Documentation

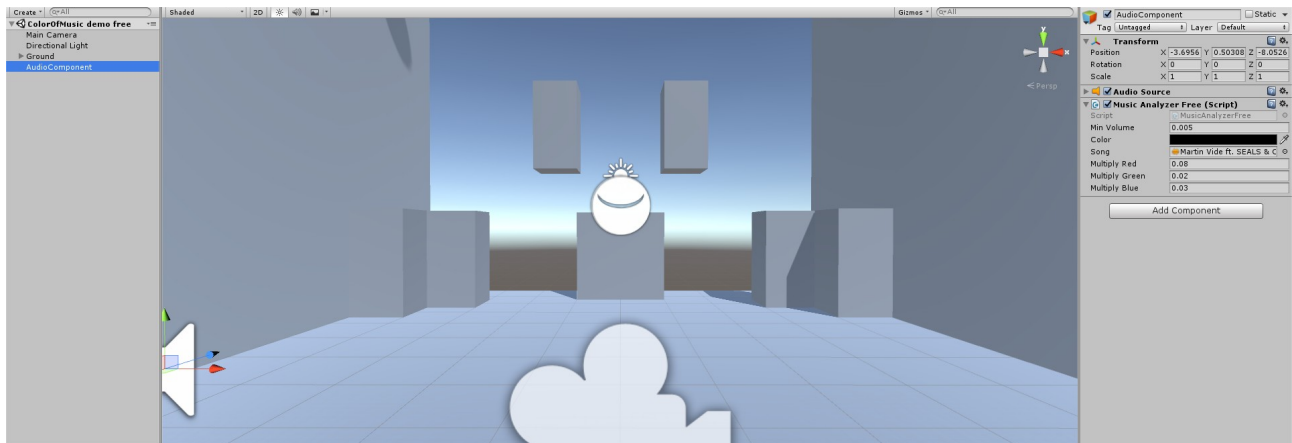# Color of light – equalizer like system

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0. From author

I'm Czester16 software developer with passion for games. if you have question – ask me. I'm enable via e-mail, facebook or youtube. Any kind of feedback will be nice.

1. System free

General

First we have create one empty objects and one or more 3d objects.

Audio script

To empty object add music script as on the picture. Automatically should be added audio source to game object.

Variables in script:

1. Color - it is base value of returned color.

2. Song - we play it using audio source and take frequency from audio component.

3. Multipliers of additional colors value. Bigger values of this parameters means more often we saw white color as output.
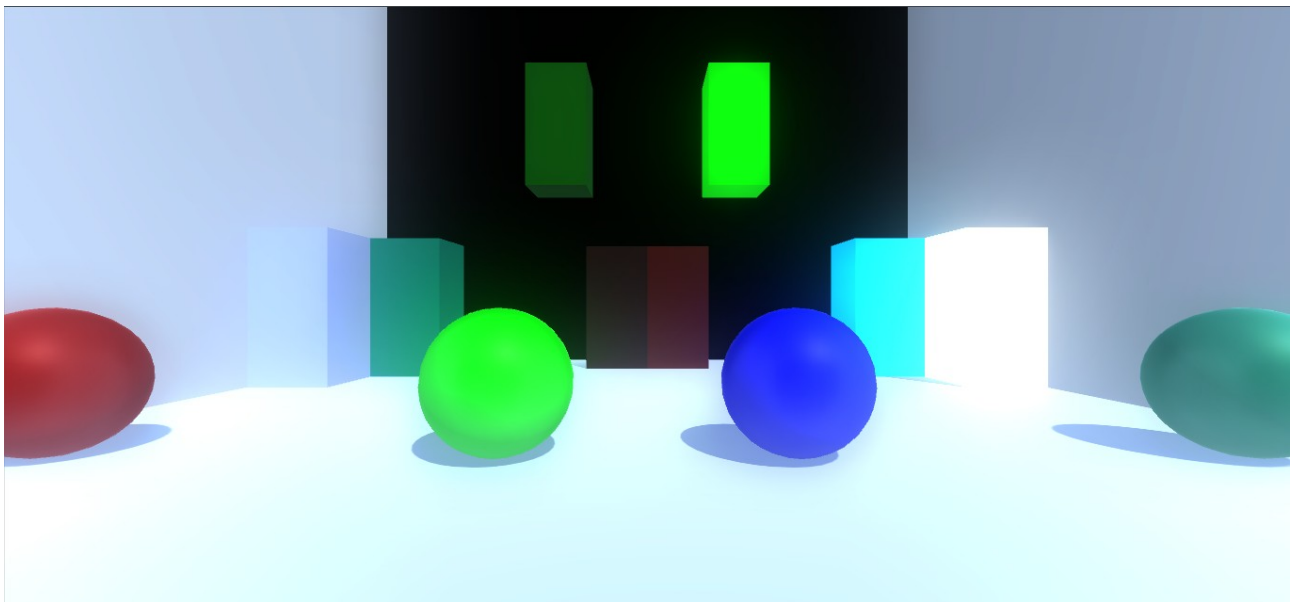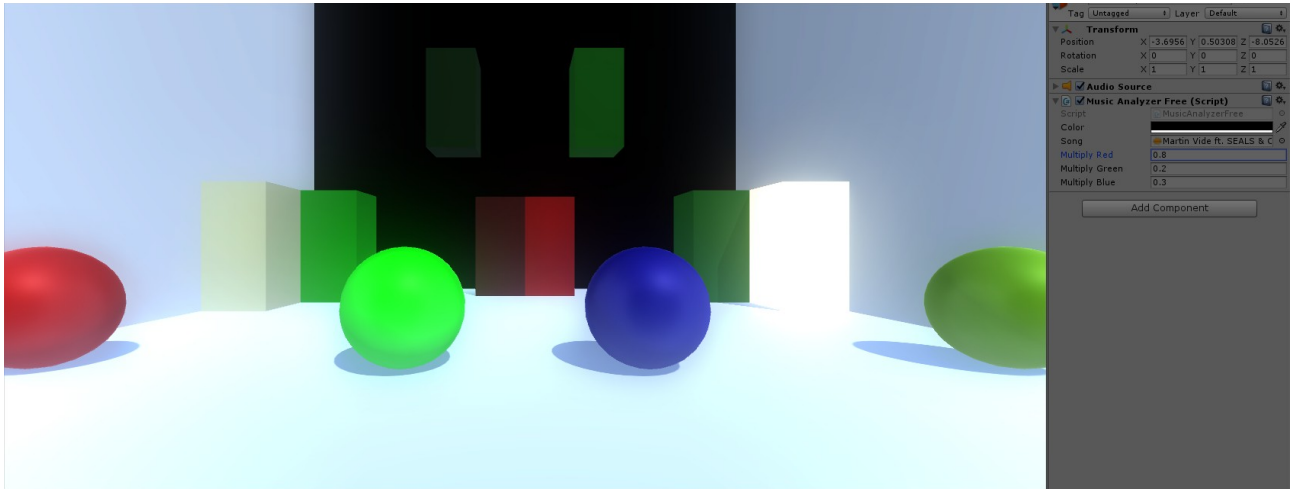
Object color controller

On rest of objects which should change color we have to add script „Get color free"

Scripts variables:
1. Object base color
2. Is emissive

3. Which colors should be taken from audio script as additional for ours shader.
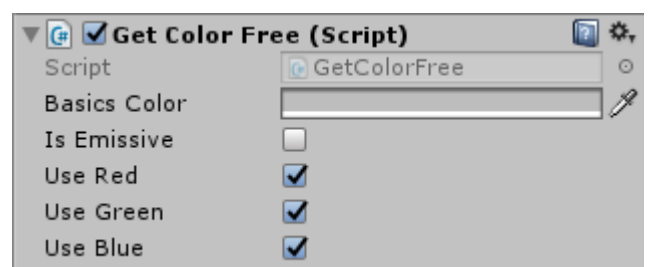
Bellow you can see how music change different objects using different scripts parameters during time when music was played.

2. System pro

General

Pro system is much more advanced. First difference between is counts of parameters and posibilities. You can have few music analyzer objects.
For example first script is controlling clouds and when blitz sfx is playing clouds can change color brom dark blue to white. Second one are connected to rain sfx and rain particles. When noise is louder rain is change color from grey to white.

Audio script

Music analyzer – is much more powerfull than his free friend. Basisc are the same, but advanced have:

- 5 canals (bass, voice, red, green, blue)
- better frequency resolution and recognision
- list of music implementated
- randomize music option
- 6 different window functions (diffrent kind of time window is better for diffrent music_kinds/voices/sfx etc)

We can also choose which music analyzer is global (if is more than one).
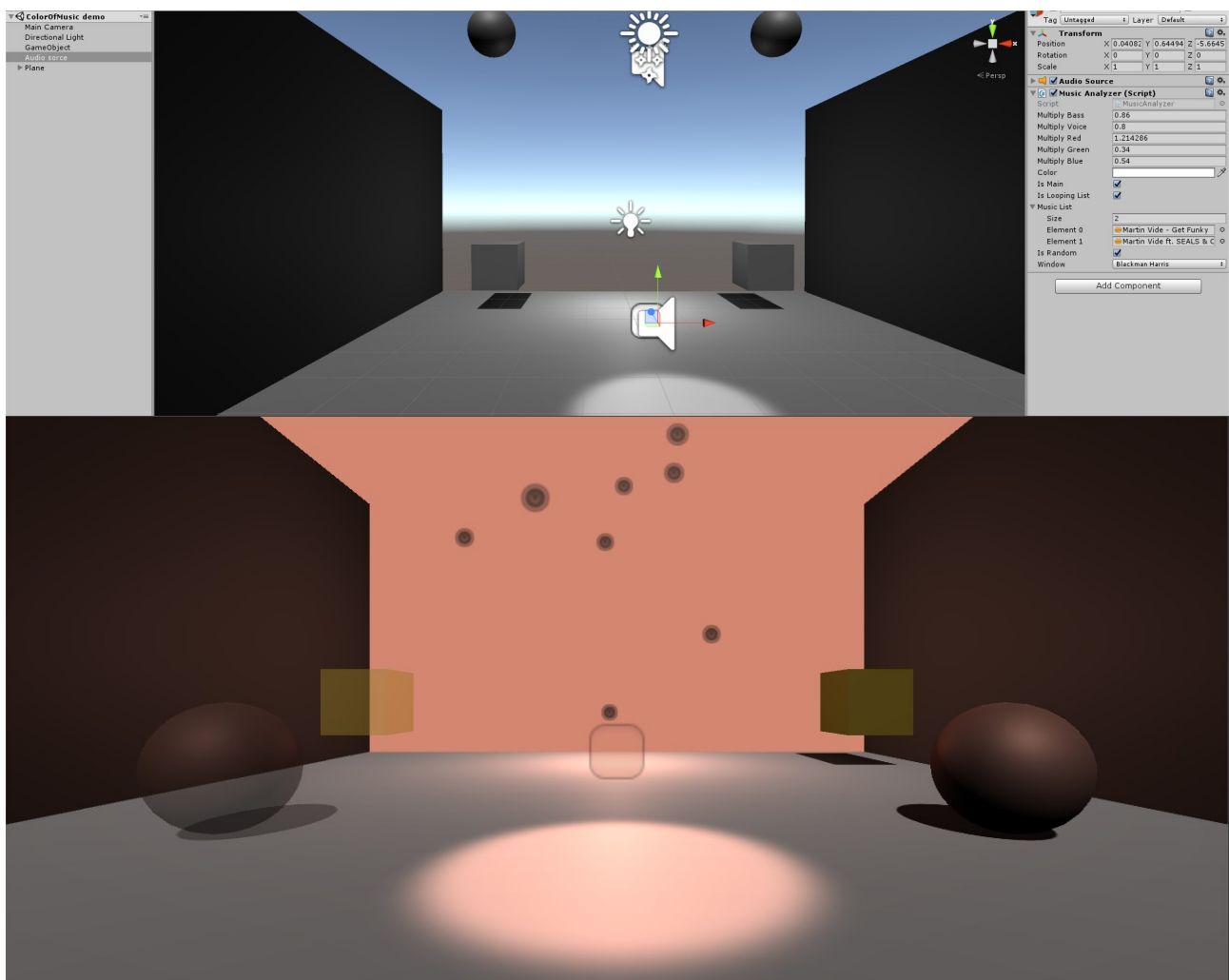
Object controller script

As you see on scene is much more objects like:

- 3d mesh,

- 2d sprite,

- light,

- particle,

- camera background,

- image

- raw image

Script is controlling how object should change his color and how fast. Color blending option set blend mode with speed, that mean color will change slower in time - not instantly like in free script.

Pro system have can also use HSV mode, you can chose which of music analyzer you will use.

Is emmissive is used for meshes mainly – power of lite will change intensivity of this effect, as also light intense if you chose script on light object.

Next parameter is defined if we are using script for particle system only – for setup.

Next parameters defining our color by adding or removing values in algorythm.

Invert options can be used if you want to have exacly inverted part of color or transparency.

As you can see color can be taken from different pleaces. That mean you can set different values on different inputs.

What can be input for all of colors?

- Warm part of frequency,

- Middle important values of sound,
- Lower frequency values,

- Bass,

- Voice,

- User color,

- one,

- zero

As you can see every element can be described different way. Its not hard, but you can use it for your ideas to make somethink better.