

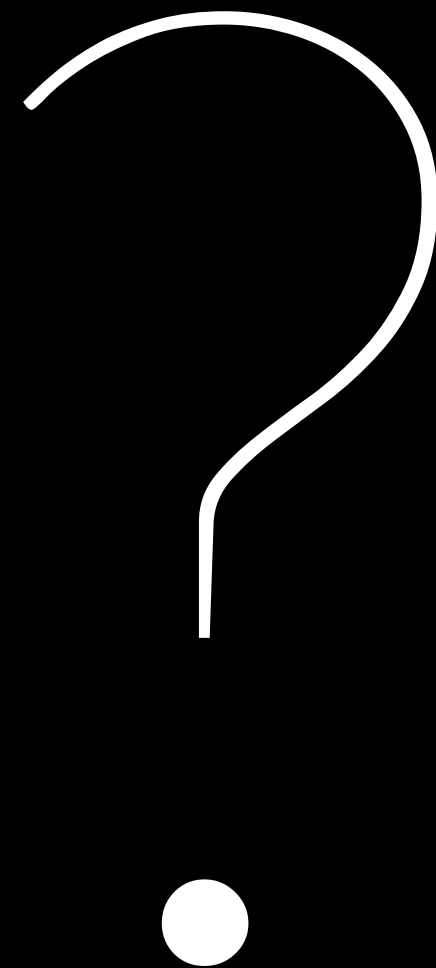
Executing Education

ON CODING LITERACY AND DIGITAL MEDIA CULTURES



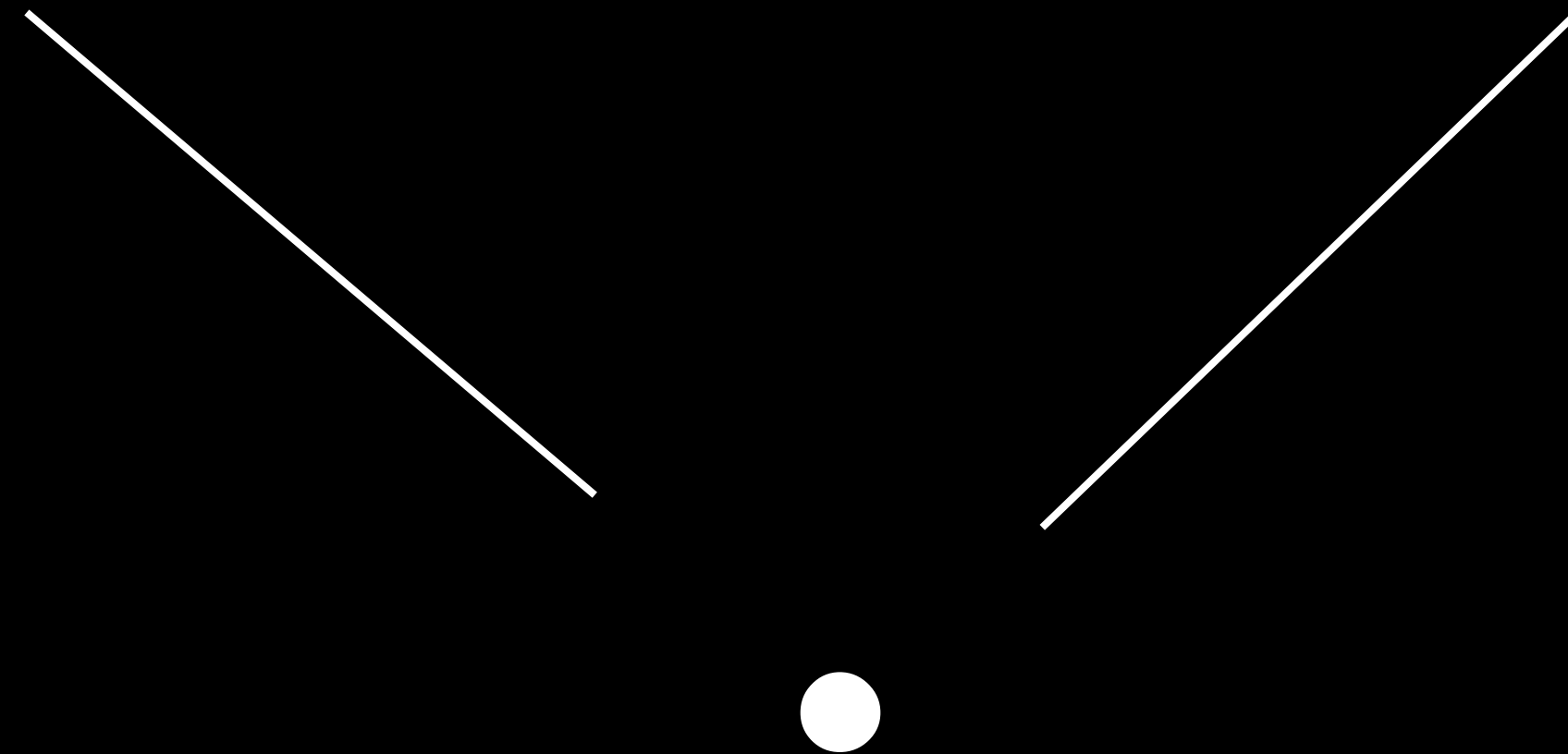
Executing Education

ON CODING LITERACY AND DIGITAL MEDIA CULTURES



Executing Education

ON CODING LITERACY AND DIGITAL MEDIA CULTURES



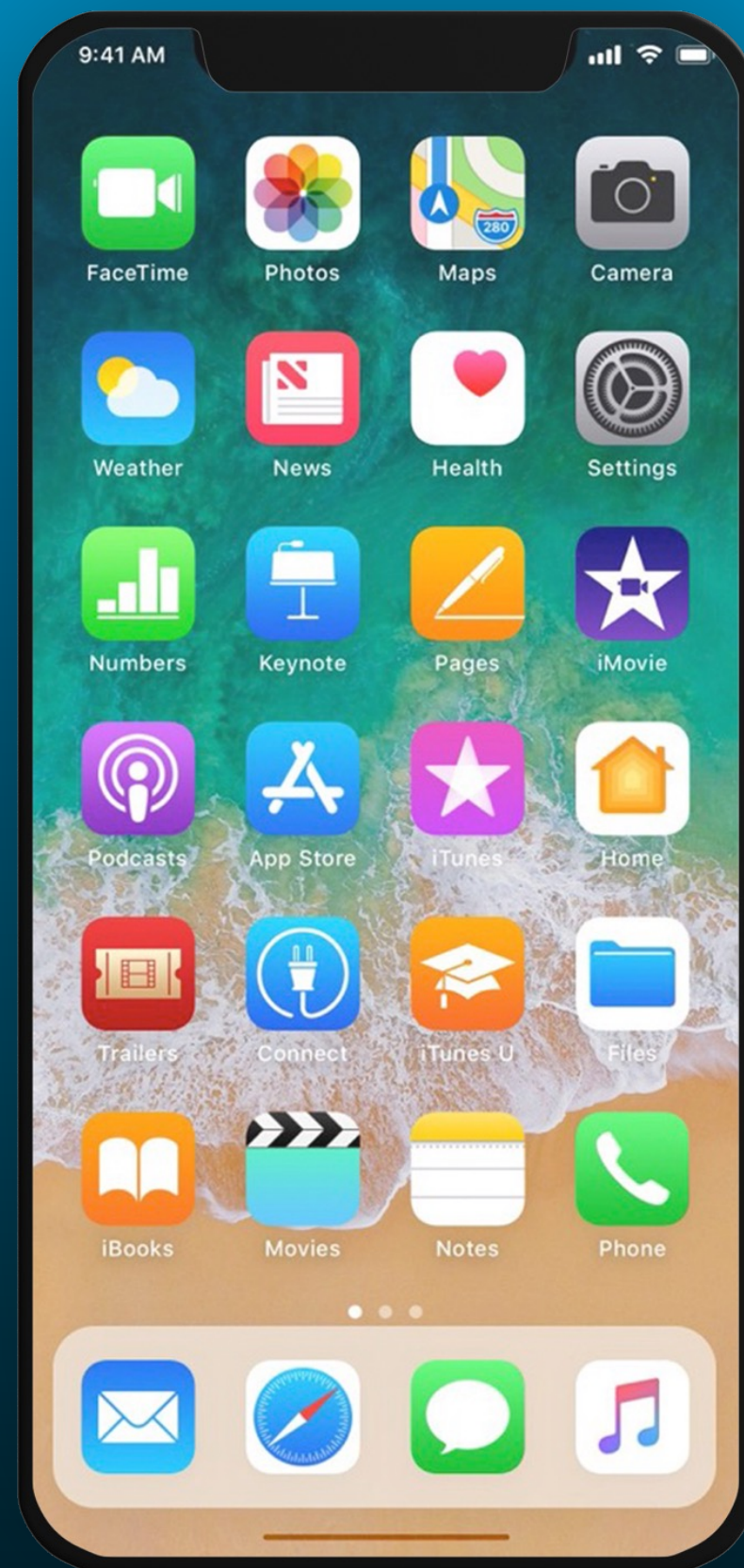


ENIAC I

(Electronic Numerical Integrator And Computer)

- 17.468 vacuum tubes
- 70.000 resistors
- no graphical interface or display

The total weight of the computing units in the 170m² room was 27 tons.



iPhone 12

(a more or less generic device)

- About 50.000 Apps for individual usage
- 1 six-core A14 bionic microprocessor
- 1 haptic touch display

It weighs 162 grams and fits in almost any pocket and offers high connectivity.





MIND THE GAP





- Start
- Entdecken
- Shorts
- Abos
- Mediathek
- Verlauf
- Meine Videos
- Später ansehen
- Videos, die ich mag
- Mehr ansehen

- ABOS
- Beyond Reality Ga...
 - Bloomberg Quickt...
 - Bricksie
 - CNBC
 - Entspannungsmus...
 - euronews (deutsch)
 - flightdeck2sim



The Coding Train

1,49 Mio. Abonnenten

MITGLIED WERDEN

ABONNIERT



ÜBERSICHT

VIDEOS

PLAYLISTS

COMMUNITY

KANÄLE

KANALINFO



What was Coding like 40 years ago?

The Coding Train 466.301 Aufrufe • vor 1 Monat

🧠 Check out my Nebula Class "What is Code?" <https://nebulaclasses.com/codingtrain> \$30 discount for \$119 plus a year of Nebula included! Take a trip back in time and let's code the Snake...

Unsere Mitglieder

Vielen Dank an die Kanalmitglieder!

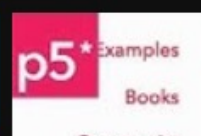


MITGLIED WERDEN

Start learning here!

▶ ALLE WIEDERGEHEN

Beginners! Learn all the basics of code (variables, conditionals, loops, objects, arrays) in JavaScript with p5.js!



Algorithms in culture

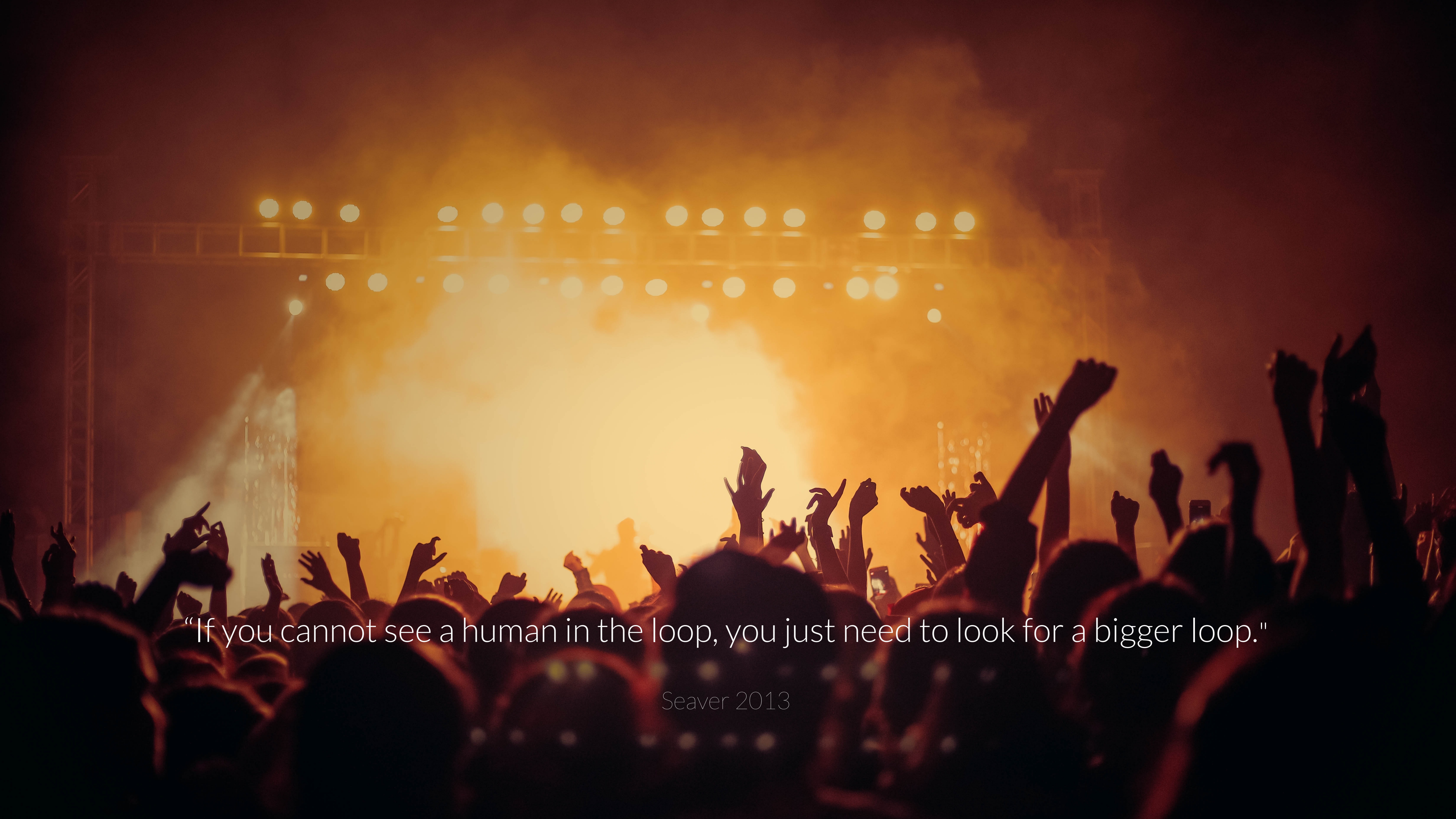
“They may shape culture (by altering the flows of cultural material), and they may be shaped by culture (by embodying the biases of their creators), but this relationship is like that between a rock and the stream it is sitting in: the rock is not part of the stream, though the stream may jostle and erode it and the rock may produce ripples and eddies in the stream. In this view, algorithms can affect culture and culture can affect algorithms because they are distinct.”



Algorithms as culture

”algorithms are not technical rocks in a cultural stream, but are rather just more water. Like other aspects of culture, algorithms are enacted by practices which do not heed a strong distinction between technical and non-technical concerns, but rather blend them together.“

Seaver 2017



"If you cannot see a human in the loop, you just need to look for a bigger loop."

Seaver 2013



Flight Information

Visual Announcements

Baggage Carts

The production of space is increasingly dependent on code, and code is written to produce space.

← International Arrivals
U.S. Customs
Ground Transport

Transit to: Terminals 1 2 3
Trains To City
Lots A-C, E-G-H

← Transportation/Parking & International Arrivals Gate Down

5E 5E 5E 5D 5D 5D

5C

5C

5C

5C

5B

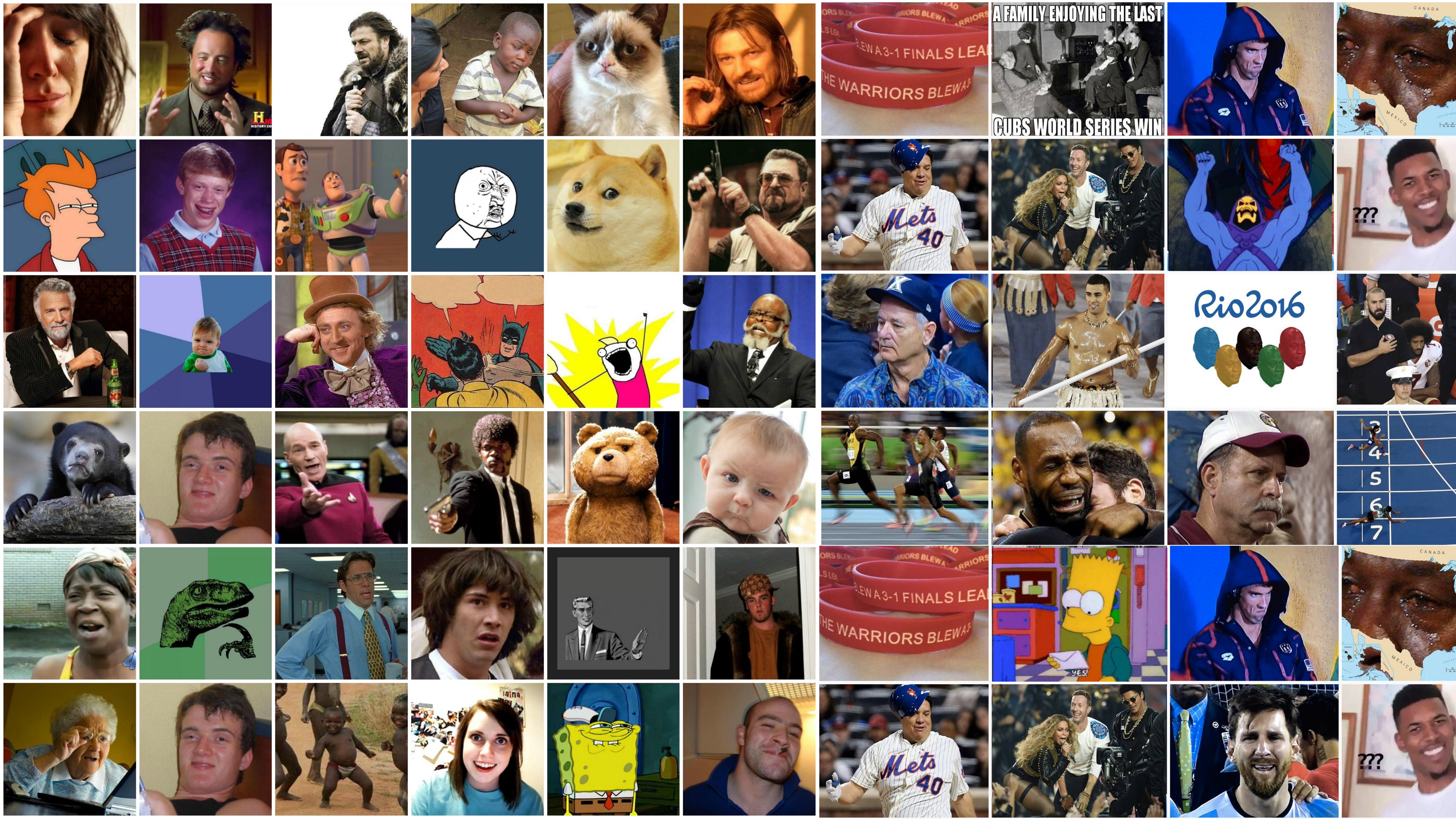


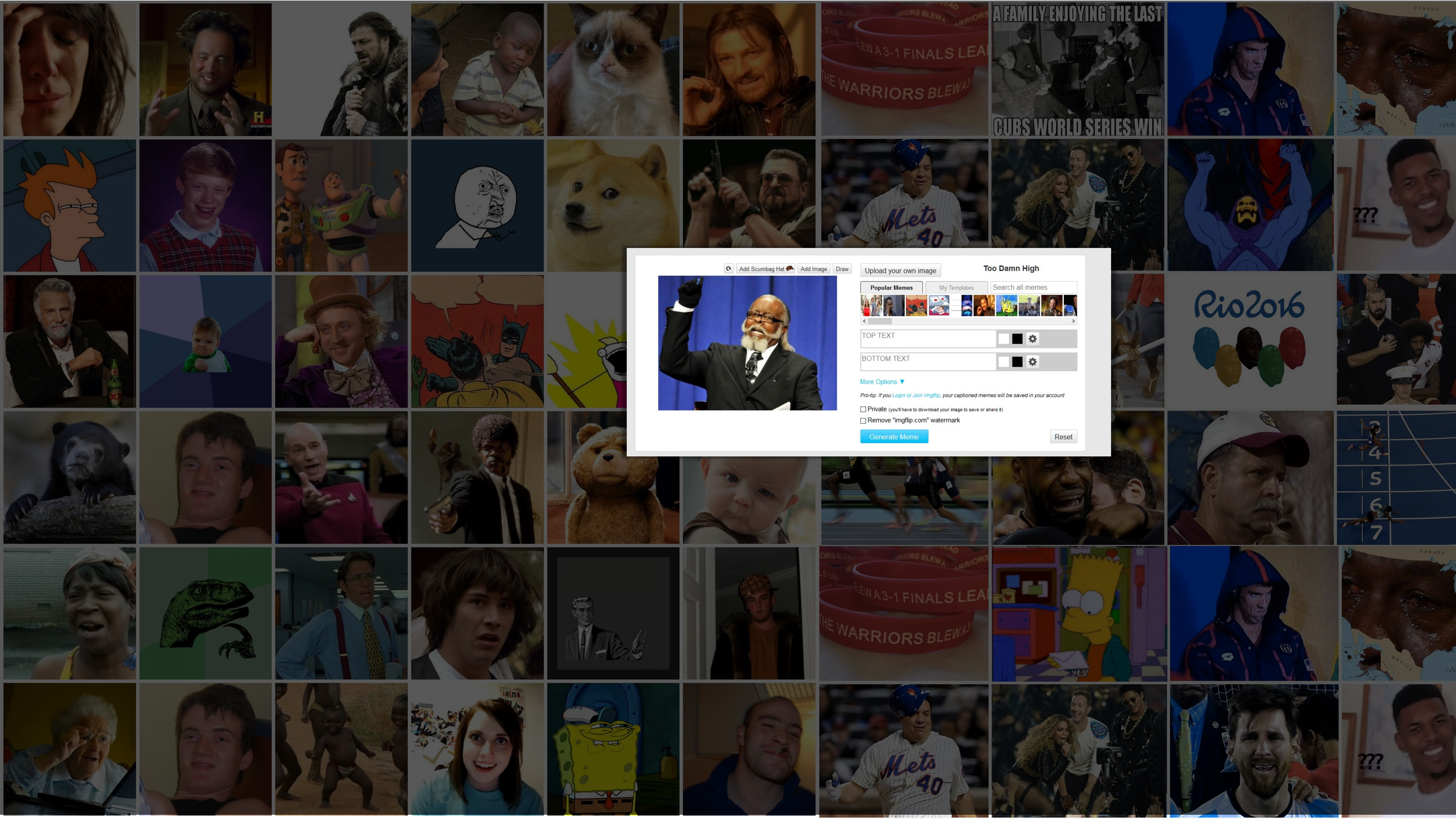
Windows

A fatal exception 0E has occurred at 0028:C0011E36 in UXD UMM(01) + 00010E36. The current application will be terminated.

- * Press any key to terminate the current application.
- * Press CTRL+ALT+DEL again to restart your computer. You will lose any unsaved information in all applications.

Press any key to continue






Add Scumbag Hat Add Image Draw Upload your own image

Too Damn High

Popular Memes My Templates Search all memes



TOP TEXT

BOTTOM TEXT

More Options

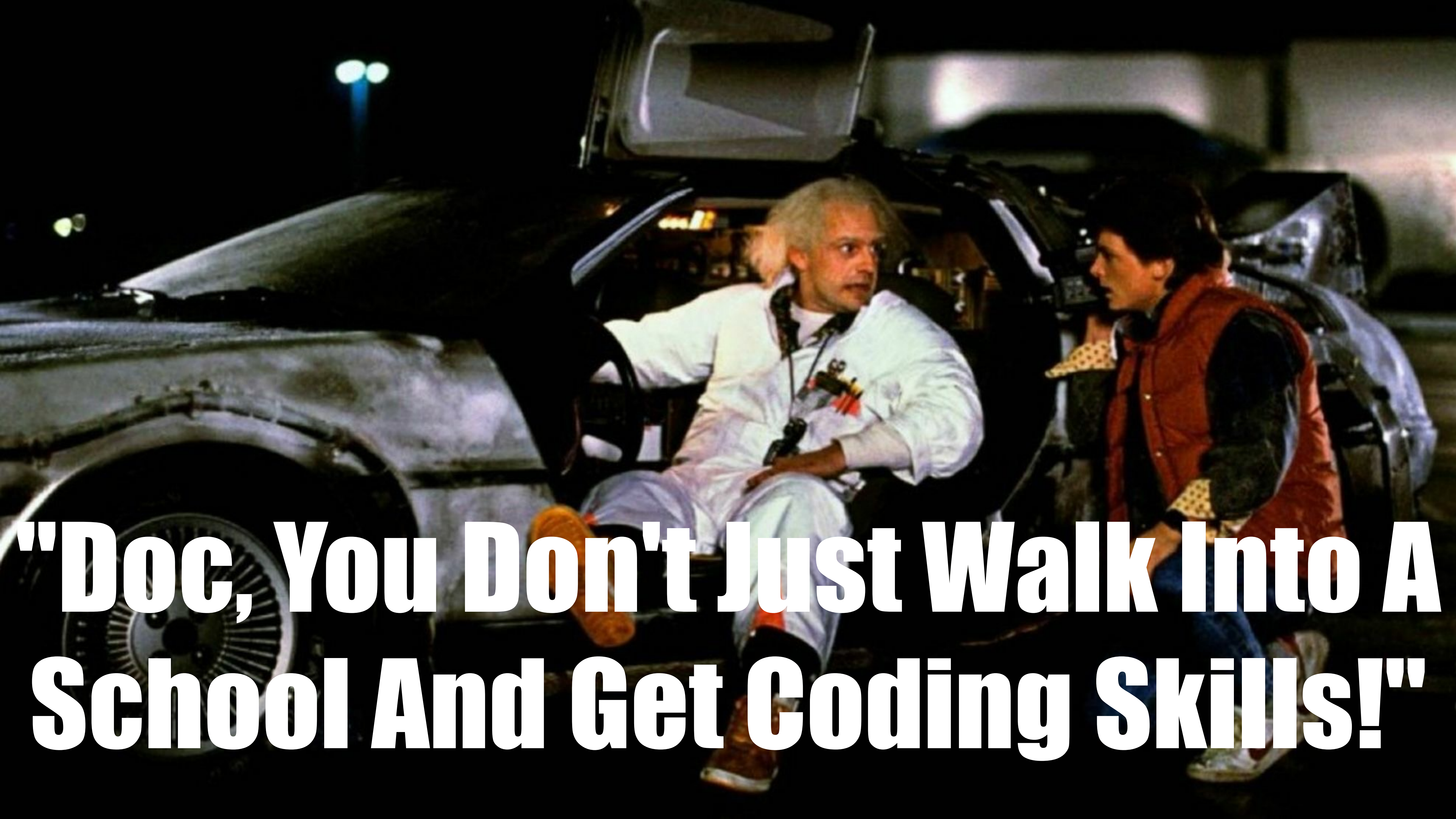
Pro-tip: If you Login or Join Imgflip, your captioned memes will be saved in your account

Private (you'll have to download your image to save or share it)

Remove "imgflip.com" watermark

Generate Meme Reset

“As code reaches more and more readers and as programming languages and methods continue to evolve, we need to develop methods to account for the way code accrues meaning and how readers and shifting contexts shape that meaning. **We need to learn to understand not only the functioning of code but the way code signifies. We need to learn to read code critically.**”



"Doc, You Don't Just Walk Into A School And Get Coding Skills!"

Coding **Literacy**

```
Program hello
  Print *, 'Hello world!'
End program hello
IDENTIFICATION DIVISION.
PROGRAM-ID. HELLO.
PROCEDURE DIVISION.
  DISPLAY "Hello world!"
```

CODING LITERACY

How Computer Programming Is Changing Writing

ANNETTE VEE

```
TO PRINT "Hello world!"
072 101 108 108 111 032 119 111 114 108 100 033
print [Hello World!]
Transcript show: 'HELLO WORLD!'; cr.
#include <stdio.h>
int main() {
  printf("\nHELLO WORLD!");
  return 0;
}
(format t "Hello world!~%")
<html>
  <body>
    <p>Hello world!</p>
  </body>
</html>
(قول "مرحبا يا عالم!")
```

Vee, A. (2017). Coding literacy: How computer programming is changing writing. The MIT Press.

```
Program hello
  Print *, 'Hello world!'
End program hello
IDENTIFICATION DIVISION.
PROGRAM-ID. HELLO.
PROCEDURE DIVISION.
  DISPLAY "Hello world!"
```

CODING LITERACY

How Computer Programming Is Changing Writing

ANNETTE VEE

```
TO PRINT "Hello world!"
072 101 108 108 111 032 119 111 114 108 100 033
print [Hello World!]
Transcript show: 'HELLO WORLD!'; cr.
#include <stdio.h>
int main() {
  printf("\nHELLO WORLD!");
  return 0;
}
(format t "Hello world!~%")
<html>
  <body>
    <p>Hello world!</p>
  </body>
</html>
("قول "مرحبا يا عالم!")
```

„We need to understand how programming shapes our composition and communication environments. This does not mean that we need to acquire the source code for every program we use as well as an ability to read it or write it, but we do need to learn how the procedures implemented in code shape and constrain the ways that we compose and communicate: What assumptions about information, texts, and people are embedded in the software programs in which we compose?“

Vee, A. (2017). Coding literacy: How computer programming is changing writing. The MIT Press.

```
Program hello
  Print *, 'Hello world!'
End program hello
IDENTIFICATION DIVISION.
PROGRAM-ID. HELLO.
PROCEDURE DIVISION.
  DISPLAY "Hello world!"
```

CODING LITERACY

How Computer Programming Is Changing Writing

ANNETTE VEE

```
TO PRINT "Hello world!"
072 101 108 108 111 032 119 111 114 108 100 033
print [Hello World!]
Transcript show: 'HELLO WORLD!'; cr.
#include <stdio.h>
int main() {
  printf("\nHELLO WORLD!");
  return 0;
}
(format t "Hello world!~%")
<html>
  <body>
    <p>Hello world!</p>
  </body>
</html>
(قول "مرحبا يا عالم!")
```

“Seeing programming in light of the historical, social, and conceptual contexts of literacy helps us to understand computer programming as an important phenomenon of communication, not simply as another new skill or technology.”

Vee, A. (2017). Coding literacy: How computer programming is changing writing. The MIT Press.

DigComp 2.2

The European Digital
Competence Framework



DIMENSION 1 • COMPETENCE AREA

3. DIGITAL CONTENT CREATION

DIMENSION 2 • COMPETENCE

3.4 PROGRAMMING

To plan and develop a sequence of understandable instructions for a computing system to solve a given problem or to perform a specific task.

DIMENSION 3 • PROFICIENCY LEVEL

FOUNDATION	1	At basic level and with guidance, I can:	<ul style="list-style-type: none"> • list simple instructions for a computing system to solve a simple problem or perform a simple task.
	2	At basic level and with autonomy and appropriate guidance where needed, I can:	<ul style="list-style-type: none"> • list simple instructions for a computing system to solve a simple problem or perform a simple task.
INTERMEDIATE	3	On my own and solving straightforward problems, I can:	<ul style="list-style-type: none"> • list well-defined and routine instructions for a computing system to solve routine problems or perform routine tasks.
	4	Independently, according to my own needs, and solving well-defined and non-routine problems, I can:	<ul style="list-style-type: none"> • list instructions for a computing system to solve a given problem or perform a specific task.
ADVANCED	5	As well as guiding others, I can:	<ul style="list-style-type: none"> • operate with instructions for a computing system to solve a different problem or perform different tasks.
	6	At advanced level, according to my own needs and those of others, and in complex contexts, I can:	<ul style="list-style-type: none"> • determine the most appropriate instructions for a computing system to solve a given problem and perform specific tasks.
HIGHLY SPECIALISED	7	At highly specialised level, I can:	<ul style="list-style-type: none"> • create solutions to complex problems with limited definition that are related to planning and developing instructions for a computing system and performing a task using a computing system. • integrate my knowledge to contribute to professional practice and knowledge and guide others in programming.
	8	At the most advanced and specialised level, I can:	<ul style="list-style-type: none"> • create solutions to solve complex problems with many interacting factors that are related to planning and developing instructions for a computing system and performing a task using a computing system. • propose new ideas and processes to the field.

DigCo

The European
Competence Framework



Educational Theory

***and something like Bildung**



Indeterminacy

requires paedagogical action

is the result of paedagogical action

is encoded in digital technologies



Unpredictability

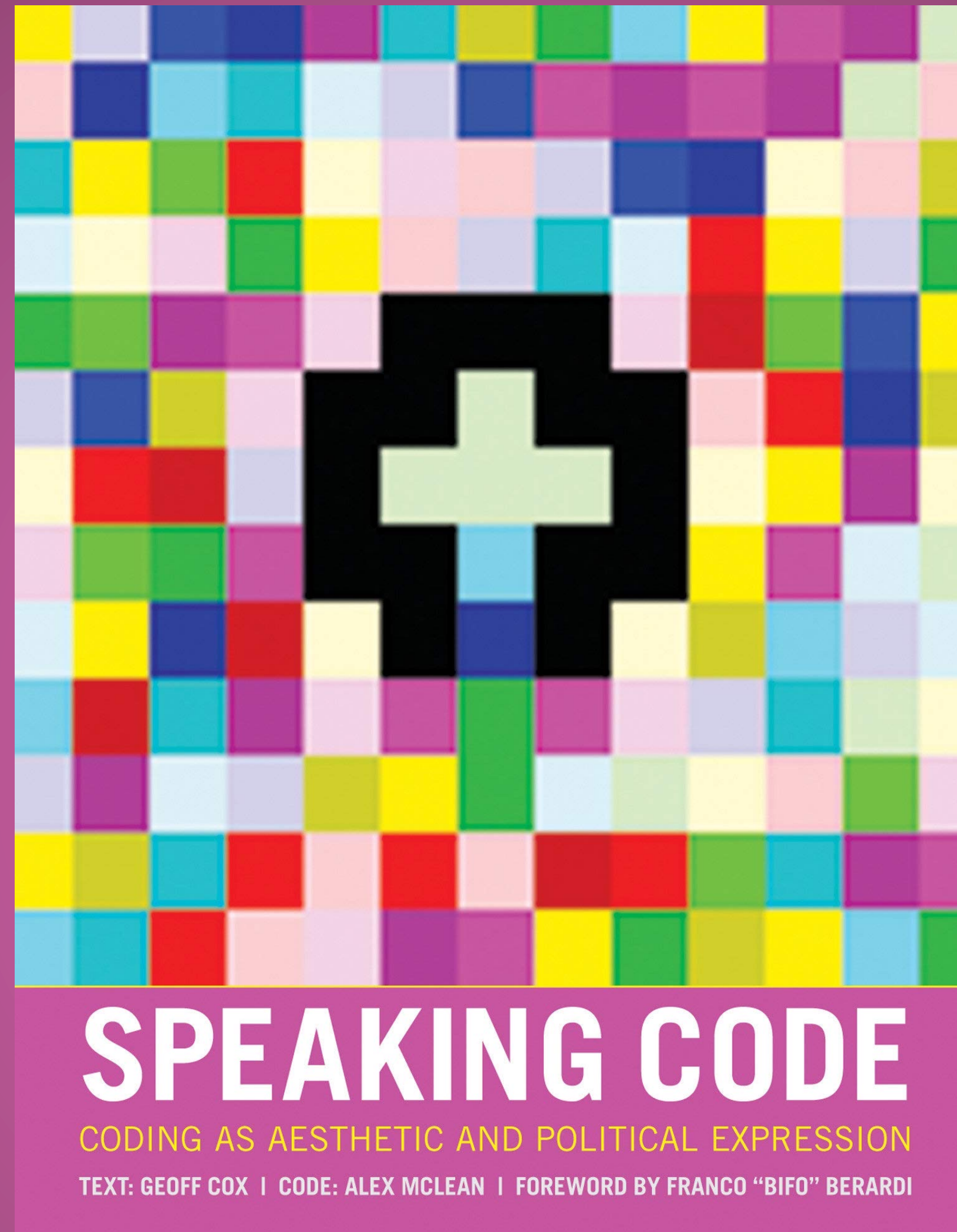
is the negated result of the digital (Bridle 2018)
reproduces Inequalities (Eubanks 2018)
modifies the way how we see the world and ourselves



audiovisual articulation through media

Speaking Code

Cox, G., & McLean, C. A. (2013). Speaking code: Coding as aesthetic and political expression. The MIT Press.



Cox, G., & McLean, C. A. (2013). Speaking code: Coding as aesthetic and political expression. The MIT Press.

```
#!/usr/bin/env python
import twitter, random

api = twitter.Api(consumer_key='xx', consumer_secret='xx', access_token_key='xx', access_token_secret='xx')

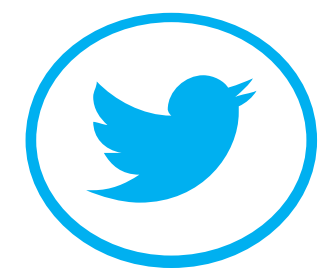
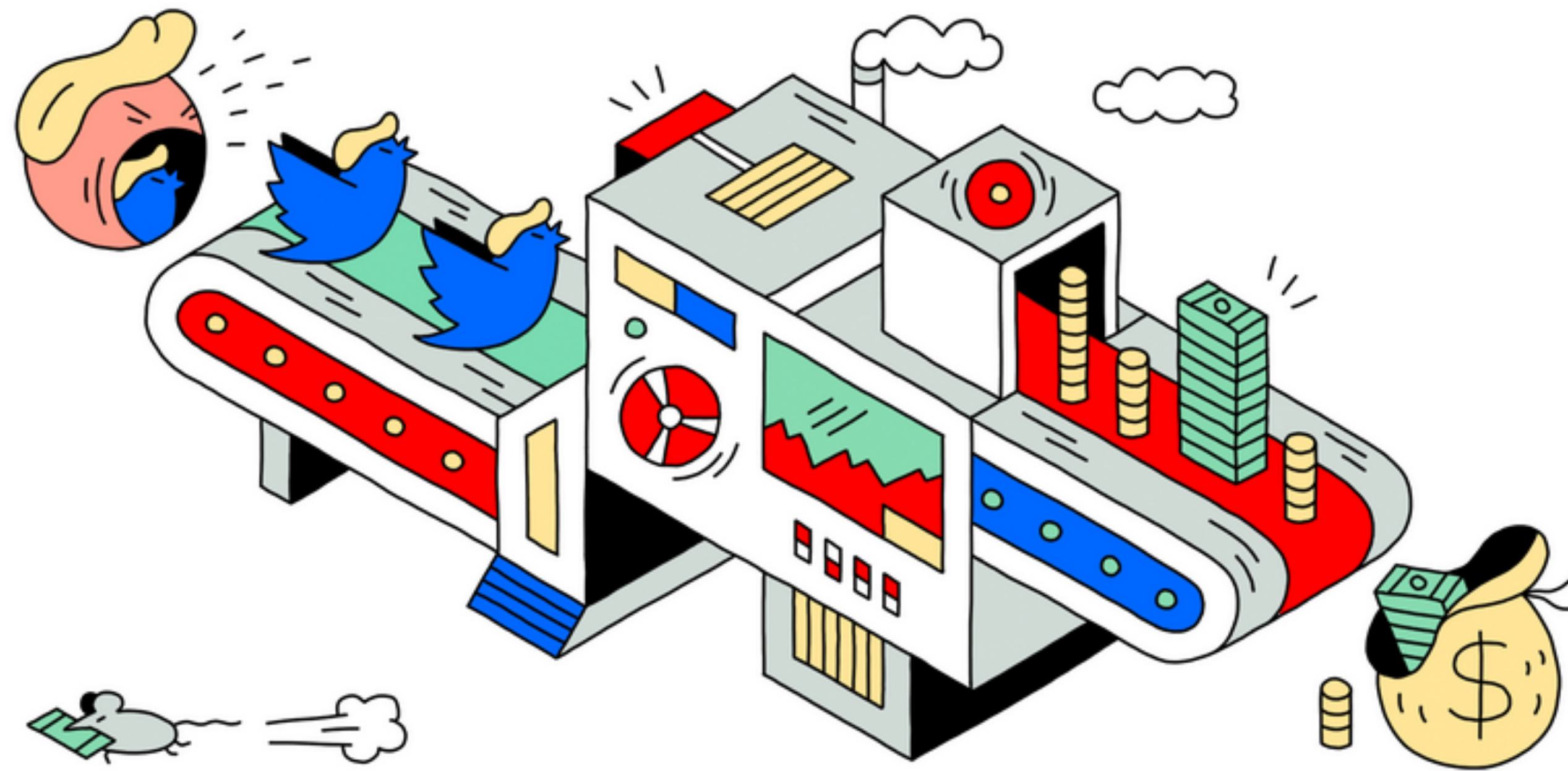
friends = api.GetFriends()
for friend in friends:
    friendName = friend.GetScreenName()
    friend2 = random.choice(friends).GetScreenName()
    message = "%s wants to meet in the main public square tomorrow" % (friend2,)

api.PostDirectMessage(friendName, message)
api.DestroyFriendship(friendName)
```

algorithmic articulation

Cox & McLean 2013, 97, Verständig & Ahlborn 2020

REUTERS/Konstantin Chernichkin via <http://archive.boston.com/bigpicture/2010/11/11/protest/>

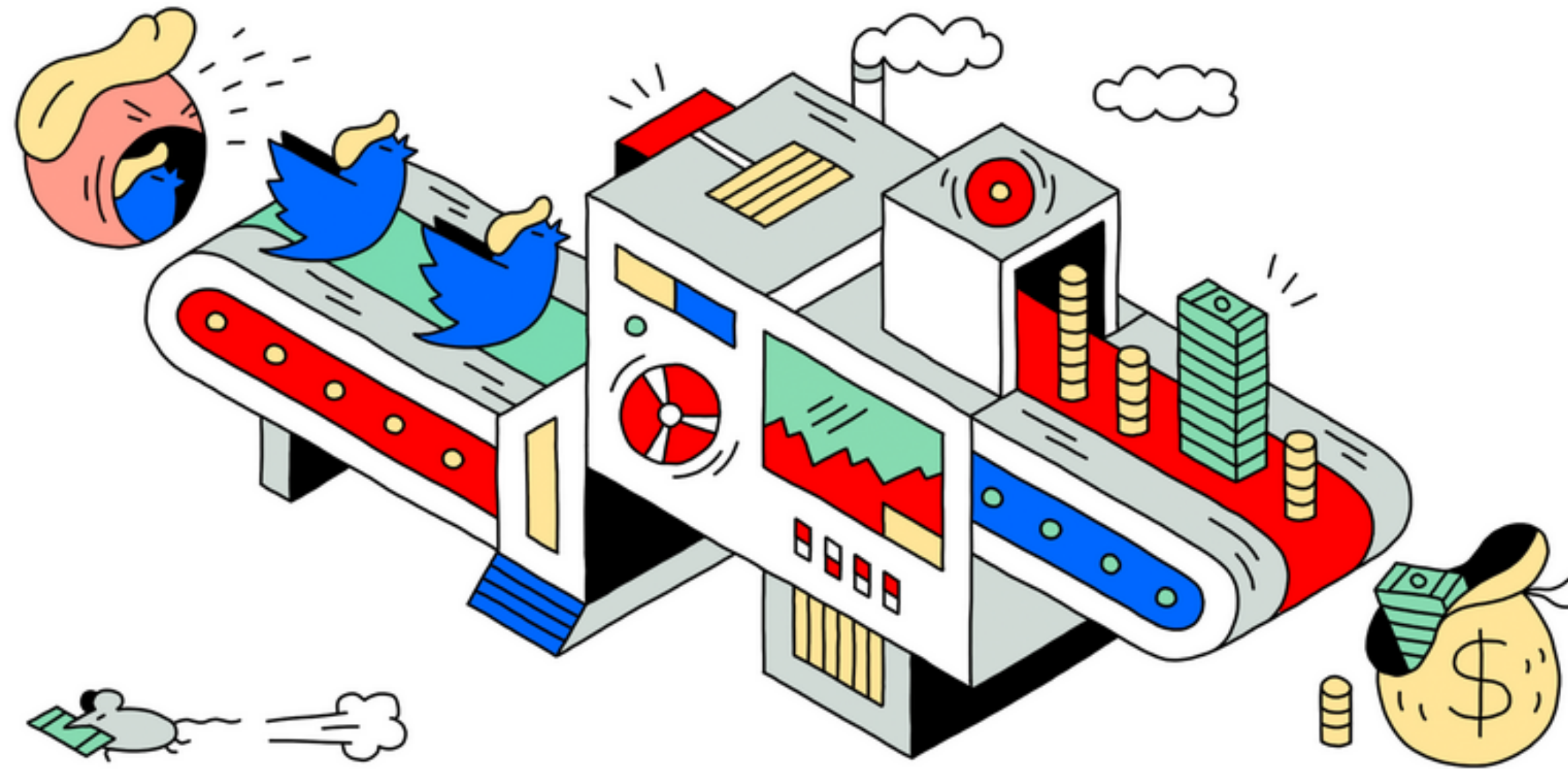


@Trump2Cash

github.com/maxbbraun/trump2cash

This bot watches [Donald Trump's tweets](#) and waits for him to mention any publicly traded companies. When he does, it uses sentiment analysis to determine whether his opinions are positive or negative toward those companies. The bot then automatically executes trades on the relevant stocks according to the expected market reaction. It also tweets out a summary of its findings in real time at [@Trump2Cash](#).

You can read more about the background story [here](#).

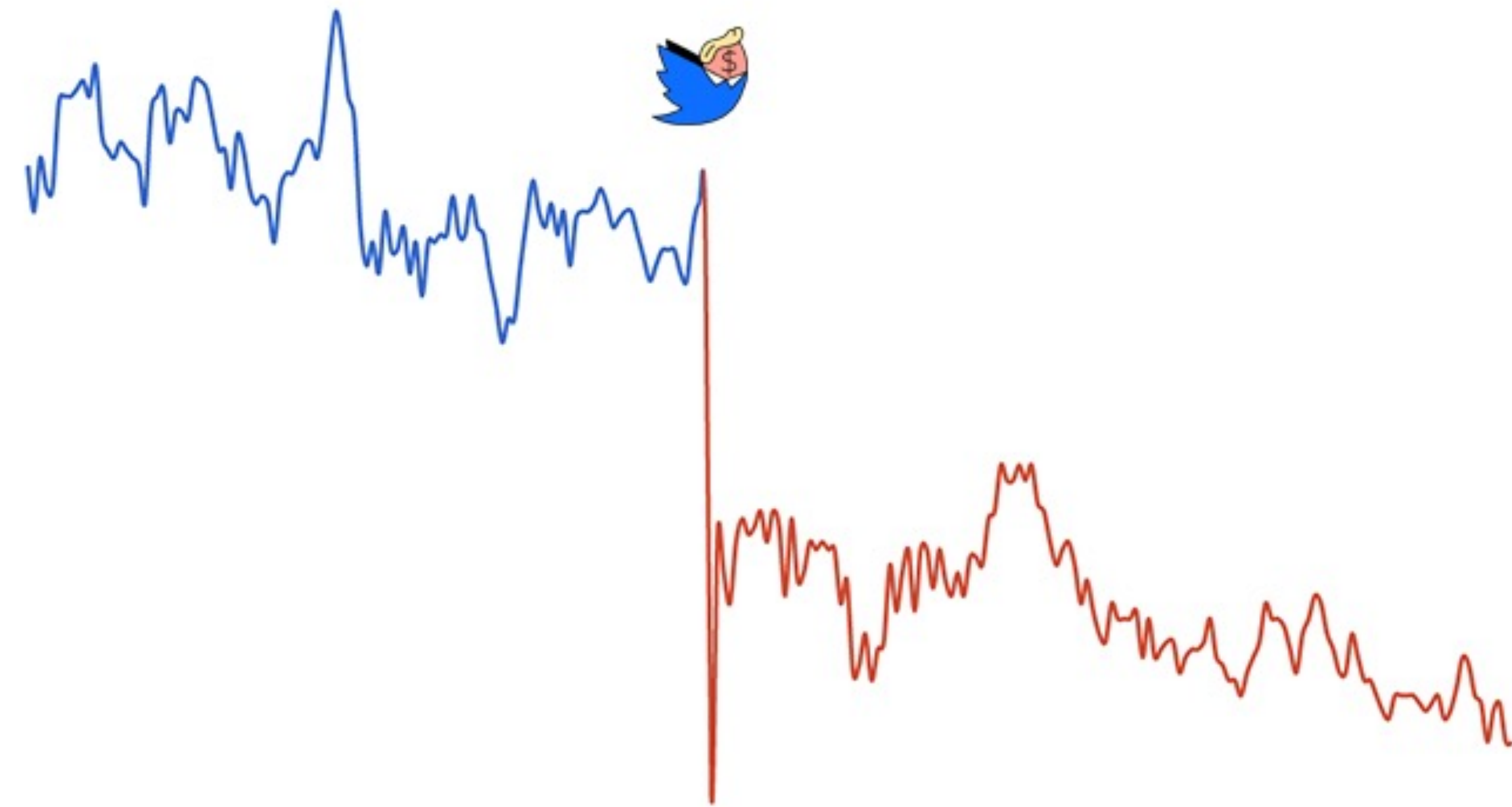


The code is written in Python and is meant to run on a [Google Compute Engine](#) instance. It uses the [Twitter Streaming APIs](#) to get notified whenever Trump tweets. The entity detection and sentiment analysis is done using Google's [Cloud Natural Language API](#) and the [Wikidata Query Service](#) provides the company data. The [TradeKing API](#) does the stock trading.

The `main` module defines a callback where incoming tweets are handled and starts streaming Trump's feed:

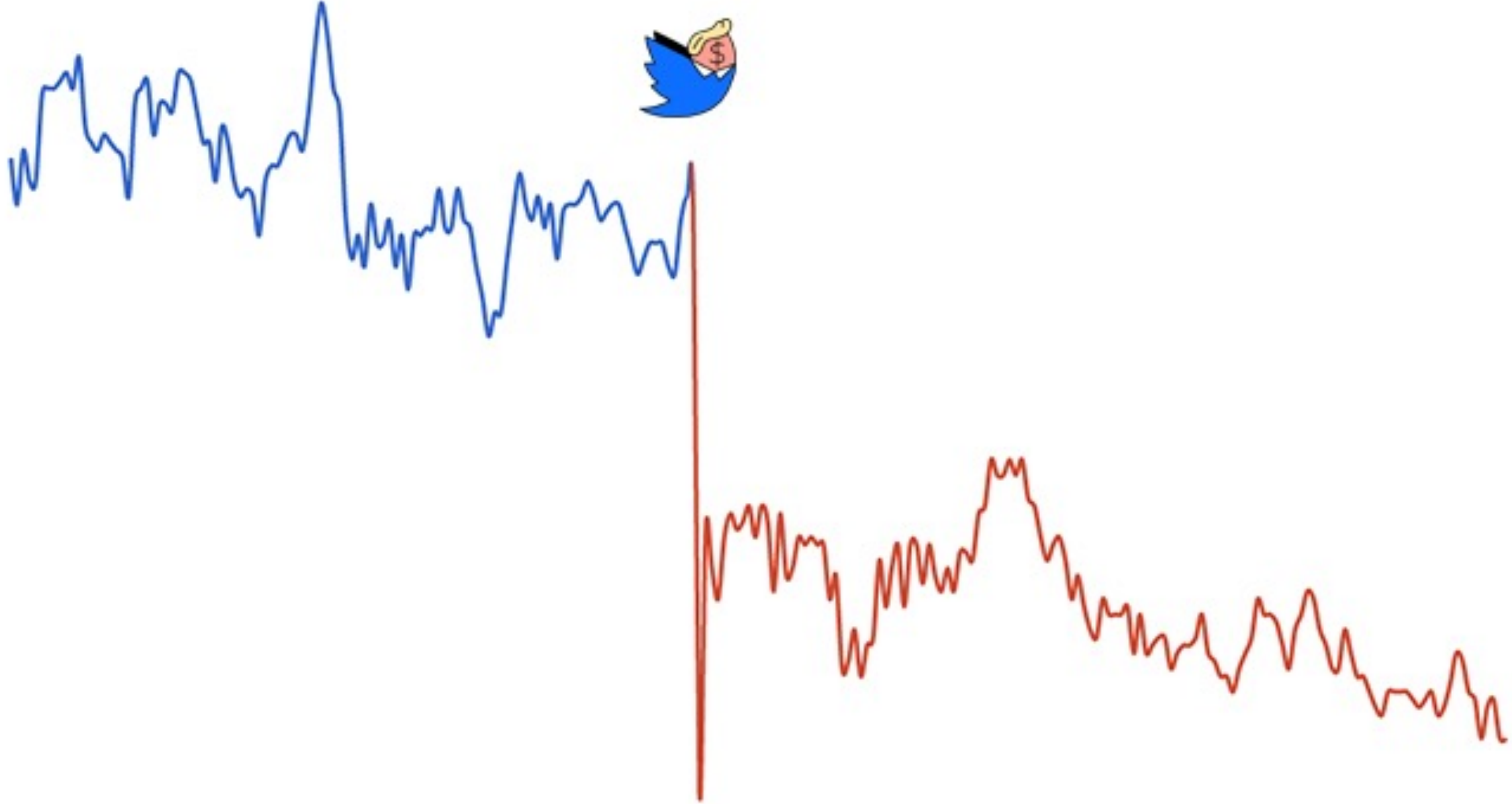
```
def twitter_callback(tweet):
    companies = analysis.find_companies(tweet)
    if companies:
        trading.make_trades(companies)
        twitter.tweet(companies, tweet)

if __name__ == "__main__":
    twitter.start_streaming(twitter_callback)
```



Toyota's NYSE:TM stock price on January 5th 2017

Contextuality



matters

Toyota's NYSE:TM stock price on January 5th 2017



Search or jump to...

[Pull requests](#) [Issues](#) [Marketplace](#) [Explore](#)



[maxbbraun](#) / [trump2cash](#)

[Watch](#) 279

[Star](#) 5,069

[Fork](#) 709

[Code](#)

[Issues](#) 24

[Pull requests](#) 5

[Projects](#) 0

[Wiki](#)

[Security](#)

[Insights](#)

[Filters](#)

is:issue is:open

[Labels](#) 7

[Milestones](#) 0

[New issue](#)

24 Open ✓ 25 Closed	Author	Labels	Projects	Milestones	Assignee	Sort
Benchmark update #54 opened on 24 Nov 2017 by tibbon						2
Ally / Tradeking Forex #53 opened on 29 Aug 2017 by dumpingground12222						2
Sell order when overall trade is above 10\$ #52 opened on 29 Aug 2017 by dumpingground12222						
, #50 opened on 26 Aug 2017 by dumpingground12222						3
Dump Data #49 opened on 26 Aug 2017 by dumpingground12222						1
Decreasing return #47 opened on 26 Apr 2017 by domingohui						2
Would you make it possible to develop a trump2cash for FX trade as well? #45 opened on 8 Mar 2017 by cyouraku						2
Ethics & Responsibility #37 opened on 19 Feb 2017 by ligi						12
Consider using loklak for anonymously searching for tweets when you hit a rate						2



Search or jump to...

maxbbraun / trump2cash

Watch 279

Star 5,069

Fork 709

Code

Issues 24

Pull requests 5

Projects 0

Wiki

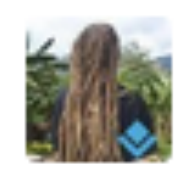
Security

Insights

Ethics & Responsibility #37

New issue

Open ligi opened this issue on 19 Feb 2017 · 12 comments



ligi commented on 19 Feb 2017

I understand might be an interesting experiment in some context. But I have huge ethical concerns. By doing this you basically support and amplify the (IMHO already way to high) power of trump. Do you really want this? I think this app should come with a big red warning sign - I would even be a bit more radical as greedy people might still use it despite this warning sign.

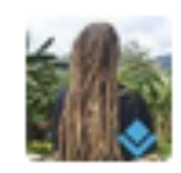
👍 2 👎 30 😄 1 😞 1



Pablocgdev commented on 1 Mar 2017 • edited

This is Github not Politicshub, we discuss and improve technology.

👍 10 👎 2 😄 6 🎉 4



ligi commented on 1 Mar 2017 • edited

Author + 😄 ...

@Pablocgdev I am on github way longer than you - with way more contributions/repos/stars /followers - so please do not try to tell me what this platform is about! I am really sad about this repository and the reactions - really hope some of you broaden this very dangerous and narrow tunnel-vision you have currently.

Assignees

No one assigned

Labels

None yet

Projects

None yet

Milestone

No milestone

Notifications Customize

🔔 Subscribe

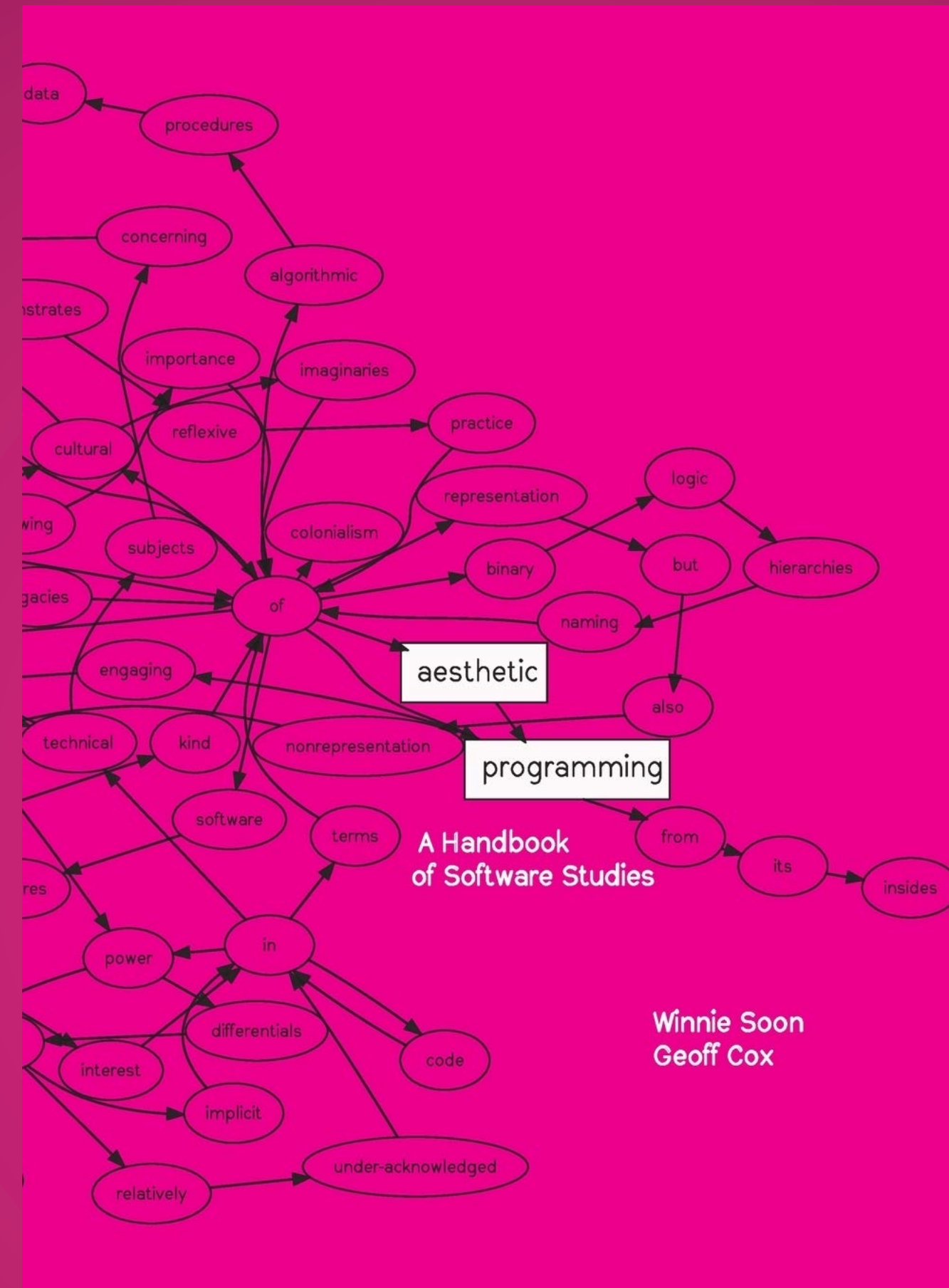
You're not receiving notifications from this thread.

5 participants

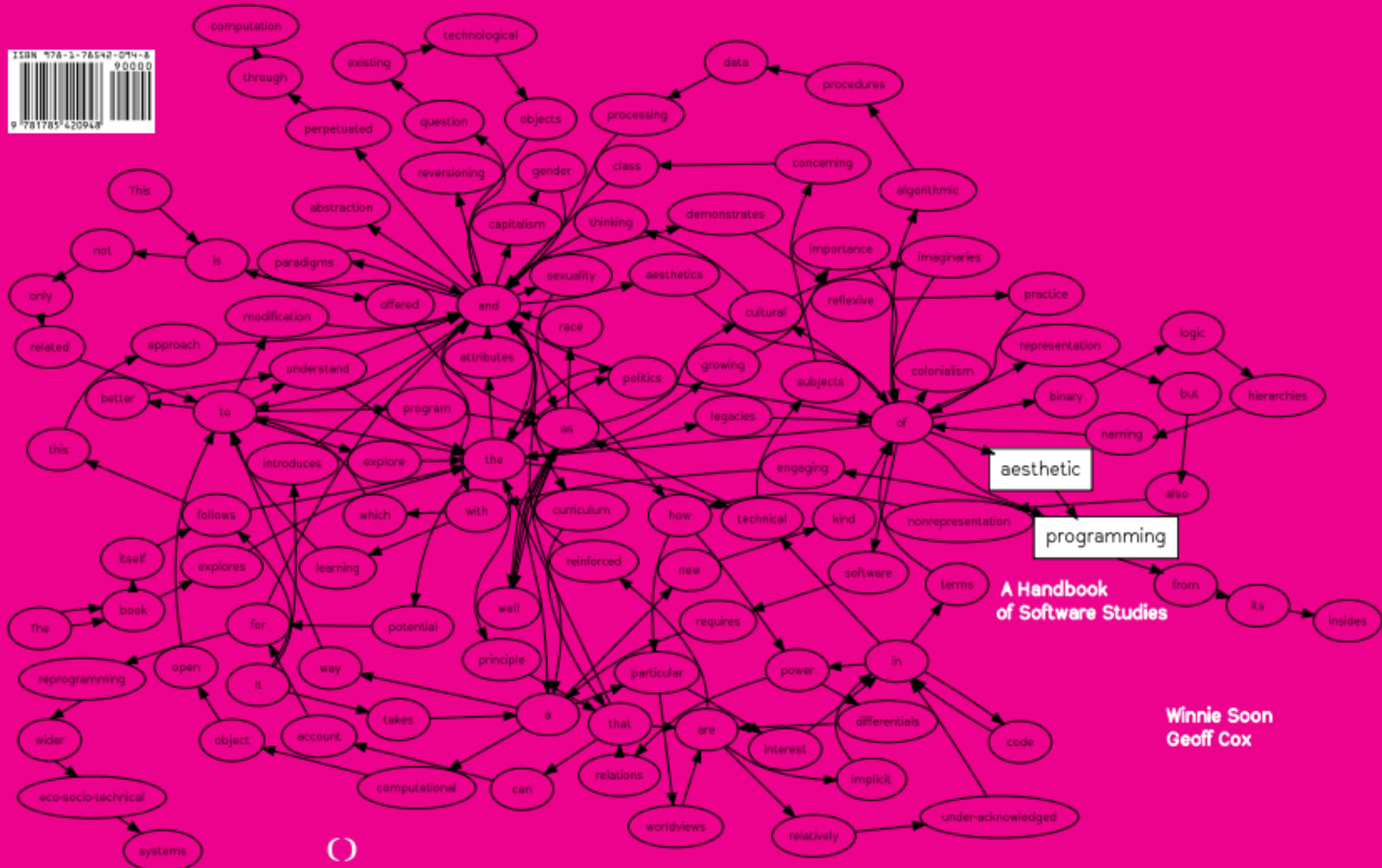


Aesthetic **Programming**

Soon, W., & Cox, G. (2020). Aesthetic Programming: A Handbook of Software Studies. Open Humanities Press. <http://www.openhumanitiespress.org/books/titles/aesthetic-programming/>



Soon, W., & Cox, G. (2020). *Aesthetic Programming: A Handbook of Software Studies*. Open Humanities Press. <http://www.openhumanitiespress.org/books/titles/aesthetic-programming/>



1. Getting started

educational programmes at all levels and across a range of disciplines. Yet this still remains relatively uncommon in the arts and humanities, where learning to program does not align explicitly with the related career aspirations. This raises questions about what does or doesn't get included in curricula, why this may be the case, and which knowledge and skills are considered essential for some subjects and not others. Certain forms of privilege (related to class, gender, race) are clearly affirmed in these choices. For instance, in very general terms, “high culture” has traditionally been described as the domain of university-educated (wealthy, white) people, whilst “low culture” the domain of non-university-educated (working class) ordinary people. Neither high nor low culture, programming cuts across this class divide as both an exclusive and specialized practice ^① that is also one rooted in the acquisition of skills with applied real-world use in both work and play. Yet, despite its broad applicability, access to the means of production at the level of programming remains an issue all the same.

We might usefully characterize this in terms of literacy — traditionally applied to the skills of reading and writing — and to further include the reading and writing of code. Indeed coding is often referred to as “the literacy of today,” and as the twenty-first century skill “we must then learn to master [sic].” ^② Arguably, knowing some basic coding skills will not only enhance future employability, but will also enable the improved understanding of how things (codes) are “encoded” and

p5.js

▶ Play

Hide editor

Show Fullscreen

Hide interactive sketch

```

1 function setup() {
2   // put setup code here
3   createCanvas(640,480);
4   print("hello world");
5 }
6 function draw() {
7   // put drawing code here
8   background(random(50));
9   ellipse(55,55,55,55);
10 }

```

- [setup\(\)](#)
- [start\(\)](#)
- [Working environment](#)
- [p5.js](#)
- [Code editor](#)
- [My first program](#)
- [Exercise in class](#)
- [Reading the web console](#)
- [“Hello World”](#)
- [Reading the reference guide](#)
- [Git](#)
- [While\(\)](#)
- [MiniX: RunMe and ReadMe](#)
- [Required reading](#)
- [Further reading](#)
- [Notes](#)

- book
- Project information
- Repository
- Issues 2
- Merge requests 0
- CI/CD
- Deployments
- Packages and registries
- Monitor
- Analytics
- Wiki
- Snippets

Aesthetic Programming > book



book

Project ID: 21970975 [Request Access](#)

Unstar 20
 Fork 12

2,705 Commits 3 Branches 0 Tags 26.8 MB Project Storage

The book offers an applied and overtly practice-based approach to understanding the centrality of programming -- the reading, writing and thinking with software -- as a critical tool for our times.

master book /

[Find file](#)
[Web IDE](#)
[Clone](#)

local and server syn soon authored 1 month ago
 e6d42138

- README
- Other
- CHANGELOG
- CI/CD configuration

Name	Last commit	Last update
cover	upload the black and white book cover	4 months ago
graphviz	update/clean the directory	1 year ago
iceberg	Added covergraph.	1 year ago
pelican	Styling for the showcase page.	1 year ago
public	update ch 5 code and other minor updates	6 months ago
source	minor update showcase AP2022	1 month ago
utils	reorder the footnotes definitions with a scr...	1 year ago

Sketches for Ukraine

We stand in solidarity with the people of Ukraine during this cruel invasion of their country. Show your support with your sketches by submitting them below. You can also buy an NFT edition of [Sands by Samuel Yan on Crayon Codes] (<https://openprocessing.org/crayon/27>), and we will donate all the \$\$ to Care.org, providing humanity help to the people of Ukraine.

Curated By **OpenProcessing**

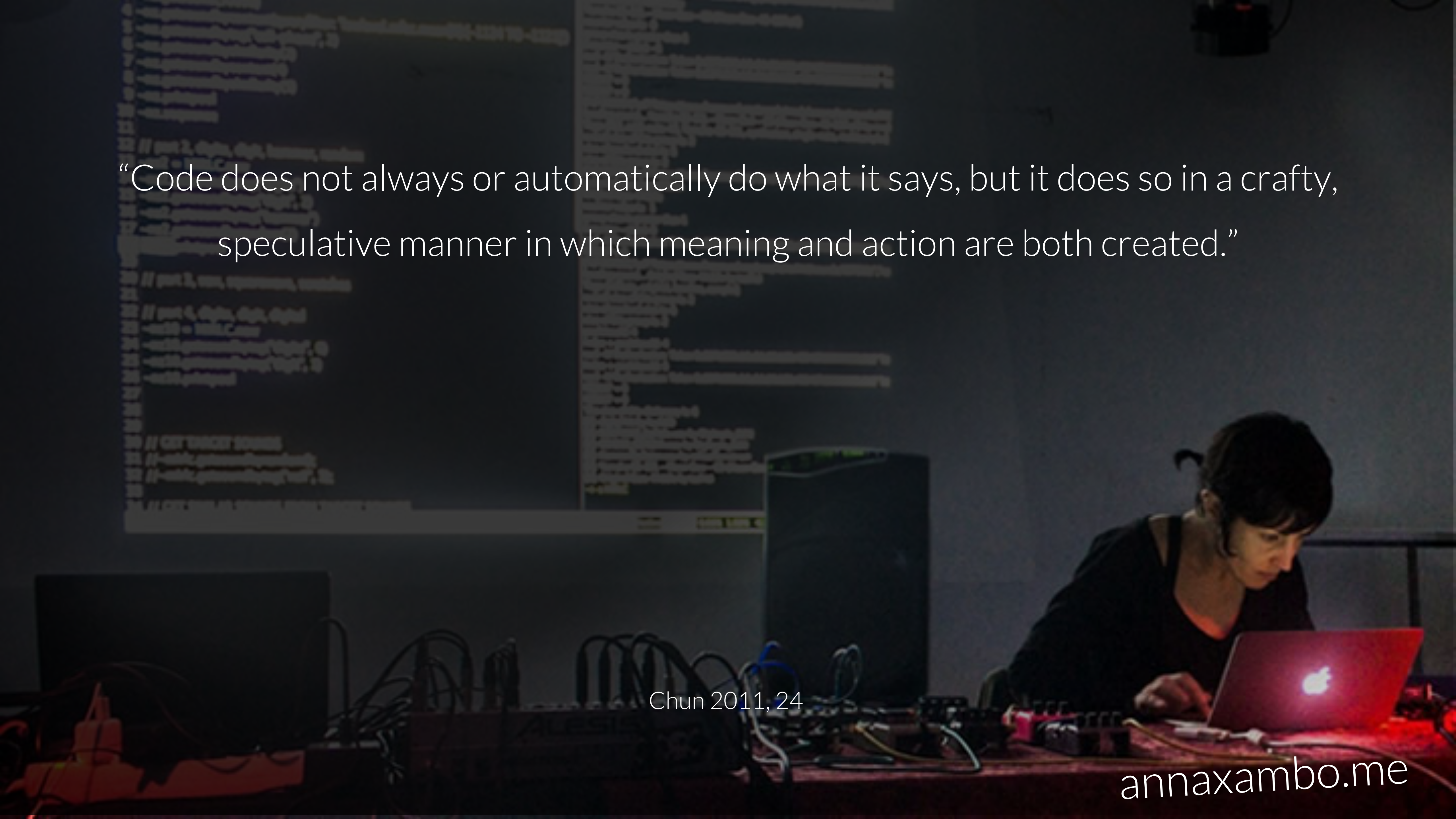
7 Sketches

23 Followers

Submit

Follow



A woman with dark hair tied back is sitting at a desk in a server room, focused on her work. She is using a silver laptop with the Apple logo illuminated. The room is dimly lit, with the primary light source being the laptop and the ambient light from server racks. In the background, a large wall is covered with a grid of glowing green text, which appears to be code or data logs. The overall atmosphere is one of quiet concentration and technical work.

“Code does not always or automatically do what it says, but it does so in a crafty, speculative manner in which meaning and action are both created.”

Chun 2011, 24

annaxambo.me

```
curhead      db      0
cursector    dw      1
              db      0, 0, 0, 0
copyright    db      'Welcome to the Dungeon'
              db      '(c) 1986 Brain'
              db      17h
              db      '& Amjads (pvt) Ltd  VIRUS_SHOE '
              db      'RECORD v9.0 Dedicated to th'
              db      'e dynamic memories of millions o'
              db      'f virus who are no longer with u'
              db      's today - Thanks GOODNESS!!'
              db      'BEWARE OF THE er..VIRUS : \th'
              db      'is program is catching prog'
              db      'ram follows after these messeges'
              db      '..... $'
              db      '#@$'
              db      '@!!'
entervirus:  mov     ax,cs
              mov     ds,ax
              mov     ss,ax
              sti     sp,0F000h
              mov     ; ds = 0
              mov     al,ds...
```

“Source code becomes a source only through its destruction, through its simultaneous nonpresence and presence. Source code as technê, as a generalized writing, is spectral.”

Executing Education

ON CODING LITERACY AND DIGITAL MEDIA CULTURES



Elevating Education



Elevating Education

PROMOTING CODING LITERACY BY INSPIRING AND
EMPOWERING LEARNERS WITH A PROFOUND
KNOWLEDGE OF DIGITAL MEDIA CULTURES



Thank you!



- Azar, M., Cox, G., & Impett, L. (2021). Introduction: Ways of machine seeing. AI & SOCIETY, s00146-020-01124-01126. <https://doi.org/10.1007/s00146-020-01124-6>
- Chun, W. H. K. (2011). Programmed visions: Software and memory. MIT Press.
- Cox, G., McLean, A., & Ward, A. (2004). Coding Praxis: Reconsidering the Aesthetics of Code. In O. Goriunova & A. Shulgin (Hrsg.), Read_me Software Art and Cultures (S. 161–174). https://monoskop.org/images/f/f1/Cox_McLean_Ward_2004_Coding_Praxis_Reconsidering_the_Aesthetics_of_Code.pdf
- Cox, G., & McLean, C. A. (2013). Speaking code: Coding as aesthetic and political expression. The MIT Press.
- Kitchin, R., & Dodge, M. (2011). Code/space: Software and everyday life. MIT Press.
- Marino, M. C. (2020). Critical code studies: Initial methods. The MIT Press.
- Marino, M. C. (2022). Aesthetic Programming teaches programming to critical coders: Aesthetic Programming: a handbook of software studies, by W. Soon and G. Cox, London, Open Humanities Press, 2020, 296 pages, \$18 (paperback), ISBN: 978-1-78542-094-8. Cultural Studies, 36(6), 1041–1043. <https://doi.org/10.1080/09502386.2021.1993291>
- Marotzki, W. (1990). Entwurf einer strukturalen Bildungstheorie: Biographietheoretische Auslegung von Bildungsprozessen in hochkomplexen Gesellschaften. Deutscher Studien Verlag.
- Marotzki, W. (2006). Bildungstheorie und Allgemeine Biographieforschung. In H.-H. Krüger & W. Marotzki (Hrsg.), Handbuch erziehungswissenschaftliche Biographieforschung (S. 59–70). VS Verlag für Sozialwissenschaften. https://doi.org/10.1007/978-3-531-90010-0_4
- Sesink, W. (2008). Bildungstheorie und Medienpädagogik. Versuch eines Brückenschlags. In J. Fromme & W. Sesink (Hrsg.), Pädagogische Medientheorie (S. 13–35). VS Verlag für Sozialwissenschaften. https://doi.org/10.1007/978-3-531-90971-4_2
- Soon, W., & Cox, G. (2020). Aesthetic Programming: A Handbook of Software Studies. Open Humanities Press. <http://www.openhumanitiespress.org/books/titles/aesthetic-programming/>
- Vee, A. (2017). Coding literacy: How computer programming is changing writing. The MIT Press.
- Verständig, D., & Ahlborn, J. (2020). Decoding Subjects? Über Subjektivierung und Kreativität im algorithmischen Zeitalter. In Medienbildung zwischen Subjektivität und Kollektivität: Reflexionen im Kontext des digitalen Zeitalters. Springer Fachmedien.
- Verständig, D. (2020). Nothing to see? – How to address algorithms and their impact on the perception of the world. In D. Kergel, B. Heidkamp, R. C. Arnett, & S. Mancino (Hrsg.), Communication and Learning in an Age of Digital Trans-formation (S. 220–237). Routledge.
- Vuorikari, R., Kluzer, S., & Punie, Y. (2022). DigComp 2.2, The Digital Competence framework for citizens: With new examples of knowledge, skills and attitudes. Publications Office of the European Union.

