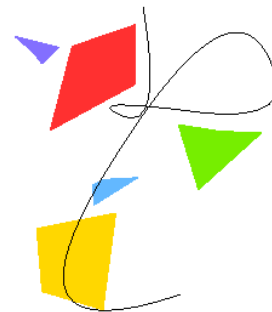


Generative Art

Report by 黃彥鈞



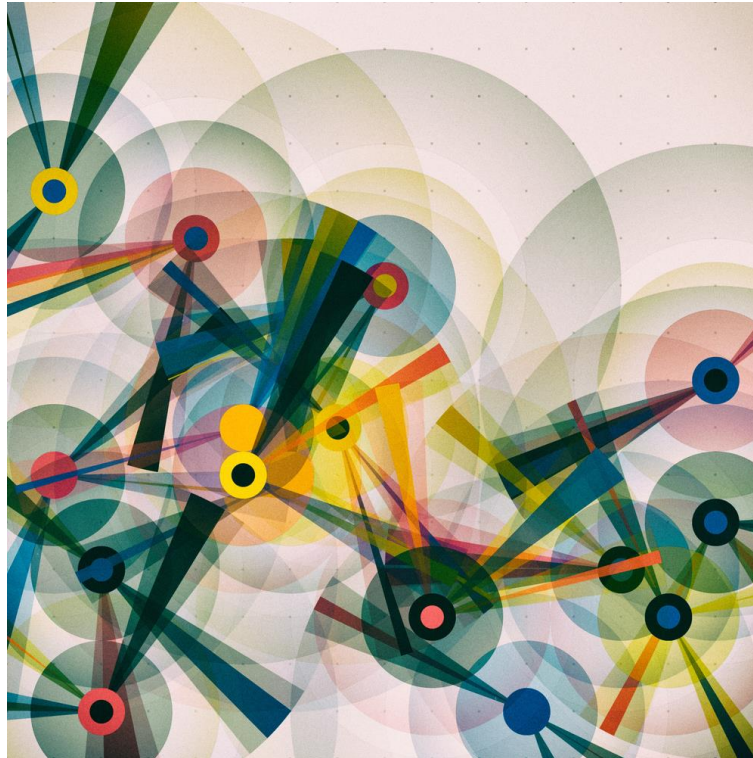
Outline

- Introduction
- About the works
- About the artists
- NFT
- Conclusion



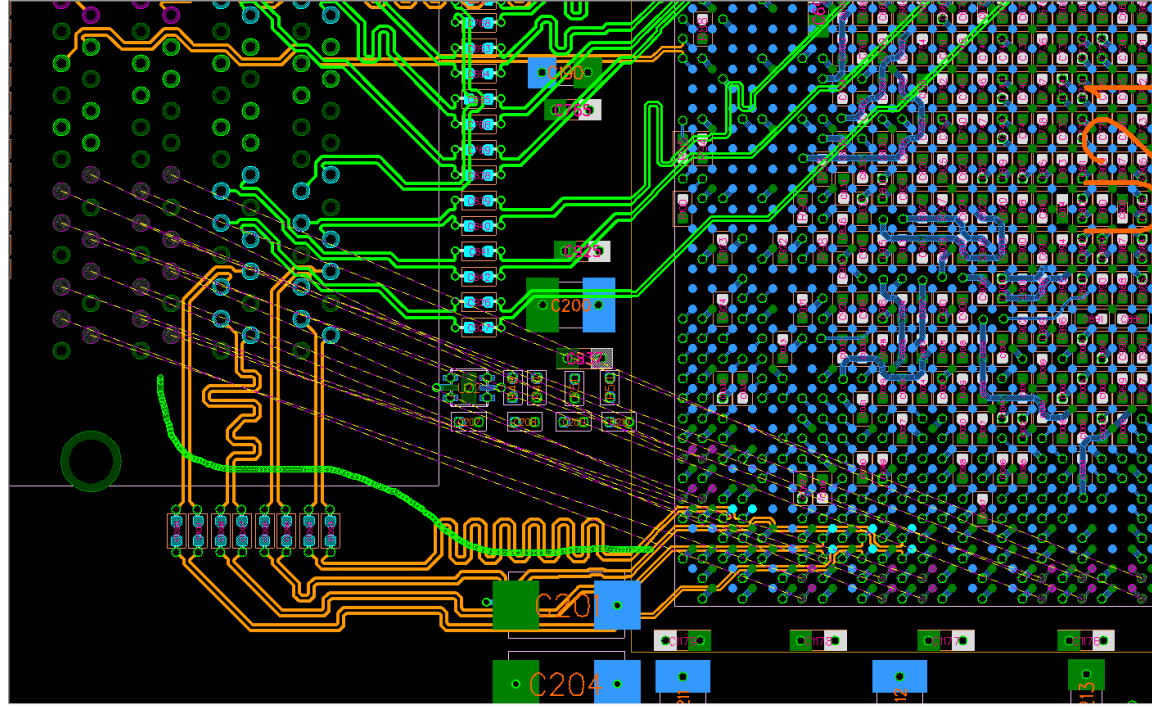
Definition

- Generative art is art programmed using a computer that intentionally introduces randomness as part of its creation process.



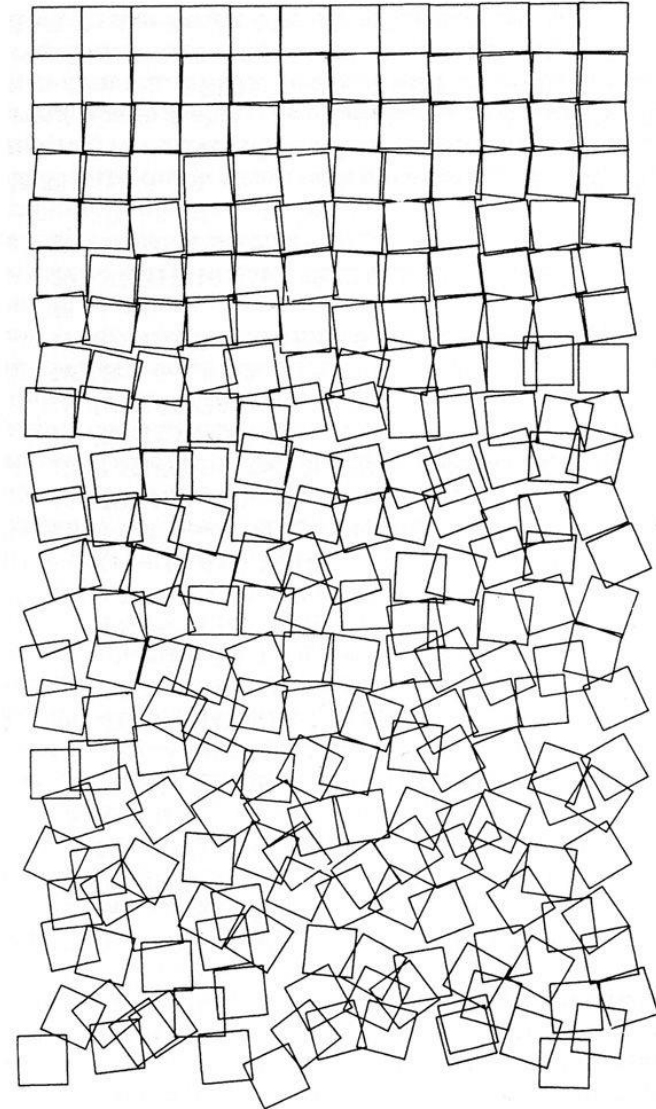
bbccclll - Manolo Gamboa Naon, 2018





Randomness & Control

- Complete control?
- 0 control?
- Controlled randomness



















Schotter (Gravel) - Georg Nees, 1968



Color

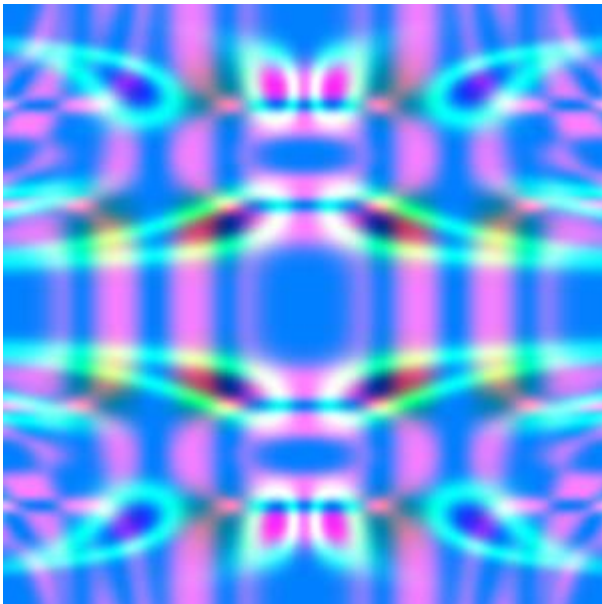
- An image is defined by its pixels
- Each pixels has attribute of RGB colors, ranging from 0, 255

Color Chart	R	G	B	Color Name
	0	0	0	Black
	255	255	255	White
	224	224	224	Light Gray
	128	128	128	Gray
	64	64	64	Dark Gray
	255	0	0	Red
	255	96	208	Pink
	160	32	255	Purple
	80	208	255	Light Blue
	0	32	255	Blue
	96	255	128	Yellow-Green
	0	192	0	Green
	255	224	32	Yellow
	255	160	16	Orange
	160	128	96	Brown
	255	208	160	Pale Pink

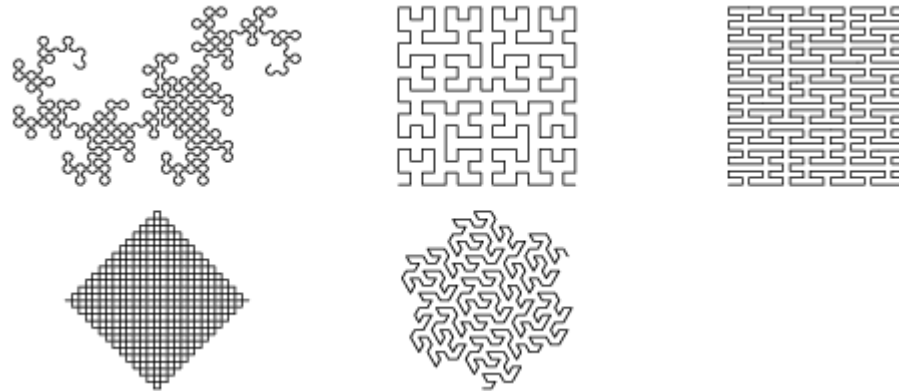


Pattern

- The main object/shape that stands out in the image
- A result of mathematical equation? Random functions?
- Natural sampling

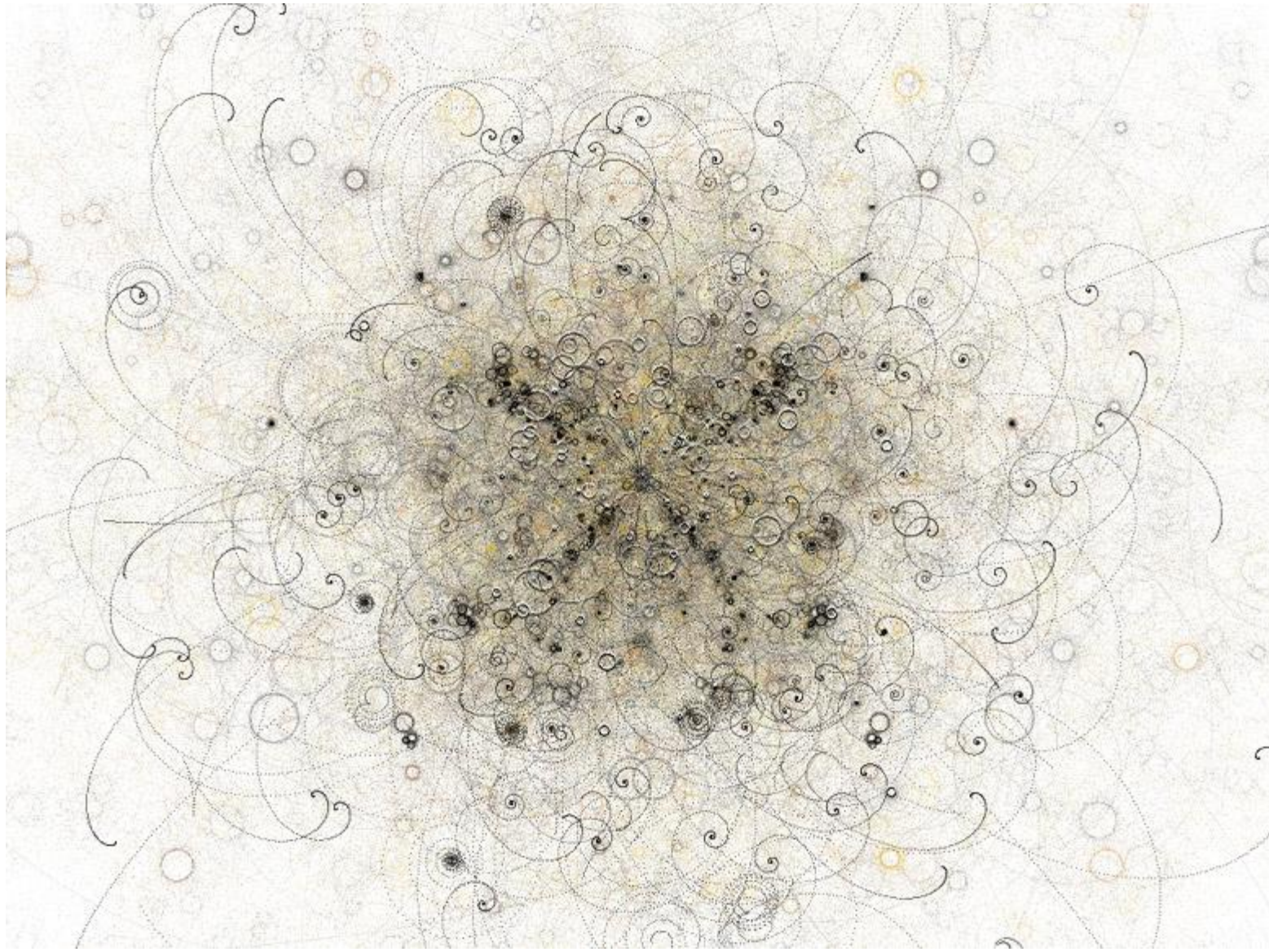


Sinusoidal wave



Space filling curve



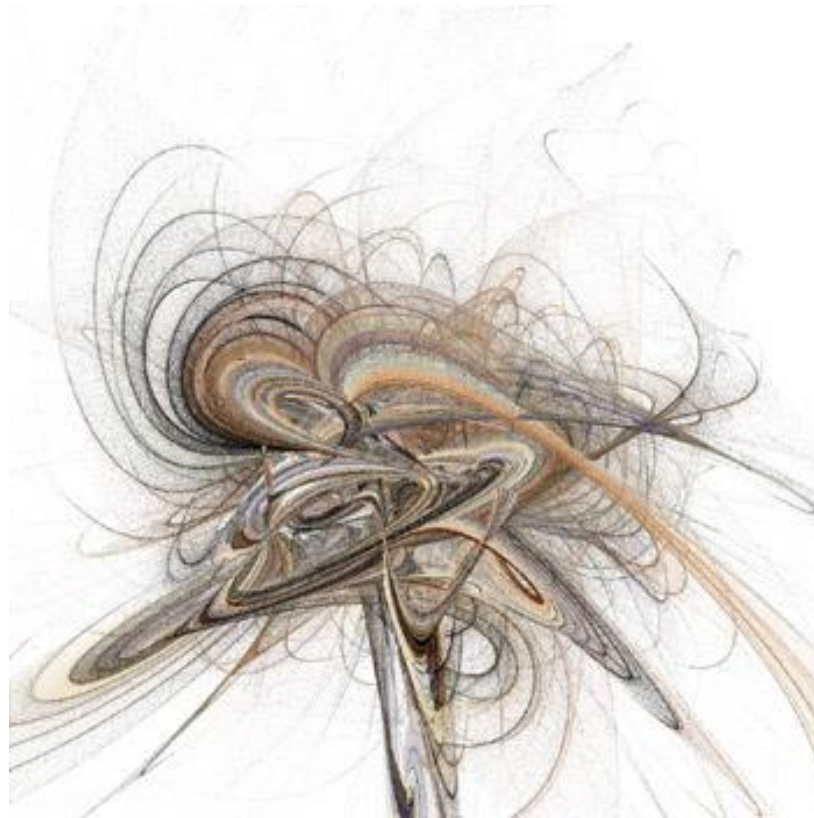


Bubble chamber- Jared Tarbell, 2003



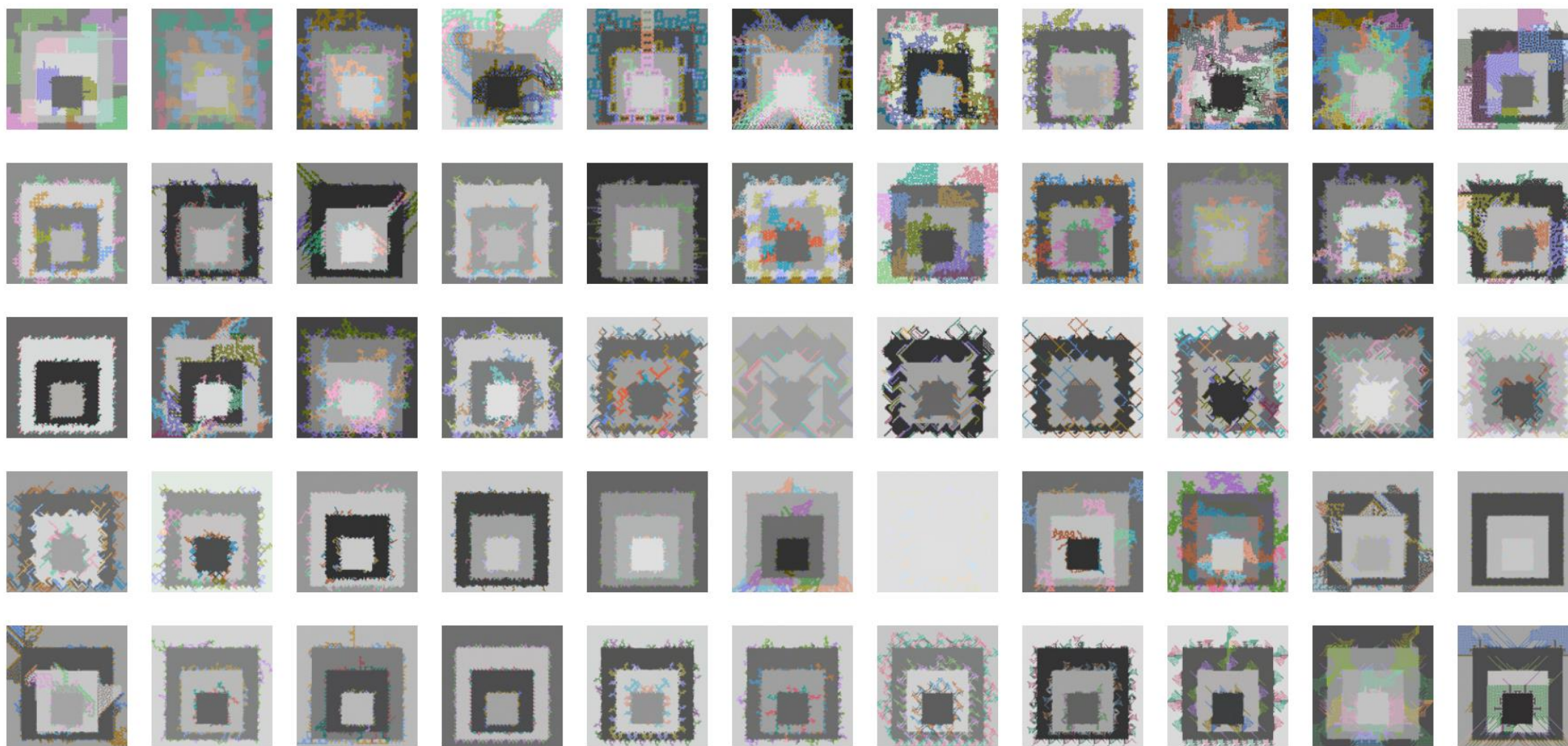
Complexity

- The ease with which computers can generate complex images contributes greatly to the aesthetic of generative art.



Sand Traveler - Jared Tarbell, 2004





Homage to the Square: Sampler - Paul Hertz, 2021

Small multiples



AI Art



AI Fashion - Robbie Barrat, 2018



DensePose vs. Pix2Pix - Mario Klingemann, 2018



Paul Hertz

- Pattern base on real signals

The image displays a 4x4 grid of musical exercises for improvisation on a harmonium. Each exercise is represented by a numbered square (1, 5, 9, 13), a musical staff with a sequence of notes and fingerings, and a corresponding cube diagram showing the key positions on the instrument.

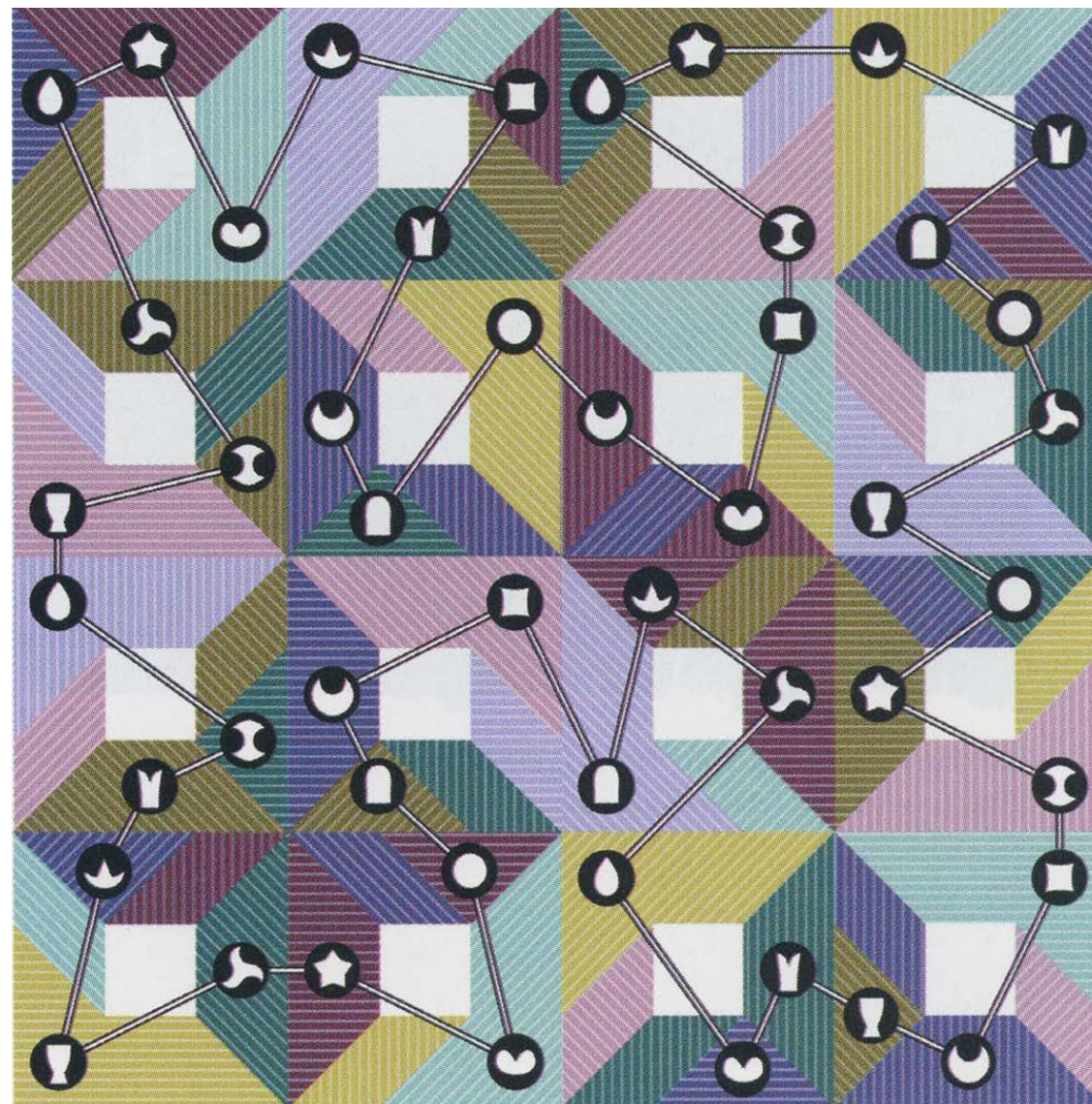
Exercise 1: The staff shows a sequence of notes: & (C), # (D), π (E), and # (F). The cube diagram shows the keys A, C, F, and E. The staff also includes a red '1' and a blue '3'.

Exercise 5: The staff shows a sequence of notes: 1 (C), 3 (D), and oe (E). The cube diagram shows the keys B, A, and E. The staff also includes a red '3' and a blue '1'.

Exercise 9: The staff shows a sequence of notes: 1 (C), 3 (D), and oe (E). The cube diagram shows the keys C, B, and D. The staff also includes a red '3' and a blue '1'.

Exercise 13: The staff shows a sequence of notes: 1 (C), b (D), and oe (E). The cube diagram shows the keys B, A, and E. The staff also includes a red '3' and a blue '1'.





Time Cycle – Paul Hertz, 2001



Jared Tarbell

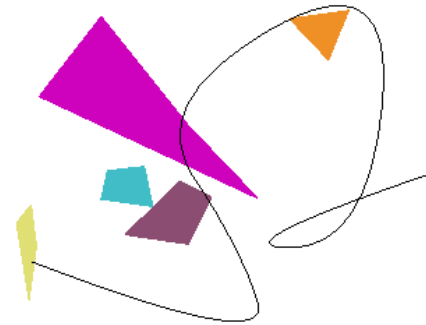
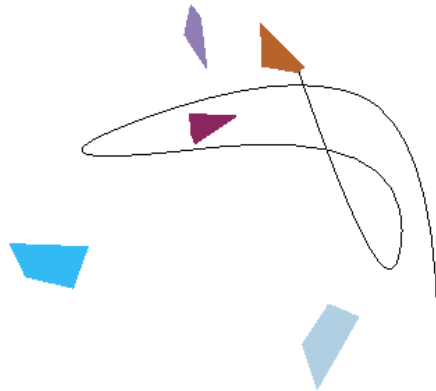
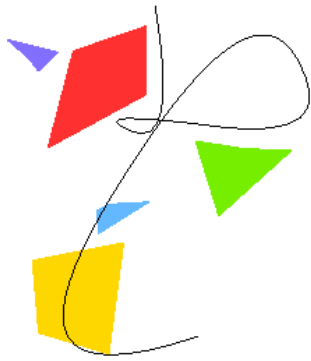


Substrate - Jared Tarbell, 2003



Iterations and Ownership

- Spontaneity
- Partners
- Who owns the art? Artist or computer?



Processing

- Ben Fry and Casey Reas, MIT lab, 2001

```
// Hello mouse.  
void setup() {  
  size(400, 400);  
  stroke(255);  
  background(192, 64, 0);  
}  
  
void draw() {  
  line(150, 25, mouseX, mouseY);  
}
```

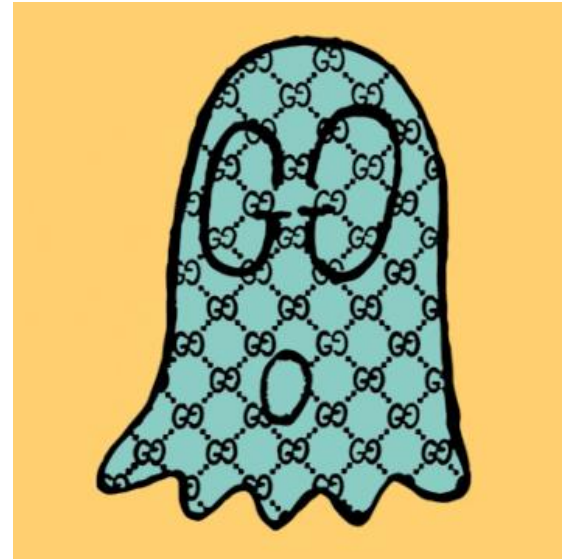


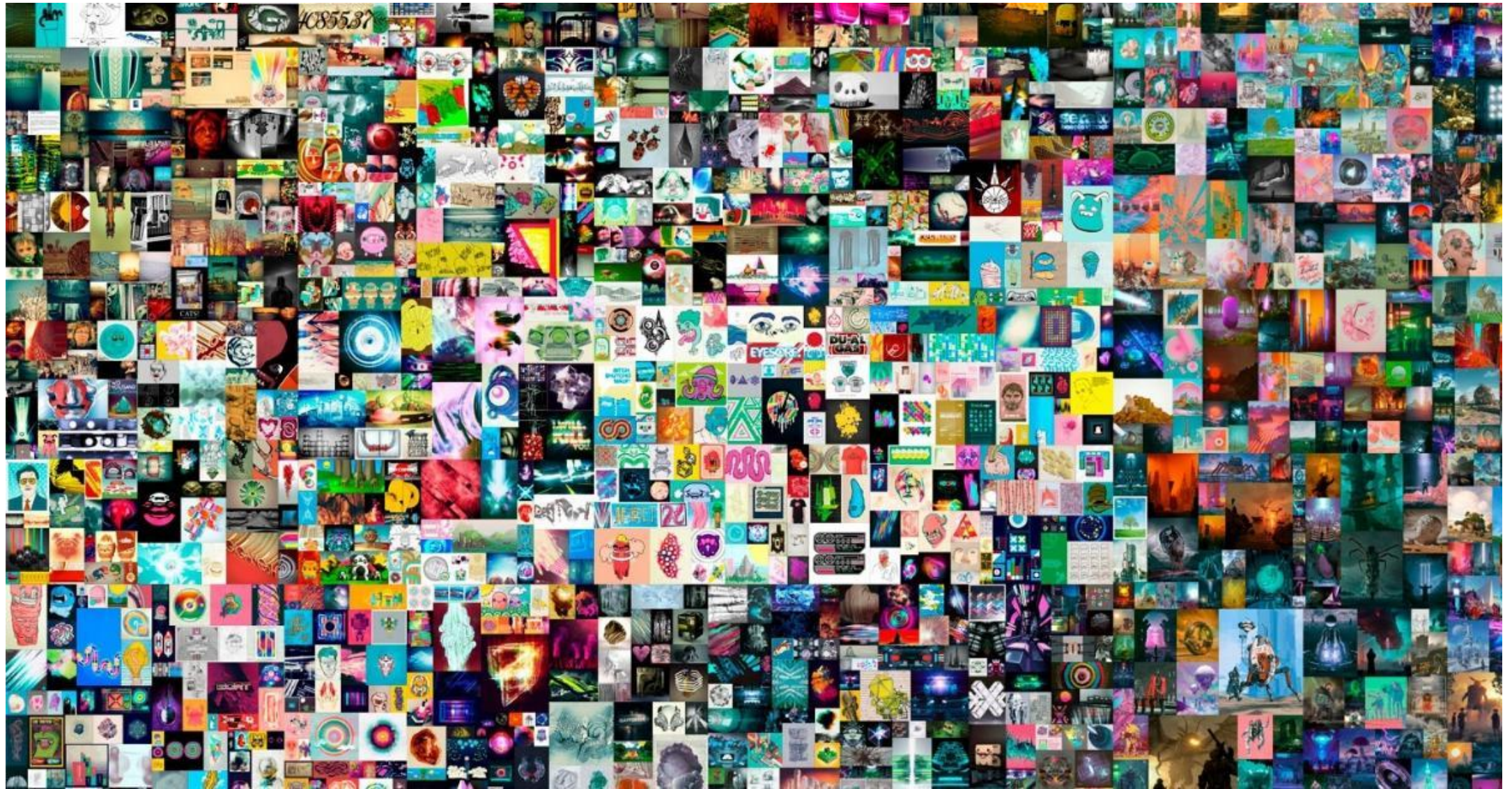
Borderless - teamLab



NFT

- Ethereum blockchain
- Mint a token
- Gas fees
- Owning 1 of 1, why not just download?

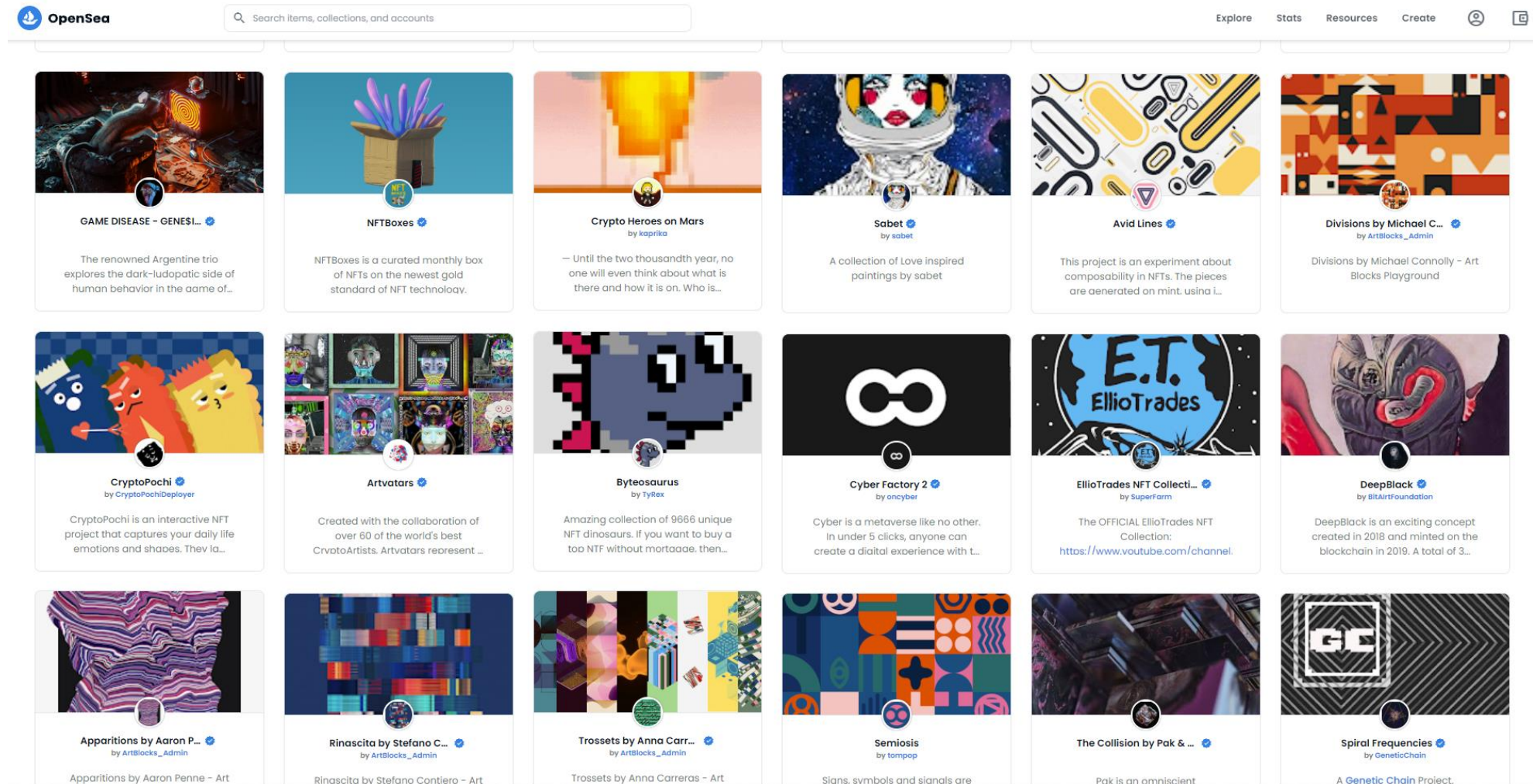




Everydays: The first 500 days - Beeple, 2021

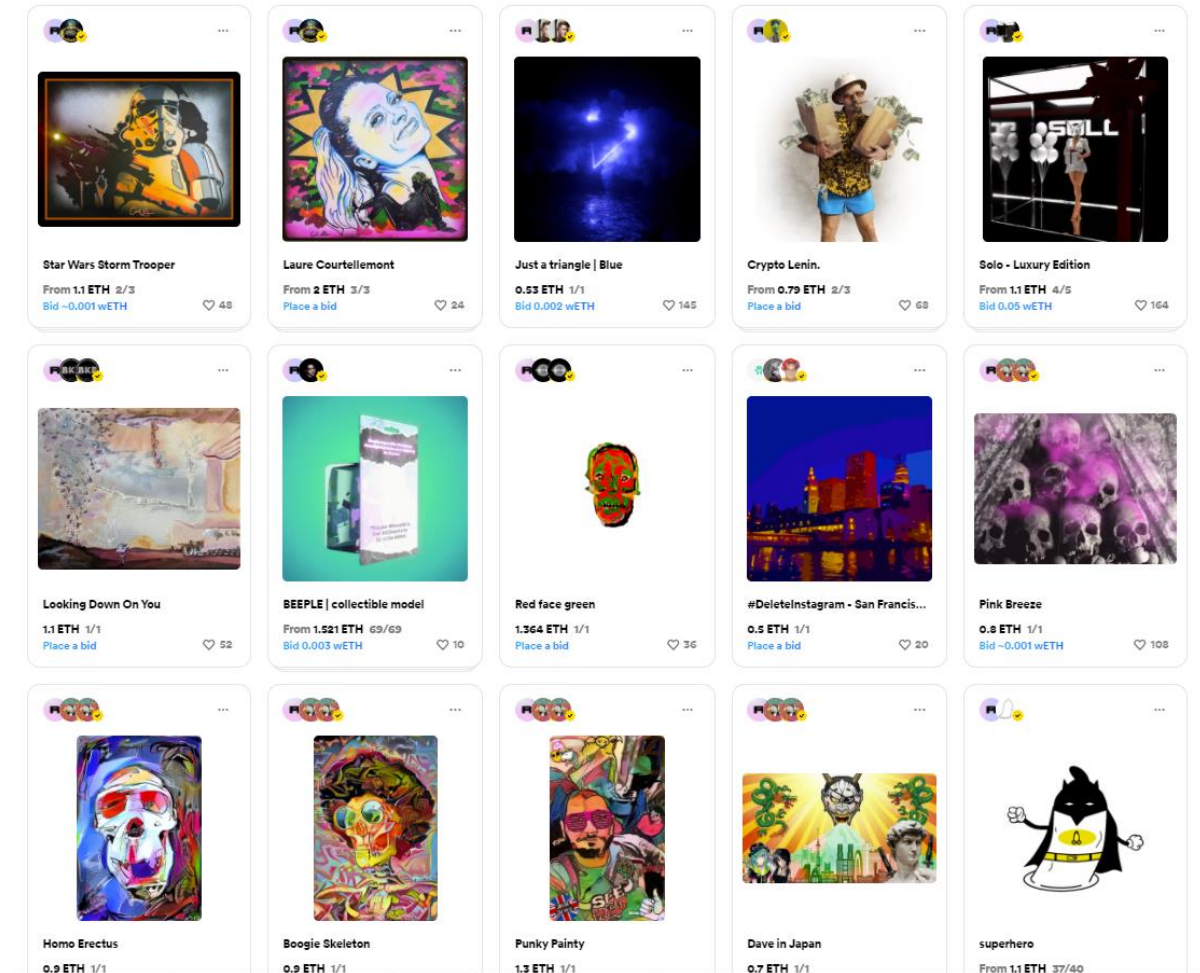


Digital Art



Problem

- Environmental concerns
- Unrealistic expectation
- Decentralized?



Conclusion

- A high quality generative art is that you should be able to appreciate the end result without considering a computer's capability.
- While the algorithm is base on math, it can also be very organic as well.
- The meaning of iterations depends on the perspective.
- NFT has a special bond with digital art, but it also has some "white cube" issues.



Reference

- Brandon's Drawing
- https://www.youtube.com/watch?v=1qApRM8DqqI&t=206s&ab_channel=Brandon%27sDrawings
- https://www.youtube.com/watch?v=msHRy-3WOaA&ab_channel=Brandon%27sDrawings
- Artnome
- <https://www.artnome.com/news/2018/8/8/why-love-generative-art>
- <https://www.artnome.com/news/2020/8/24/interview-with-generative-artist-jared-tarbell>
- <https://www.artnome.com/news/2018/8/8/generative-art-finds-its-prodigy>

