

Fighter-Jet Opengl 3D Game

Installation

You need to install the development packages of the following libraries:

1. GLEW
2. GLFW3
3. GLM
4. aplay

Running The Game

To run the game follow the given steps.

- 1) In the project folder mkdir build.
- 2) cd build
- 3) cmake ..
- 4) make and Run the executable

Functionalities:

The following game is a clone of Jetpack Joyride and is built using native opengl and c++.

The following requirements have been completed:

- 1) Fighter jet with movement along all 3d axes (yaw, pitch, roll)
- 2) plane moves in the direction of its head.
- 3) Airplane dashboard has been implemented with speed, health, altitude warning, Fuel bar.
- 4) Multiple checkpoints shown on the map and guided through by a red arrow.
- 5) Enemy cannons on checkpoints with 360 rotation and throwing of bullets
- 6) Fuels, parachutes with powerups like health, protection etc are provided.
- 7) parachutes enemies have been implemented
- 8) random ring of smoke are present in the air which gives bonus points and creates a dark shadow and feeling of passing through a storm
- 9) Volcanoes are present in the world. Proximity result in end of game
- 10) Missile- Two types 1) simple with gravity 2) special target missiles and Bombs are provided in plane to kill boat enemies, checkpoints, parachute enemies

Controls:

- 1) up for moving in the direction of plane

- 2)down for moving opposite to direction of plane
- 3)right for shifting right
- 4)left for shifting left
- 5)space for moving up
- 6)0 for moving down
- 7)left click for missile
- 8)right click for bomb
- 9)B for barrel roll
- 10)T for target missile
- 11)move mouse in helicopter views intuitively
- 12)Q,E for roll
- 13)Z,C for pitch
- 14)A,D for tilt
- 15)V for changing the camera views

Camera views:

- 1)Normal(from a fixed point at back)
- 2)follow cam(following the plane)
- 3)front(on the plane and viewing the world)
- 4)Top(on top and viewing)
- 5)Tower(from a tower at distance d and height h)
- 6)Helicopter Cam View

BONUS::

- 1)Barrel roll
- 2)functioning compass(and map)
- 3)boat enemies with special cannons that follow the airplane(3d)
- 4)special target missiles
- 5)special powerups from parachutes
- 6)sound effects
- 7)lightning effect for smoke ring
- 8)3d motion(pitch added)
- 9)can perform all the maneuvers using the basic controls
- 10)Zoom in and Zoom out on mouse scroll(in perspective view)