EECS 351 Project_A: A Moving Ship
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1. Goal and Introduction:

What I drew in this project is a ship sailing on the sea. There are three parts to construct the whole graph: 1. Sea, 2. Ship, and, 3. Sky. The ship is connected with sea and move up and down as sea rising and down. The color of ship will change according to its position. It imitates the real world scene of tide. Sea consists of multiple rectangular and these rectangular keeps rotating. There is a ball rolling on the ship and a flap rotating around mast and a ball is moving surrounding the flag connected by a line. On the sky, there is a sun keeping rotating and there is a cloud. Cloud consists of three spheres. An interesting part of sky is when cloud moves towards sun, the color of sky will become dark. It imitates the scene that the cloud is covering the sun.

2. User Guide:

1. Click mouse on right half to see three rotating cone.
2. Click mouse on left half to see crown.
3. Drag your mouse to rotate the UFO!
4. Use Up, Down, Right and Left to control UFO moving and size of UFO will be changed.
5. Spin button is for increasing or reducing the speed of rotation.
6. speed button is for increasing or reducing the moving speed.
7. Mouse click effects will disappear if you drag mouse.
9. Resize the window, there will be some stars on the sky.
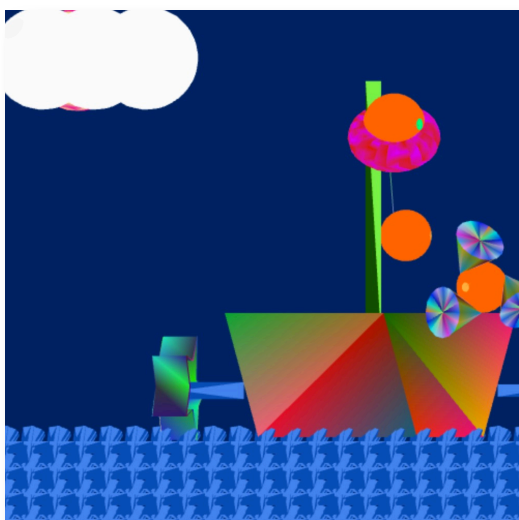8. Press "H" button to show Users Instruction page.

3. Result Pictures:
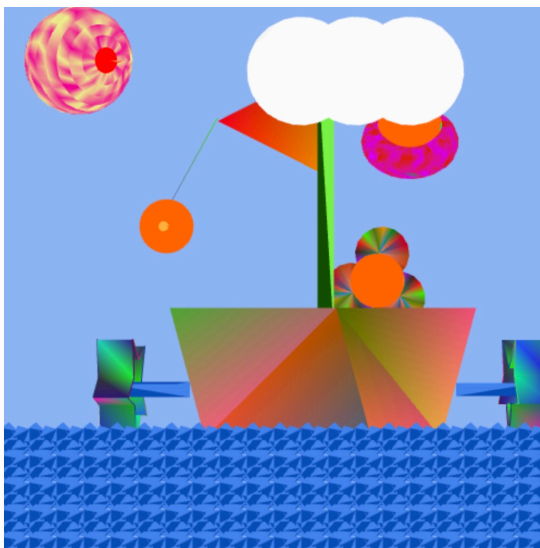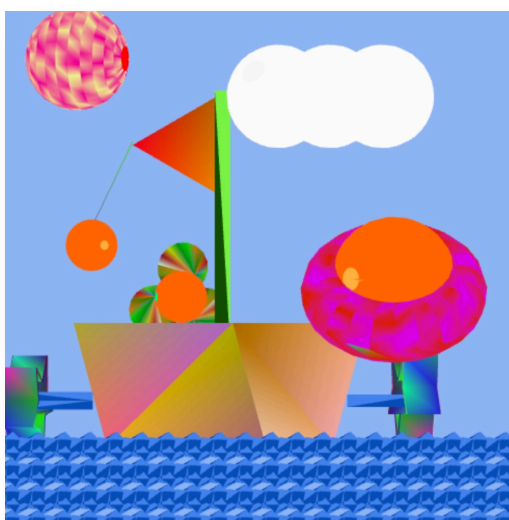
Graph 1: Initial state
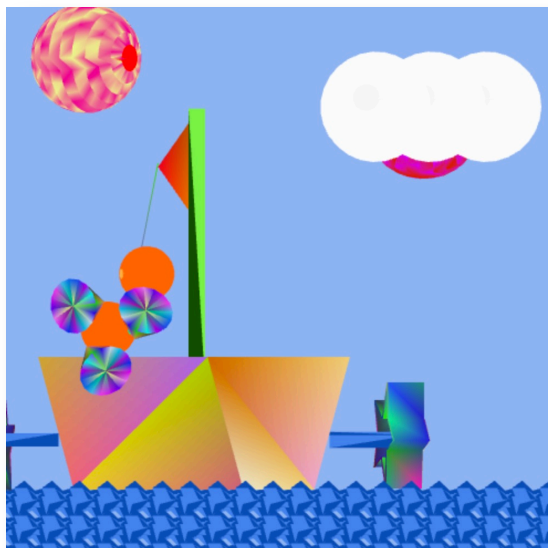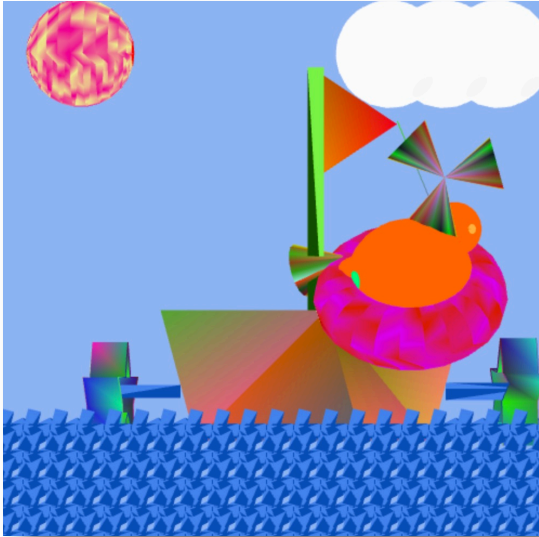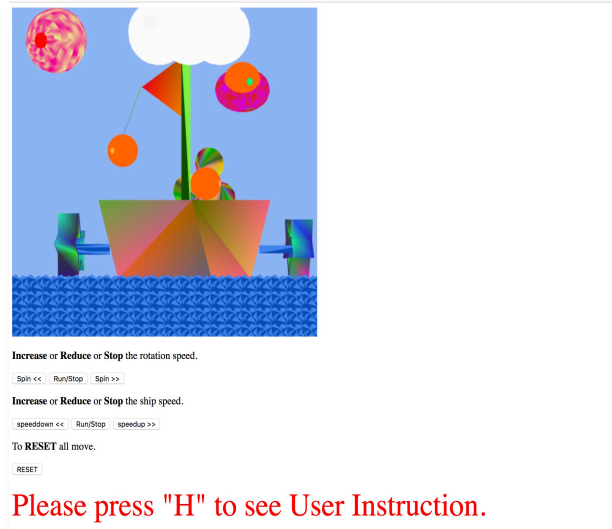

Graph 2: Ship moves

Graph 3: Dark Sky

Graph 4: Moving UFO

Graph 5: Click mouse   Graph 6: The whole page

Graph 1: This is the first state when users open HTML file.

Graph 2: After some seconds, the color of the ship is changing and the position of ship, cloud and spheres is changing too. The level of sea is becoming higher or lower according to time change.

Graph 3: When the cloud covers the sun, the sky becomes dark.
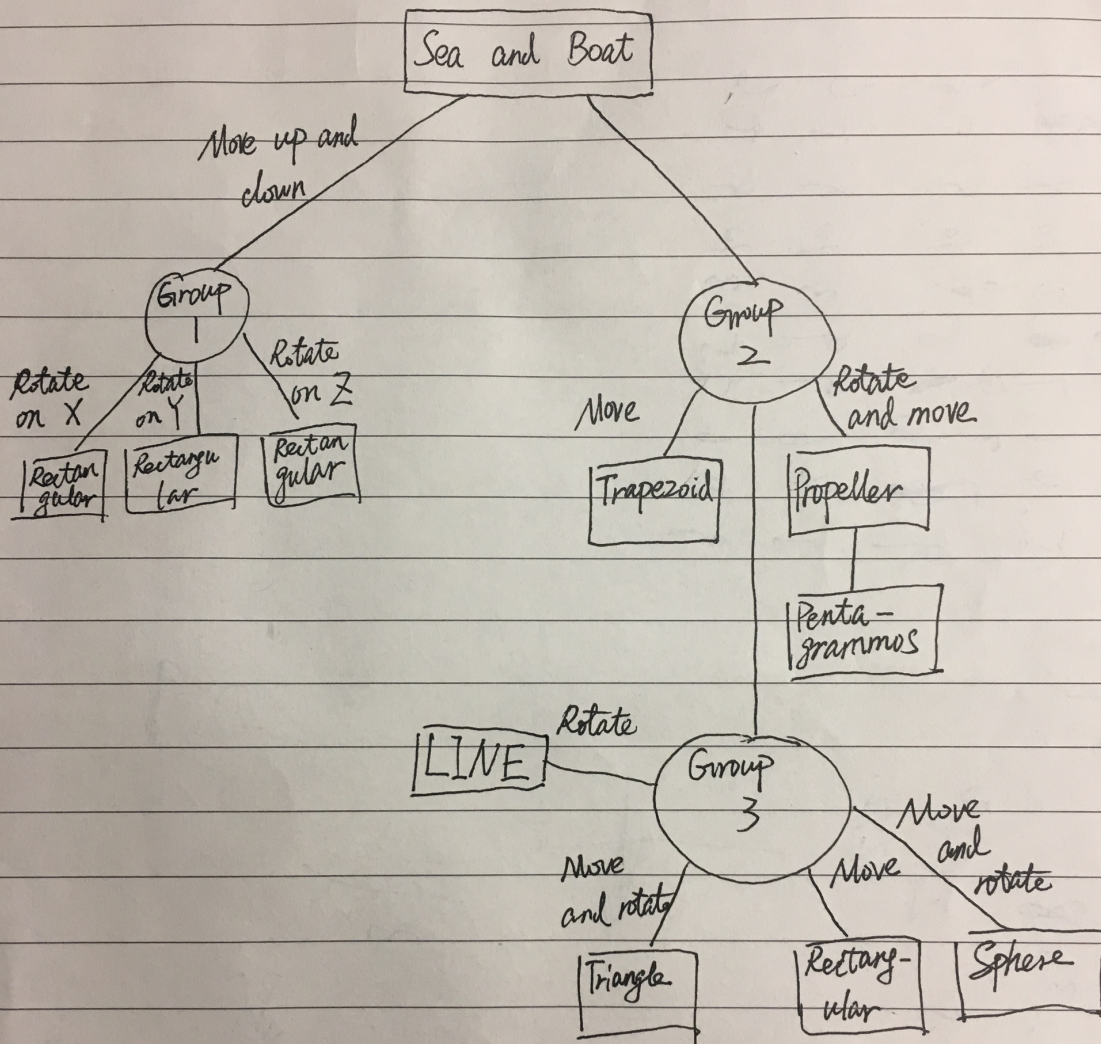
Graph 4: When users press UP, DOWN, LEFT and RIGHT on keyboard, the position of UFO will be changed. When UFO gets closer to ship, it becomes bigger and on the contrary, when UFO gets far away from ship, it becomes smaller.

Graph 5: When users click mouse, there will be three rotating cones at the position of clicking.

Graph 6: The whole page of my program.

4. Scene Graph

1. Sea and Boat.

Sea and Boat

Move up and down → Group 1
- Rotate on X → Rectangular
- Rotate on Y → Rectangular
- Rotate on Z → Rectangular

Group 2
- Move → Trapezoid
- Rotate and move → Propeller → Penta-grammos

Group 3
- LINE — Rotate
- Move and rotate → Triangle
- Move → Rectangular
- Move and rotate → Sphere

2. SKY

SKY

Group 1 ──── Move and Rotate ──── Sphere

Group 1 ──── Sphere

Group 1 ──── Move and Rotate ──── Sphere

Group 2 ──── Rotate ──── Sphere