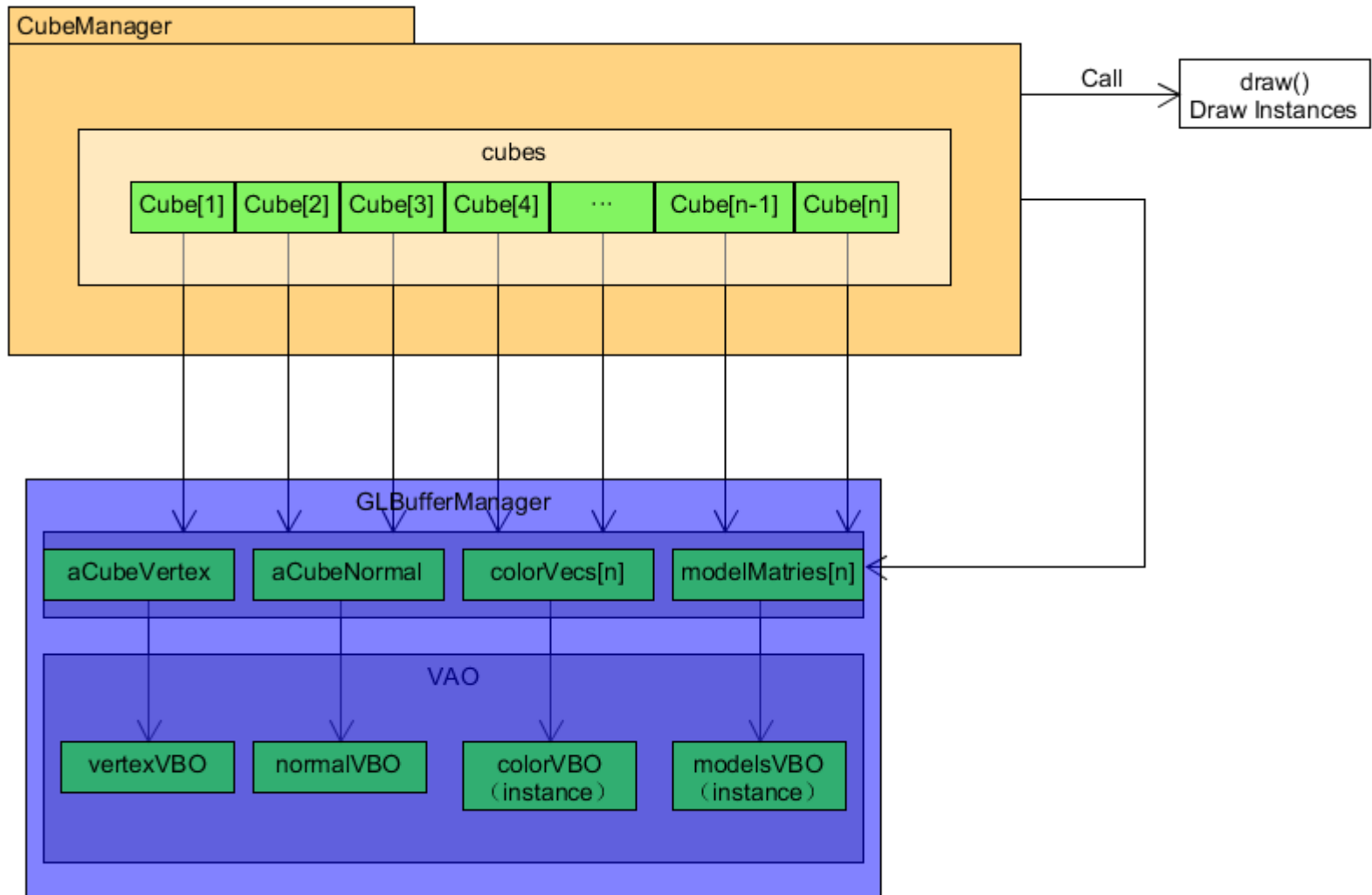
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Cmake 配置

罗剑杰

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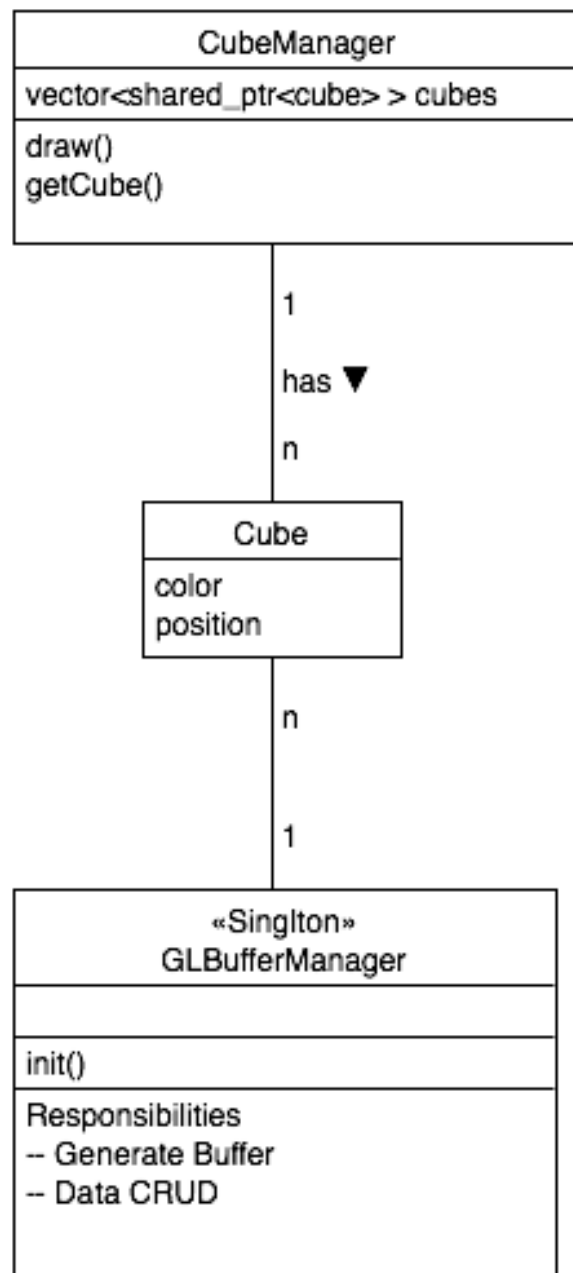
立方体实例化渲染



底层模块设计与实现

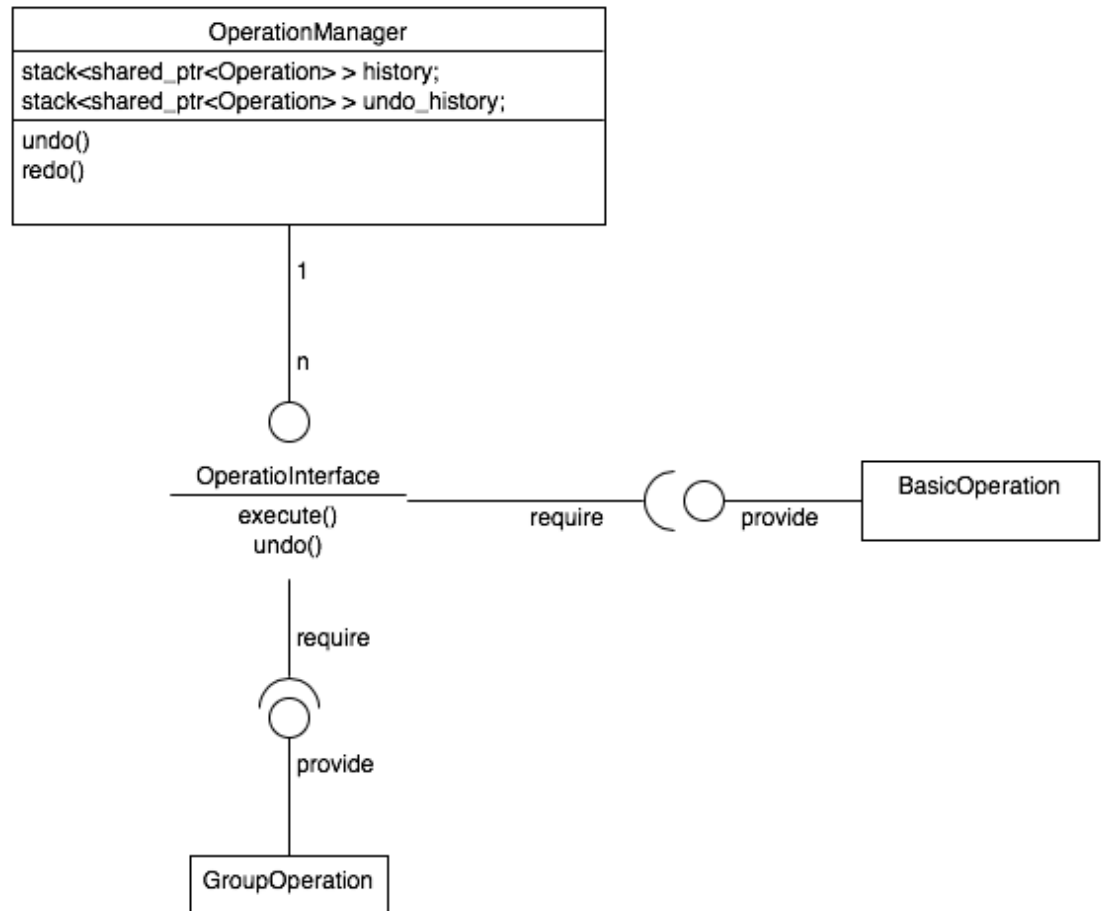
方块增删改查

1. 隐藏OpenGL的细节
2. 对方块进行增删改查
3. 构造了BufferManager，统一管理一块缓冲区



撤销操作的实现

抽象Operation，通过
lambda表达式定义操作，
将其保存至stack中，实现
undo redo功能



吴博文

15331310

模型导入导出

将CubeManager序列化、反序列化，实现模型导入导出

JSON for Modern C++

What if JSON was part of modern C++?

3.1.2

This is an animated GIF. Please wait for a feature slideshow.

徐海洋

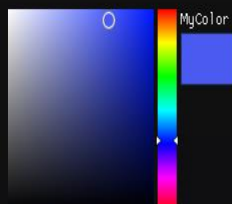
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织物模拟

邱兆丰

15331260

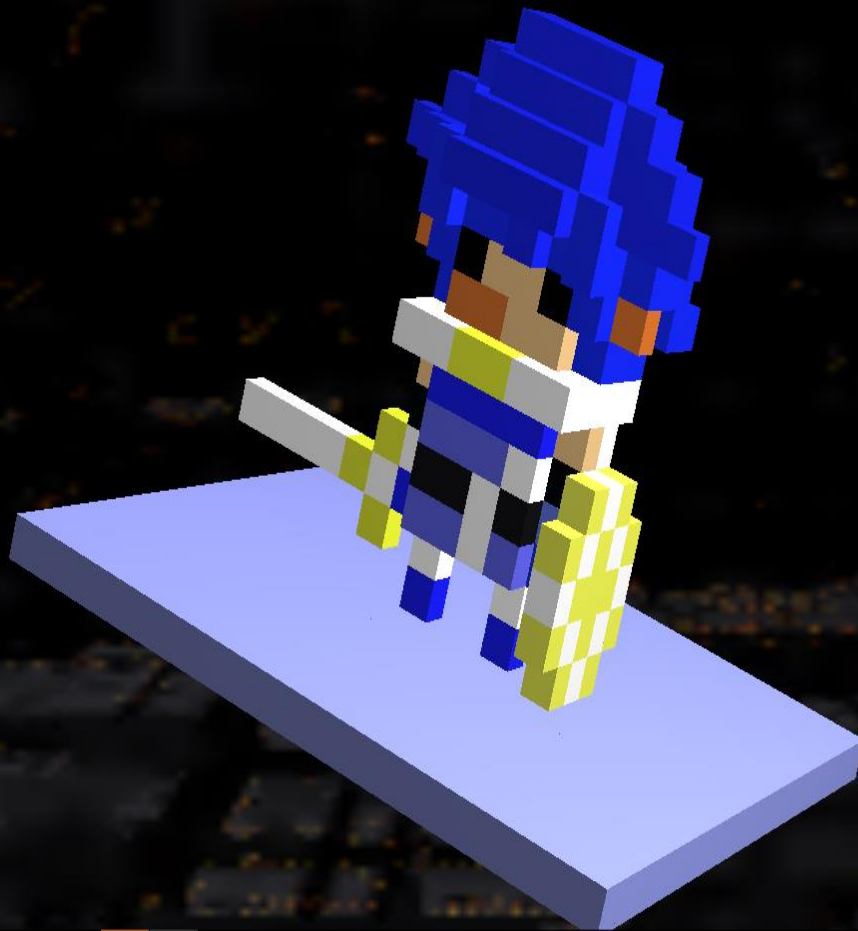
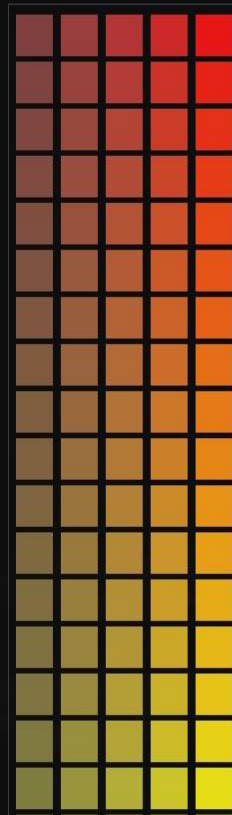
GUI设计实现



R: 75 G: 91 B:241 A:255

H:166 S:176 V:241 A:255

#465BF1FF



Mode:

Add

Erase

Paint

History:

Create a cube
Create a cube
Create a cube
Create a cube
Create a cube
Create a cube
Create a cube
Create a cube
Create a cube
Create a cube
Create a cube

Undo

Redo

Default:

Object 0
Object 1
Object 2
Object 3
Object 4

Open Cloth

Save

Open



lubieowoce commented 24 days ago



Thanks for the quick reply! Good to know that I'm on the right track. If I run into efficiency problems, I'll look into the alternative you mentioned.

(My question is pretty much answered, so if you like, please close this thread)



1



ocornut closed this 24 days ago

菇

mgsweet commented 12 days ago



As a green hand of opengl and imgui, after some useless coding, I am still confused about how to do some 3D custom rendering inside an imgui window like the game view in [Lumix Engine](#). How can I do this and is there some demos or simple examples that can help?



ocornut commented 12 days ago

Owner



@mgsweet The easy and flexible way is to render to texture (which is something you can figure out on OpenGL side, it's not really an ImGui thing). Once you have a texture you can just call `ImGui::Image()` with your texture identifier.

If you need to debug your render-to-texture remember you can use GPU Debugger such as RenderDoc to figure out what your render targets contains.



1

接下来的计划

离成品还有一定距离~

Q&A

END