Project A: Little Robot and His Tree Friend

XSY0714 Xinyi Su

User's Guide

1) Goal

This project demonstrates a scene about a little robot and his tree friend. Basically, I use cubes and tetrahedrons to design. Each vertex has a different color.

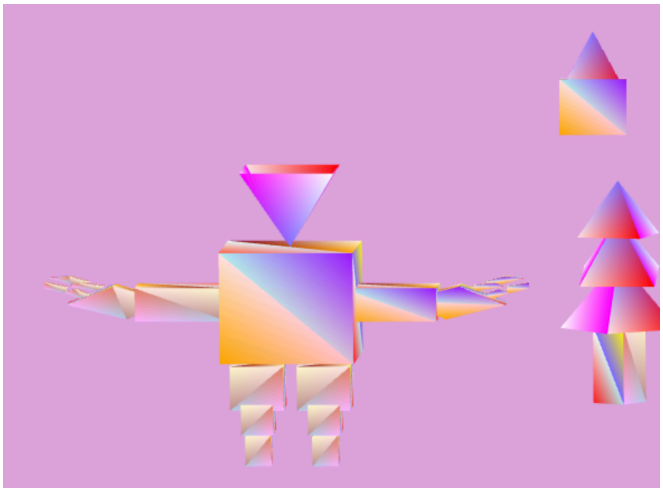

Fig1. The whole project

2) Function 1

The current angle of the robot and his tree friends can be displayed on canvas. Also, users can enter a new current angle to change the degree.

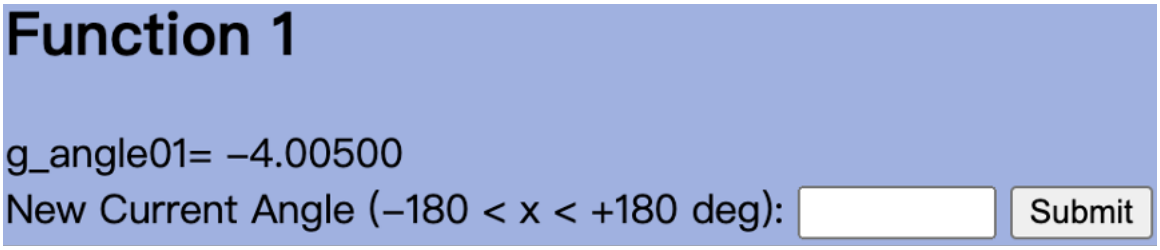

Fig2.Function1

3) Function 2

Users can use the mouse to click/drag the small house on the upper right of the canvas. Users can see the mouse coordinate and mouse drag as well.

4)Function 3

The robot and his tree friend can keep spinning, users are able to use the keyboard to move them. For example, users can use WASD navigation and arrow keys to move them to go left, right, back, and FWD.

4) Function 4

Users can control the spin speed and direction of the robot and tree by clicking on the “spin” and “Run/Stop” buttons.

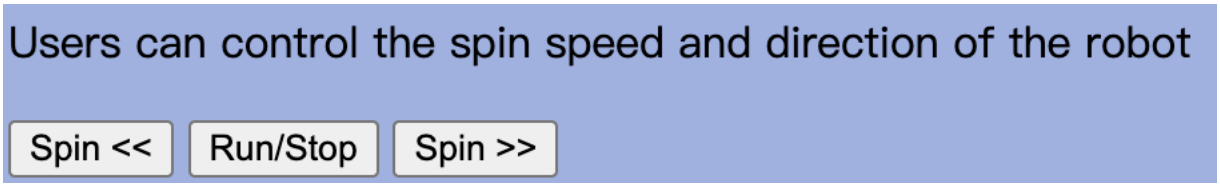

Fig3.Function 4

Result

In summary, the robot and tree can be moved by the keyboard, and the house on the right corner can be dragged by the mouse.

To be more specific, each part of the robot’s leg and arm can move at its own angle. As well as each part of the tree.

Fig4. Robot’s leg.

Fig5. Robot’s arm

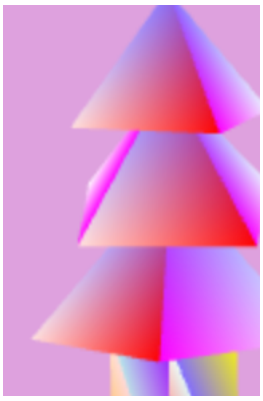

Fig.6 Tree

Here is the house before the mouse dragged, and after the dragging.

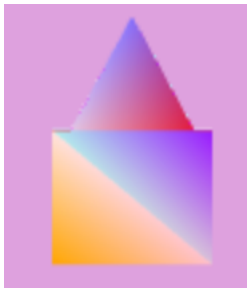

Fig.7 House before dragging

Fig.8 House after dragging

Scene graph of robot and tree :

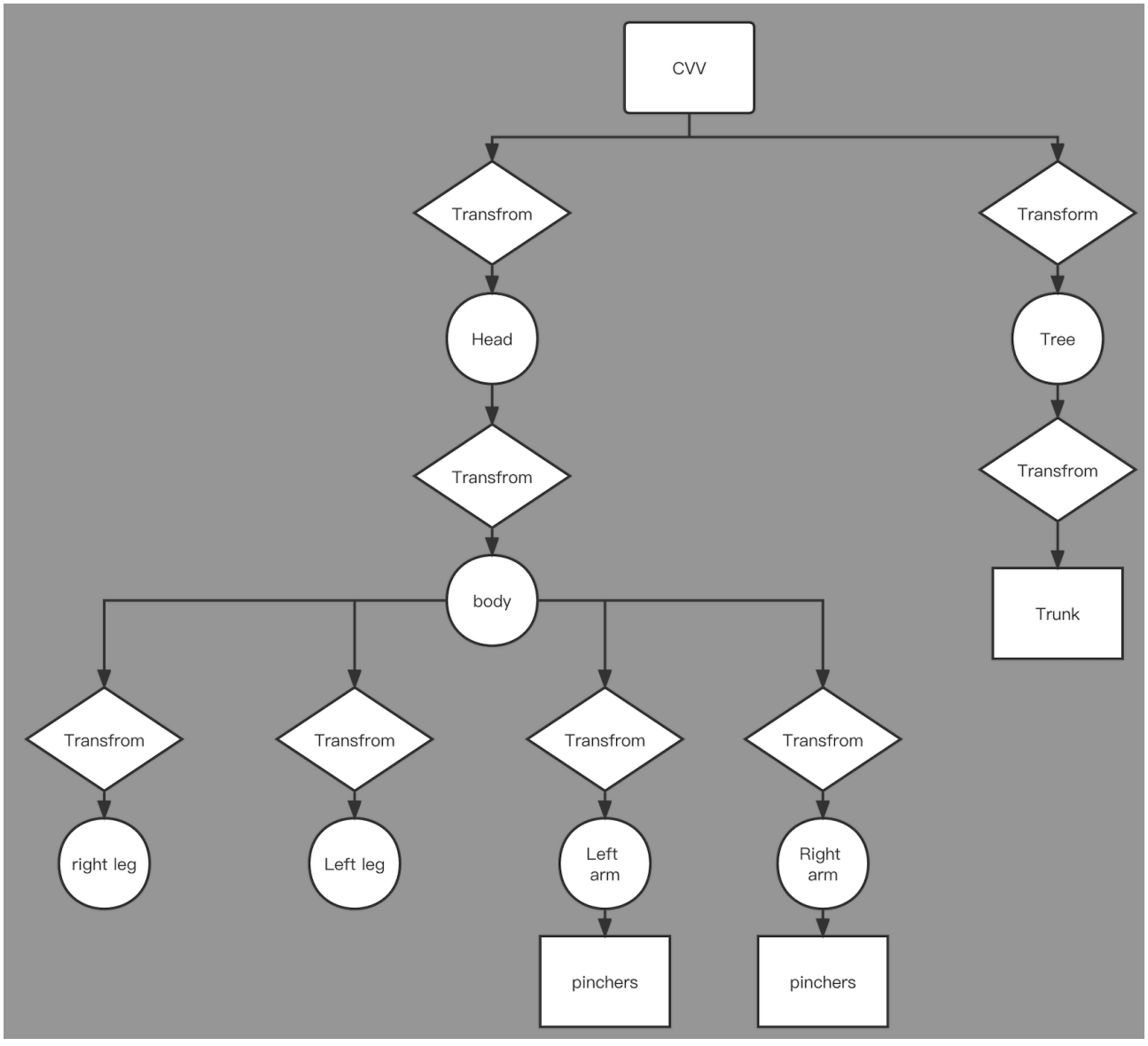

Fig.9 Scene graph