

A decorative vertical bar on the left side of the slide, composed of a 5x5 grid of colored squares. The colors include shades of blue, green, orange, yellow, pink, and brown. Some squares contain white line-art icons: a piano keyboard, a robotic arm, a microscope, a computer monitor with a play button, and a lightbulb.

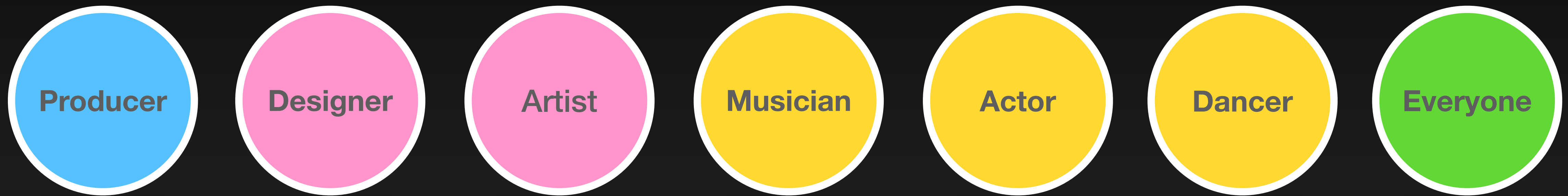
# Learning DigiShow

1

## Basic Concepts

Robin Zhang and Labs 2025

# Who likes DigiShow ?

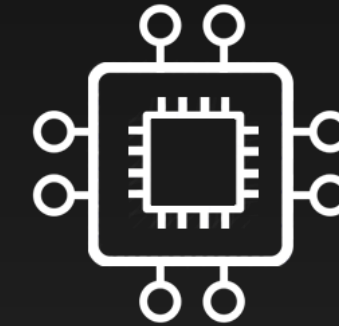


Suppose you are an immersive show producer, or an interactive media designer, artist, musician, theater person, dancer, magician or none of the above. We hope to discuss with you all: To consider objects, spaces, people and systems as co-performers. We want to use DigiShow to provide an easier workflow. Even for an ordinary person, every daily scene in life may be transformed into your mini 'disneyland'.

**What is DigiShow ?**



DigiShow is a lightweight control software designed for **performance scene** and **immersive space** with music, lights, displays, robots and interactive devices.



It serves as an easy-to-use **signal console**, also enables **signal mapping** between MIDI, DMX, OSC, ArtNet, Modbus, Arduino, Philips Hue and more digital interfaces.

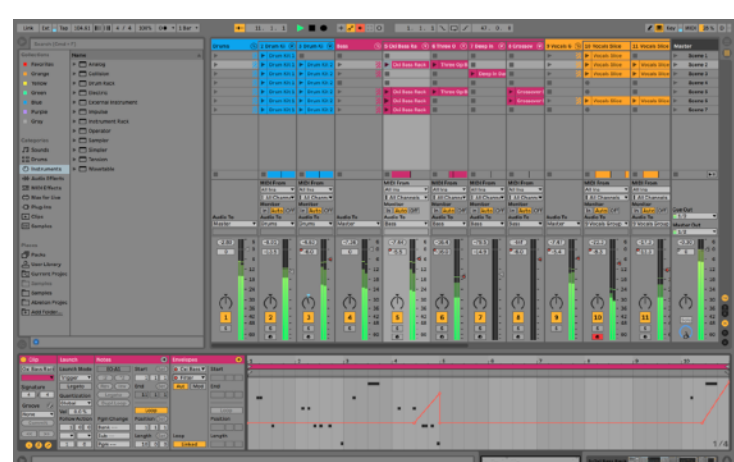




Programming extensions using Python, JavaScript, etc.



Interactive content creation using TouchDesigner, Unity, Unreal, etc.



Digital audio workstation such as Ableton Live, Logic, etc.



MIDI instruments and controllers

Virtual Pipe  
( Web Socket )

OSC

MIDI Bus  
IAC / loopMIDI

Hue 网桥

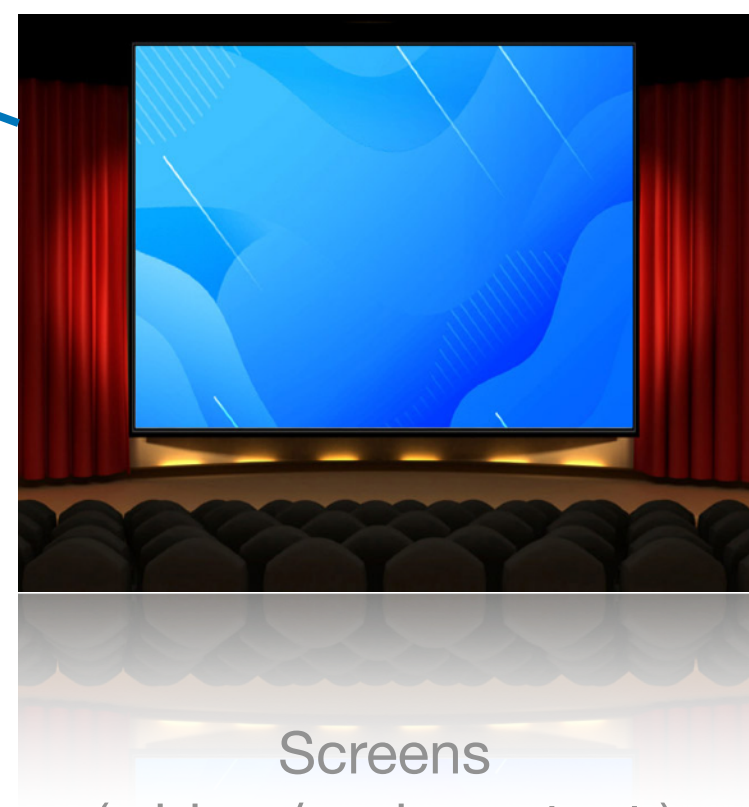
zigbee wireless

DMX-USB  
ArtNet

dmx



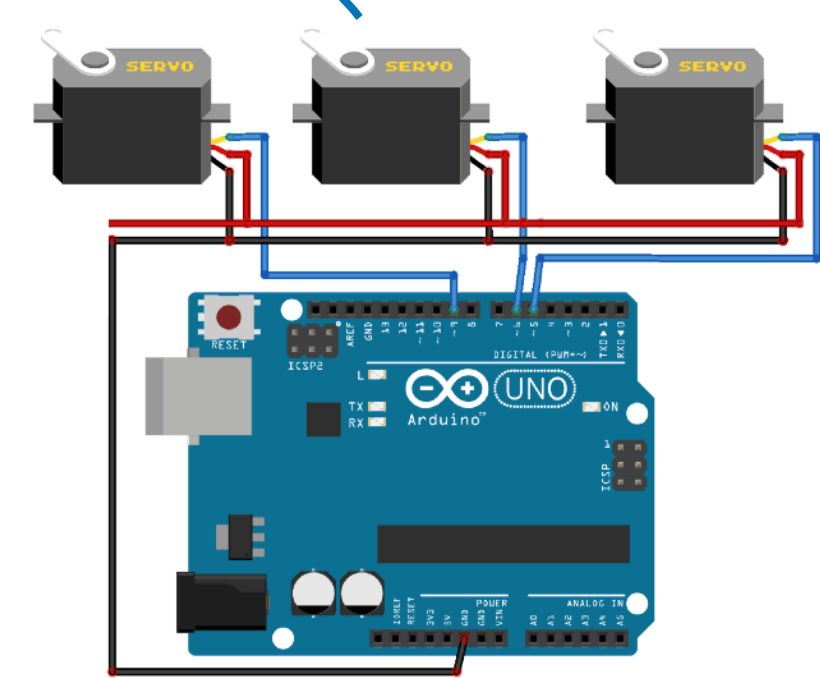
DMX stage lights  
LED pixels



Screens  
( video / web content )

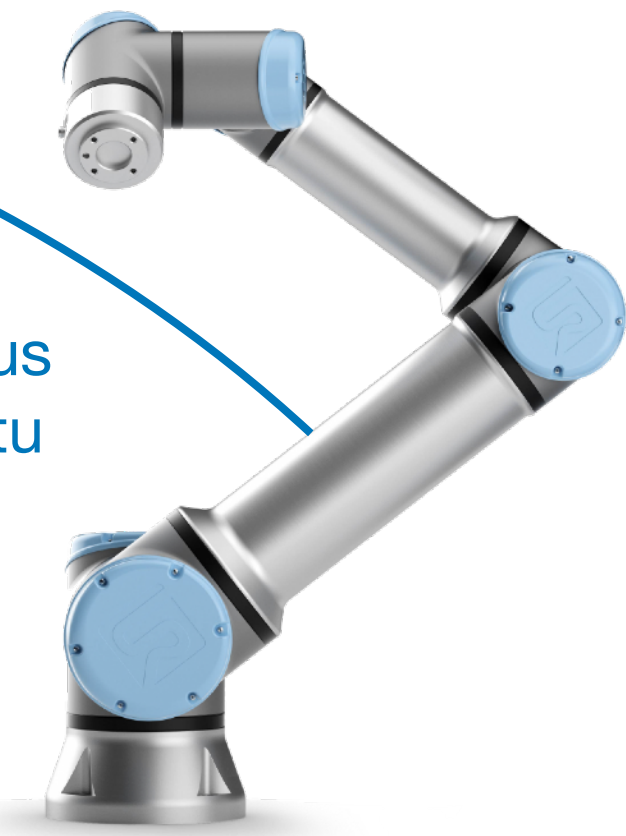


usb



Arduino with  
sensors, LED lights, servos, motors, etc.

modbus  
tcp / rtu



Industrial automation  
machines and robots

# DigiShow Signal Console

DigiShow itself is a simple and easy-to-use console software used to control various cross-media signals.



## Comparison with lighting console

Lighting consoles generally only control stage lighting, DigiShow supports more signal types.

The screenshot displays the DigiShow LINK software interface, which is designed for controlling various cross-media signals. The interface includes a top navigation bar with icons for menu, add, link, grid, and play/pause. The main area is divided into two sections: a grid of 25 preset buttons (Preset 1 to Preset 25) and a detailed signal processing section.

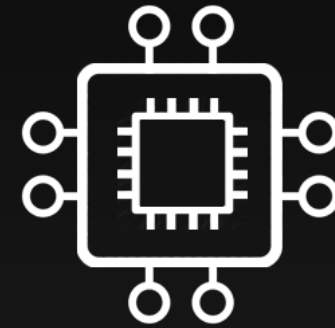
Callouts highlight the following features:

- Preset buttons:** A grid of 25 buttons, each representing a different preset signal.
- Output signal level fader:** A slider control for adjusting the output signal level.
- Input signal level indicator:** A visual indicator showing the input signal level.
- Output signal level indicator:** A visual indicator showing the output signal level.
- Input selection:** A dropdown menu for selecting the input signal source.
- Parameters of mapping and conversion between input and output signals:** A section for configuring the mapping and conversion parameters, including input-output mapping and output envelope settings.
- Output selection:** A dropdown menu for selecting the output signal destination.

The interface also includes a section for "Input-output Mapping" and "Output Envelope" parameters, which allow users to fine-tune the signal processing. The "Input-output Mapping" section includes sliders for "Input Range" and "Output Range", and a checkbox for "Invert Output Signal". The "Output Envelope" section includes sliders for "On Delay", "Attack", "Hold", "Decay", "Sustain", "Release", and "Off Delay".



# DigiShow Signal Mapping



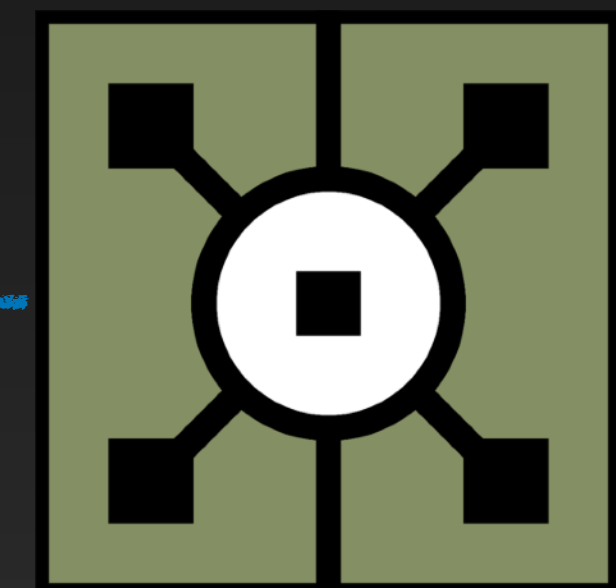
Ableton Live

**MIDI**

?

DigiShow

**OSC**



TouchDesigner

Enables signal exchange between various  
hardware and software



# **DigiShow Signal Mapping !**

**What do we create ?**

## Signal Mapping Example 1

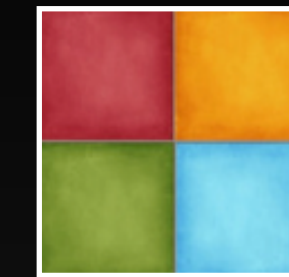
### Dancing Ink ( ferrofluids )



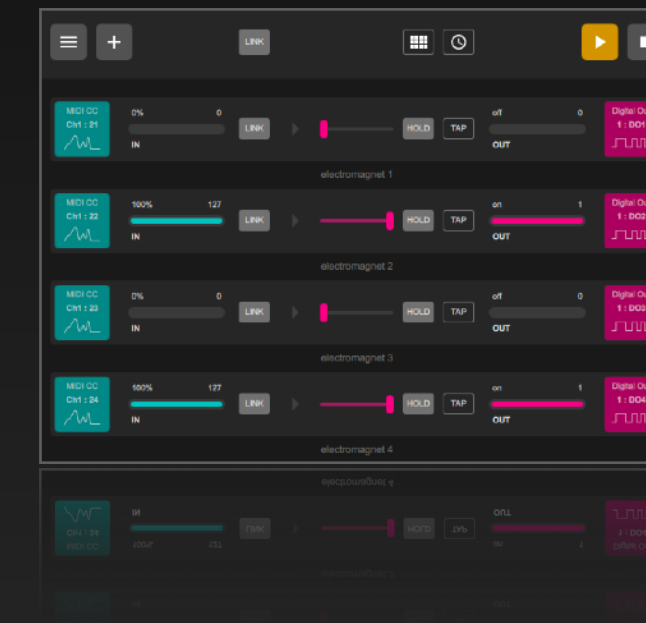
Ableton Live



Arrange and play drum rhythms and output MIDI signals synchronously



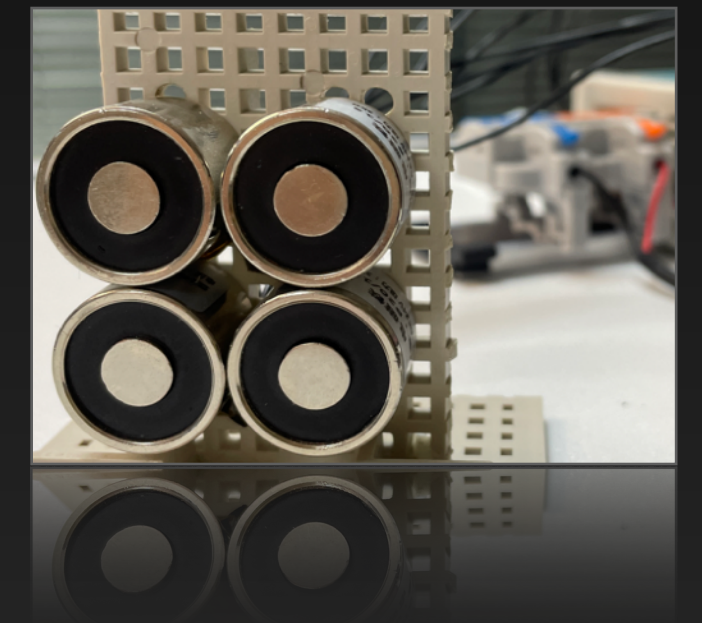
DigiShow



Receive MIDI signals and map them to Arduino IO switch signals



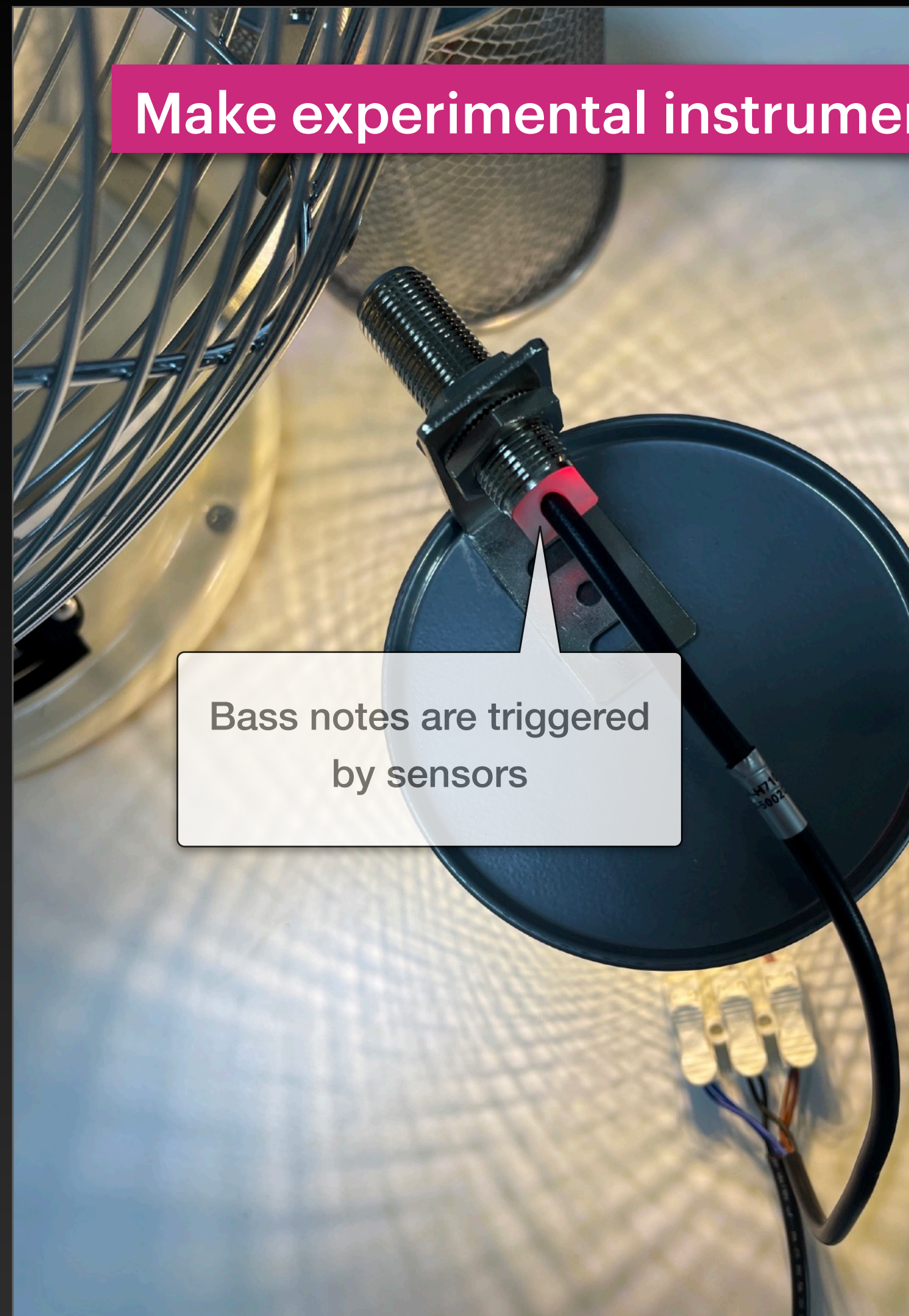
Arduino



Receive switch signals to drive the connected electromagnets

**Completely no coding required!**

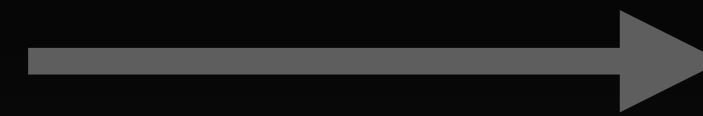




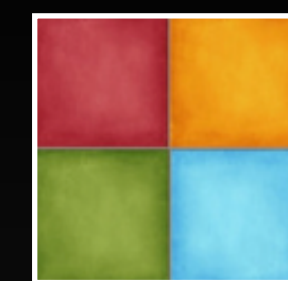
Make experimental instrument !



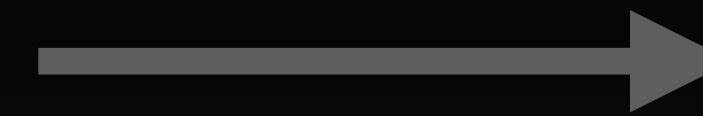
Arduino



sensor signals



DigiShow



MIDI notes



Ableton Live



Connect all sensors to Arduino

Drum notes are triggered by sensors

Signal Mapping Example 2

“ Jam with Things ”



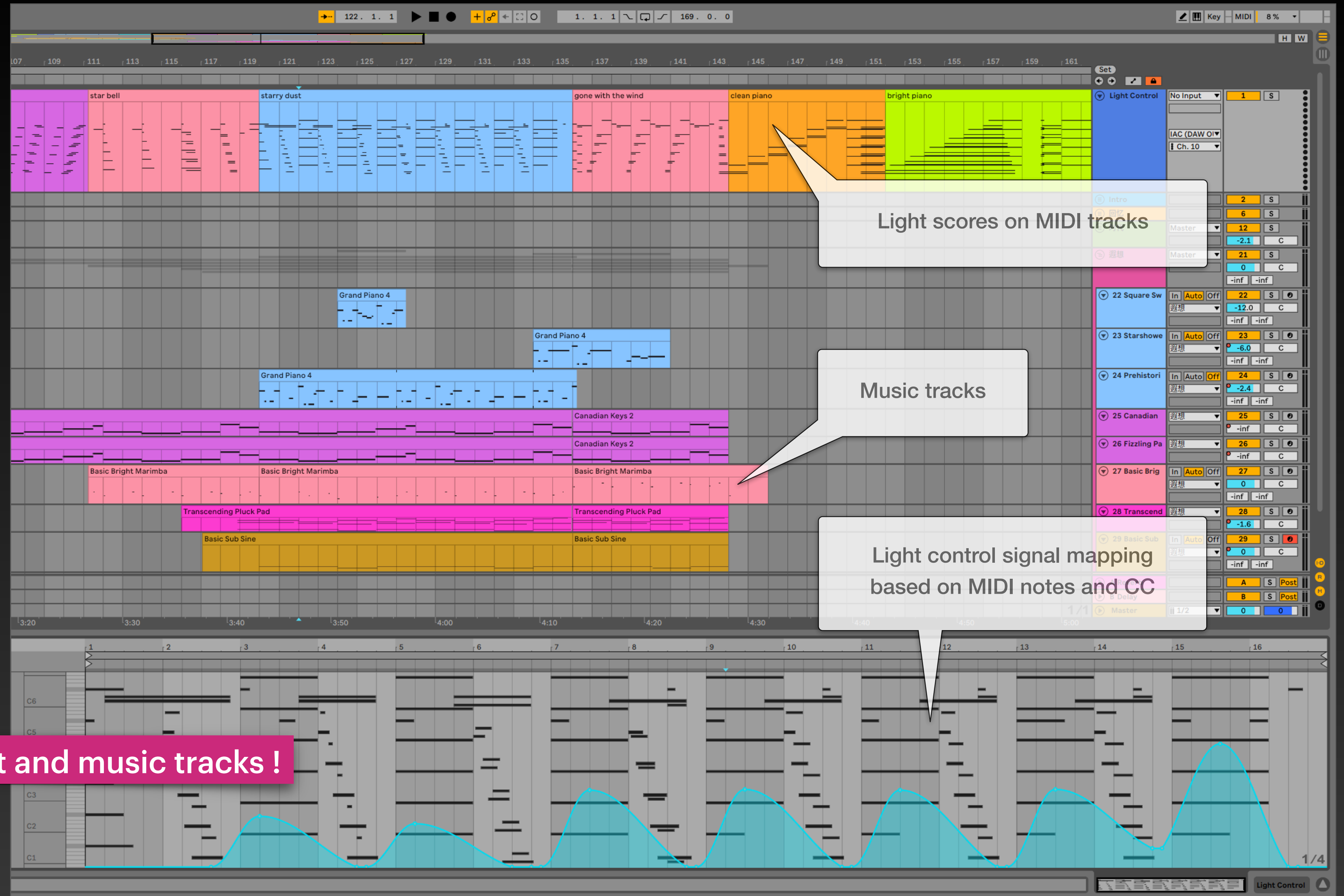
# Signal Mapping

## Example 3

### Music-to-Light Show in Ableton



Production of both light and music tracks !



# DigiShow Application Fields

- Interactive media **art installations**
- Interactive **performance props**, experimental musical instruments
- Cue control for **small stage**, linking audio, lights, screens, props
- Scene design for **immersive spaces** (shows or games)
- Scene design for **parties** and public events
- Scene design for **smart homes** or daily life environments

# DigiShow Design Philosophy

- All are **performers**

DigiShow requires a group of hardware and software playing their own roles to work together. They are all considered as co-performers along with objects, spaces, people and systems.

- The creator is the **director**

Through DigiShow, we share the language to communicate with various hardware and software to direct the performance.



# Learning DigiShow

1 Basic Concepts

2 Installation and Basic Usage

3 Signal Mapping

4 Common Operations

5 Artistic Lighting Applications

6 Digital Music Applications

7 Interactive Applications

8 Expressions and Scripts