

People often use the V1 rangefinder just as a visible laser! This is a quick parity project to support that visual artifact in CV2 in a more intentional way.

Goals:

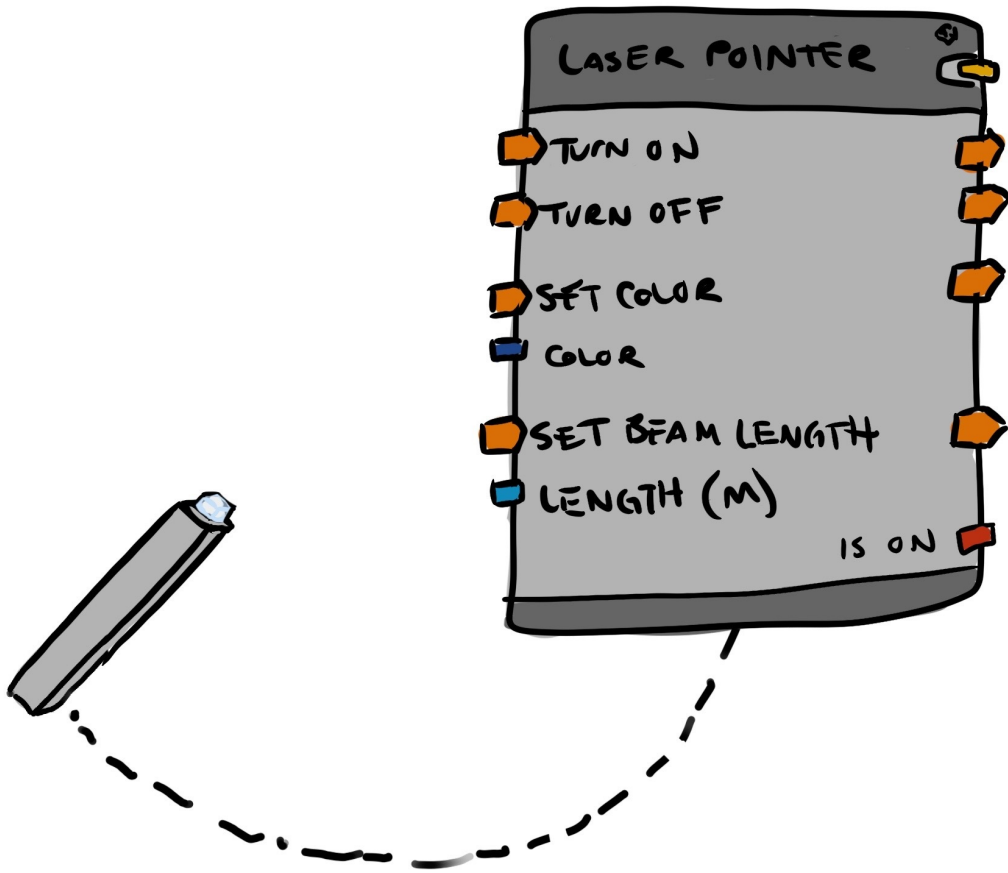
1. Fill the need expressed by the use of the rangefinder's laser pointer as a visual effect
2. This is a small, short project
3. Laser pointer line doesn't look like a debug visual, according to [REDACTED]
4. Stretch goal: enable some cool new visuals!

Non-goals:

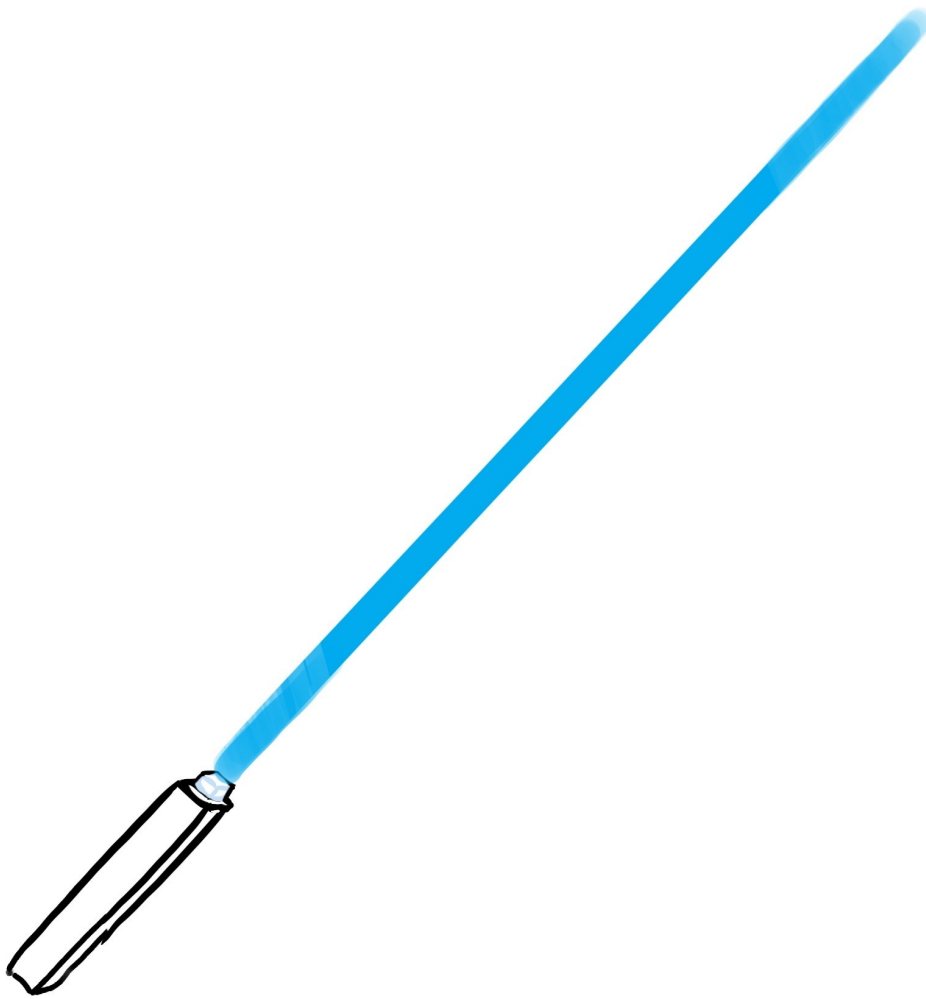
1. We're not trying to recreate the rangefinder's range-finding features, this is just about the laser visuals.

How it works:

The creator spawns a laser pointer component:



The component seen here above is gadget visible, and cannot be seen by anyone who does not have a maker pen. However, when enabled, it creates a laser extending from the glowing end that is visible to everyone.



Right now, this uses a basic Unity line renderer. Let's investigate moving to FastLines! They look a lot better, and may be cheaper to render anyway.

- This would set us up to enable a bunch more exciting visual effects later without a change to existing rooms.
- Stretch goals:
 - Expand the data inputs for "Set Color" into "Color 1" and "Color 2," or even offer the ability to specify more colors in the config menu to add more data ports here
 - Offer a number of animated textures, a config menu option to toggle between them, and a "Set animation speed" exec on the board.
 - Offer the ability to turn either end into an arrow (on the config menu)
 - [REDACTED] Fast lines documentation from [REDACTED]

Available inputs on the board:

Enable

Disable

Set Color

- Color

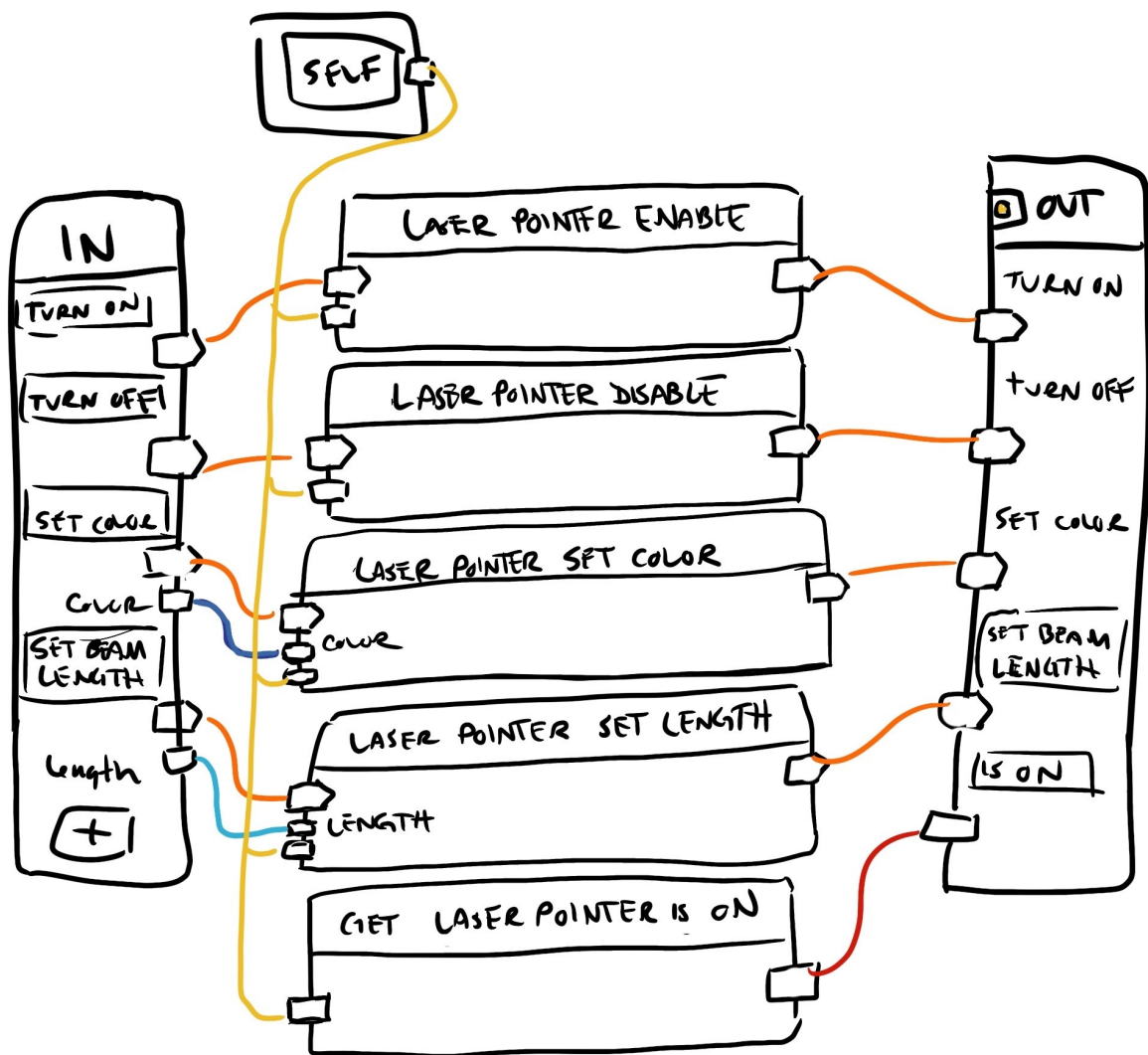
Set Beam Length

- Length (in meters)

Available outputs:

Passthru for Enable, Disable, Set Color and Set Beam Length

“Is On” bool



Config Menu:

- There are settings for Color and Beam length in the config menu, which should be treated as the Home Values for these settings, and should be reflected in the default values on the board.
- This laser effect is synchronized across players by default! There's also an 'unsynchronized' option in the config menu to allow advanced users to change this. Look at the Text V2 gadget for an example.

Other notes:

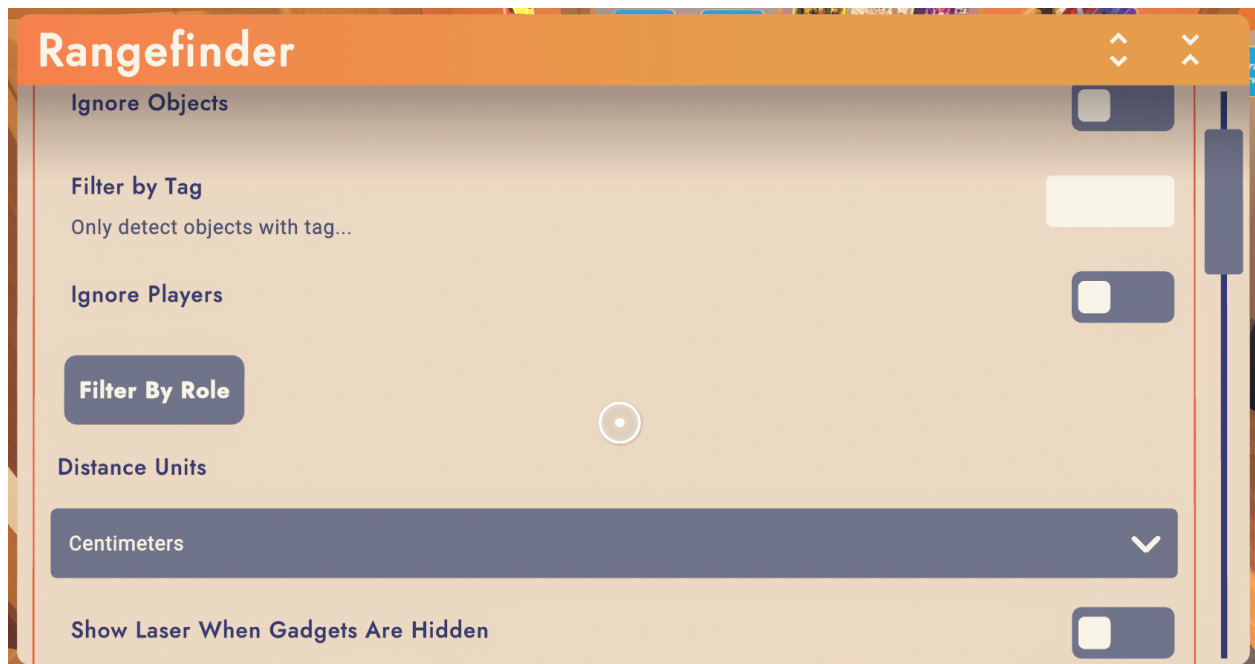
- The glowing portion of the component visuals should reflect color, and possibly also on/off state. Look at the V2 point light as an example here.
- The Recolor tool should color the gray part of the component art, and should not affect the beam.

-----Research-----

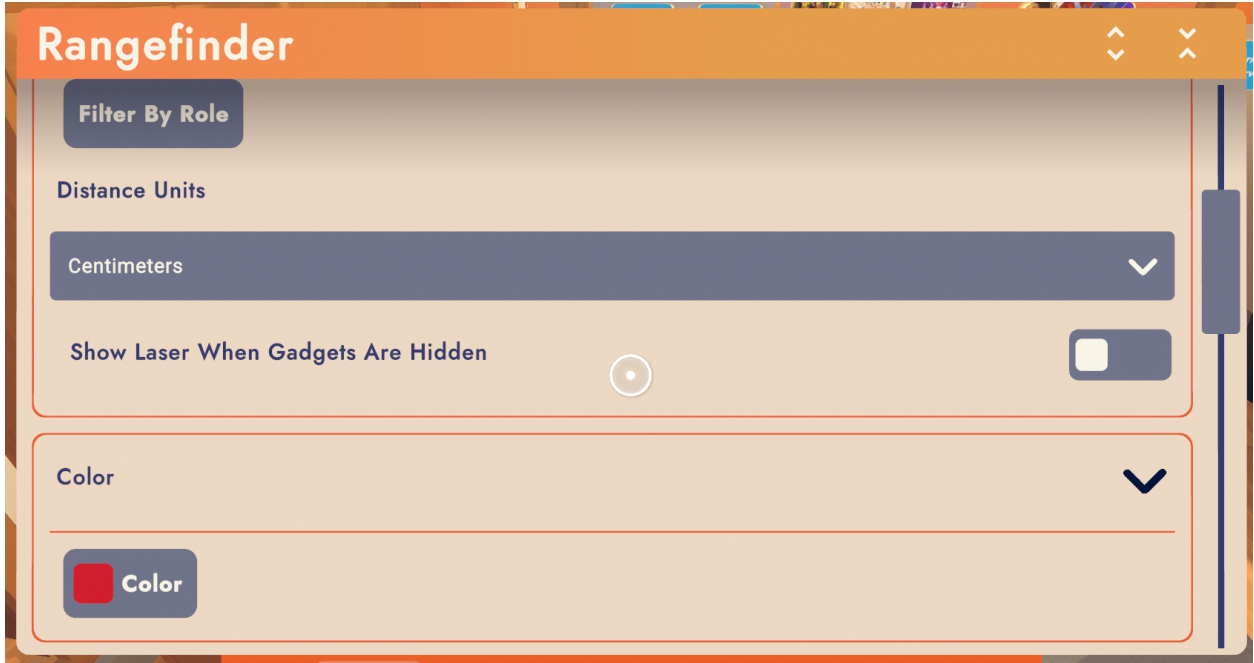
V1 rangefinder-

Circuits in - on/off, max distance

Out - distance, object ID, player ID (based on rangefinding capabilities)



Only bottom setting is relevant here



FastLines research

Inspector Scene Picker Inspector

BoolWireSettings Open

Addressable

Script FastLineSettings

Material FastLineMaterial

Direction Strength 1

Min Direction Offset 2

Start Sharpness 0.02

End Sharpness 0.02

▼ Colors

Size 2

▼ Element 0

Color 1 HDR

Color 2 HDR

Frac 0

▼ Element 1

Color 1 HDR

Color 2 HDR

Frac 0

► Sizes

Style 6

Texture Spacing 20

Texture Looping 1

Texture Animation 1.5

Texture Height 0.125

Start Arrow Length 0

Start Arrow Width 0

End Arrow Length 0

End Arrow Width 0

Num Nodes 30

