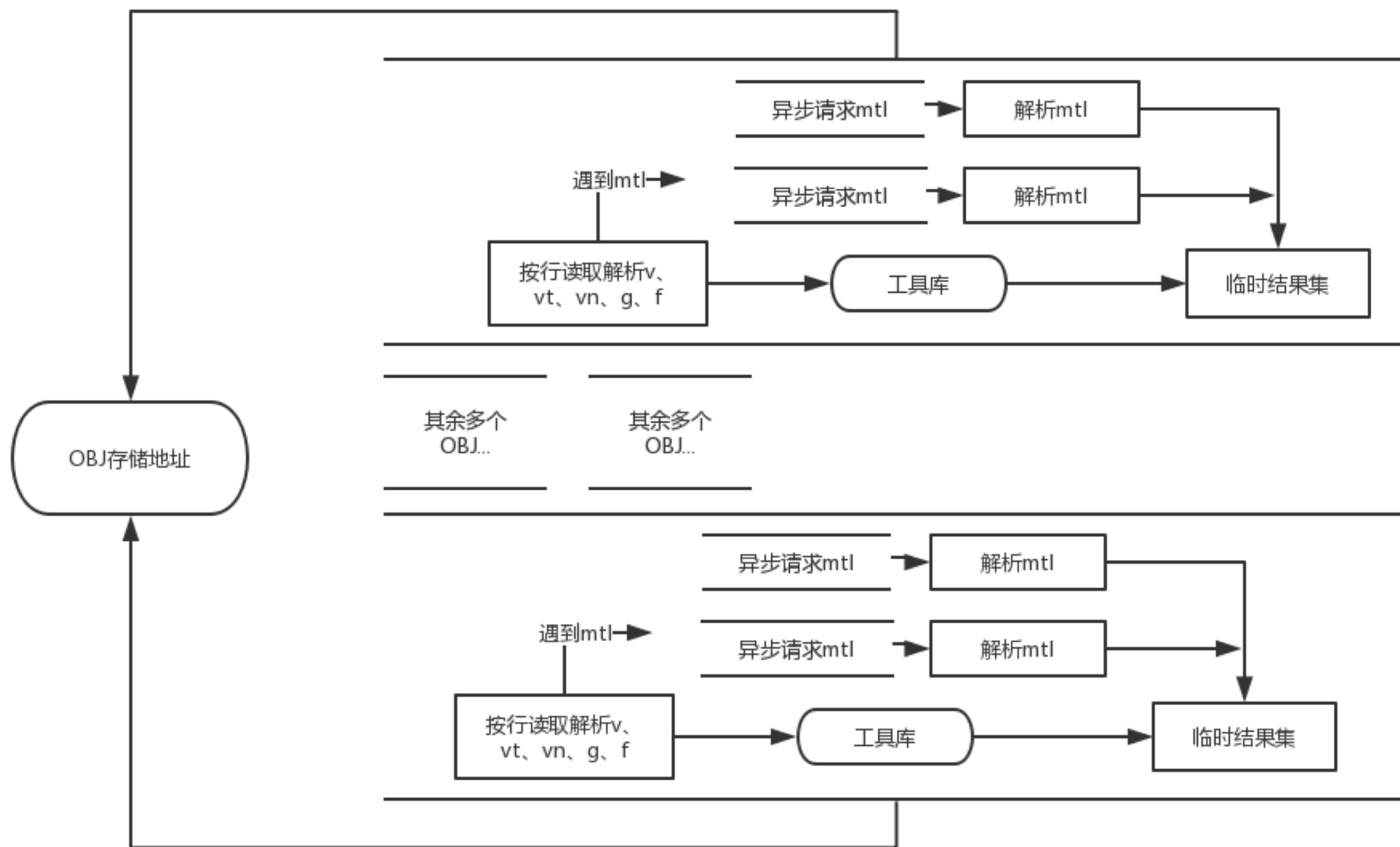


WebGL多人密室逃脱

李博 沈栋 聂小涛 孙耀珠 吴驰域

技术特点1:自行编写完善的异步obj加载器以及对应框架



技术特点1:自行编写完善的异步obj加载器以及对应框架

展示一个obj只需要一行代码：

```
readOBJFile('./models/cube.obj', modelObject, mtlArray, objArray, 20, false, 0);
```

再添加一个纹理只需要两行代码

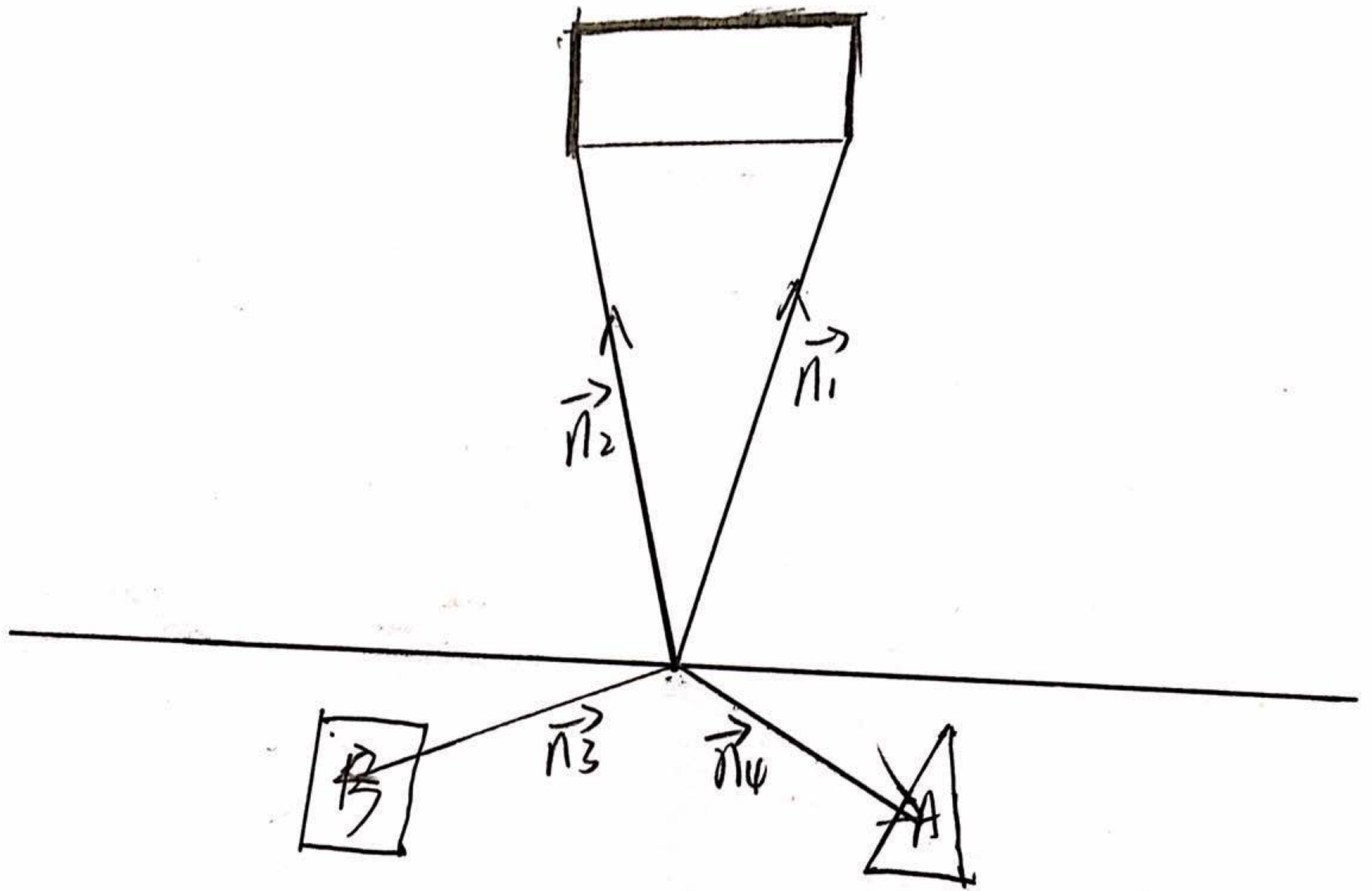
```
readOBJFile('./models/cube.obj', modelObject, mtlArray, objArray, 20, false, 0);  
TextureArray[0]={ifTexture:0.0,TextureUrl:'none',n:0};
```

改变透明度、默认颜色、缩放、旋转、方位、只需要三行代码：

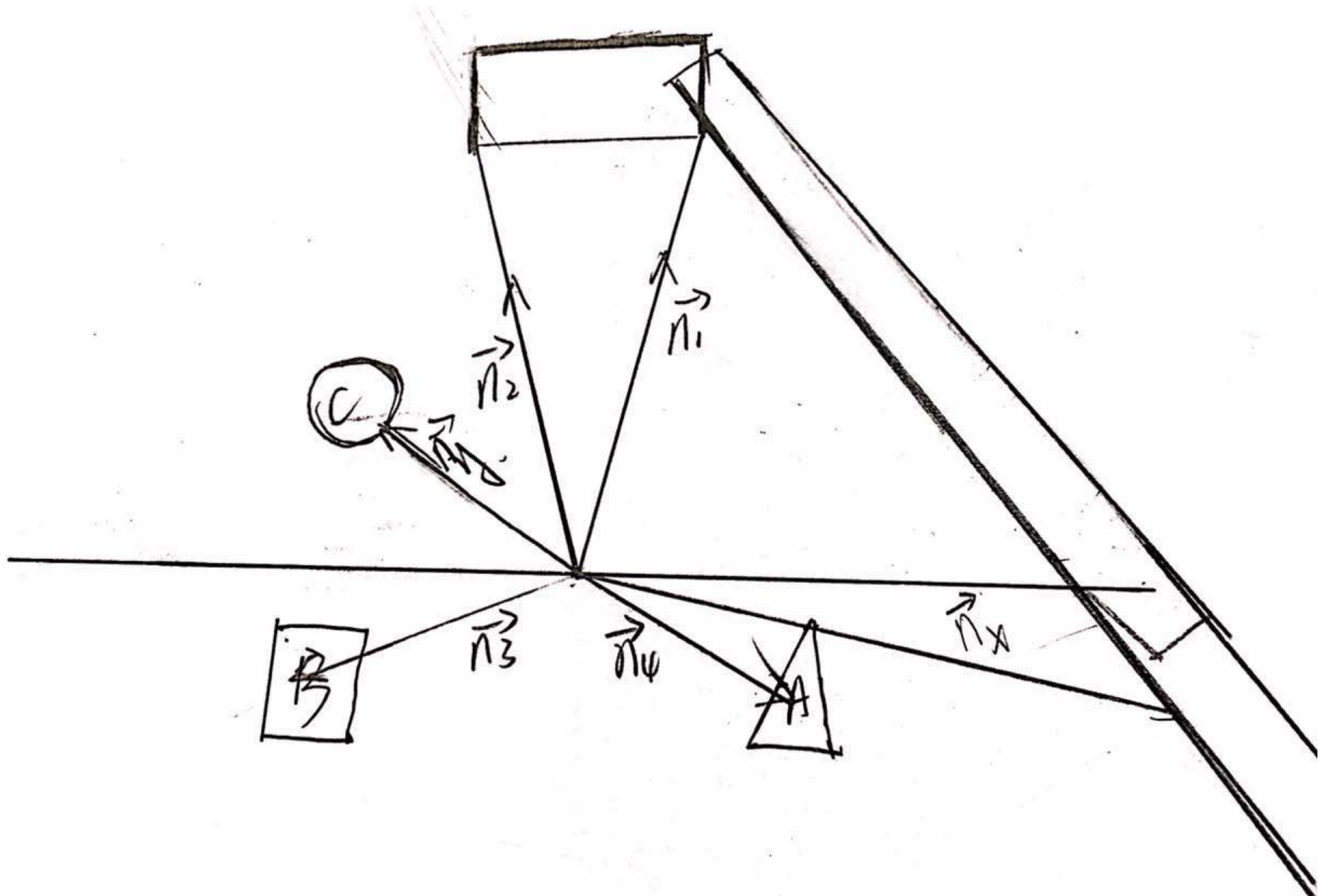
```
readOBJFile('./models/cube.obj', modelObject, mtlArray, objArray, 20, false, 0);  
TextureArray[0]={ifTexture:0.0,TextureUrl:'none',n:0};  
updateDrawInfo(0,[0.0,90.0,0.0, 0.0,6.0,0.0, 0.75,0.4,0.5, 0.5,0.5,0.5,1,0 ,1]);
```

```
293 //每一个新的模型要改变：第一行最后参数编号，第二行索引，最后编号，第三行索引
294 //房间
295 readOBJFile('./models/cube.obj', modelObject, mtlArray, objArray, 20, false, 0);
296 TextureArray[0]={ifTexture:0.0,TextureUrl:'none',n:0};
297 updateDrawInfo(0,[0.0,90.0,0.0, 0.0,6.0,0.0, 0.75,0.4,0.5, 0.5,0.5,0.5,1,0 ,1]);
298
299 //饮水机
300 readOBJFile('./models/033_2.obj', modelObject, mtlArray, objArray, 0.08, false, 1);
301 TextureArray[1]={ifTexture:1.0,TextureUrl: './textTures/lastics1.jpg',n:0};
302 updateDrawInfo(1,[0.0,0.0,0.0, 1,-2.0,-12.3, 1.0,1.0,1.0, 0.5,0.5,0.5,1,0 ,1]);
303
304 // 饮水机水桶，透明的部分
305 readOBJFile('./models/033_1.obj', modelObject, mtlArray, objArray, 0.08, false, 12);
306 TextureArray[12]={ifTexture:0.0,TextureUrl:'none',n:0};
307 updateDrawInfo(12,[0.0,0.0,0.0, 1,-2.0,-12.3, 1.0,1.0,1.0, 0.0,0.26,0.38,0.7,1 ,1]);
308
309 //柜子高
310 readOBJFile('./models/051.obj', modelObject, mtlArray, objArray, 0.1, false, 2);
311 TextureArray[2]={ifTexture:0.0,TextureUrl: './textTures/2048_2.jpg',n:3};
312 updateDrawInfo(2,[0.0,-90.0,0.0, 8.9,-2.0,-10.0, 1.0,1.0,1.0, 0.1,0.7235,0.4529,1,0 ,1]);
313
314 //柜子矮
315 readOBJFile('./models/052.obj', modelObject, mtlArray, objArray, 0.1, false, 3);
316 TextureArray[3]={ifTexture:0.0,TextureUrl:'none',n:2};
317 updateDrawInfo(3,[0.0,-90.0,0.0, 8.9,-2.0,-6.4, 1,1.0,1, 0.1,0.7235,0.4529,0,0 ,1]);
318
319 //矮桌子
320 readOBJFile('./models/table5.obj', modelObject, mtlArray, objArray, 0.04, false, 4);
321 TextureArray[4]={ifTexture:1.0,TextureUrl:'none',n:3};
322 updateDrawInfo(4,[0.0,-90.0,0.0, -4.5,-2,-2.0, 1.0,1.3,1.0, 0.02,0.88,0.99,0.9,1 ,1]);
323
324 //大书桌
325 readOBJFile('./models/table4.obj', modelObject, mtlArray, objArray, 0.0042, false, 5);
326 TextureArray[5]={ifTexture:1.0,TextureUrl: './textTures/wood11.jpg',n:4};
327 updateDrawInfo(5,[0.0,90.0,0.0, -3.5,-2,4.5, 1.0,1.0,0.9, 0.5,0.5,0.5,1,0 ,1]);
328
329 //桌边柜子
330 readOBJFile('./models/054.obj', modelObject, mtlArray, objArray, 0.11, false, 6);
331 TextureArray[6]={ifTexture:1.0,TextureUrl: './textTures/wood2.jpg',n:5};
332 updateDrawInfo(6,[0.0,0.0,0.0, -8.9,-2,4.5, 1.0,1.0,1.0, 0.5,0.5,0.5,1,0 ,1]);
333
```

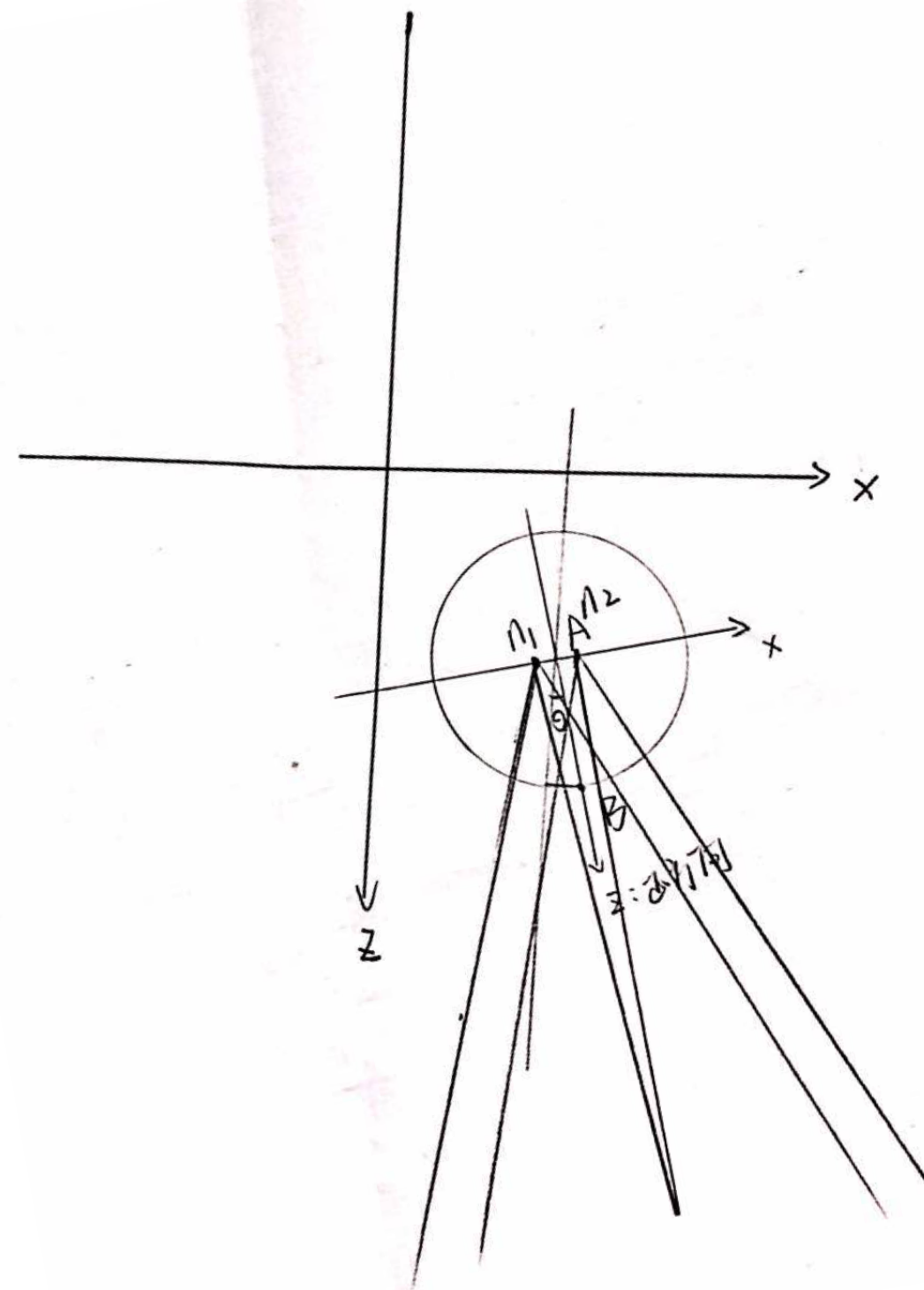
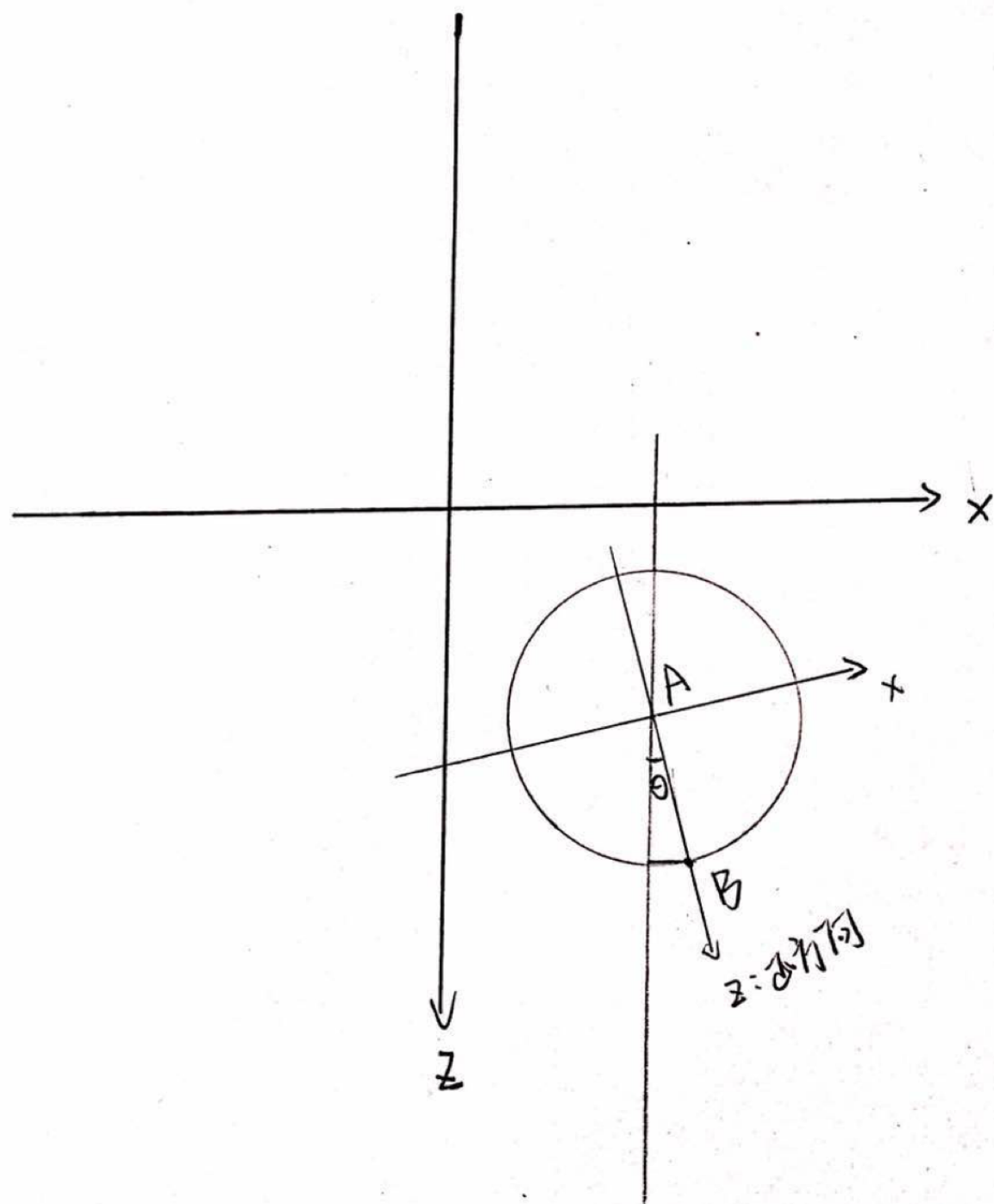
技术特点2:OBJ绘制优化： 局域绘制



技术特点2:OBJ绘制优化：局域绘制



技术特点3:完善的场景漫游系统,支持VR



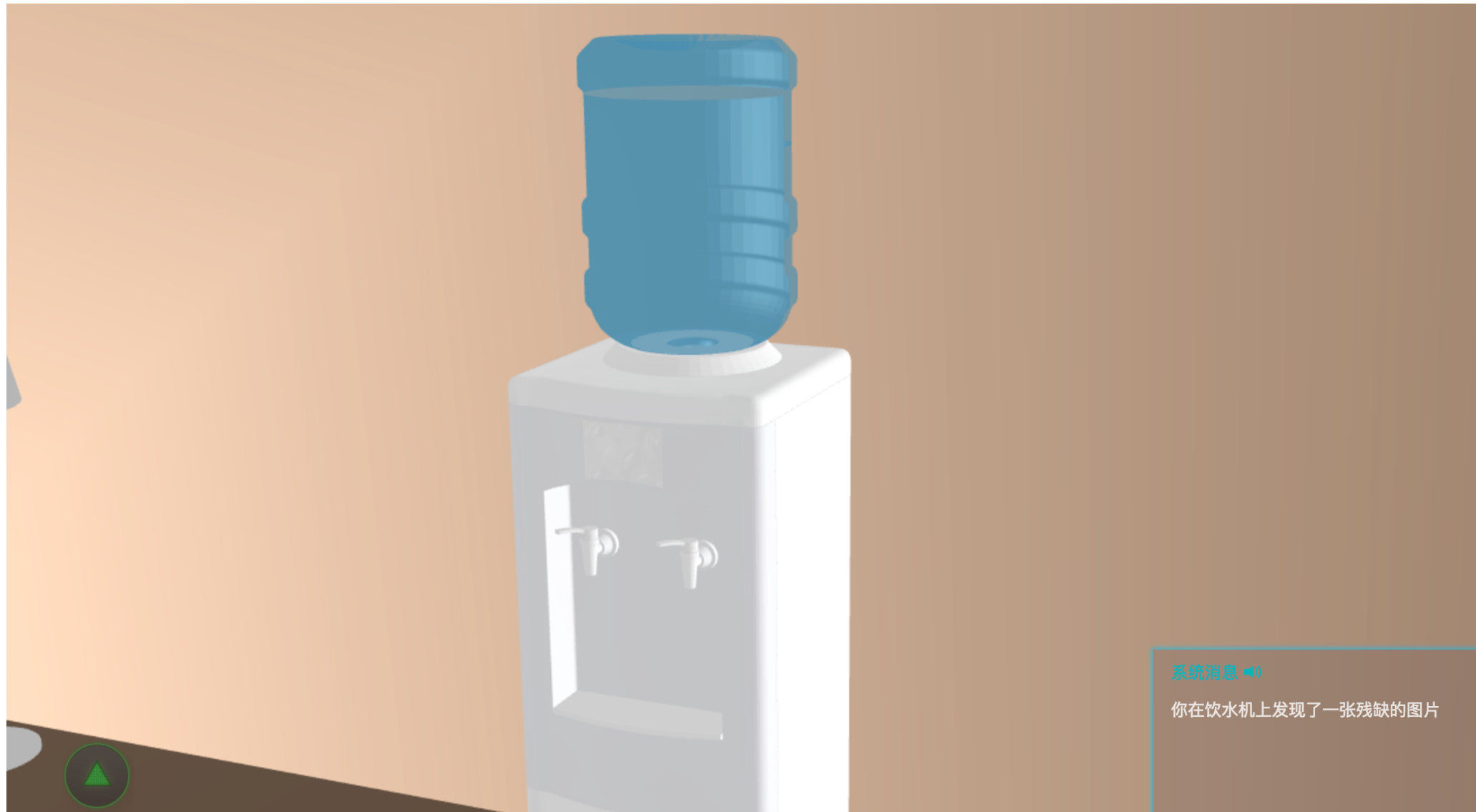
技术特点4:丰富的光照系统

逐片元线性雾化



技术特点4:丰富的光照系统

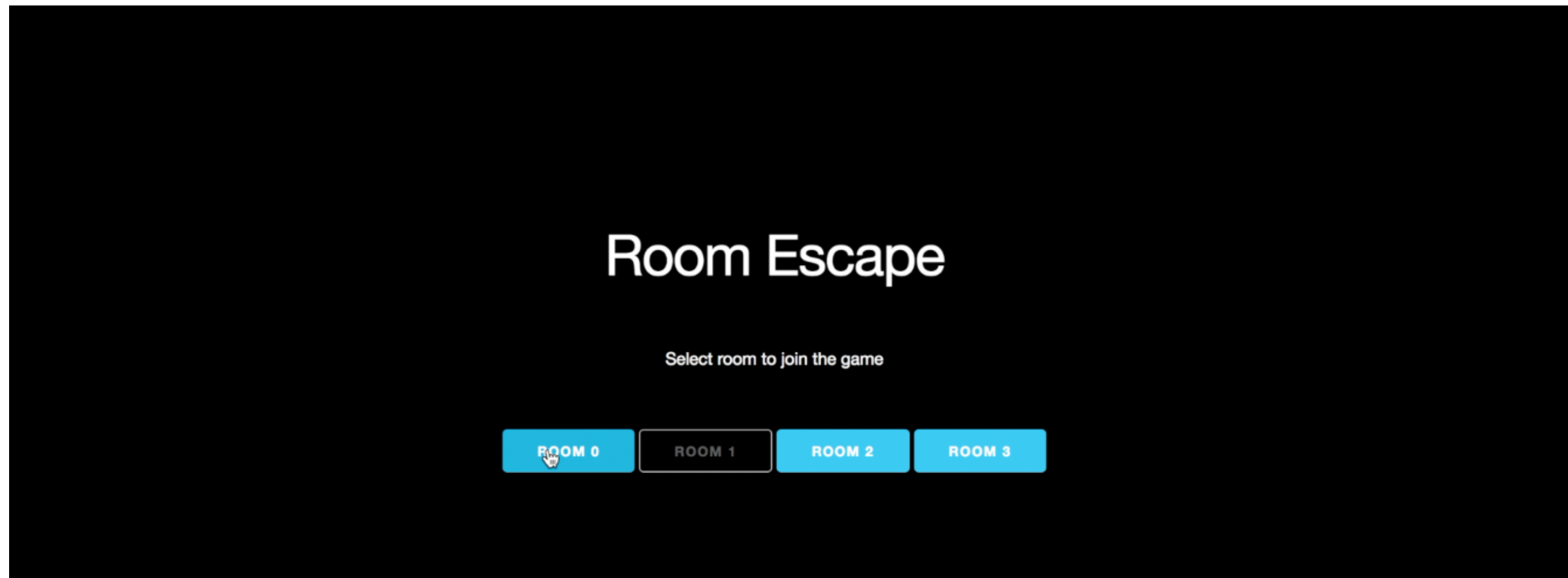
phong模型高光+漫反射系数+全局平行光



技术特点5:鼠标拾取、移动物体

- 采用特征颜色方式进行对物体在不到一帧的时间内进行纯色绘制，之后判断点击颜色，从而判断选中的物体。(网上开源技术)
- 采用透明按钮OBJ方式，实现在浏览器中“玩电脑”。
- 采用mousemove监听跟踪方式移动物体

技术特点6:WebSocket多人协作



<http://back.10000h.top/webgl/>