08240 2D Computer Graphics: Lab 4

Aim

The aim of this lab is to put in to add some animation to the scenes that you have been developing in the labs.

Task 1 - Copying your previous files

The ‘**index.html**’ file will be unchanged from the end of last week so you can copy and paste it from the **Lab3** folder into your new **Lab 4** folder. I have used bold to highlight what the names of the folder and file should be. We will also be making use of the JavaScript files so you can copy and paste the **Lab3/javascript** folder into the **Lab 4** folder.

Commit to SVN

Now that you have reached a milestone in your lab (setting up the **Lab 4** folder and contents) it is a good time to commit your work to SVN. Remember that one or more of the javascript files need to be added to the repository before you commit them. Don’t forget to add a meaningful log message, **starting with L4T1.**

For the rest of the lab, try to identify sensible milestones to use as commit points for SVN. As a rough guide you could use the numbered list below. Try to make sure that where ever possible the code works before committing it.

Coding the JavaScript

So, last week in Lab3 we should have added some extra objects to our scenes including a sun and maybe some trees. This week we are going to:

Task 2 - Create a new object that will be an animated object (maybe a bus). You will want to include the same functions as your previous objects (getters and setters and draw). Make sure you can draw it on the scene. **Commit with a meaningful log message starting with L4T2.**

Task 3 - Add an update function to the new object. Add code in here to move the object across the scene. Something along the lines of:

```
    // this function will actually update the bus position
    Bus.prototype.update = function () {
        this.getPosition().add(new Vector(10,0));
    }
```

Commit with a meaningful log message starting with L4T3.

Task 4 - Back in the canvas.js, add an update function which calls the bus.update() function. **Commit with a meaningful log message starting with L4T4.**

Task 5 - Add a game loop function that calls the update, then the draw function. **Commit with a meaningful log message starting with L4T5.**

Task 6 - To animate it use the setInterval function to call the gameLoop function. **Commit with a meaningful log message starting with L4T6.**

Task 7 - Finally, make two other gameLoop functions (one for each of the setTimeout and requestAnimationFrame functions). Use comments to run each individually to ensure that they work. **Commit with a meaningful log message starting with L4T7.**

Remember the lecture

Remember that you can refer to the lecture slides on Sharepoint if you need a reference to the functions.

Summary

You added a game loop to your scene and added a new object which uses an update function to change its position on the canvas. Congratulations, there is still more to learn, but you now have the basic skills you need to pass your coursework for this module; of course you need more if you want to do more than just pass, and comes with the caveat that all the elements should be perfect.