Art-World Compatibility Layer

How to Hang and Sell Your Blinky Goodness as Art

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Hello! I am Chris Combs, a full-time artist based in DC.

I went to art school for photojournalism and began learning electronics from Adafruit and Hackaday, etc., as a New Year’s resolution in 2013.

I spun my first boards in 2014 and immediately became addicted.

Here are some glowing things I’ve made.
“Road Ahead.” 336 digits, PIR + RCWL-0516, 14xIS31FL3733
“Rxqtta-Stzne.” 9 hosts, NRF24L01+ radios w/ election protocol
“Madness Method” (with David Greenfieldboyce). 216 computer-controlled lanterns outside for three months. PCA9685, diff-i2c, Pi 4, three hot controllers w/ arbitration by AVR hardware watchdog
“One-to-Many.” 7200 segments, 288x “18:88,” 48xIS31FL3733, Pi4
Introduction

Think of an area of life that has...

- jargon
- an ever-changing landscape of external dependencies
- exclusionary attitudes towards newbies
- lots of technical skills required for success

That’s right--It’s the world of TECHNOLOGY ART!
Introduction

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I think that if you are capable of hacking technology, you can probably hack it in the world of art too.

CAVEATS:

I ain’t talking about The Art World: blue-chip, investments, megagalleries, MoMAs.

There are much more interesting, smaller pools of art that we can splash in!
What Makes it Art?
What Makes it Art?

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If you say it’s art, it’s art.
No, like, physically. What will art people expect from my blinky coolthing?
What People Expect From an Artwork

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1. PLUG AND PLAY
Maaaybe a power button to turn it on.
What People Expect From an Artwork

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2. EASY TO HANG

- “Is your art WIRED”?  
- They mean: does it have a taut mechanical wire for hanging  
- Or, “Tabletop or pedestal” describes non-wall artworks.

Let’s cover the standards for hanging art.
Hanging: “Wiring”

A wire connects two points for use with a wall hook.

Use “D-ring” hangers. They have em at $BIG_BOX_HOME.

Heavy? Two-screw version.

Use “picture hanging wire” and look up a tutorial.

Don’t use “eye screws.” Over a few years they pull out.

pix ganked from internets ty randos <3
Hanging: “Keyholes”

I <3 “keyhole slots.” Two screws in the wall, add art.

You can buy screw-on plates

Or! Integrate the cutouts into your design!!

HURDLE: Plaster walls.

HACKY FIX: large-head nails.
“Hanging Systems”

Some venues: “Your work has to be ready to hang with our $BRAND Hanging System”

I try to avoid these. “Wired” pieces generally work okay.

Ask lots of questions!

Homes never have these.
Hanging: Bad Stuff

Don’t use any of these. Trust me
What People Expect From an Artwork

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3. NO UPDATES ;_;

- Updating an artwork to fix bugs is weird and bad
What People Expect From an Artwork

4. NO NETWORK CONFIGURATION
Try to avoid network connectivity
Or make it user configurable, eg ESP_WifiManager
What People Expect From an Artwork

5. CORD COLOR CHOICES

Most walls are light. “Can I get a white cord?”

- Use DC5.5 jacks, provide white 2M/6’ extension.
- Or USB, ideally USB-C, w/ white cables.

-- Avoid tiny pins w/ the loveable + goofy 6-pin USB-C connector. Or cute adapter pcb
What People Expect From an Artwork

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6. EASILY REPLACED POWER SUPPLY

Common voltage + amperage, shippable quickly

Keep track of the voltage/current/connector in case this happens years later. Spreadsheet?
What People Expect From an Artwork

7. ARTIST SIGNATURE

Posca paint pen, marker, ?

Sign and date your creation w/ year

Back or front, you pick
What People Expect From an Artwork

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8. STABLE MATERIALS

I know, technology, but:

- Use materials that are stable over time
- Avoid adhesives that degrade: Duct tape, electrical tape
- Avoid stuff that oxidizes over time (cheap “Dupont” jumpers)
- If it scratches easily, protect the surface
What People Expect From an Artwork

9. INSTRUCTIONS

Print out:
- How to hang it
- How to plug it in
- What to do if it freezes
- How to remove dust from it
- How to reach you
What People Expect From an Artwork

10. IT JUST DOESN’T QUIT

Artwork should function reliably.
Even if unplugged. Some people put electronic artworks on timers. Some venues turn off the breakers each night
Which segues nicely into...
Taking Your Gnarly Blinkjawn to the Next Level of Reliability
Protect your creation!

- Add MOVs to suppress static zaps.
- For digital signal lines, TVS diodes.

-- IP4220CZ6 protects 4 signal lines in a ~3x3mm footprint.
Making It Reliable - 1. Power Hardening

- Supply PTCs protect against shorts or latch-ups
- Imagine future tin whiskers

What are Tin (and Zinc) Whiskers?

- “Hair-Like” Crystalline Structures that May Grow from mostly pure Tin (or Zinc) Finished Surfaces
- LENGTH: Up to 10 mm (Typically < 1mm)
- DIAMETER: from 0.006 to 10 μm (Typical ~ 1 μm)
- Grow from the Base Not the Tip
- Growth Mechanism(s): UNKNOWN! Diffusion Processes within Finish or on Surface are likely involved, but what drives diffusion into specific grains and then launches them OUT from surface?

Fundamental Research is INCOMPLETE
Making It Reliable - 1. Power Hardening

- Consider adding reverse polarity protection
Making It Reliable - 2. Filesystem Hardening

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- Read-only filesystem

-- Raspbian’s OverlayFS for the win!!

- Or minimize FS writes.

- Simulate a full filesystem w/ dd. Graceful recovery?

- Set up logrotate and clean temp files w/ cronjob
Making It Reliable - 3. Software Hardening

- Wrapper script to restart the software. Or use supervisord
- Reset buses or devices upon failure?
- For maximum reliability, like outdoor art, consider an off-board hardware watchdog
Making It Reliable - 3. Burn It In

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Break its network connection and run it continuously for a few weeks.

- Arduino: Watch out for millis() timer overflow bugs every ~50 days

- Pi: w/ no network or RTC the clock will rewind on reboot... Double-check any FS time assumptions in your code
Venue Expectations

To share your glorious creation with the world, you will need:

- Title
- Medium list, date, dimensions
- Photographs
- Price and edition size

Perhaps:

- Bio
- Artist’s statement
Venue Expectations: Title

Title your artwork.

“Untitled 1” is a great name for a Notepad document but not for art

You can be as literal as you want. “LED Ball #1” is perfect

I recommend unique-to-you titles
Venue Expectations: Medium List

Comma-delimited list of the main visible materials, like “LEDs, PLA, aluminum.”

- Not, like, part numbers. Summarize as “electronics” or “circuitry” or “hardware” (meaning screws)

- Keep it short. (I’m bad at this)
We’ve all seen Bad Art Language. You don’t have to do that! Just clearly explain why you made this specific thing.

Extra sprinkles:
- How it connects to larger concepts or themes in the world
- How the materials have particular meaning to you
- Inspiration: Historical events, other artists
Venue Expectations: Artist’s Statement

Here’s a totally synthetic* example of a bad statement.

* mostly harvested from a real world example, sob

❌ clearly explain why you made this specific thing
❌ How it connects to larger concepts or themes in the world
❌ How the materials have particular meaning to you
❌ Inspiration: Historical events, other artists

In my work I make connections between the seen and unseen, which is a metaphoric invocation of the fallibility of cognition. I was conceived as an encounter for intersubjective exchanges and merge multiple perspectives into an embodied and shared experience where the primordial and the critical actively unfold in the enjoyment of unorthodox interpretation.
Venue Expectations: Artist’s Statement

I don’t really know what that other statement was trying to say.

✅ Clearly explain why you made this specific thing
✅ How it connects to larger concepts or themes in the world
✅ How the materials have particular meaning to you
⚠ Inspiration: Historical events, other artists

In this piece, “Merry-Go-Round,” I use vintage LEDs and found objects to recreate my childhood memories of riding a cherished carousel.

I feel that as always-online people we are riding a merry-go-round every day, with all of its glee and whirling chaos.

It’s my hope that asking you to touch this interactive piece makes you smile—and perhaps awakens a similar nostalgic memory for you.
Venue Expectations: Price

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Pick a price for your artwork. You could say “NFS” (not for sale).

Many venues take 30–50% of the listed price for themselves. Purchasers and venues hate when an artwork’s price changes over time.

So from the start, just price your artwork high enough that if 40% is taken off, you’ll still be happy. Stick with that price until it sells. Don’t change prices by venue
Venue Expectations: Edition Size

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Is it a one-off?
- “unique object”

Are you making more than one?
- Decide in advance how many: “edition size.”
- Each gets a unique number in that series. Ex: “#3 of 10”

You can say “open edition” if you don’t want to be tied down. Some buyers won’t like that.
Venue Expectations: Bio

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Just include these ingredients and keep it short.

- What’s your story? In a sentence or two
  
  *Ada Lovelace is a mathematician and writer in Marylebone.*

- What do you like to make?
  
  *She focuses on “poetical science,” engineering that is guided by intuition and imagination.*
If you like, list a cool achievement or two

Ada became the world’s first programmer when she developed Bernoulli-number algorithms for the Difference Engine.

What’s a fun fact about yourself?

She loves betting on horses, and in her spare time she runs a gambling syndicate.
Venue Expectations: Photographs

Videos are great for the internet but you’ll probably need JPEGs for art venues.

- Blank background
- Tidy cords
- Even lighting without harsh shadows
- Angles: Straight on, “3/4 view”, and “detail” images
Venue Expectations: Photographs

This is a crummy photo.
It has a bunch of unrelated stuff visible
The lighting is too dark
Venue Expectations: Photographs

This is an OK version.
The lighting is better, but still not great
I’m not happy with it yet
Venue Expectations: Photographs

Look at how much other stuff is visible!

Lighting/exposure is dark
Still slightly dark, but much cleaner frame.

(This is the “3/4” angle I mentioned)
Find Venues
How to Find Venues: Types of Venue

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(USA-centric. These definitions are fuzzy)

MUSEUM:

OWNS art. SHOWS it. Never sells it

COMMERCIAL GALLERY:

SELLS expensive art only from “represented” artists. They take a huge cut but employ salespeople
How to Find Venues: Types of Venue

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NONPROFIT GALLERY:

This is the sweet spot. They show lots of kinds of art and vaguely try to sell it. Takes a 30-50% cut.

NON-TRADITIONAL VENUES:

Coffeeshops, hotels, pop-ups, DIY spaces: Invent your own fun! Direct sales, so you’re on your own, but 0% cut. Rare to get promotion or insurance.
How to Find Venues

Thus informed... Build a list of venues:

- DuckDuckGo Places or Google Maps, “gallery”
- Yelp
- Go to the nearest art supply store and ask the clerk

Use this list to...
Find Shows

- Responding to open “calls for entries”
- Networking
- Asking nicely
How to Find Shows - “Calls for Entries”

When a venue wants to do a show, they’ll put out a CALL.

“We are looking for SCULPTURES” or “BLUE art” or “works exploring the fluffiness of cats” w/ deadlines + requirements
How to Find Shows - “Calls for Entries” - Types

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**GROUP SHOWS:** “Group” refers to random artists smashed together because their works all fit a theme. Easiest!

**SOLO SHOWS:** A given artist shows a bunch of pieces.

**OPEN HANGS:** Rarely... First-come, first-serve.
How to Find Shows - “Calls for Entries”

Organizations promote calls via:

- EMAIL NEWSLETTER (groan)

- THEIR OWN WEBSITE ... who would check this?

- INSTAGRAM

- occasionally ZUCKERNET or BIRDSITE
How to Find Shows - “Calls for Entry” Tools

All of these discovery methods stink.
I say, let the computer do the walkin’!
So here are some automated methods
C4E Tools 1. Snooping On Their Websites

“RSS” feeds notify you when a site publishes a new page

Add each art venue site to RSS readers like Feedly or NetNewsWire
C4E Tools 1. Snooping On Their Websites

No RSS feed? Use VisualPing. visualping.io; free to a point
It watches for text or visual changes
- Venue’s ‘Opportunities’ page, weekly
Pings you when changes occur
C4E Tools 2: Filter and Read Their Dumb Newsletters

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(I love you, art venues)

Sign up for email newsletters from each venue.

Set up a filter for “CALL” or “ENTRIES” or “OPPORTUNITIES”

drink a bunch of $HOT_BEVERAGE and skim through them weekly.

- Subject lines often conceal opportunities
C4E Tools 3. Keeping On Track

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You don’t have to apply right away.

Use a task tracker like Trello, Remember the Milk or $YOUR_OS_TASK_LIST. Save ‘em up.

Set early due dates so you can ask questions ("Do you have electrical outlets?")
C4E Tools 3. Keeping On Track

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Copy the important parts of the call into your task management tool:

- Topic
- **Key dates**, including when the show will occur
- **Contact info**

Sometimes this all vanishes after the deadline, especially Google Forms
How to Find Shows - “Calls for Entries”

Some entry platforms are browseable:

- CaFÉ
- Submittable
- EntryThingy

These are not a great use of time IMHO

But search for local version! e.g. Virginia’s “Art League” has awesome lists of regional opportunities weekly.
How to Find Shows - Networking

Check out a venue at an “opening” or “artist’s talk.”
They’ll promote upcoming opportunities sometimes
Also check out their vibe
If a show seems annual, add it to your calendar + 10 months
How to Find Shows - Asking Nicely

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Is their site vague or uninformative?

Literally just email them a few sentences asking how you could apply to show your art at their venue

> attach a JPEG of your cool creation!
How to Find Shows

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I’m at about a 15% acceptance rate right now
So it may take a few tries to locate a show
Awesomeness stands atop a mountain of rejection letters
Keep going!
November 7: Featured on “WETA Arts” (DC PBS)

Through Dec 4: Westconn PAC Gallery, Danbury, CT

April–June: McLean Project for the Arts, McLean, VA

May–July: PG Publick Playhouse, Hyattsville, MD

June–July: Arlington Art Truck, Arlington, VA