Buse Çarık

Assignment Features

1. I create Jukebox class for the sound effects and background music. I use mostly the sample code from the student portal. I add sound effects for starting and new levels, collision, death and when player is hurt. I create a soundpool object. And for representing each situation, I create a new type of enum which is GameEvent. I store the GameEvent and id of sounds in to a HashMap with loadSoundEffects() and loadEventSound() methods. I read ids from assets with AssetFileDescriptor. I create a play() method to play the effects. In the Game class, I create a method to play the sound according to the event. It takes GameEvent as a parameter and call the play() method of the _jukebox object to play the sound. For background music, I create a media player object. In loadMusic() method, I open the file with asset manager and play the music with resumeBgMusic(). I call this method in onSurfaceCreated() method.

2. In the HUD class, I create setFps() method to calculate the average frame per second. When the method is called, it sets the timer to the current time and increase the frame number. If it exceeds 1 second after the entry of the previous one, synchronize the frame timer to the current time and reset the frame counter. It is called in the render method of the Game class

5. I create the HUD class. I create an array to hold text objects to display the current level, remaining life, score, hyperspace and average frame per second. In the update method of HUD class, I set the value of these variables. I call this method in the update method of Game class. In the render method of the HUD class, I call the text objects' render method in a loop and I call this method in Game class' render method.

6. I create an enum type for the distinct asteroids. I have 3 distinct types; small, medium and large. In a switch statement (in the constructor of the asteroid), according to the size, I set the size and velocity of the asteroid. Asteroid objects take the size as a parameter and according to that they enter one of the cases. When the asteroids collide with bullets, according to their size, player gets points. Smaller ones give more point.

7. In the collisionDetection method, according to the size of the asteroids, I add new two asteroids that are the smaller than the colliding asteroid. The new asteroids spawn the location of the colliding asteroid.

8. For the particle effect, I add new class which is Particle. In the game class, I create a particle array. When the asteroids break apart, particles spawn to the location of the colliding asteroids. All particles have time to live like bullets. After this time is done, they are disappeared.

9. For the hyperspace, I add new button the gamepad.xml file. In the input manager, I create new Boolean for the new button and in the touch listener, I listen the button.

When this button is pressed, the ship disappears and re-appears in a random coordinate with a small delay.

10. I store the shader codes in the raw resource files. In the GL Manager, I create a new method that is called loadShaderCode. This method opens and reads the file and return the string value of content of the file. In the buildProgram method, I call this method for both vertex shader and fragment shader.

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2. I create a function in the game class to check if the asteroid array is empty. If the array is empty and player is not dead, it increases the level. The number of asteroids increase with levels. For each 5000 points, player's health increases by 1. Player is hurt when it collides with asteroids, it loses 1 health point and spawn to the centre. It has 3 health points. If it loses all three of them, the game starts from the beginning. Health, score, location of the player reset.

Resources, Assets and Codes That Are Not Mine:

Background music: https://soundcloud.com/8bitsongs_1464046229336/muse-supermassive-black-hole

Sound effects: https://gamesounds.xyz/?dir=FXHome/Bullet%20and%20Gun

https://www.bfxr.net

Codes: https://stackoverflow.com/questions/12910503/read-file-as-string

https://stackoverflow.com/questions/5930053/making-a-fps-shower/20887703#20887703