Assignment 4

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December 3, 2021

1 Introduction

In this assignment, there are two parts. In the first part there was a red square that has some attributes which are can change by user with those controller we can create aspect, the expectation is adding a control with "p" key for active lock api, with that lock api we need to rotate square with mouse movement. The second part requires us to print the .obj file for a monkey that we obtained from the computer on the screen. We are supposed to controls the camera with this object using various keys after reflecte it on the screen. After that, we need to be able to rotate the system by watching the mouse motions when we push a button.

2 Experiment

2.1 Part 1

In the Part 1 there was a project given by teaching assistant. According to the expectation, I made some changes in the perspective2.html file which are removing theta and phi control, also I changed initial zNear and zFar controllers for much better view. In the perspective.js file also I change theta, pi and fovy initial values. I have add a global lock variable for checking lock api active or inactive. Document listener added for catching p key press according to global lock variable lock api set active or inactive when lock api actived mousemove event catcher added with update position function, in the update position theta change according to mouses x axis change and phi change according to mouses y axis change.

2.2 Part 2

We used the file monkey.obj in the second part and place the object to the screen on the ground which is green, the monkey should be gray color. After placement the object to screen, we should implements key function for makes move up, down, right, left, forward, backward and increase speed with plus and decrase with mines key. With the key of e we can active and inactive lock api for rotating object with mouse movement. Object file loaded with jquery library.

Table 1: Classes

Class Name	Attributes	Methods
ShaderUtil	No Attribute	draw, loadMonkey, init, initShaders, createShader, createProgram, drawMonkey, drawGround, initCanvas, initGl, initLock, initShader, initDocument, initDraw, input, changeCamera, changeRotationSpeed, createBuffer, assignPosition, initUniform, setIsMonkey, drawGraphics, lockChangeAlert, updateView, domShaderSrc

3 Conclusion

As a conclusion in the assignment I learn lock api and controls camera movements. I learn those information and had an idea how its work, and also how create camera view implements one of the I learn in this assignments.

Table 2: Methods in Shader Class

Method Name	Input(s)	Output(s)	Info
draw			calls initDraw, drawGround and drawMonkey then calls requestAnimationFrame with draw
loadMonkey			loads monkey obj and calls init
init			calls initCanvas, initGl initLock, initShader initDocument, draw
initShaders	vShdrId, fShdrId		init shaders with given arguments
createShader	shaderId, shader		creates shader
createProgram			creates program
drawMonkey			draws monkey
drawGround			draws ground
initCanvas			inits canvas
initGl			inits gl
initLock			inits lock api
initShader			inits shader
initDocument			inits document
initDraw			inits draw
input	event		pressed key process
changeCamera	i,value		assigns new camera values
changeRotationSpeed	value		assigns new rotate speed
createBuffer	data, isMonkey		creates buffers
assignPosition			assigns positions
initUniform			init uniforms
setIsMonkey	value		sets isMonkey variable
drawGraphics	isMonkey		draws graphic
lockChangeAlert			adds remove listener for mouse move
updateView	e		updates view
domShaderSrc	elmId		gets shader element