Gunpoint Crosslink Deconstruction

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## What does it do? What problem(s) in the game does it solve?

As the blog states, the crosslink system allows players to rewire elements of the level to open/close doors, turn lights on and off, etc. It allows players to solve levels in unique, creative ways. Examples of problems it solves could be “how should/do I open this door?” or “how can I beat this level?” or “what makes this game unique?”.

## What Unity ingredients are required to do those things? What components and GameObjects are needed?

There is a GameObject for each different electrical element, i.e. an object for each light switch, door, hand scanner, light, etc. There are also objects/components for the rendering of the connections, i.e. LineRenderers. There are then specific components for elements such as colliders, lights, etc. where needed.

## What’s the C# recipe: what’s the functionality of the script components? Write the pseudocode.

I envision two basic scripts necessary for this system:



## Which bits of this system can be achieved by composition?

Elements would naturally be composed of several built-in Unity components for basic functionality: colliders and Rigidbodies to detect being clicked on, SpriteRenderers and LineRenderers for graphics, etc. The electrical components would have elements of composition as well, with functionality like the connection and the component itself being split into different scripts.

## Which bits of this system can be achieved by inheritance? Draw the inheritance “tree” showing parent & child classes and where the functionality goes.

The electrical components would all derive from a base class providing functionality for receiving an electrical input, and another commonly used base class would be one that detects players/enemies interacting with it as well. The connections themselves could use a form of inheritance as well – for example, there could be a connection that cannot be dragged/changed until some condition is met.