

# Project B: Military Station

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## User's Guide

This project shows a scene with four "kinds" of objects, plane, radar, mountain and UFO. The plane is circling on the sky and rotating around the radar to avoid being locked on. The radar is scanning the sky by rotating the frame and flipping the panel to locate any object. Beside the radar there is a mountain. A sphere-shaped UFO is on the higher sky and waving.

### Get Started

1. Is recommended to use a Windows or Linux system.
2. If you see this report, you already have downloaded the QingLin\_ProjB.zip file and extracted it.
3. Directly open the index.html file within the same directory where this report belongs to with a modern browser (IE is not modern anymore!)
4. Now you should be able to see a webpage and a canvas with black background and two objects within.

### Control

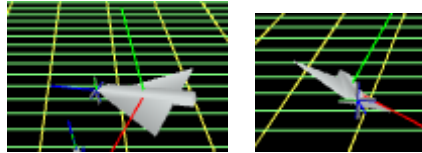
The instructions listed all the operations you can take to interact with these objects, including:

1. Change the speed of the plane by pressing "X" and "Z" key on the keyboard
2. Change the moving angle range and the moving aspect of the radar panel using the slider
3. Turn on/off radar panel and frame by click the button at the bottom of the screen.
4. Change the location of current camera using "WASD" keys. Note that by pressing "W", the camera will go straight to the look-at direction and by pressing "S", the camera will step back along the opposite direction. "A" and "D" will only change the horizontal location.
5. Change the look-at direction using arrow keys (↑ ↓ ← →). By pressing "left" and "right", you can strafe left/right in a circle and by pressing "up" and "down", you can change the pitch of your camera.
6. Drag the radar using a mouse. The rotation of the radar will always around the axis perpendicular to the movement direction of the mouse.

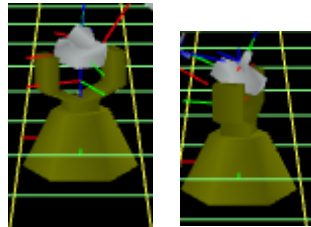
# Results

## Objects

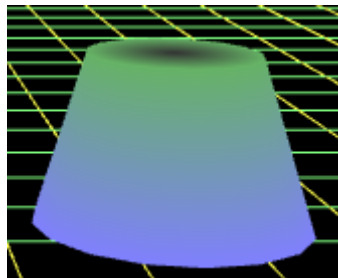
This is the Plane. It is built from two shapes: Body and Paddle. On the tip of the body, four paddles are placed around to take the plane to fly. This object is colored by 3 different grays.



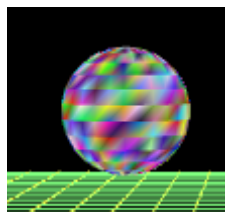
This is the Flat Panel Radar. On the top of the radar panel, there is a rotative sensor. The gray radar panel is held by the radar frame. And the frame is rotating upon the basement. This object with 4 parts and 3 joints is colored by 2 different grays and 2 different greens.



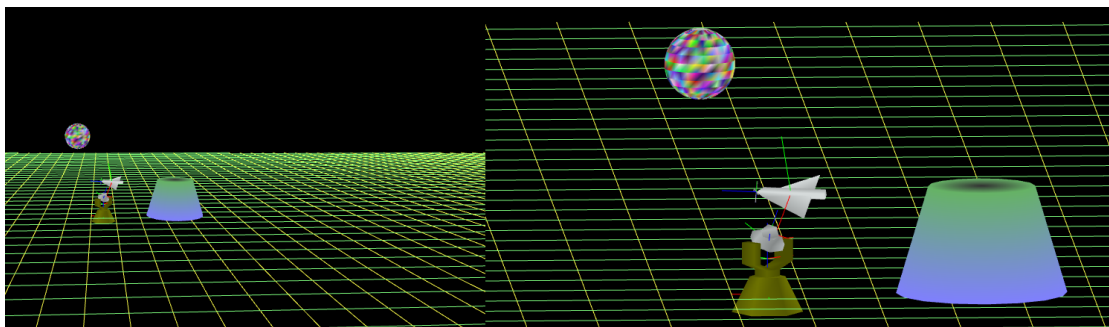
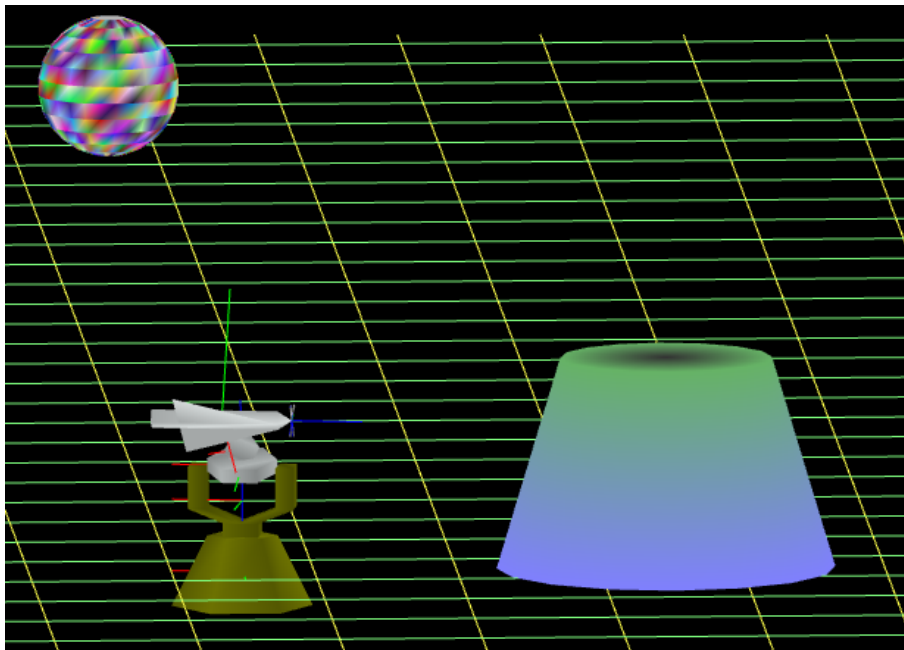
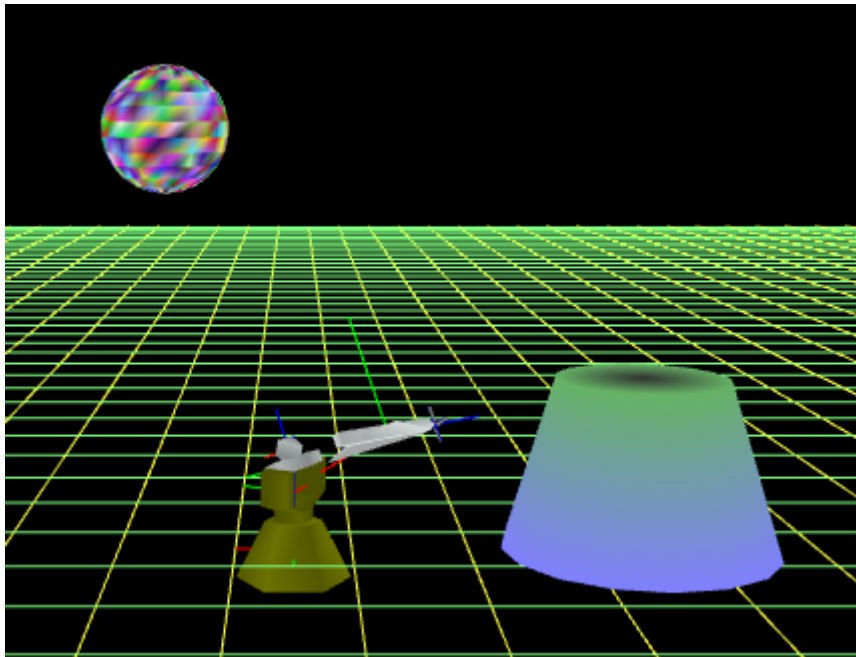
This is the mountain. It's a cylinder shape and colored by green, black and purple.



And this is the UFO. It's a colorful sphere.



Whole scene



## Scene Graph

