Flight System Documentation

For any additional questions not covered email me at samuelcapotosto@gmail.com!

HELICOPTER CONTROLLER

The helicopter is controlled by using space and shift to raise and lower it (respectively), and WASD or arrows to move. The helicopter moves in a direction relative to the camera, and always rotates to face forward.

You can tune the helicopter using the following variables:

Variable	What it does
Lift force	How fast the helicopter lowers/raises when you use space and shift
Speed	How fast the helicopter moves when you use the arrow keys or WASD
Pitch Angle	How much the helicopter tilts towards your move direction
Max Turning Angle	How fast the helicopter can turn on its axis or correct its angle
Camera	The camera for the helicopter, since the camera angle is used in turning calculations

Ground Speed	This is a UI element you want to output the x and z speed
Height AGL	This is a UI element you want to output the height above the ground

JET CONTROLLER

The jet is controlled by WS for acceleration and deceleration, mouse for yaw and pitch, and AD for roll. There is a seperate script that controls the suspension on the wheels.

You can tune the airplane using the following variables:

Variable	What it does
Power	The speed of the airplane
Acceleration	How fast the acceleration slider moves
Lift power	The force the wings lift the airplane
Turn power	How fast the airplane turns
Graphics turn angle	How much the airplane yaws while turned (only graphical)
Graphics bank angle	How much the airplane leans when turned (only graphical)

Graphics displacement	How much the plane moves location when turning
Upright strength	How quickly the plane corrects itself while flying
Invert Y	Invert the pitch?
Graphics	The graphics representation of the plane (should be separate from the parent object)
Aim reticle	Where the nose of the plane is aiming
Cursor	Where the mouse is aiming
Cam	The camera that follows the airplane
Wheels	The wheels of the airplane
Ground speed	The speed output in m/s of the plane
Height AGL	Height above ground level in meters
Acceleration Slider	Outputs much throttle the plane is at

Other Functions:

There are a few other scripts that get used for the following:
- Explode
  - Blows up the plane if it impacts too hard or is below the water
- Suspension Wheel
  - Suspends the plane off the ground by exerting a force
- Gun
  - Shoots bullets at a set rate when left mouse is pressed
- Missile Targeting
  - Targets objects with the tag "MissileTarget"
  - Also uses a missile script to launch missiles at these
- Wheels
  - Raises or lowers landing gear based on height