

## Computer Graphics Assignment 3:

### Bvh Viewer

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#### 1. How to run my program

I used version 3.7.2 of Python, version 1.16.2 of numpy, version 3.1.0 of OpenGL and version 1.7.1 of glfw.

You can just run using this command – “python3 2015005078-class3.py”

#### 2. Which requirements I implemented

I implemented requirements that I manipulate the camera with mouse movement, load a bvh file and render it.

First, I used the camera function of ClassAssignment1 so I will skip the explanation.

I also drew the reference grid plane.

Second, I implemented opening a bvh file by dragging and dropping it into my bvh viewer window. I opened and read an obj file using glfwSetDropCallback. I declared the list in a function so only one bvh file is executed at a time. I opened the file and read the lines one by one, finding the root, joint, {, offset, channels, }, frames, frame and motion tokens and parsing the arguments. The root and joint token's arguments are stored in name, the { and } token's arguments are stored in stack, the offset token's arguments are stored in offset, the channels token's arguments are stored in channel and the motion data is stored in frame. Then my program prints File name, Number of frames, FPS, Number of joints(including root), and List of all joint names. If { comes out of the stack, it pushes and translates and if } comes out of the stack, it pops. The initial skeleton is stopped. If the spacebar is pressed, the skeleton moves according to the motion data.

### 3. A few screenshot images of your program

File name : /Users/jinkyoo/정진교/3-1/컴퓨터그래픽스/실습/ClassAssignment3-bvh/sample-walk.bvh

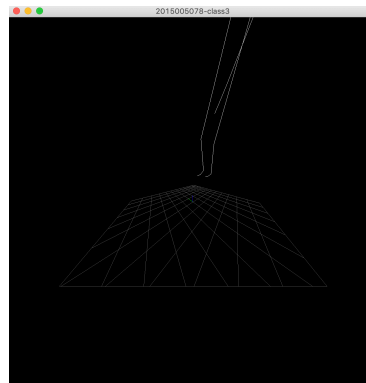
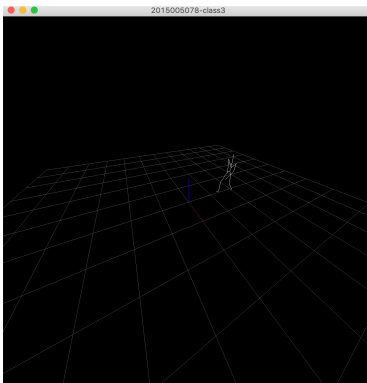
Number of frames : 199

FPS : 30.000300

Number of joints(including root) : 15

List of all joint names :

['Hips', 'Spine', 'Head', 'RightArm', 'RightForeArm', 'RightHand', 'LeftArm', 'LeftForeArm', 'LeftHand', 'RightUpLeg', 'RightLeg', 'RightFoot', 'LeftUpLeg', 'LeftLeg', 'LeftFoot']



File name : /Users/jinkyoo/정진교/3-1/컴퓨터그래픽스/실습/ClassAssignment3-bvh/sample-walk.bvh

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File name : /Users/jinkyoo/정진교/3-1/컴퓨터그래픽스/실습/ClassAssignment3-bvh/sample-left-turn-larger.bvh

Number of frames : 189

FPS : 30.000300

Number of joints(including root) : 26

List of all joint names :

['Hips', 'RightUpLegDummy', 'RightUpLeg', 'RightLeg', 'RightFoot', 'RightToes', 'SpineDummy', 'Spine', 'Spine1', 'HeadDummy', 'Head', 'LeftShoulder1Dummy', 'LeftShoulder1', 'LeftArm', 'LeftForeArm', 'LeftHand', 'RightShoulderDummy', 'RightShoulder', 'RightArm', 'RightForeArm', 'RightHand', 'LeftUpLegDummy', 'LeftUpLeg', 'LeftLeg', 'LeftFoot', 'LeftToes']

