Game Jamming Faster, Weirder, Better With Procedural Generation

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Level Design

Currently Testing

Playout

Best Levels Played So Far

Say Hello!

#whatis X Y - Ask me what the thing is at those co-ordinates!
#whatgame - Ask me what game I'm working on right now
#whatsnext - Ask me what things I'm working on this week

Status

I've been working for 0 hours and 0 minutes!

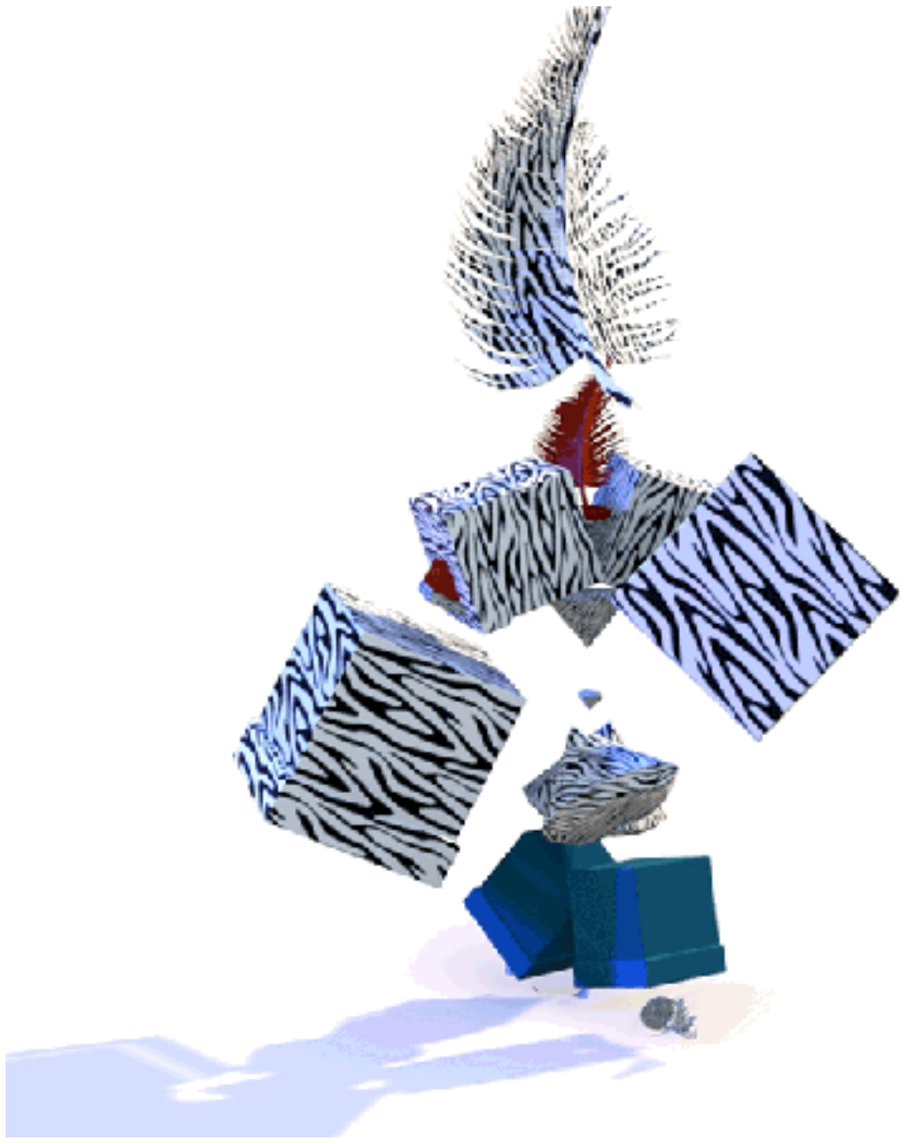
I'm currently designing levels for a game I'm making. This session, I've played $LEVELS$ levels, and made over $MOVES$ moves!

If you're interested in my games, you can play and download them online:

gamesbyangelina.itch.io

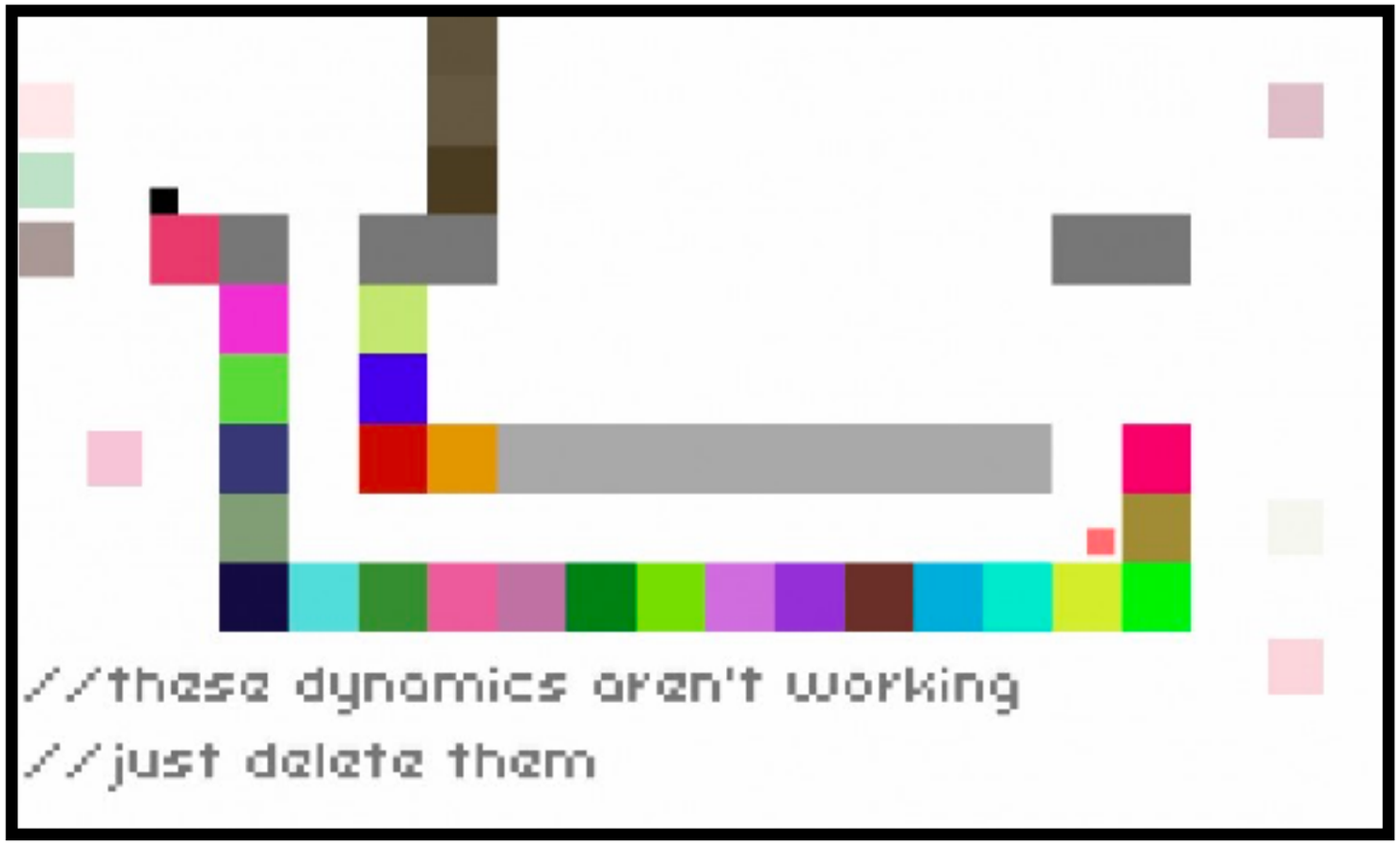
ANGELINA

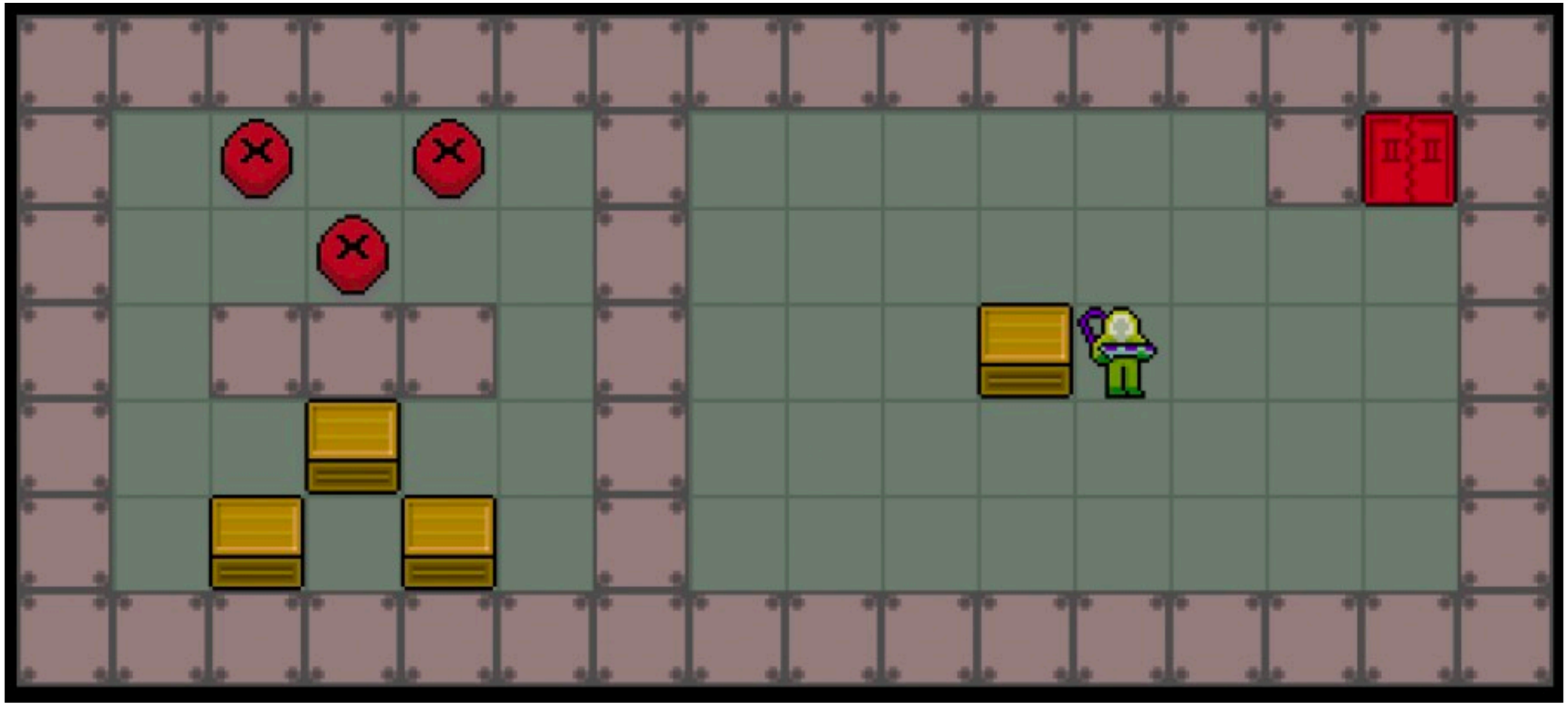
www.gamesbyangelina.org



PROCJAM

www.procjam.com


//these dynamics aren't working
//just delete them



Rogue Process

www.rogueprocess.run

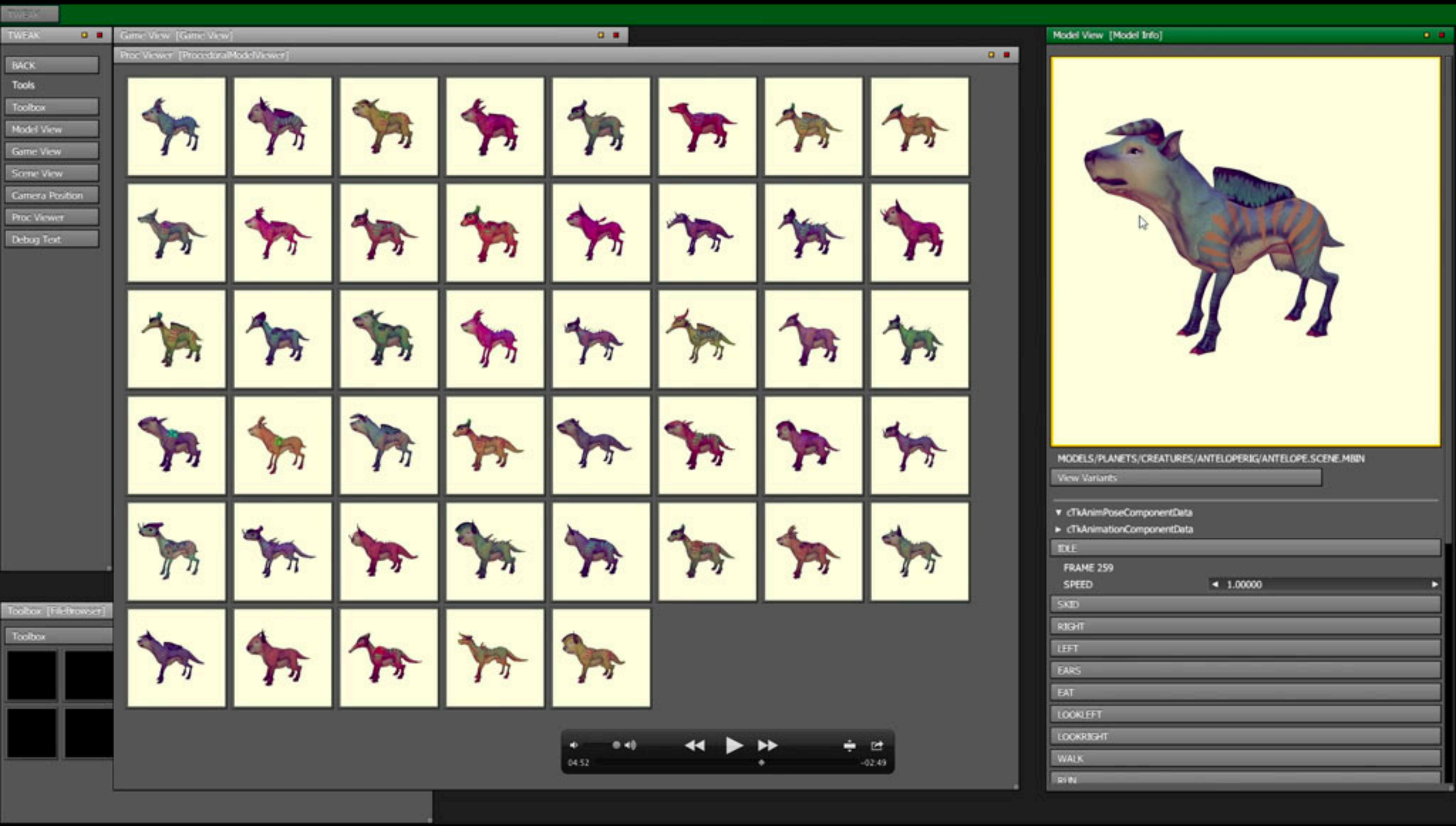
```
//explain what a procedural
//generator is here
  procedural generators;
  are bits of code();
  that make things;
//TODO: slide art
```

Generating things isn't about code, though - it's a unique creative skill!

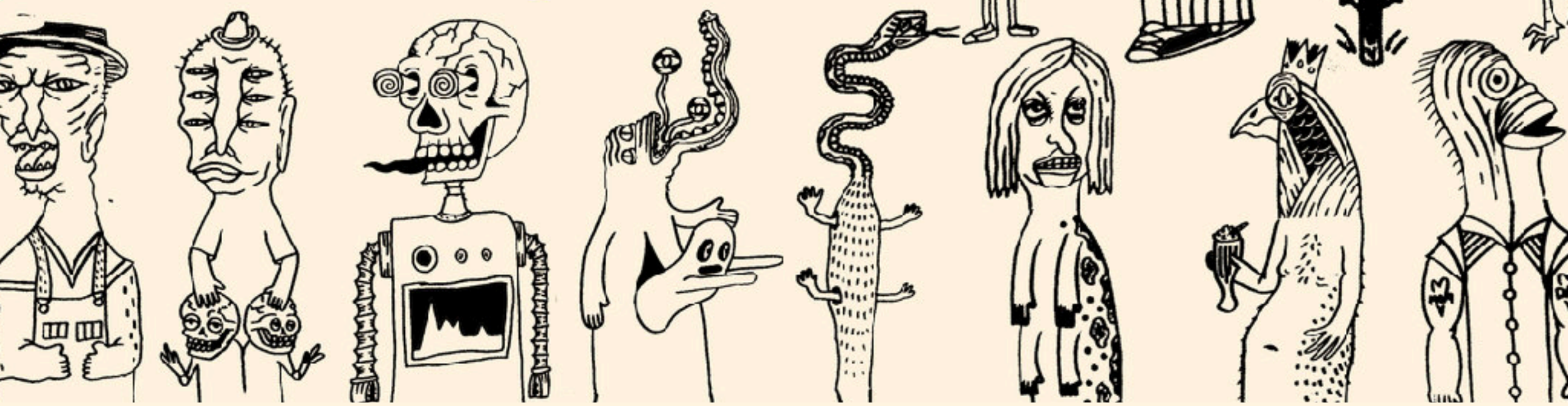
IMG: Saskia Freeke (@sasj_nl)

Some generators perform finishing touches

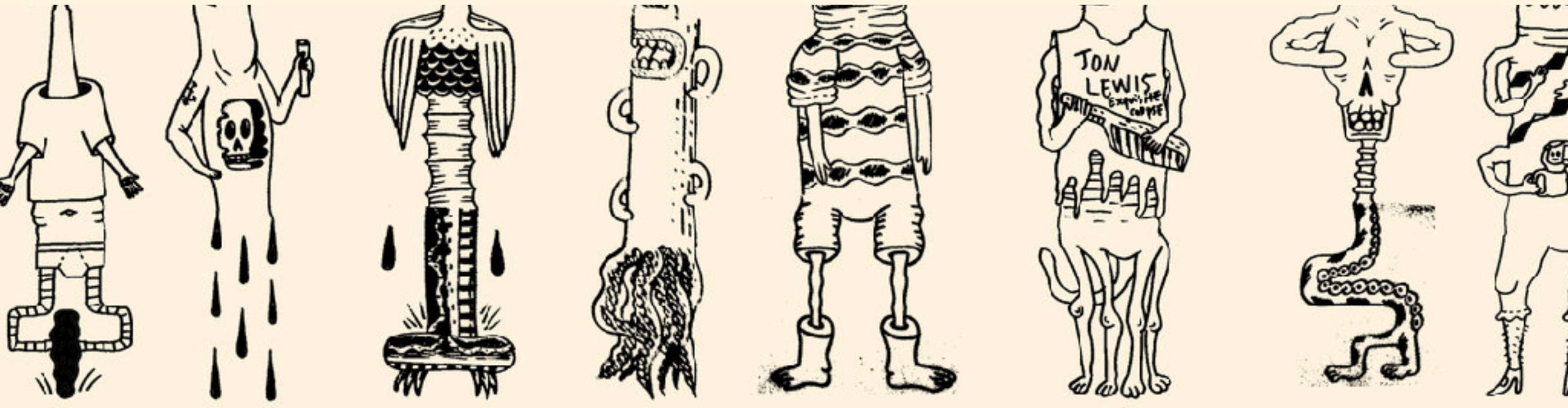
Other generators make lots of decisions

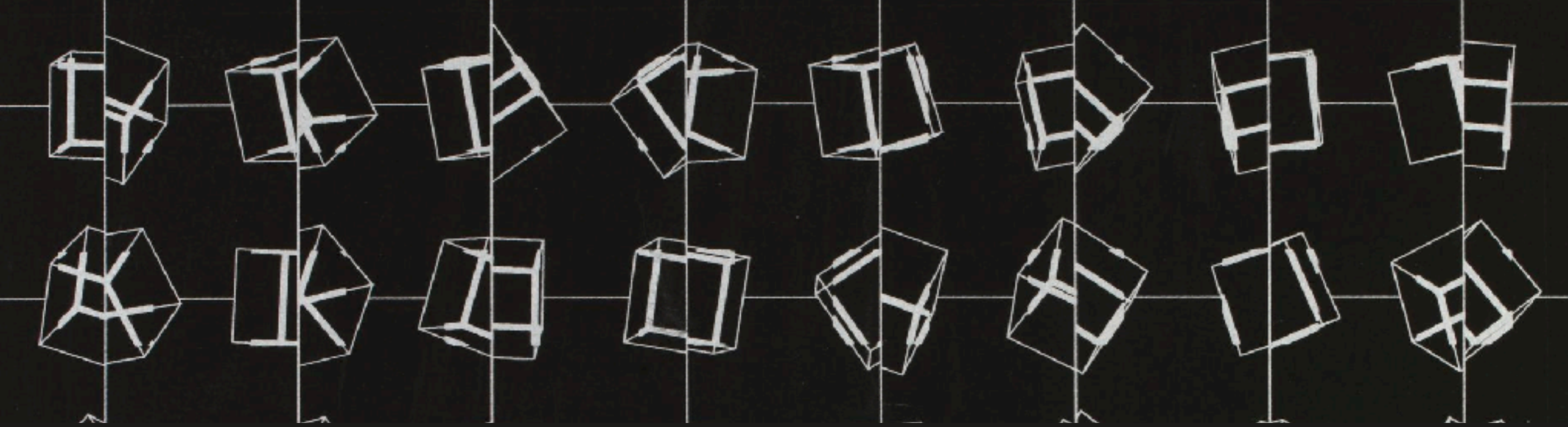


Procedural generation can sound really complicated

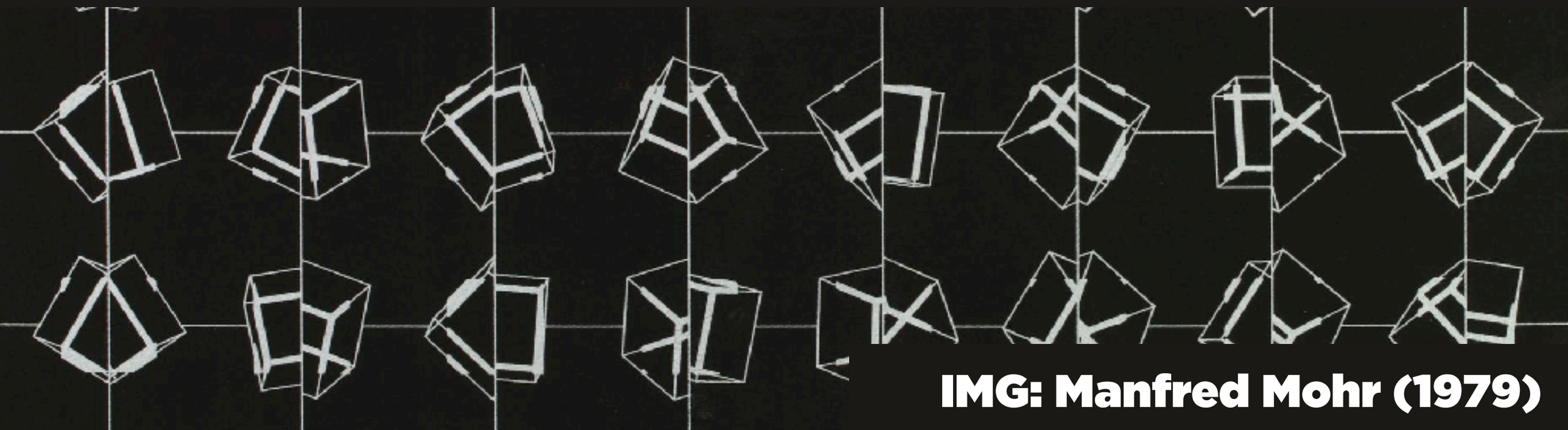


But generating things can be simple and elegant





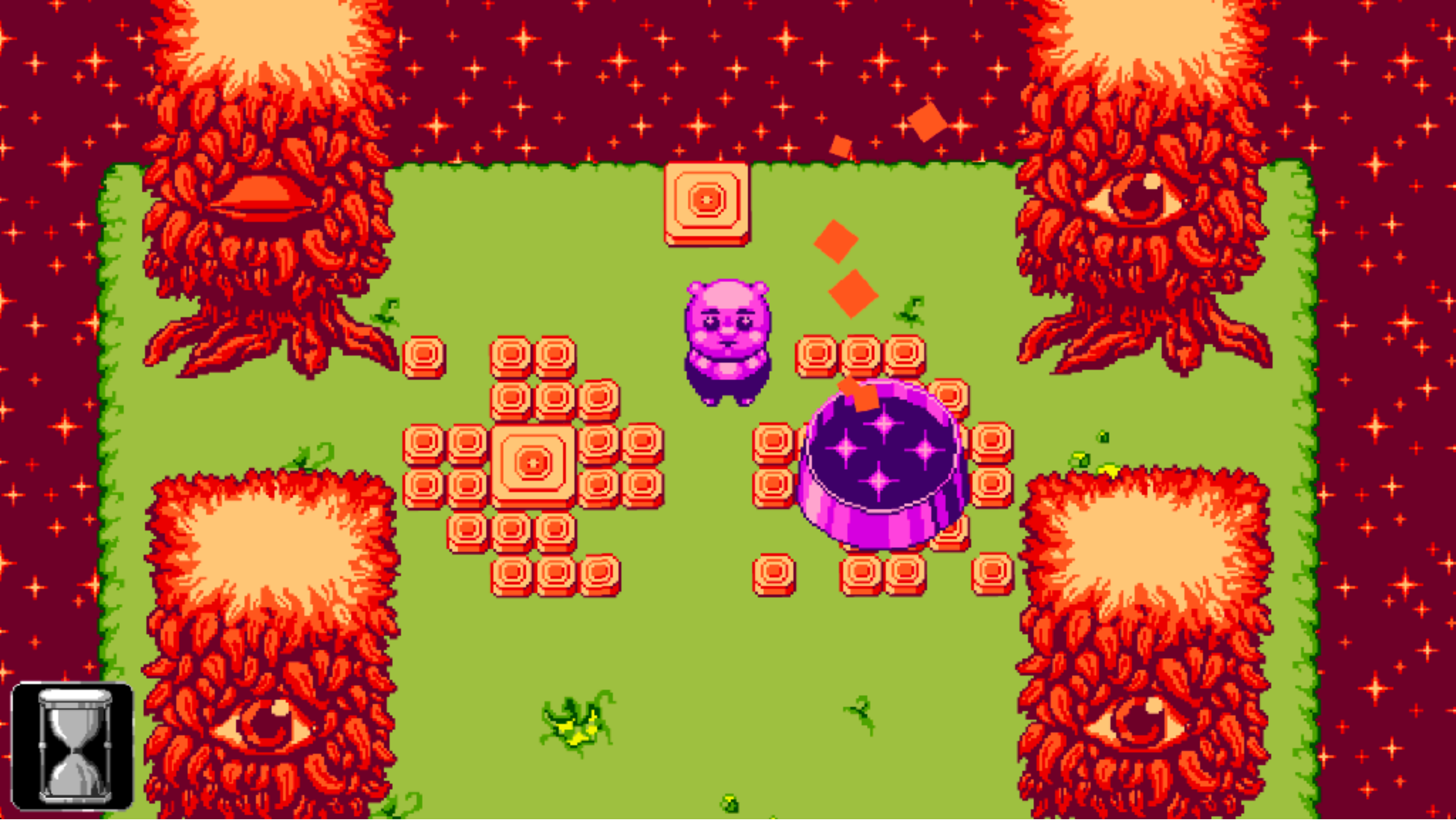
And you can even use it in a game jam!



IMG: Manfred Mohr (1979)

KID KOZMIK

Procedurally generated colour schemes
using ideas from colour theory

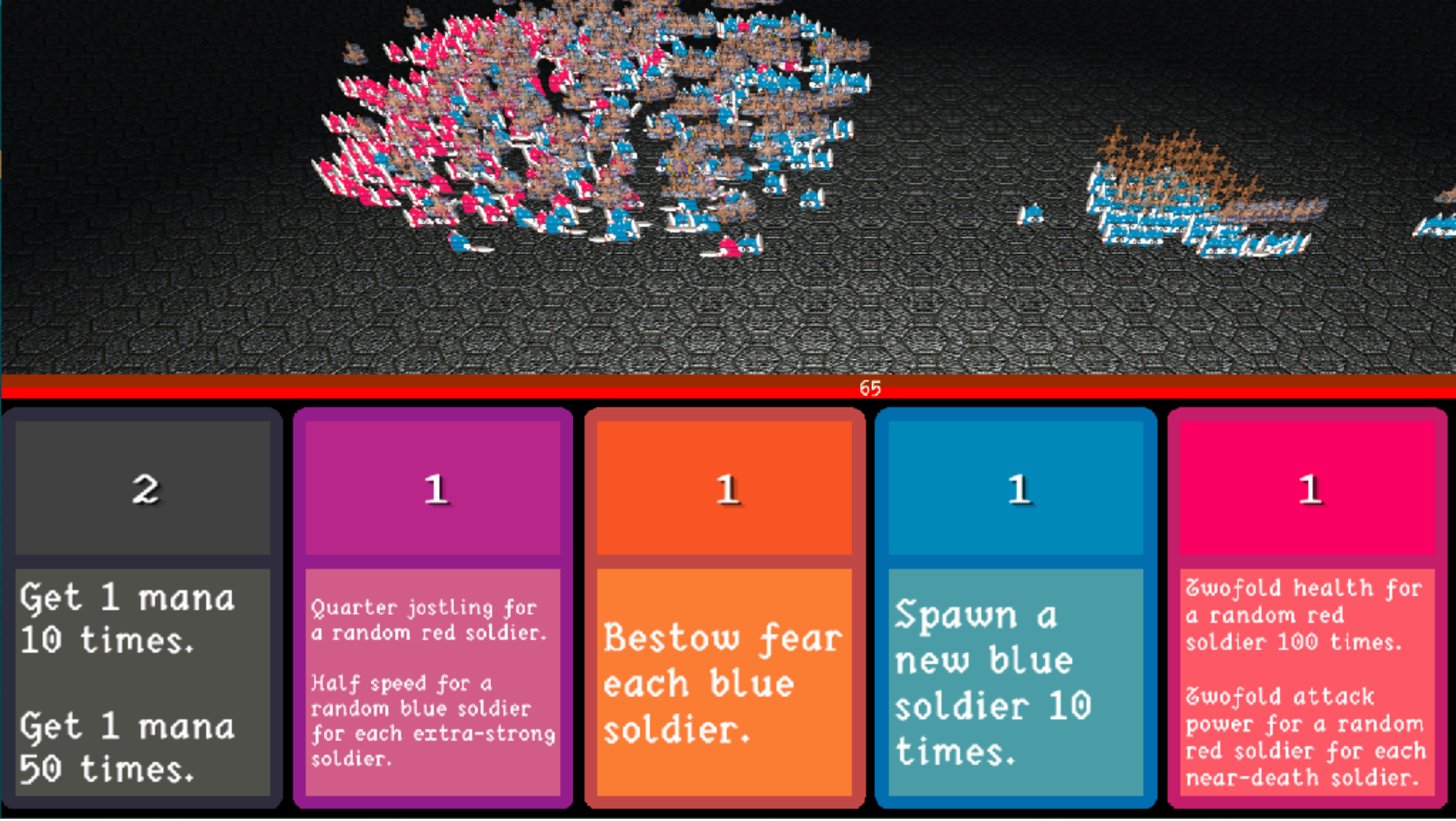


KID KOZMIK

Procedurally generated colour schemes
using ideas from colour theory

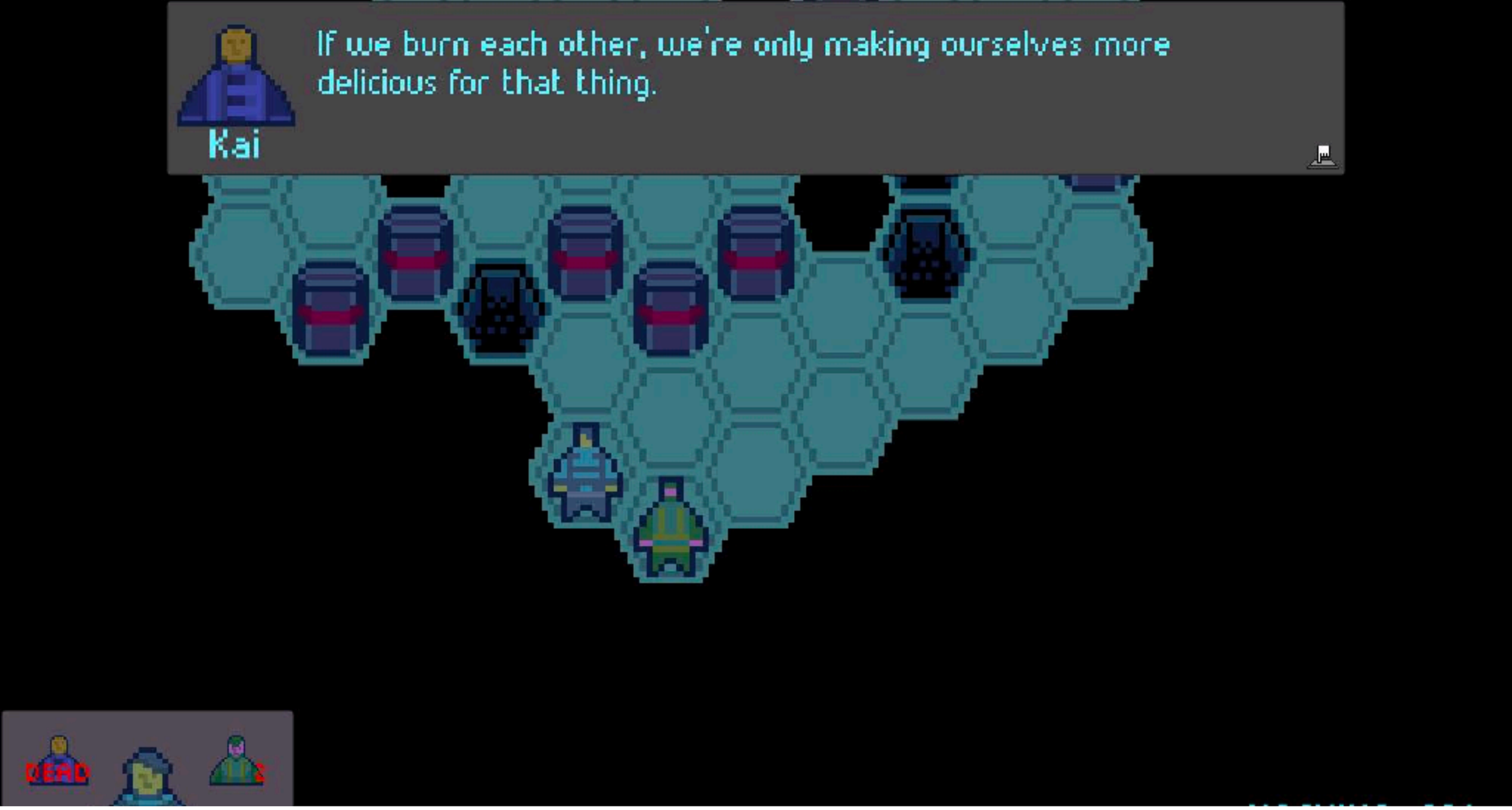
Random Access Character

Glued random 3D models into the shape of characters,
animated with a bunch of random walk cycles



Chaos Witch

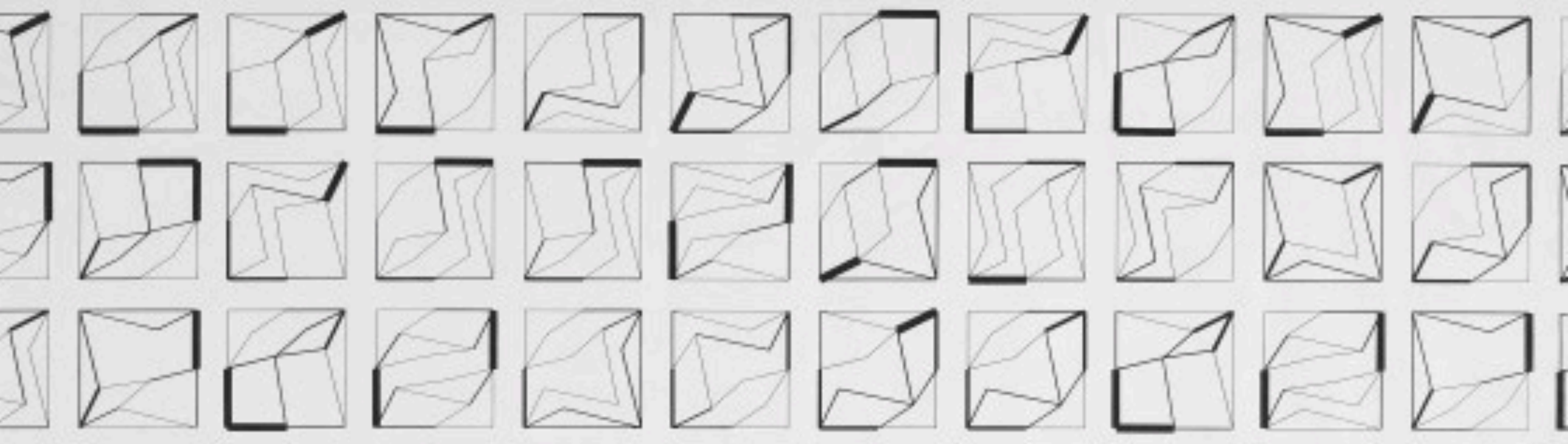
Randomly generated rules which the player can choose from to affect the game's outcome



Xeno Friends

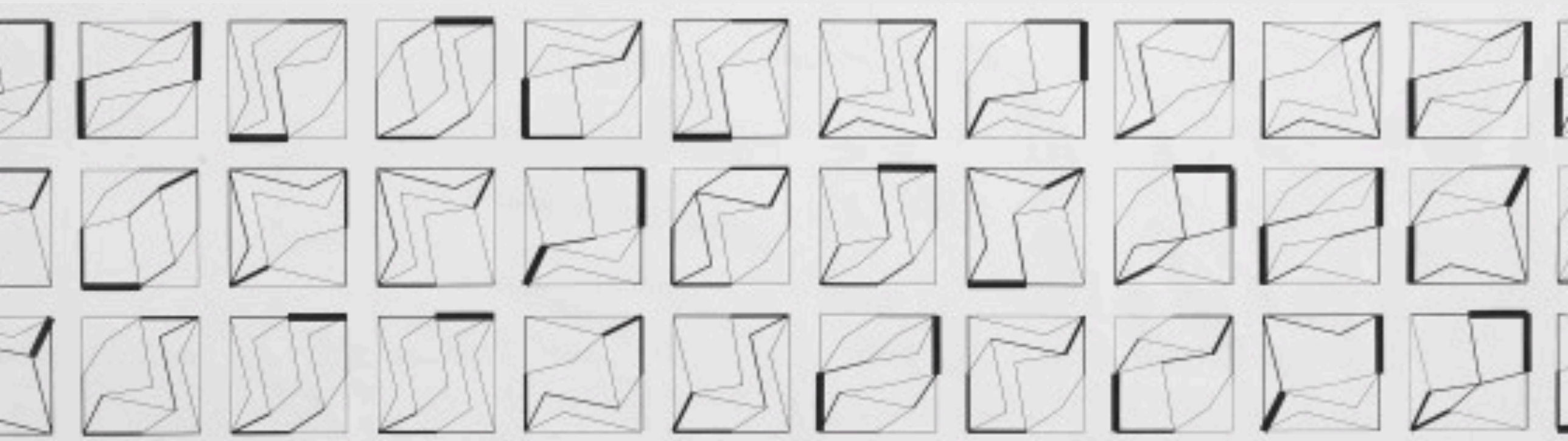
Procedurally generated dialogue from individual lines tagged with special rules

Game jams are mostly about moving forwards.



Whatever you do,

make it **additive**

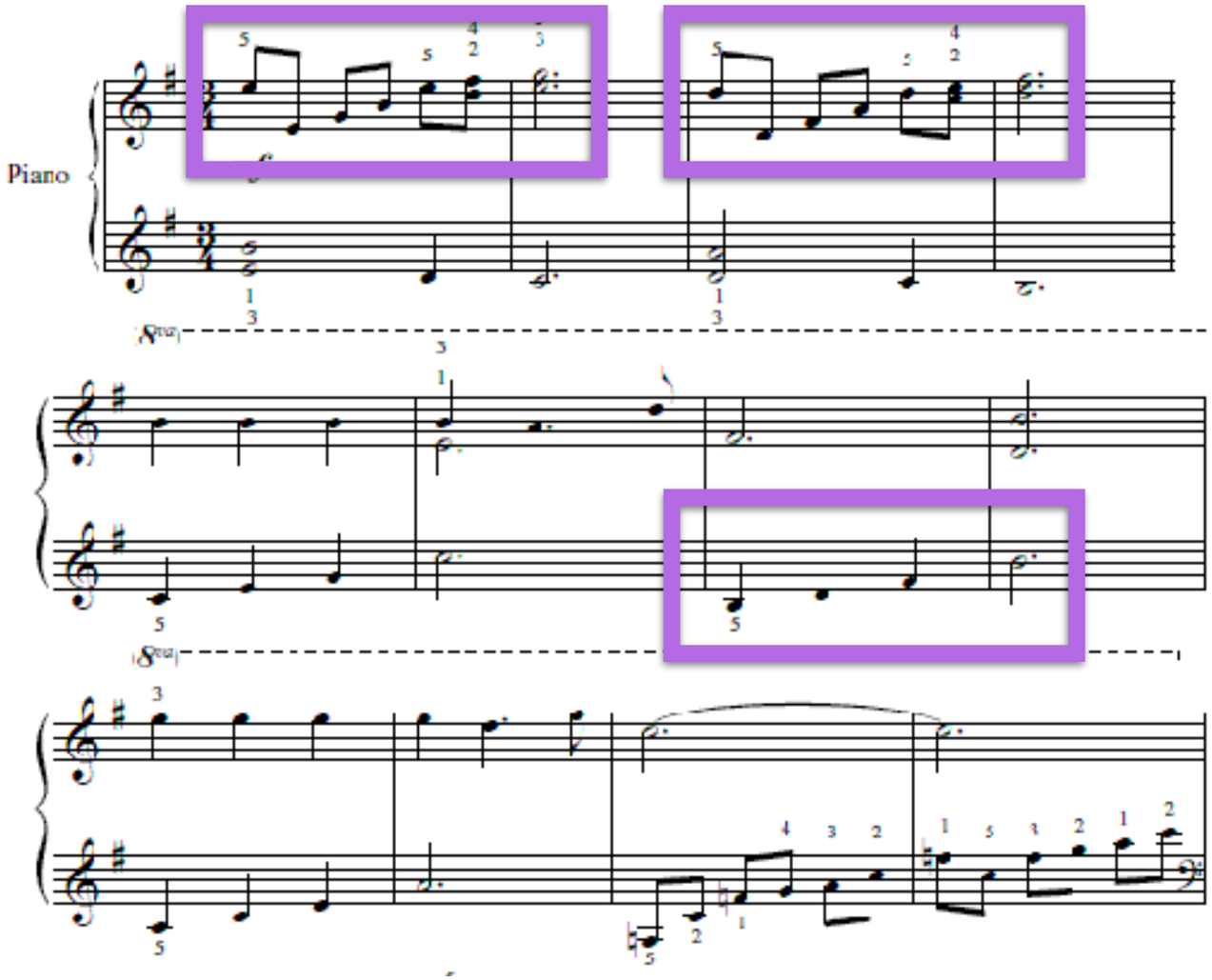


Replacement Grammars

“Templates For Stuff”

IT WAS A DARK AND
STORMY NIGHT

It was a dark and stormy night.



It was a <SOMETHING> and <SOMETHING> night.

START: “It was a <ADJECTIVE> and <ADJECTIVE> night.”

START: “It was a <ADJECTIVE> and <ADJECTIVE> night.”

START: “It was a <ADJECTIVE> and <ADJECTIVE> night.”

ADJECTIVE: “dark”, “stormy”, “foggy”, “rainy”, “calm”, “wet”, “cold”,

START: “It was a <ADJECTIVE> and <ADJECTIVE> night.”

ADJECTIVE: “dark”, “stormy”, “foggy”, “rainy”, “calm”, “wet”, “cold”,

START: “It was a dark and <ADJECTIVE> night.”

ADJECTIVE: “dark”, “stormy”, “foggy”, “rainy”, “calm”, “wet”, “cold”,

START: “It was a dark and <ADJECTIVE> night.”

ADJECTIVE: “dark”, “stormy”, “foggy”, “rainy”, “calm”, “wet”, “cold”,

START: “It was a dark and <ADJECTIVE> night.”

ADJECTIVE: “dark”, “stormy”, “foggy”, “rainy”, “calm”, “wet”, “cold”,

START: “It was a dark and stormy night.”

ADJECTIVE: “dark”, “stormy”, “foggy”, “rainy”, “calm”, “wet”, “cold”,

START: “It was a wet and foggy night.”

ADJECTIVE: “dark”, “stormy”, “foggy”, “rainy”, “calm”, “wet”, “cold”,

START: “It was a cold and calm night.”

ADJECTIVE: “dark”, “stormy”, “foggy”, “rainy”, “calm”, “wet”, “cold”,

```
PERSON = HEAD + BODY + LEGS

HEAD = sunhat, top hat, short hair

BODY = blouse, turtleneck, Hawaiian

LEGS = jorts, long skirt, waders,
```

Grammars can generate lots of things!

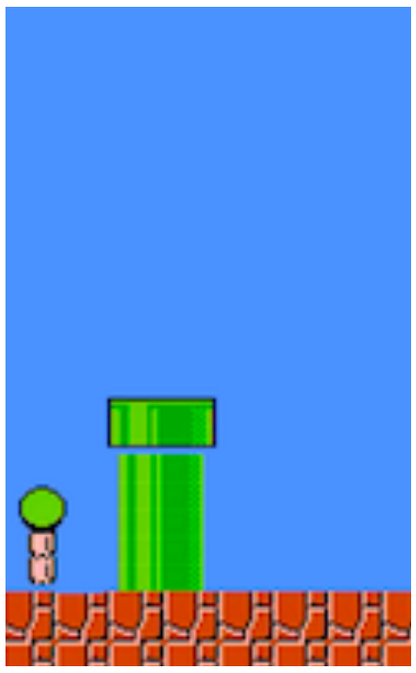
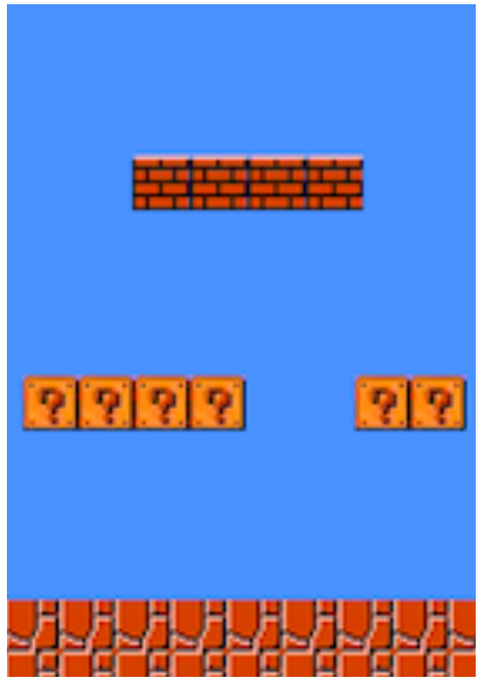
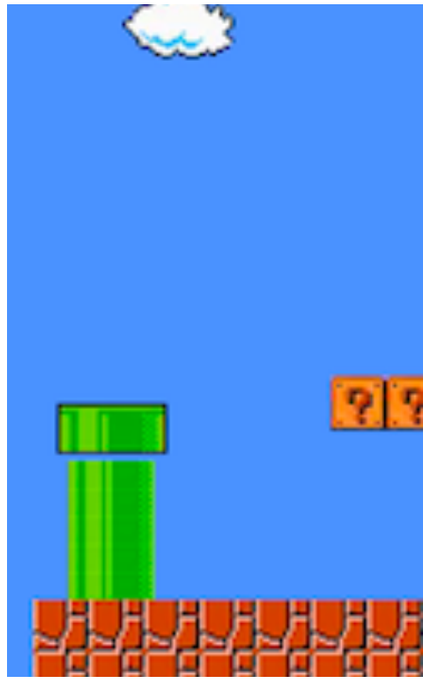
```
PERSON = HEAD + BODY + LEGS

HEAD = sunhat, top hat, short hair

BODY = blouse, turtleneck, Hawaiian

LEGS = jorts, long skirt, waders,
```

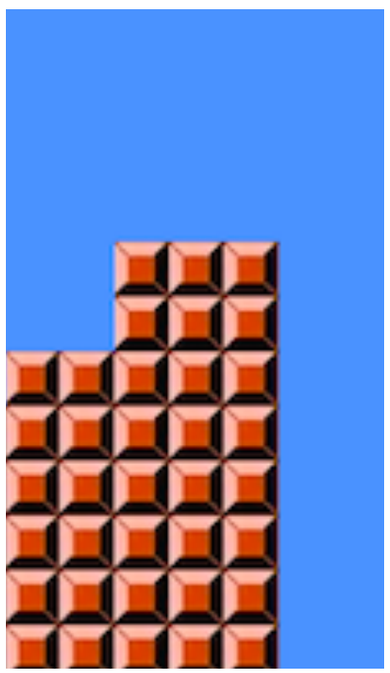
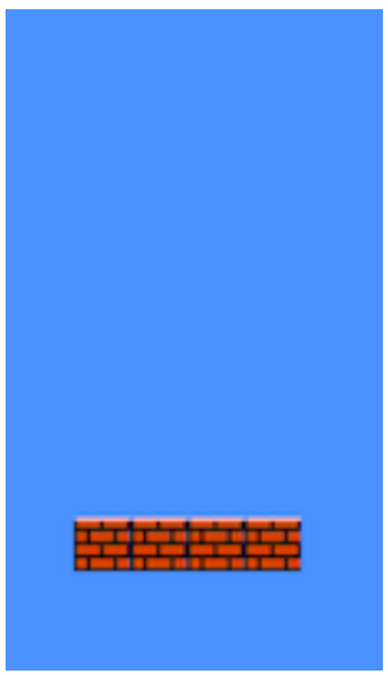
Grammars can generate lots of things!

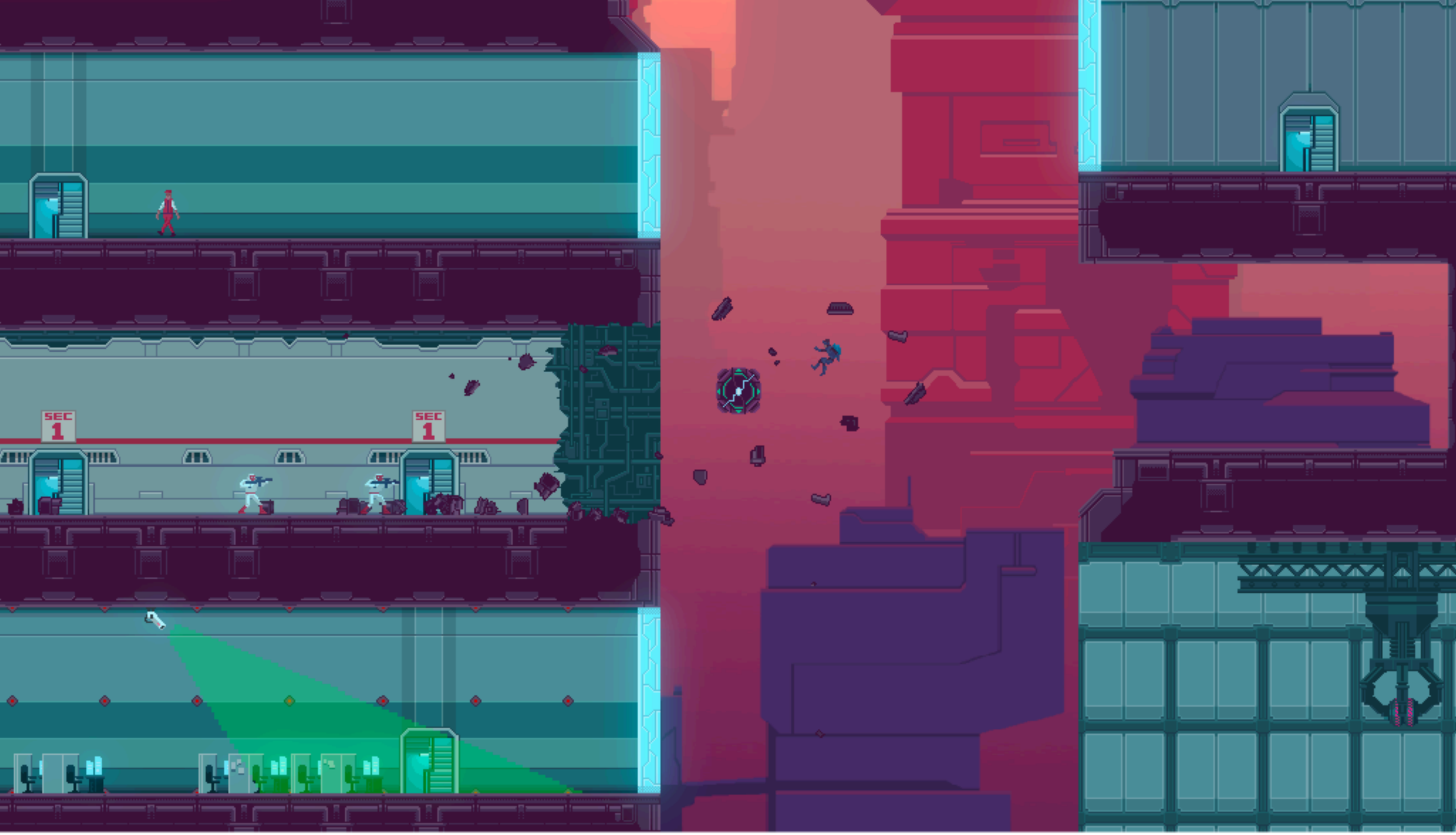
```
SONG = INTRO + VERSE + BRIDGE +…

INTRO = …

VERSE = …

BRIDGE = …
```

Grammars can generate lots of things!

LEVEL = SAFE_BIT + DANGEROUS_BIT + SA

SAFE_BIT =  ,  , 

DANGEROUS_BIT =  ,  ,



Grammars are easy to extend, and extensions provide great value

Locations

Single: America, China, Europe, Russia, Africa, Japan, Korea, Mexico, Brazil, Canada, Nigeria,
Region: America, Asia, East Asia, South Asia, West Asia, Africa, North Africa, South Africa, Europe, West Europe, East Europe, North Europe, Oceania, Pacific, Atlantic,
Cities: Boston, Portland, Rekyavik, Zurich, Manila, Jakarta, Karachi, Nagoya, Tehran, Khartoum, Recife, Katowice, Harare, Accra, Lagos, Kano, Aberdeen, Dubai, Moscow,
Modifiers: New, Neue, Nouv, Nova,

Fictional Political Conglomerates

Prefixes: Inter-, Pan-, Cross-, Trans-

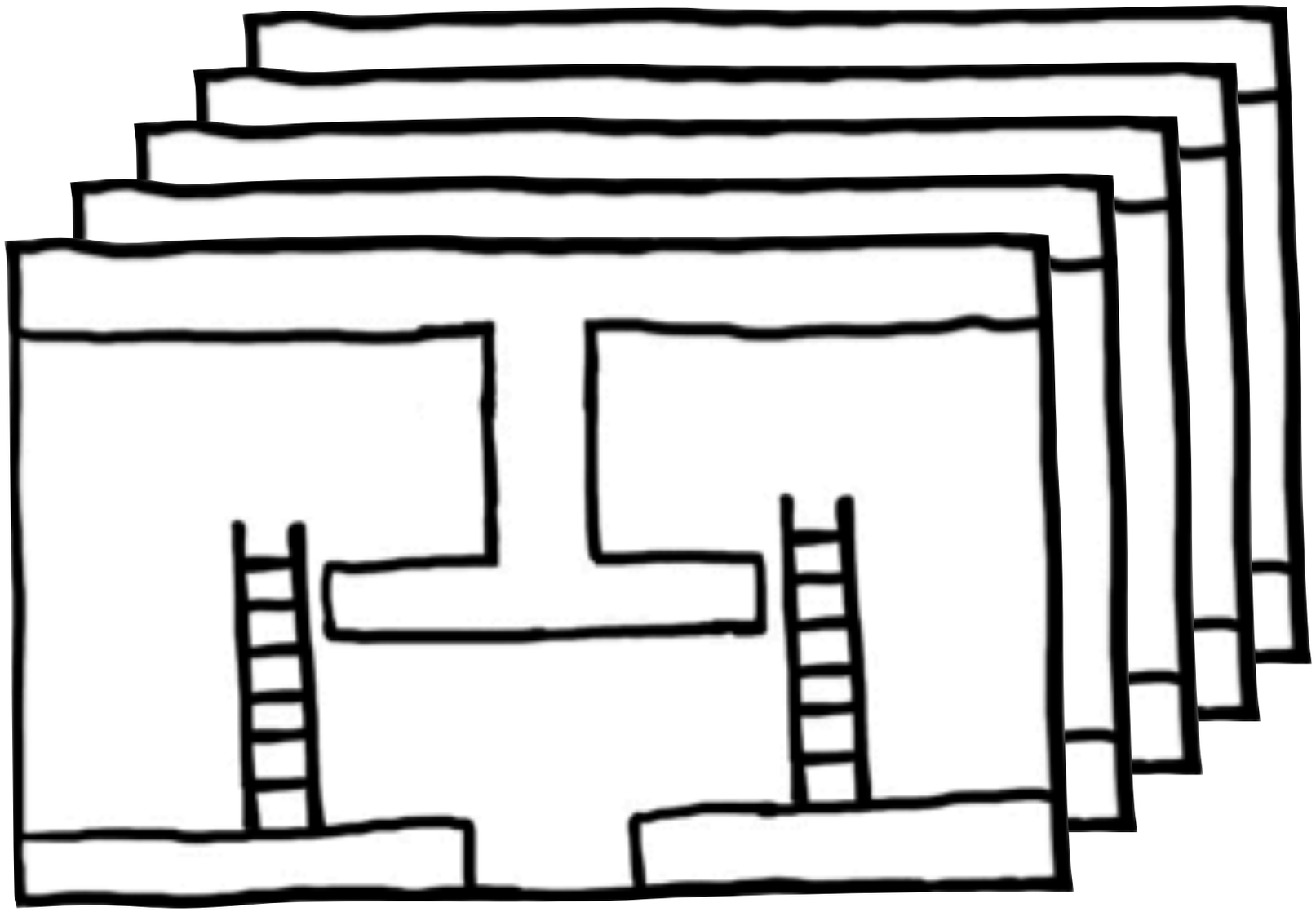
Tech

Specialism: Nanotech, Biomedical, Cybermedical, Pharmaceutical, Robotics, Aerodynamics, Hydrodynamics, Chemicals, Petrochemicals, Genetics, Technology, Dataware, Cyberoptics, Healthcare, Cybernetics, Wetware,
Generic: Laboratories, Labs, Innovations, Academy, Research, Horizons, Scientific, Discovery,

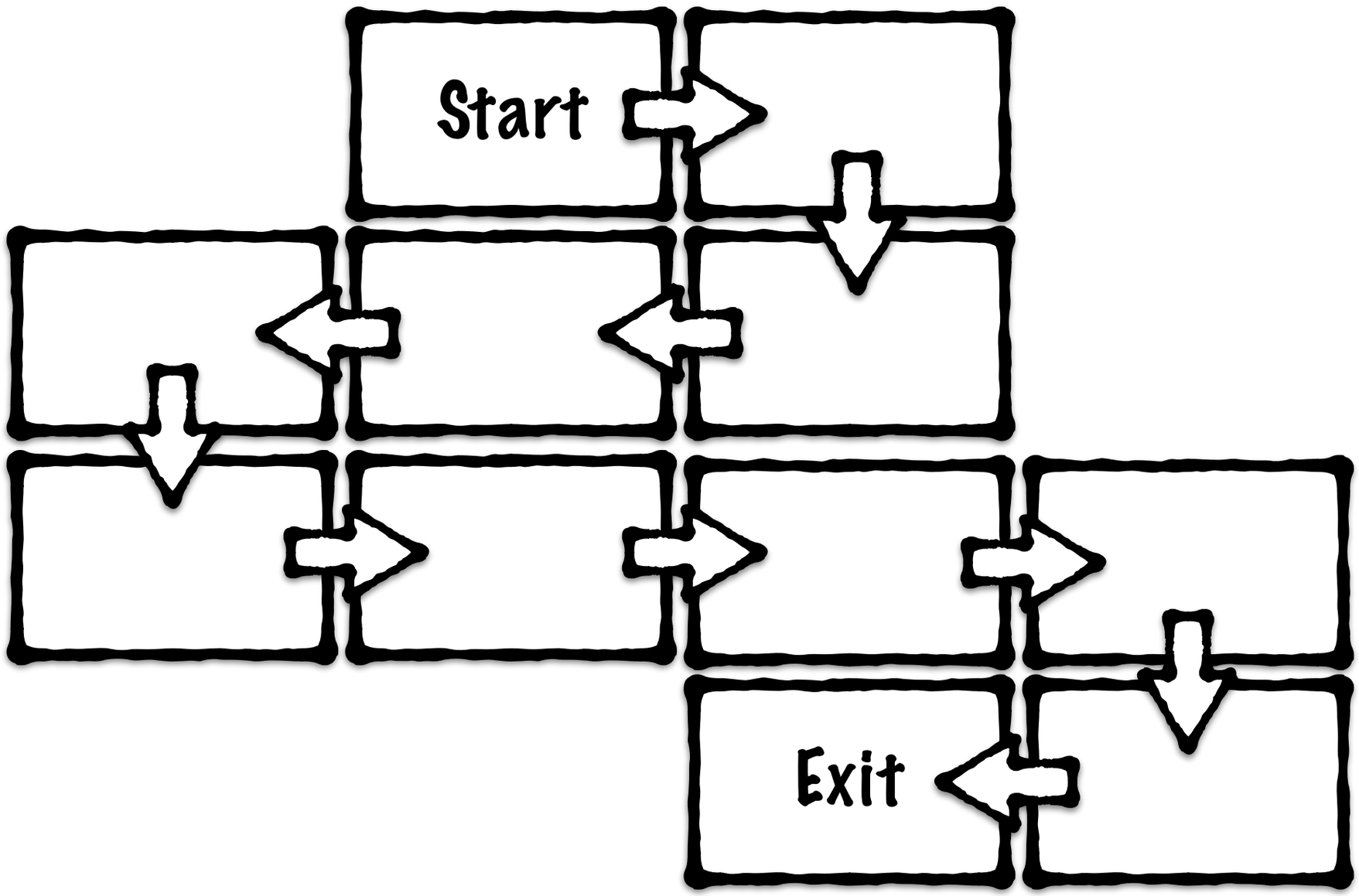
Grammars are easy to extend, and extensions provide great value

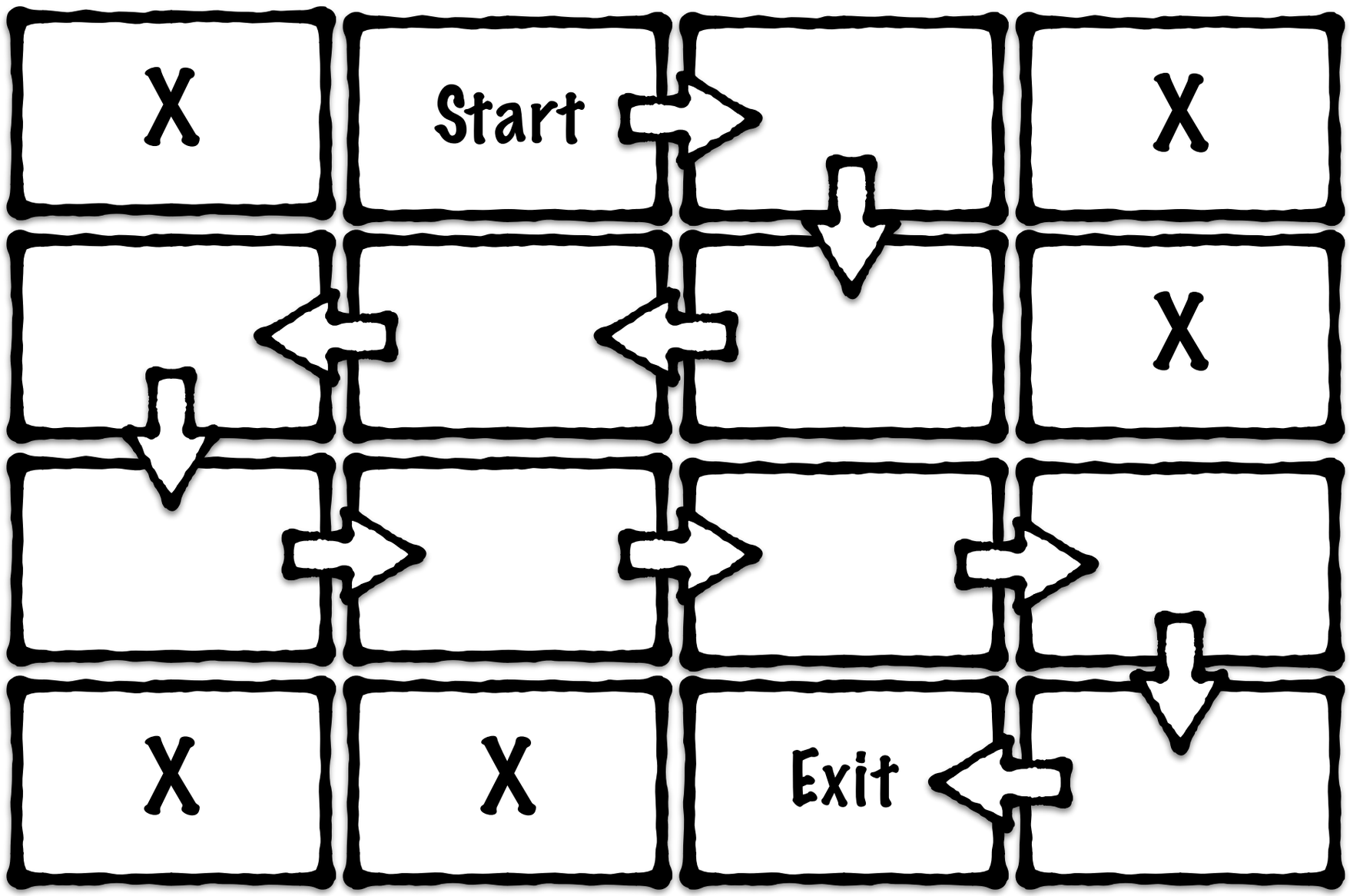
Spelunky

Mossmouth Games (2008)



LeftDownRight


Start
Exit


X
Start
X
X
X
X
Exit

Quick Tips For Jamming With Generators

#1. Always have an escape route

What is the worst possible thing my generator can do?

What would the player need to get out of it?

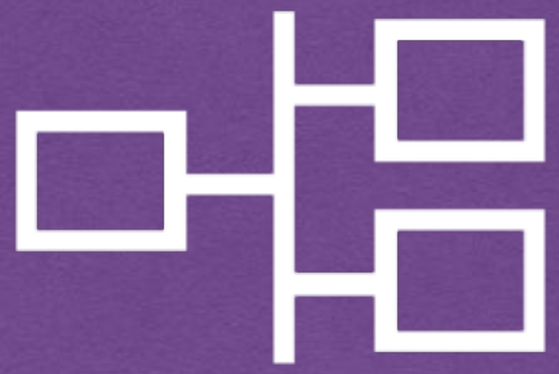
#2. Let people play with your generator

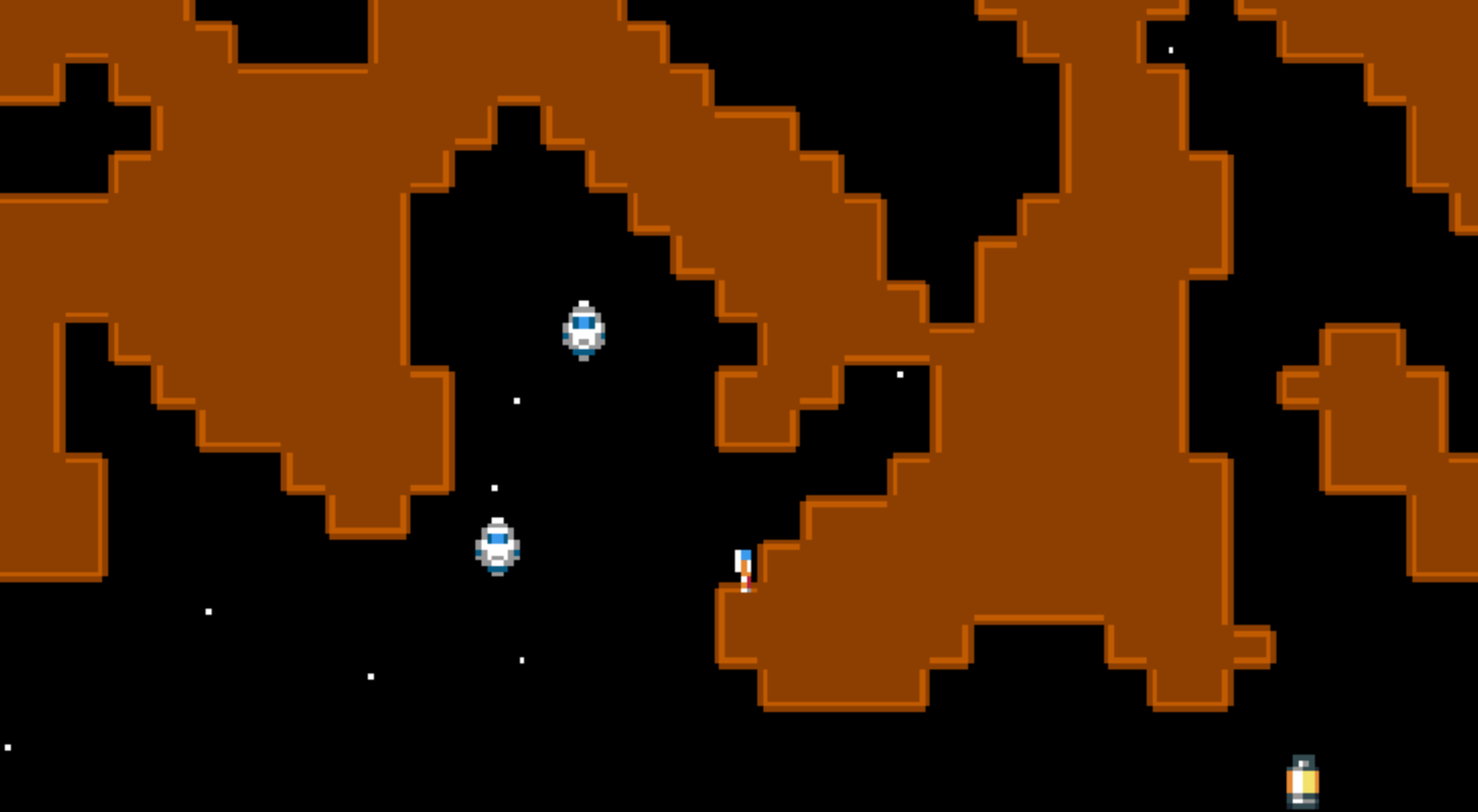
Let players share your fun

A button they can press to regenerate things

A way to recycle things they don’t like to get new ones

Direct control over the rules that govern the generator





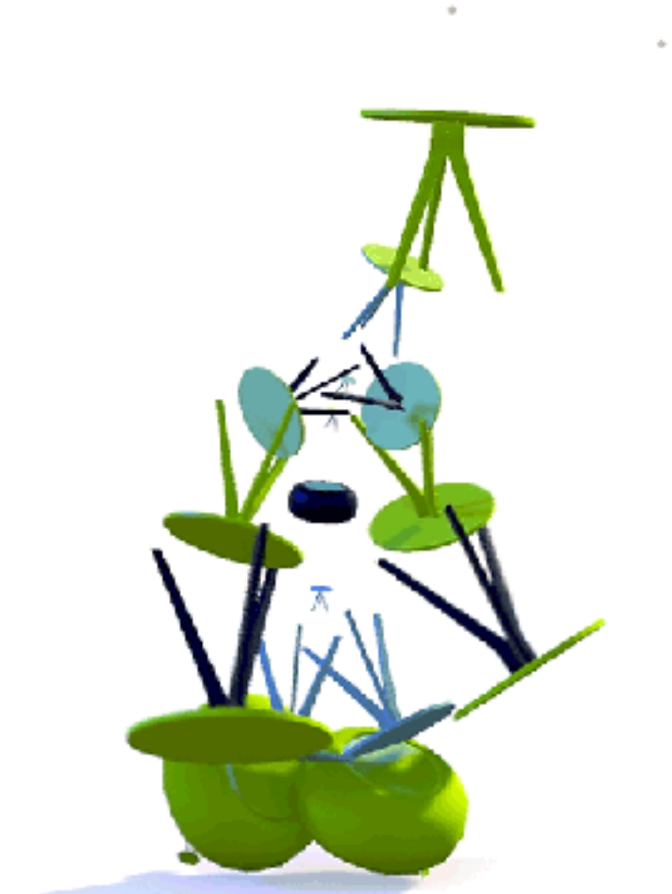
Total control?

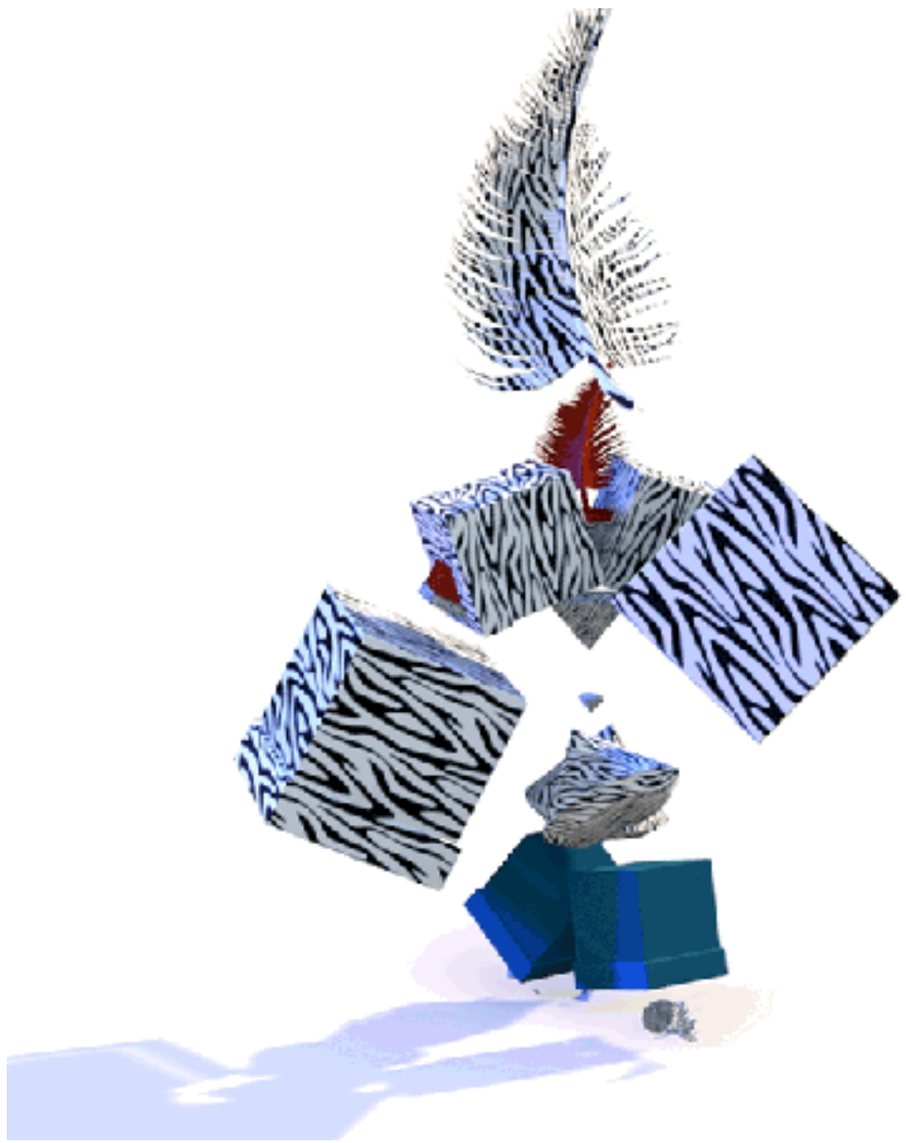
#3. Let it get

WEIRD

Where are the limits?
Why are they there?

#4. What If It's **Really** Broken?





+ Generate 1000 things
+ What percentage of them contain X?
+ What percentage of them fail a test?

#5 What If It's Actually ***Really Badly*** Broken?

One word: *filters*

If you know what you want,
just keep trying until you get it

Generate [thing]

Is [thing] bad?

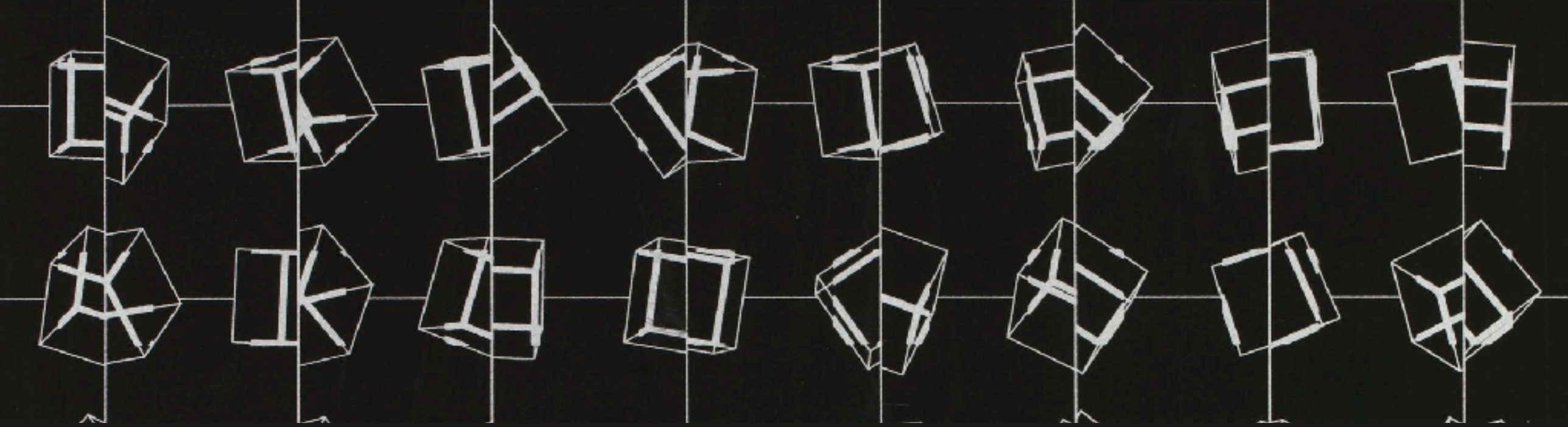
Yes

No

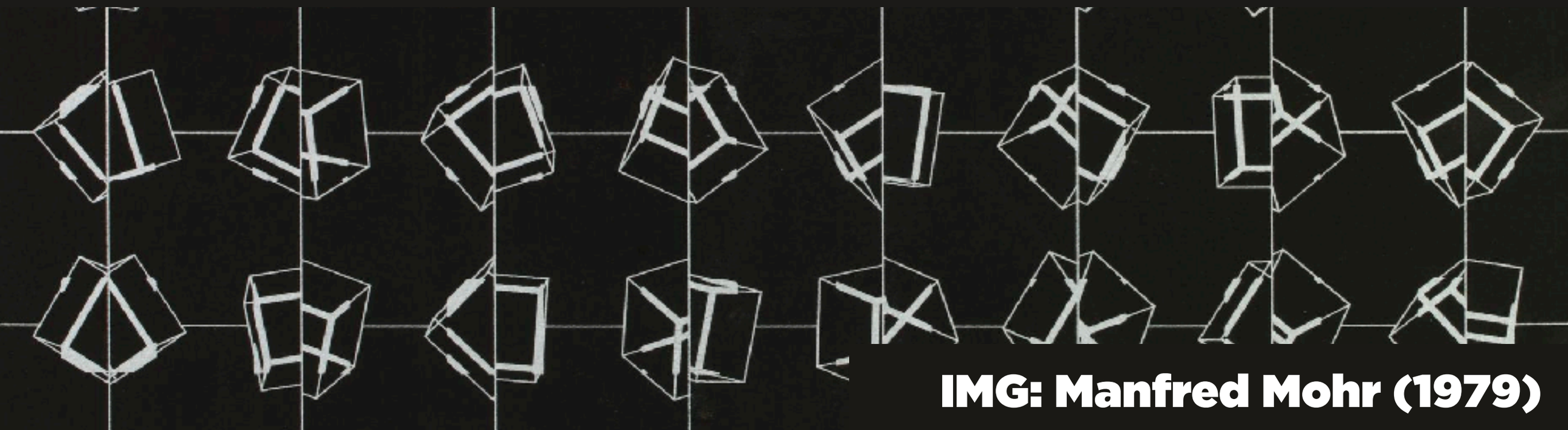
Use it!

Procedural generation is amazingly fun

IMG: Saskia Freeke (@sasj_nl)



You can generate almost anything



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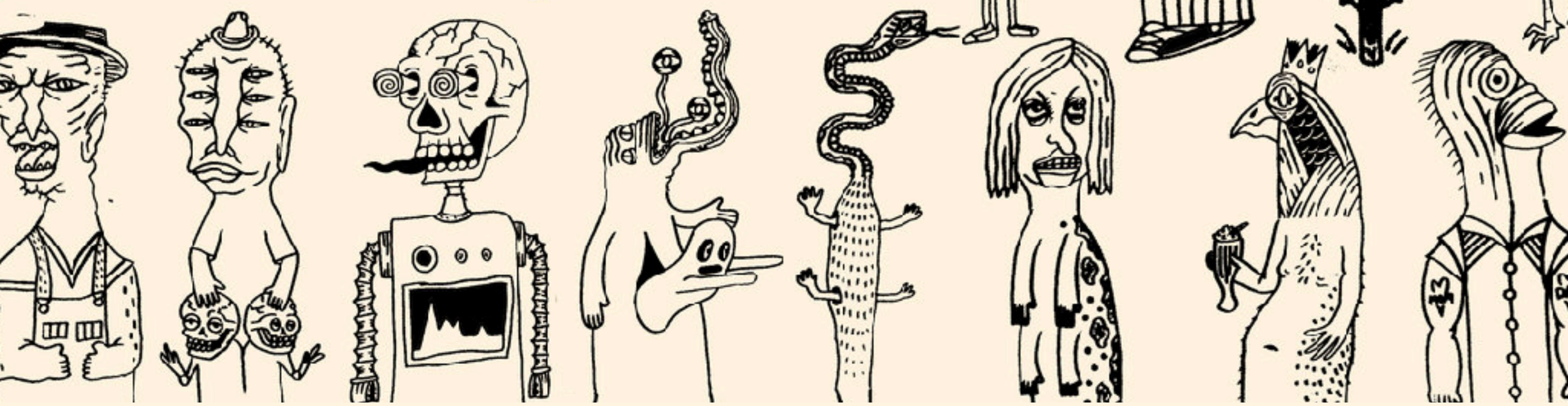
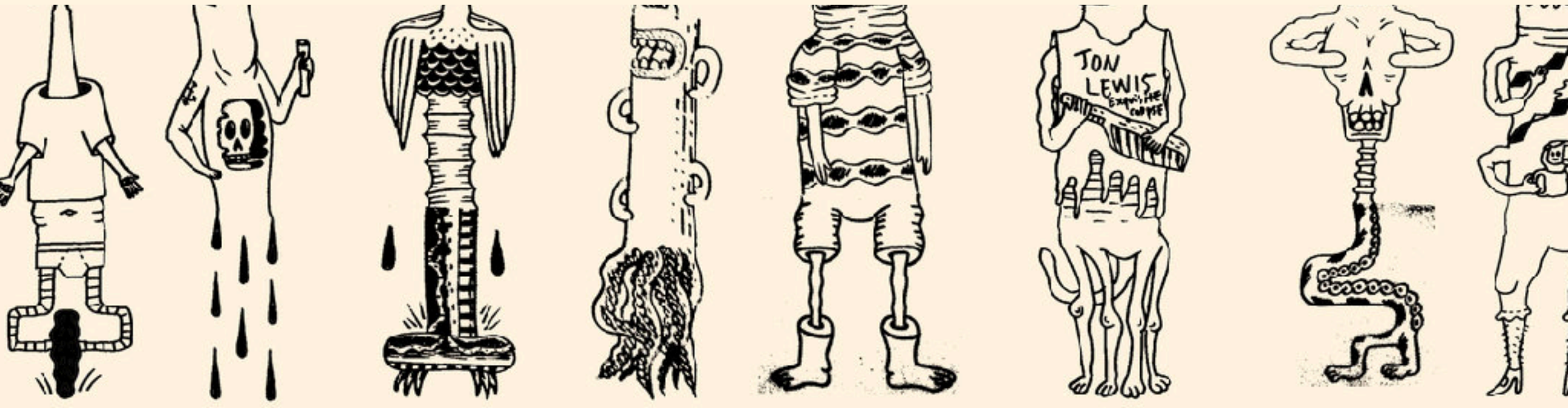


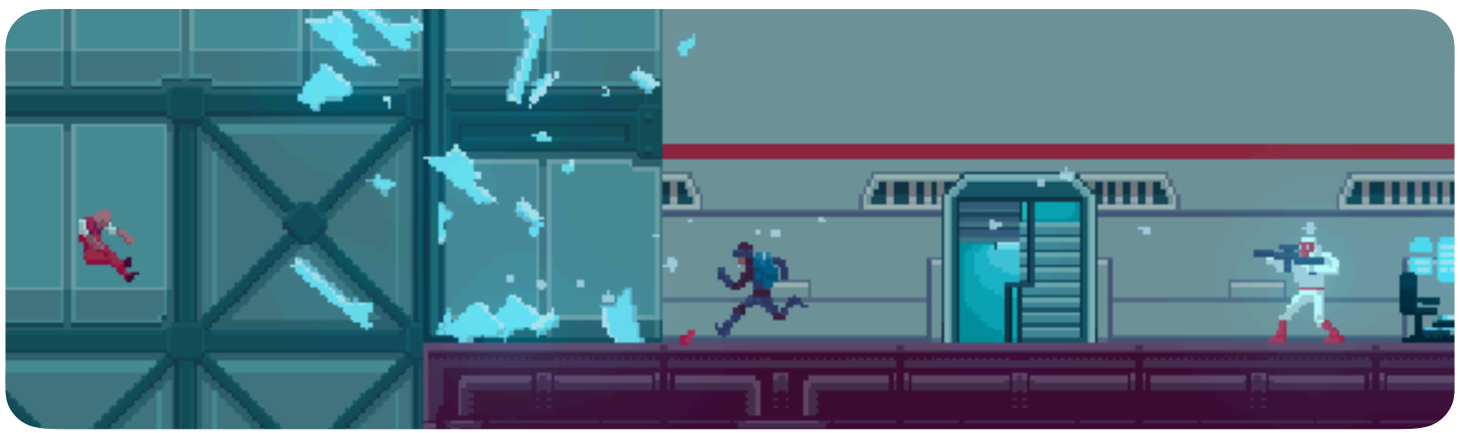
Remember: be bold, be weird, be experimental



THANKS!

GAMESBYANGELINA.ORG

PROCJAM.COM



ROGUEPROCESS.RUN

TWITTER: @MTRC