Flight Game Development

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1. Game demand design and analysis

(1) Start

- Gameplay scene
- Status bar (pause key, life value, score)
- Pause window (resume key, back to home key)
- Gameover scene (tap to restart game)

(2) Settings

- Turn on / turn off background music
- Turn on / turn off sound

(3) Help

- Information about how to use the game

(4) Development conditions

- Development language: python
- Development environment: MacOS
- Development tools: pycharm

2. Game project initialization

(1) Add resource file

- Image
- Sound

(2) Add package

- Particle
- Scene
- Sprite
- Utility

(3) Add configuration file

- Config.ini

(4) Tools module implementation

- Utility.tools.py

(5) Particle system implementation

- Particle.big_explosion.py

- Particle.fighter_fire.py

(6) Game startup module implementation

- Game_main.py

3. Loading Scene Implementation

(1) Create loading scene

- Scene.loading_scene.py

(2) Add loading layer

(3) Loading animation implementation

4. Home scene implementation

(1) Create home scene

- Scene.home_scene.py

(2) Add home layer

(3) Add main menu

5. Setting scene implementation

(1) Create setting scene

- Scene.setting_scene.py

(2) Add setting layer

(3) Add main menu

6. Help scene implementation

(1) Create help scene

- Scene.help_scene.py

(2) Add help layer

(3) Add main menu

7. Gameplay scene implementation

(1) Create gameplay scene

- Scene.gameplay_scene

(2) Generate enemy sprite

- Sprite.enemy_sprite.py

(3) Generate player sprite

- Sprite.fighter_sprite.py

(4) Generate bullets sprite

- Sprite.bullet_sprite.py

(5) Initialization gameplay scene

(6) Gameplay scene menu implementation

(7) Player shooting bullets implementation

(8) Collision detection between bullets and enemies

(9) Collision detection between player and enemies

(10) Update status bar

8. Gameover scene implementation

(1) Create gameover scene

- Scene.gameover_scene.py

(2) Add gameover layer

(3) Add main menu

9. Game result show

(1) Loading scene

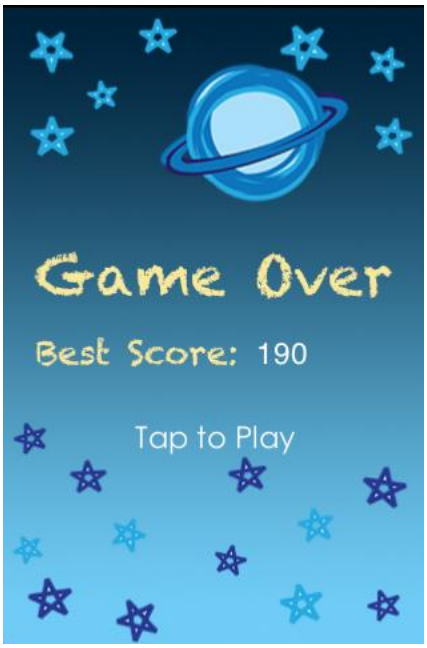
(2) Home scene

(3) Setting scene

(4) Help scene

(5) Gameplay scene

(6) Gameover scene



(7) Logger

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Run:  game_main
/Users/mengsijie/Desktop/FlightGame/venv/bin/python /Users/mengsijie/Desktop/FlightGame/game_main.py
2018-12-14 15:48:57,880 - MainThread - packages.scene.loading_scene - __init__ - INFO - RUN loading_scene
2018-12-14 15:48:57,940 - Thread-1 - packages.scene.loading_scene - thread_body - INFO - Resource loading...
2018-12-14 15:48:57,941 - MainThread - __main__ - <module> - INFO - RUN game_main
2018-12-14 15:49:00,945 - Thread-1 - packages.scene.loading_scene - thread_body - INFO - End of resource loading.
2018-12-14 15:49:00,945 - Thread-1 - packages.scene.home_scene - __init__ - INFO - Initialize HomeLayer
2018-12-14 15:49:00,945 - Thread-1 - packages.scene.home_scene - __init__ - INFO - Initialization MainMenu
2018-12-14 15:49:00,992 - MainThread - packages.scene.home_scene - on_enter - INFO - Enter into HomeLayer
2018-12-14 15:49:01,002 - MainThread - packages.scene.home_scene - on_enter - INFO - Enter into MainMenu
2018-12-14 15:49:02,023 - MainThread - packages.scene.home_scene - on_enter - INFO - Enter into HomeLayer
2018-12-14 15:49:02,024 - MainThread - packages.scene.home_scene - on_enter - INFO - Enter into MainMenu
2018-12-14 15:49:06,673 - MainThread - packages.scene.home_scene - on_start_item_callback - INFO - Tap to start in MainMenu
2018-12-14 15:49:06,673 - MainThread - packages.scene.gameplay_scene - __init__ - INFO - Initialization GamePlayLayer
2018-12-14 15:49:06,714 - MainThread - packages.scene.home_scene - on_enter - INFO - Enter into HomeLayer
2018-12-14 15:49:06,715 - MainThread - packages.scene.home_scene - on_enter - INFO - Enter into MainMenu
2018-12-14 15:49:22,460 - MainThread - packages.scene.gameplay_scene - handle_player_enemy_collision - INFO - GameOver
2018-12-14 15:49:22,461 - MainThread - packages.scene.gameover_scene - __init__ - INFO - 280
2018-12-14 15:49:28,489 - MainThread - packages.scene.gameplay_scene - __init__ - INFO - Initialization GamePlayLayer
2018-12-14 15:49:30,674 - MainThread - packages.scene.gameplay_scene - on_mouse_release - DEBUG - Click the pause button
2018-12-14 15:49:33,523 - MainThread - packages.scene.gameplay_scene - on_mouse_release - DEBUG - Click the resume button
2018-12-14 15:49:35,157 - MainThread - packages.scene.gameplay_scene - on_mouse_release - DEBUG - Click the pause button
2018-12-14 15:49:37,007 - MainThread - packages.scene.gameplay_scene - on_mouse_release - DEBUG - Click the back button
2018-12-14 15:49:37,007 - MainThread - packages.scene.home_scene - __init__ - INFO - Initialize HomeLayer
2018-12-14 15:49:37,008 - MainThread - packages.scene.home_scene - __init__ - INFO - Initialization MainMenu
2018-12-14 15:49:37,012 - MainThread - packages.scene.home_scene - on_enter - INFO - Enter into HomeLayer
2018-12-14 15:49:37,012 - MainThread - packages.scene.home_scene - on_enter - INFO - Enter into MainMenu
2018-12-14 15:49:38,026 - MainThread - packages.scene.home_scene - on_enter - INFO - Enter into HomeLayer
2018-12-14 15:49:38,026 - MainThread - packages.scene.home_scene - on_enter - INFO - Enter into MainMenu
2018-12-14 15:49:40,007 - MainThread - packages.scene.home_scene - on_setting_item_callback - INFO - Tap to setting in MainMenu
2018-12-14 15:49:40,007 - MainThread - packages.scene.setting_scene - __init__ - INFO - Initialization SettingLayer
2018-12-14 15:49:40,016 - MainThread - packages.scene.setting_scene - __init__ - INFO - Initialization MainMenu
2018-12-14 15:49:40,020 - MainThread - packages.scene.home_scene - on_enter - INFO - Enter into HomeLayer
2018-12-14 15:49:40,020 - MainThread - packages.scene.home_scene - on_enter - INFO - Enter into MainMenu
2018-12-14 15:49:49,874 - MainThread - packages.scene.setting_scene - on_mouse_release - DEBUG - Click the sound checkbox
2018-12-14 15:49:50,740 - MainThread - packages.scene.setting_scene - on_mouse_release - DEBUG - Click the sound checkbox
2018-12-14 15:49:51,640 - MainThread - packages.scene.setting_scene - on_mouse_release - DEBUG - Click the background music checkbox
2018-12-14 15:49:52,141 - MainThread - packages.scene.setting_scene - on_mouse_release - DEBUG - Click the background music checkbox
2018-12-14 15:49:53,509 - MainThread - packages.scene.home_scene - on_enter - INFO - Enter into HomeLayer
2018-12-14 15:49:53,509 - MainThread - packages.scene.home_scene - on_enter - INFO - Enter into MainMenu
2018-12-14 15:49:54,624 - MainThread - packages.scene.home_scene - on_help_item_callback - INFO - Tap to help in MainMenu
2018-12-14 15:49:54,624 - MainThread - packages.scene.help_scene - __init__ - INFO - Initialization HelpLayer
2018-12-14 15:49:54,632 - MainThread - packages.scene.help_scene - __init__ - INFO - Initialization MainMenu
2018-12-14 15:49:54,636 - MainThread - packages.scene.home_scene - on_enter - INFO - Enter into HomeLayer
2018-12-14 15:49:54,637 - MainThread - packages.scene.home_scene - on_enter - INFO - Enter into MainMenu
2018-12-14 15:50:01,257 - MainThread - packages.scene.home_scene - on_enter - INFO - Enter into HomeLayer
2018-12-14 15:50:01,257 - MainThread - packages.scene.home_scene - on_enter - INFO - Enter into MainMenu
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10. Summary

I have implemented all the functions in the game design, which includes the game interface and material production, python code implementation, background music and sound production. The legacy issue is the adaptability between the cocos2d coordinates and the retina display of the MacOS system.