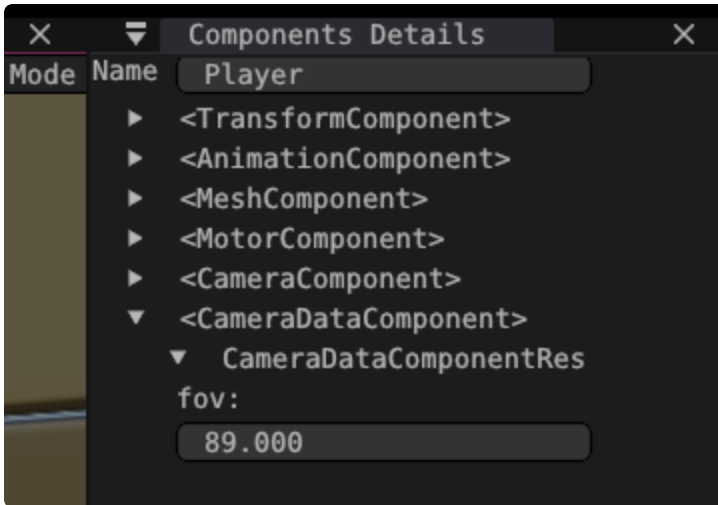# Games104_homework4_report

新增的组件

- 为了深度学习反射机制，自己写了一个 `CameraDataComponent` ，里面有一个fov参数
- 实际开发中，CameraData是不需要新创建一个组件的，写在 `CameraComponent` 里就可以，但是为了找个理由新建组件。。。
- fov参数可以在编辑器中中更改RenderCamera的Fov参数

主要代码：

camera_data_component.h

```cpp
1    #pragma once
2
3    #include "runtime/function/framework/component/component.h"
4    #include "runtime/resource/res_type/components/camera_data.h"
5    namespace Piccolo
6    {
7        REFLECTION_TYPE(CameraDataComponent)
8        CLASS(CameraDataComponent : public Component, WhiteListFields)
9        {
10           REFLECTION_BODY(CameraDataComponent)
11       public:
12           CameraDataComponent() {};
13           void tick(float delta_time) override;
14
15       private:
16           void tickCameraData();
17
18       private:
19           META(Enable)
20           CameraDataComponentRes camera_data_res;
21       };
22   } // namespace Piccolo
```

camera_data_component.cpp

```cpp
1    #include "runtime/function/framework/component/camera/camera_data_componen
     t.h"
2    #include "runtime/function/global/global_context.h"
3    #include "runtime/function/render/render_system.h"
4
5    namespace Piccolo
6    {
7        void CameraDataComponent::tick(float delta_time) { this->tickCameraDat
     a(); }
8
9        void CameraDataComponent::tickCameraData()
10       {
11           g_runtime_global_context.m_render_system->getRenderCamera()->setFO
     Vx(camera_data_res.fov);
12       }
13   } // namespace Piccolo
```

camera_data.h

```cpp
1   #pragma once
2
3   #include "runtime/core/meta/reflection/reflection.h"
4
5   namespace Piccolo
6   {
7       REFLECTION_TYPE(CameraDataComponentRes)
8       CLASS(CameraDataComponentRes, Fields)
9       {
10          REFLECTION_BODY(CameraDataComponentRes);
11
12      public:
13          CameraDataComponentRes() = default;
14          ~CameraDataComponentRes() {};
15
16          float fov {89.0f};
17      };
18  } // namespace Piccolo
```

为了在角色中添加组件，修改了 `player.object.json` 文件

JSON | 复制代码

```json
1  {
2    "$context": {
3      "camera_data_res": {
4        "fov": 89.0
5      }
6    },
7    "$typeName": "CameraDataComponent"
8  }
```

为了在Editor中tick

JSON | 复制代码

```cpp
1   PiccoloEditor::PiccoloEditor()
2   {
3       registerEdtorTickComponent("TransformComponent");
4       registerEdtorTickComponent("MeshComponent");
5       registerEdtorTickComponent("CameraDataComponent");
6   }
```