

第十讲 瓦片地图

一: TiledMap 简介

二: 操作 TiledMap 的类和方法

二: 项目实例演示

一：TiledMap简介

二：操作TiledMap的类和方法

TMXTiledMap	TMXTiledMap::create("Mymap.tmx");
TMXLayer	_tileMap->getLayer("meta");
TMXObjectGroup	_tileMap->getObjectGroup("object");
ValueMap	objectsValue->getObject("player");
Value	spawnPoint.at("x")
值	asFloat()\asString()等

三：项目实例演示

- 1、制作瓦片地图
- 2、导出瓦片地图
- 3、加载资源
- 4、修改路径

三：项目实例演示

5、添加地图

```
_tileMap = TMXTiledMap::create("Mymap.tmx");  
this->addChild(_tileMap);  
_meta = _tileMap->getLayer("meta");  
_meta->setVisible(false);  
_fruit = _tileMap->getLayer("fruit");
```

三：项目实例演示

6、添加英雄

```
_player = Sprite::create("player.png");  
auto objectsValue = _tileMap->  
>getObjectGroup("object");  
ValueMap spawnPoint = objectsValue->  
>getObject("player");  
_player->setAnchorPoint(Point(0, 0));  
_player->  
>setPosition(Point(spawnPoint.at("x").asFloat(),  
spawnPoint.at("y").asFloat()));  
this->addChild(_player);
```

三：项目实例演示

7、让英雄移动

```
    auto dispatcher = Director::getInstance()-  
>getEventDispatcher();  
    auto touchListener =  
EventListenerTouchOneByOne::create();  
    touchListener->onTouchBegan =  
CC_CALLBACK_2>HelloWorld::onTouchBegan,this);  
    touchListener->onTouchMoved =  
CC_CALLBACK_2>HelloWorld::onTouchMoved,this);  
    touchListener->onTouchEnded =  
CC_CALLBACK_2>HelloWorld::onTouchEnded, this);  
    dispatcher->  
>addEventListenerWithSceneGraphPriority(touchListener,  
this);
```

三：项目实例演示

8、让英雄可以在整个地图移动

```
void HelloWorld::setViewpointCenter(Point position)
{
    auto winSize = Director::getInstance()->getWinSize();
    int x = MAX(position.x, winSize.width / 2);
    int y = MAX(position.y, winSize.height / 2);
    auto mapSize = _tileMap->getMapSize();
    auto tileSize = _tileMap->getTileSize();
    x = MIN(x, mapSize.width * tileSize.width -
winSize.width / 2);
    y = MIN(y, mapSize.height * tileSize.height -
winSize.height / 2);
    auto centerPoint = Point(winSize.width / 2,
winSize.height / 2);
    auto actualPoint = Point(x, y);
    auto viewPoint = centerPoint - actualPoint;
    this->setPosition(viewPoint);
}
```


三：项目实例演示

10、让英雄不穿墙和吃西瓜

```
void HelloWorld::movePlayer(Point p)
{
    int x = p.x / _tileMap->getTileSize().width;
    int y = _tileMap->getMapSize().height - (p.y / _tileMap->getTileSize().height);
    Point currentPoint = Point(x,y);
    if(x != _tileMap->getMapSize().width && y != _tileMap->getMapSize().height)
    {
        int tileId = _meta->getTileGIDAt(currentPoint);
        auto value = _tileMap->getPropertiesForGID(tileId);
        log("value:%s",value.getDescription().c_str());
        auto valueStr = value.getDescription();
        if(tileId){
            if(!value.isNull()){
                if (valueStr.find("Collidable") != -1)
                {return;}
                else if (valueStr.find("Collection") != -1)
                {
                    _meta->removeTileAt(currentPoint);
                    auto fruitSprite = _fruit->getTileAt(currentPoint);
                    fruitSprite->removeFromParent();
                }
            }
        }
        _player->setPosition(p);
    }
}
```

三：项目实例演示

10、添加菜单

```
bool ButtonMenu::init()
{
    if (!Layer::init())
    {
        return false;
    }
    auto item1 = MenuItemImage::create("projectile-button-off.png",
    "projectile-button-off.png");
    auto item2 = MenuItemImage::create("projectile-button-on.png",
    "projectile-button-on.png");
    auto toggle =
MenuItemToggle::createWithCallback(CC_CALLBACK_1(ButtonMenu::change,
this), item1, item2, nullptr);
    auto menu = Menu::create(toggle, NULL);
    menu->setPosition(Point(20, 20));
    this->addChild(menu);
    return true;
}
```

三：项目实例演示

II、添加子弹

```
void HelloWorld::targetFinish(Node *pSender)
{
    pSender->removeFromParent();
    _bulletArray->removeObject(pSender);
}
```

三：项目实例演示

12、添加敌人

```
for (auto element : objectsValue->getObjects())
{
    log("%s", element.getDescription().c_str());
    if (!element.isNull())
    {
        auto nameStr = element.asValueMap().at("name").asString().c_str();
        auto keyStr = "enemy";
        if(strcmp(nameStr, keyStr) == 0)
        {
            auto enemySprite = Sprite::create("enemy1.png");
            float x = element.asValueMap().at("x").asFloat();
            float y = element.asValueMap().at("y").asFloat();
            enemySprite->setPosition(Point(x, y));
            enemySprite->setAnchorPoint(Point(0, 0));
            _tileMap->addChild(enemySprite, 4);
            auto func = CallFuncN::create( CC_CALLBACK_1(HelloWorld::goon,
this));
            enemySprite->runAction(Sequence::create(func, NULL));
        }
    }
}
```

三：项目实例演示

13、碰撞检测

```
void HelloWorld::onExit()  
{  
    _enemyArray->release();  
    _bulletArray->release();  
    Layer::onExit();  
}
```

end