Light System (Input)

Overview

Name	Design Status
Light System General	**READY**
Lights	**READY**
Mixer Platform	**REMOVED**
Combos	**READY**

Light System General

Lights are placed around the environment providing a visual feedback of the player's actions.
⌄ Click here for more details

> **General**
>
> - There will be lights around the dance floor area on the top and sides
> - The lights will move along the music
> - Some lights will be automatically controlled to provide a visual experience for the music
> - Some lights and special effects will be controlled by the player via special triggers

Lights

Different types of club lights will have different behaviours and effects.
⌄ Click here for more details
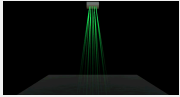
> **General**
>
> - There will be at least 5 types of lights in the club
>   - All lights have predetermined paths for animations
> - Lights are NOT controlled by the plays as it used to be in previous design ideas
> - Please see the following list of lights and their behaviours
>   - The light effects and animations will be created by Bianka Kovacs and provided in form of unity packages to the development team
>
> **Lights**
>
> | ID | Name | Nickname | Control type | Description | Behaviour | Input | Reference | Effect | Finalised effects in Unity created by Bianka Kovacs |
> |----|------|----------|--------------|-------------|-----------|-------|-----------|--------|---|

0	Blue head beam light	head beam	none	A basic ambient light, always present on the scene. Cannot be controlled or nothing has control over it. Serves ambient lighting purposes	static	no			
1	Light Beam colour	colour beam	PVL	A bunch of small diameter coloured bright lights. They come in four colours: green, yellow, blue and purple	Light moves on specific route to the music	no			
2	Light Beam white	white beam	PVL	A small diameter bright white light. Comes in a bunch, in sync with other lights of this kind. They can be positioned to ceiling and to floor both pointing	static, no movement. Can be turned on and off	no			
3	Dual moving head beam light	dual beam	PVL	Medium diameter bright dual coloured light. Positioned on the ceiling and comes in a bunch.	Light moves on a specific route to the music.	no			cancelled
	Multi beam effect light	multi beam	by player	A multi-coloured light that spreads multiple small diameter beams with the help of a glass panel that breaks the light into separate beams, targeting different angles. Colour can change of the entire light and not separately.	Light moves on a specific route to the music. Beams move relative to each other	yes I/O			

|								
8 dual effect moving beam	multi beam 8	PVL	A multi-coloured light with 8 beams that can have 4 different colours displayed at the same time. The colours are static as them are created by the colour of the glass on the bulbs.	Light moves on a specific route to the music. Top and bottom row moves separately	no			
Moonflower light	moonflower	Player	A multi-coloured light with very small beam diameter. (Still bigger and not as crisp as laser light)		Yes I/O			cancelled
Laser projector set	laser	Player	A multi-coloured laser beam set made up of 4 laser heads, moving in harmony. It is also possible to move the heads separately.		Yes I/O			cancelled

References:
Click here for references

Light effects creation process:
⌄ Click here for details

Light Effects

- The light effects were built based on a third party shader acquired from the Asset Store provided in the Light Beams package
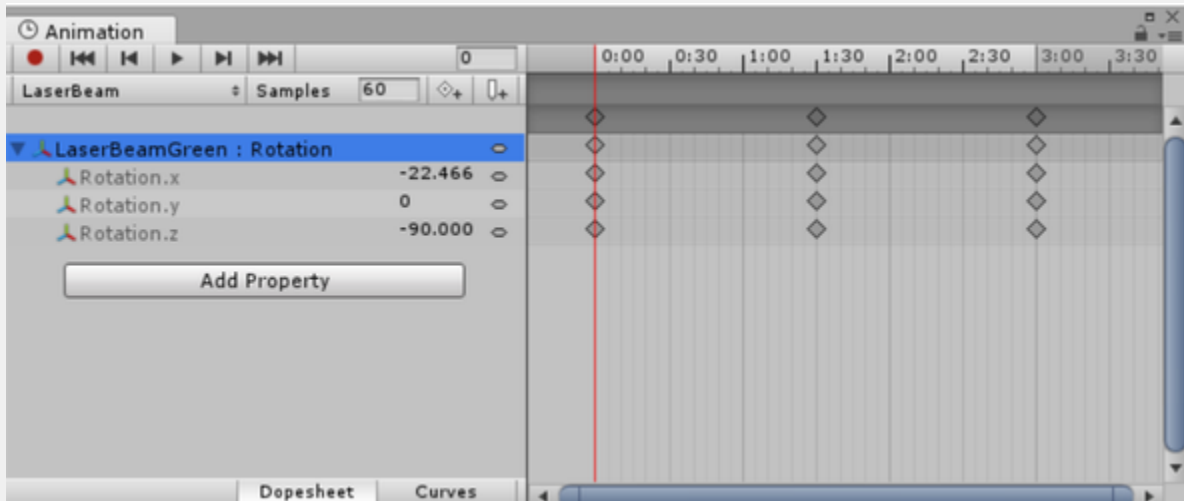
The following explanation will introduce the make up of the Multi Beam Effect Light which is later called Laser Beam Green
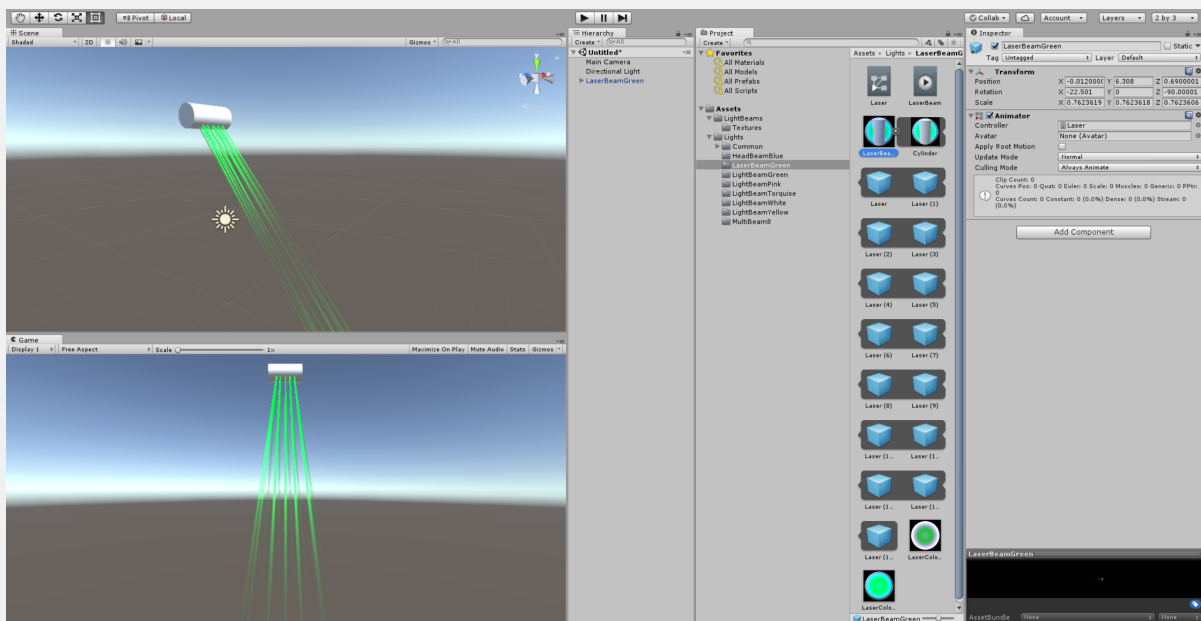
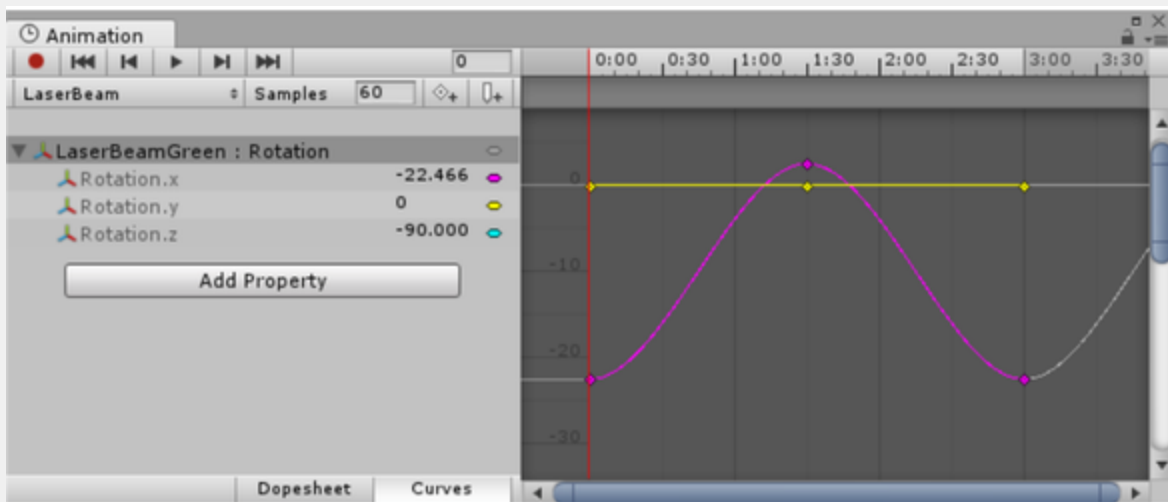The light is built up of the following elements:

- 16 cones, called Lasers
- 1 cylinder, called Cylinder

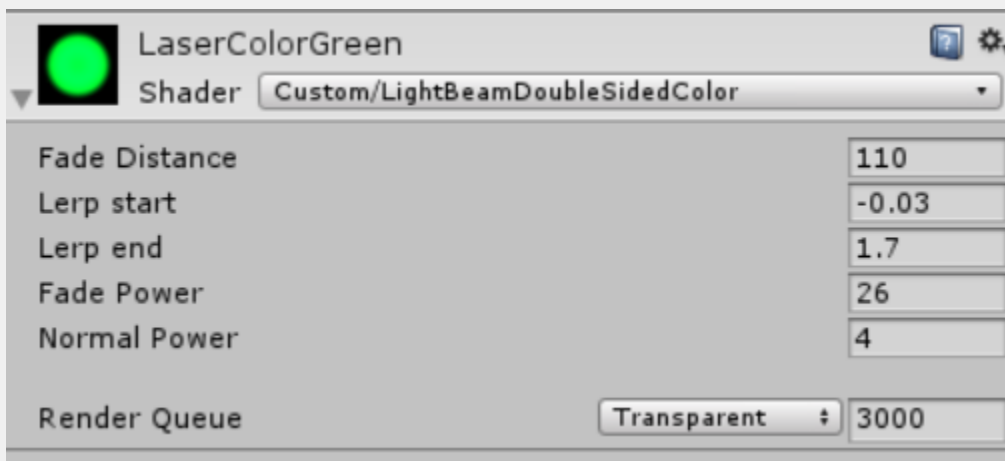The above mentioned objects are attached to the parent class which controls the animation:

The animation rotates the parent object up and down smoothly.

- To avoid the snappy looking restart of the animation the key frame handles had to be flattened.

Each laser has a special shader attached that provides a very flexible control system

All light effects were created following this method with the following alterations:

- Change of beam colours
- Number of lights
- Shape and size of cones
- Multiple parent objects
- Several animations

Please see the created light effects in the above provided list.

Mixer platform

The player will control the the different lights using a light technician platform.

The mixer platform is now obsolete.

Design warning!
This feature has been removed.

General
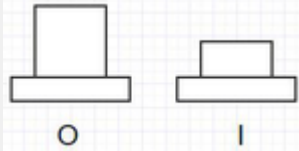
- The mixer platform will provide the main interaction for the game
- The player will target specific interactive button on the platform to create effects on the stage
- There will be different types of buttons with different features
    - Some buttons will require only one input type
    Example: Press
    - Some button will require multiple input types
    Example: Press and turn
    - Some special buttons will require special input types
    Example: Press, turn and hold or a combination of any of the previous

Platform

- Simple design
- Reasonable amount of buttons displayed
    - There shouldn't be "filler" buttons in order not to confuse the player
    - Filler buttons are just for aesthetic with no functionality
    - If we do need to use them, they must be completely different style and bent into the platform in colour

Buttons

- Buttons come in different types to enable a variety of input
- They should have a clear visual feedback of state
    Example: If the push button switch is on, it should be glowing green and red when off to ensure clear communication

ID	Name	Button type	Light controlled	Input	Diagram	Reference
0	*White beam button*	*Push button switch*	*white beam*	*Press once to turn on* *Press once to turn off*		
1		Toggle switch	moonflower	Switch on Switch off		
2		joysctick	laser	Press, hold and move to control movement Let go to switch off		
3		blue push button	multi beam	Press once to turn on Press once to turn off		
4		yellow push button	dual beam	Press once to turn on Press once to turn off		

Combos

The player can achieve better score by making special visuals with the lights.

General

- Similarly to researched games such as Thumper, DJ Hero, Audioshield, and AudioSurf 2, our game will also have combos
- As the player successfully catch the sparks continuously, the higher score he will receive
  - For more information about scoring please see the Party Vibe page
  - The player scores 1 point on a successful light spark burst
  - The amount of score received from multipliers is NOT affected by the Party Vibe or the Career Performance!

The following table shows the amount of minimum scoring in succession to receive a score multiplier:

Amount	Multiplier	Score / spark burst
5	2x	2
10	3x	3
20	6x	6
30	9x	9
50	20x	20

> **Design warning**
> Feature is outdated.

General

- It will be possible to receive extra score for specific light use combinations and sequences
- Combos require the player the hit the perfect switch in the perfect time
- The longer the player gets the lights right in the perfect the, the better combo he make for higher extra score
  - Imagine it as in Guitar Hero or Dance Revolution when you get the buttons right one after another
- Making combos will have powerful visual and audio feedback
  - Crowd will gesture more, making more sound
  - Special automatic lights can switch on to show combos