

Wire Flash Debugging Tool - speed doc

As part of the debugging suite, we'd like the wires between chips to flash when a circuit signal is sent through them, like they do with Cv1. We expect to ship this in two parts: Exec Wires first, and then Data Wires.

All the wires used in a frame should flash simultaneously! Given the speed of data, we can't reasonably expect an ordered sequence of flashes that lets the creator "follow the signal."

Tuning parameters:

- Wire flash color - What color the wire is when it flashes. (IIRC, emissiveness is a property of wire HDR color already; we should just mimic the existing FastLines setup. % emissive multiplier on original value is a decent fallback)
- Wire flash duration (in seconds) - how long the flash stays full bright before it starts to fade away
- Wire flash fade duration (in seconds) - how long it takes to fade back to default

Details:

- If a new signal passes through the wire before it's finished fading, the flash just triggers again and resets the flash & fade durations
- There's no explicit cooldown in the sense of "we won't let the highlight trigger again for x duration"
 - We're choosing here between the artifacts of "a frequently used wire is always bright" and "you miss some executions during cooldown" and I think the first is less guilty of hiding important information, given good tuning settings. A wire flashing at 30hz will probably always look lit.

Settings:

- By default, wire flash is partially enabled.
- Settings exist in the maker pen menu to fine tune it.
 - Debug Execution Wire Flash (on/off toggle - on by default)
 - Debug Data Wire Flash (on/off toggle - off by default)
 - Debug Hover Value Wire Flash (on/off toggle - on by default)

It would be nice to include very minor UI work, as the existing CV2 settings are mislabeled.

The "Gadgets" and "General Settings" foldouts appear as contextual settings on every tool, which is appropriate in this case.

INK 13.80% CPU 0.00% NET 0% | 0 / 15 CHIP 3 / 3000

Edit UNDO REDO Snapping Off Surface Grid World Space Show Gadgets

Create Select Delete Configure

Transform Move Rotate Scale

Wire Clone / Flip Recolor Manipulate

Freeze Make Invention

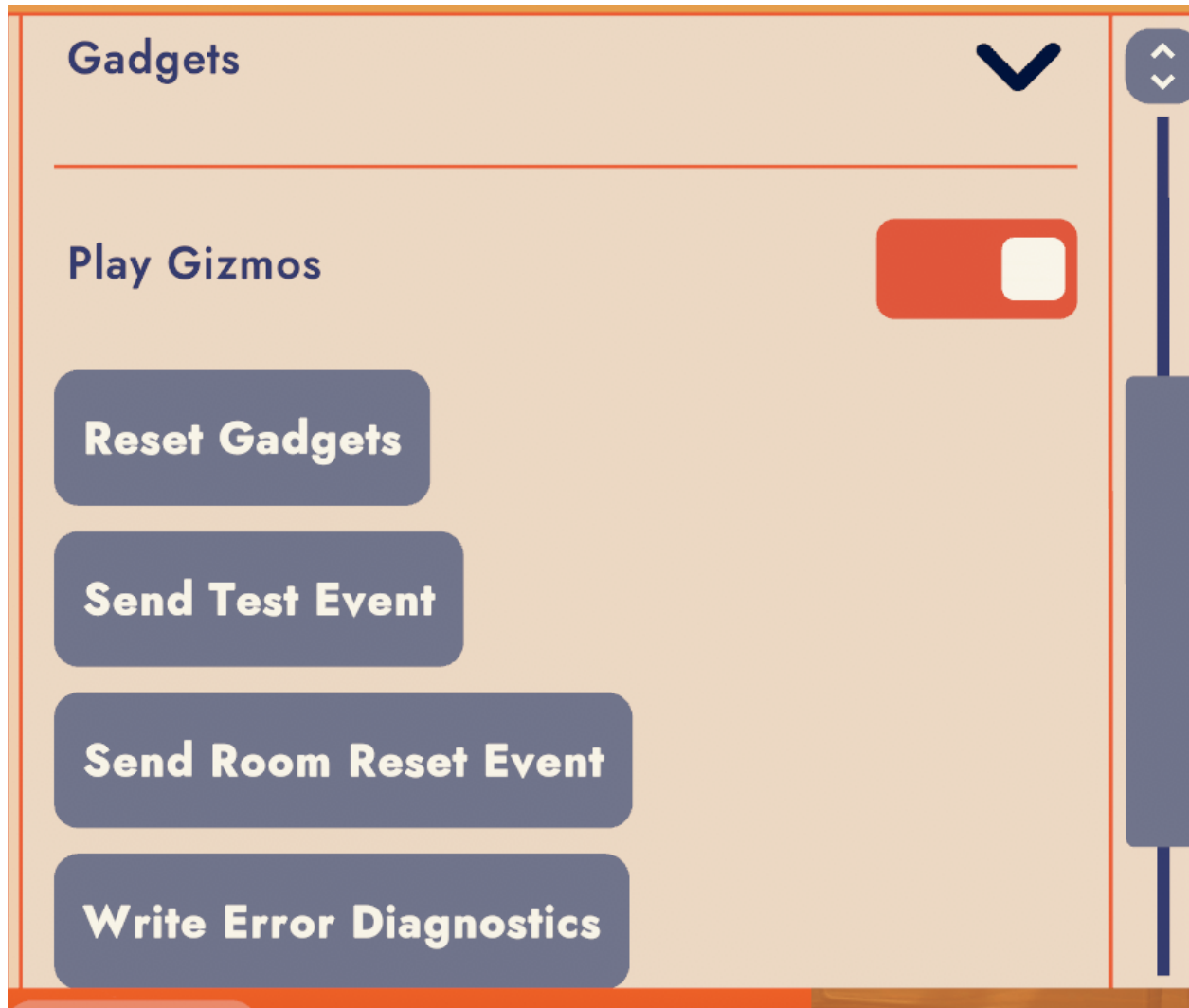
Development Console

Config Palette Tools Logging

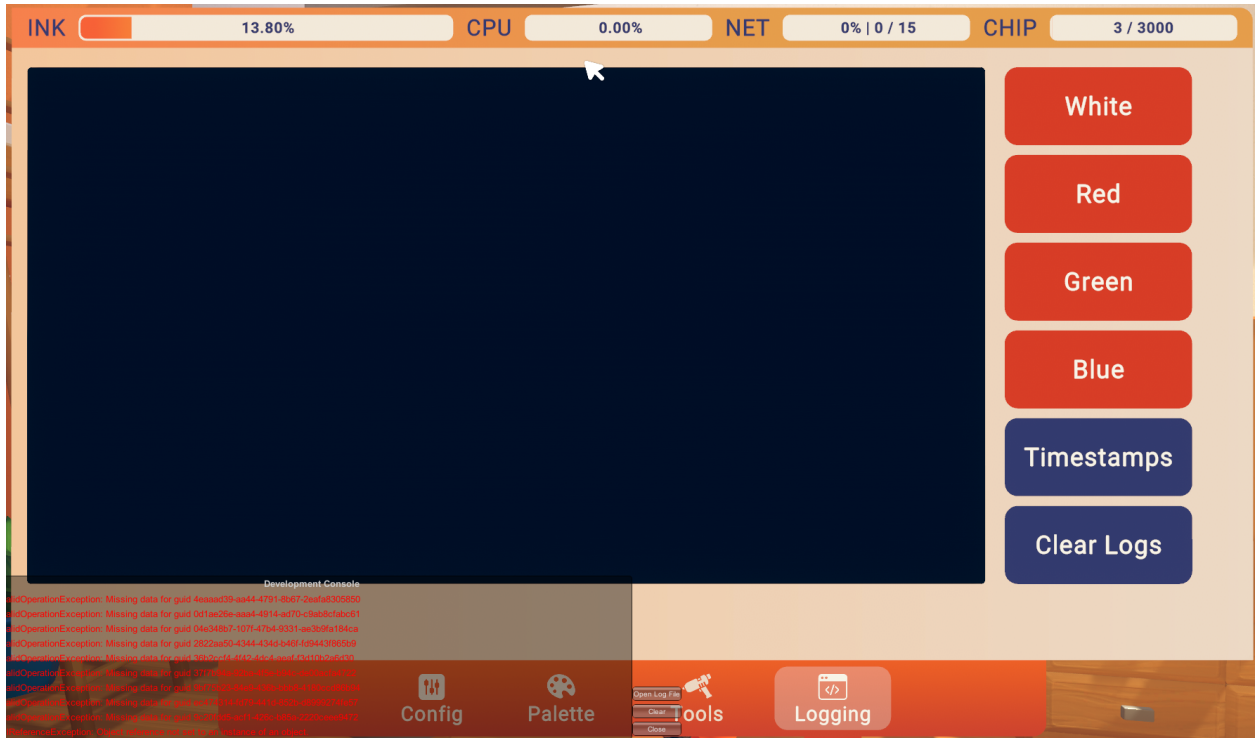
SETTINGS

- Create Tool Settings
- Snapping Settings (Surface)
- Gadgets
- General Settings

Current CV2 settings are all under “Gadgets”



I propose that we rename this foldout category to “Circuits & Debugging” and put the new options there.



Bonus points if we can put a shortcut to those settings on the log screen