Executing Education

ON CODING LITERACY AND DIGITAL MEDIA CULTURES

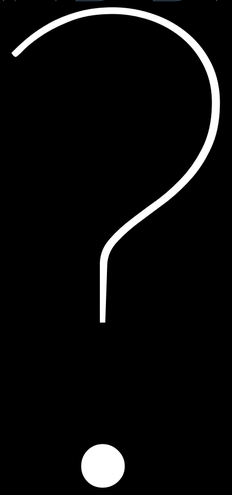
UNIVERSITÄT BIELEFELD
Faculty of Educational Science


dan.verstaendig@uni-bielefeld.de


@danvers

Executing Education

ON CODING LITERACY AND DIGITAL MEDIA CULTURES



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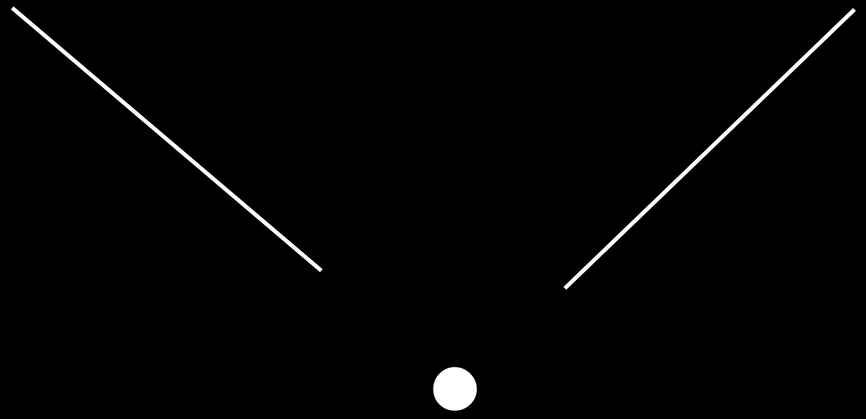


ENIAC I

(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.

Amber Case https://flic.kr/p/8QEF6m

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.


HAUPTSTÄLTRESTAURANT

Alexander Kesselaar https://flic.kr/p/T71cze


THE
coding train

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 WIEDERGEBEN

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

Algorithms in culture

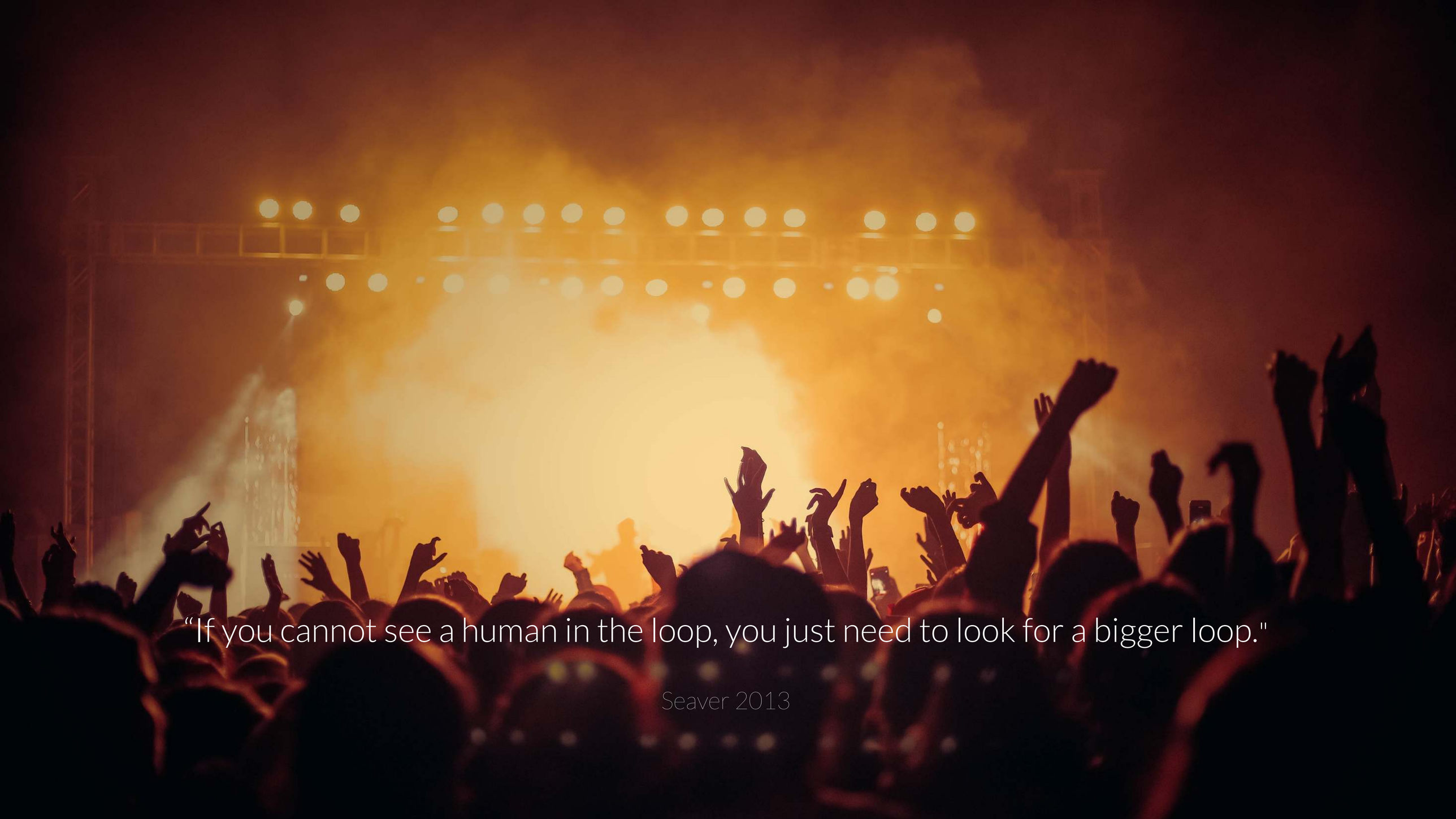
“They may shape culture (by altering the flows of cultural material), and they may be shaped by culture (by embodying the biases of their creators), but this relationship is like that between a rock and the stream it is sitting in: the rock is not part of the stream, though the stream may jostle and 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.“

Seaver 2017

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

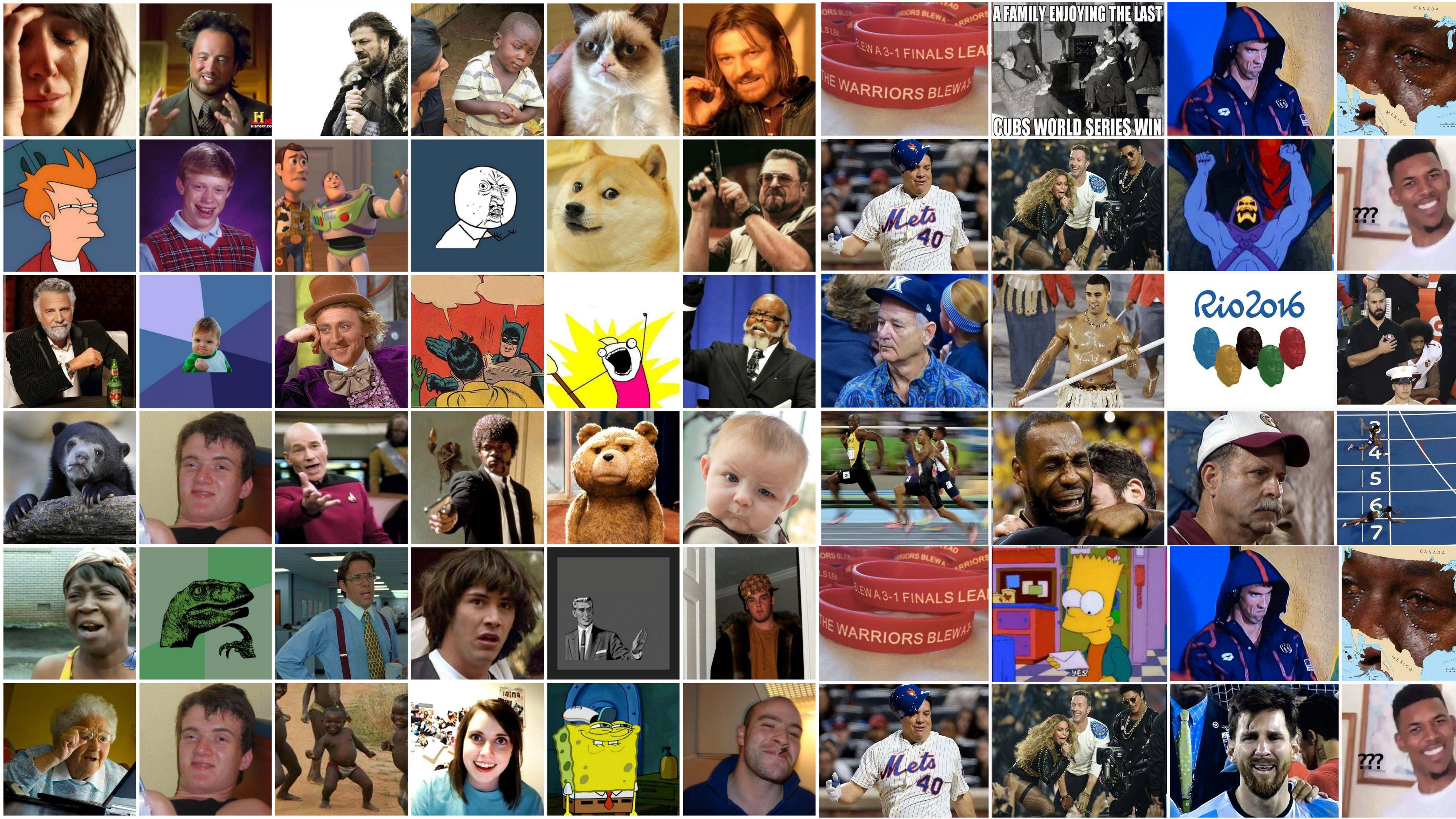

Verifone
H5000
Terminal
betriebsbereit
Verifone

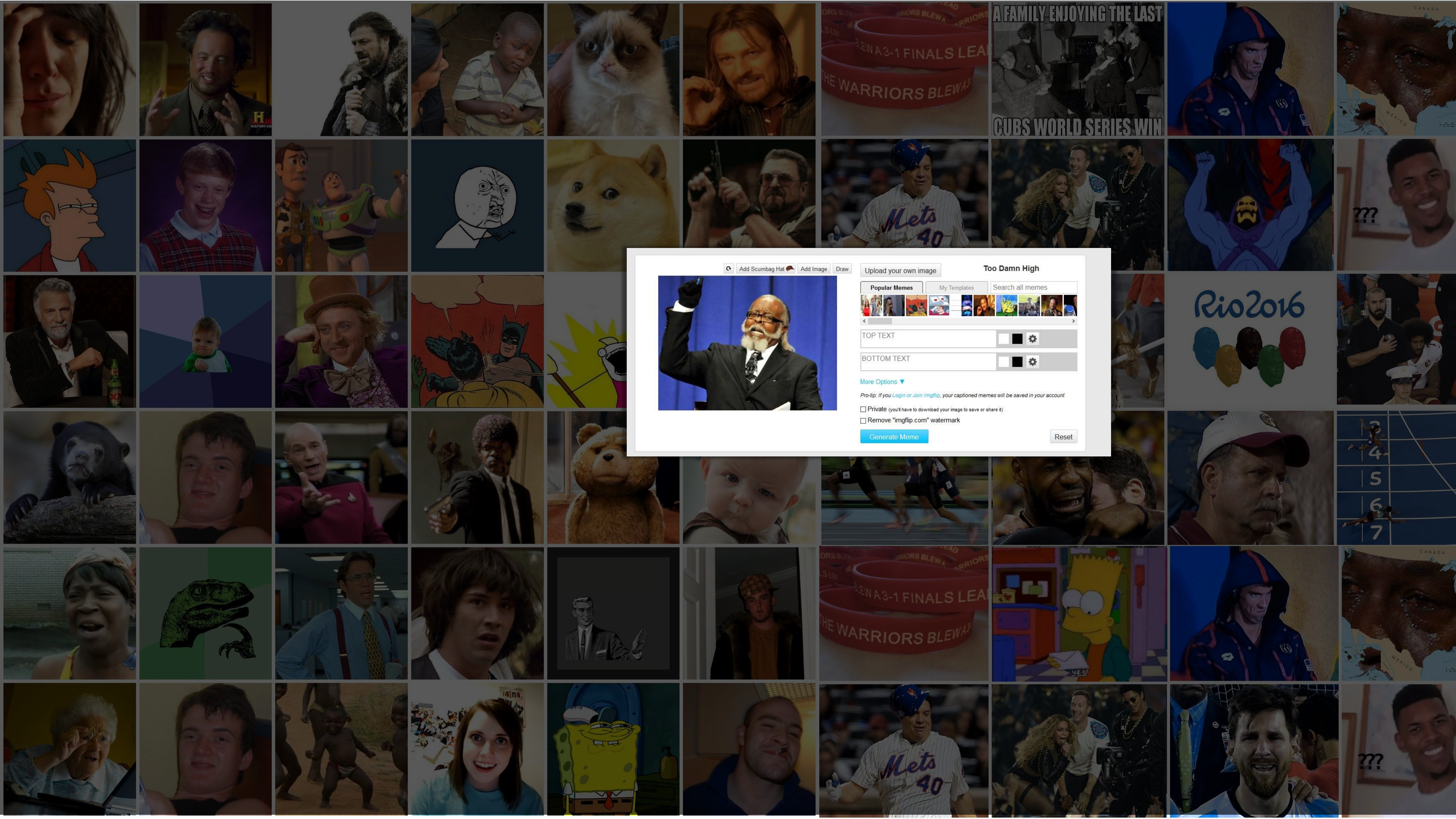
The production of space is increasingly dependent on code,

and code is written to produce space.

Kitchin and Dodge 2011

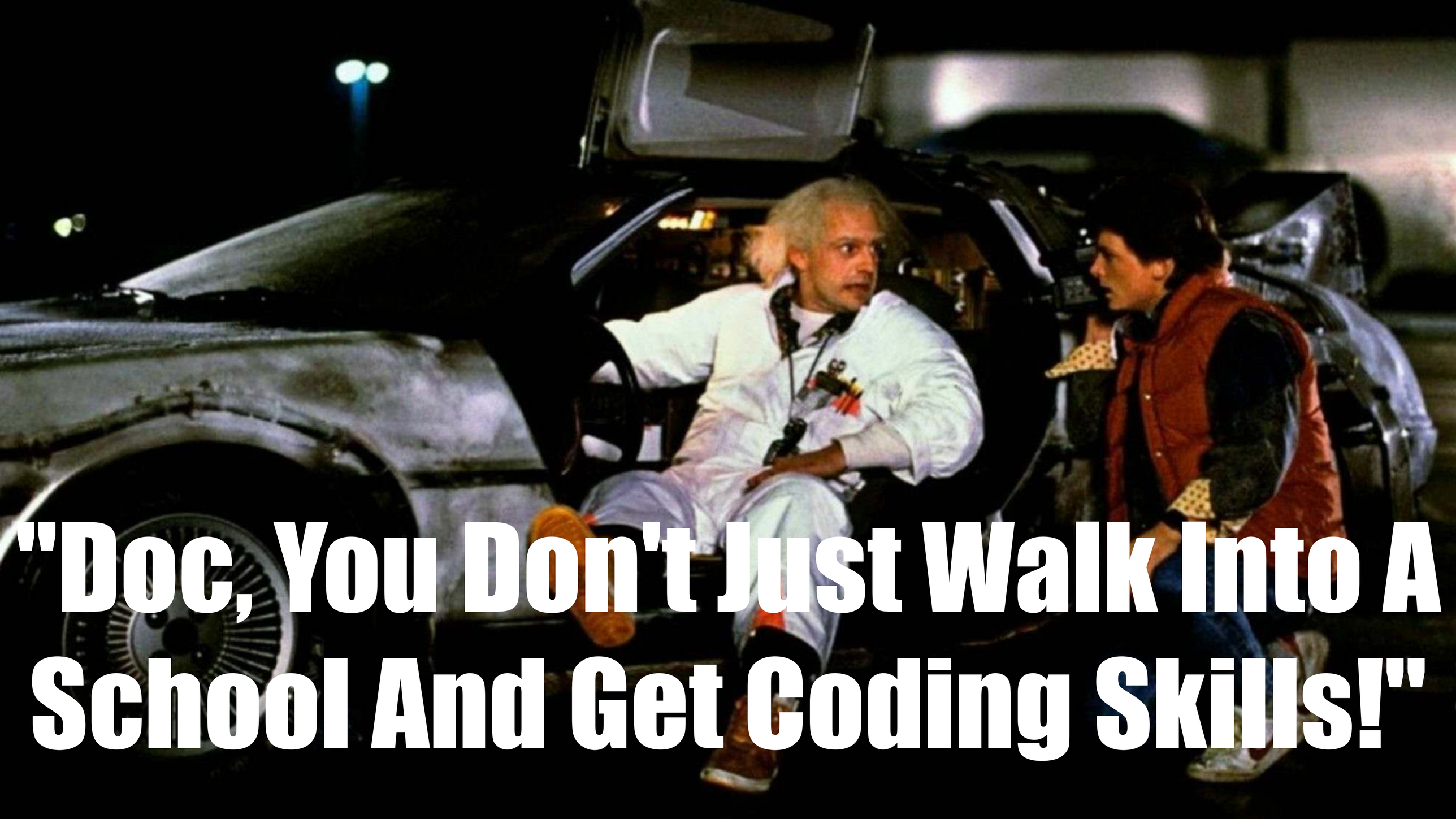

Windows
A fatal exception 0E has occurred at 0028:C0011E36 in VXD VMM(01) +
00010E36. The current application will be terminated.
* Press any key to terminate the current application.
* Press CTRL+ALT+DEL again to restart your computer. You will
lose any unsaved information in all applications.
Press any key to continue


A FAMILY ENJOYING THE LAST
CUBS WORLD SERIES WIN
Rio2016

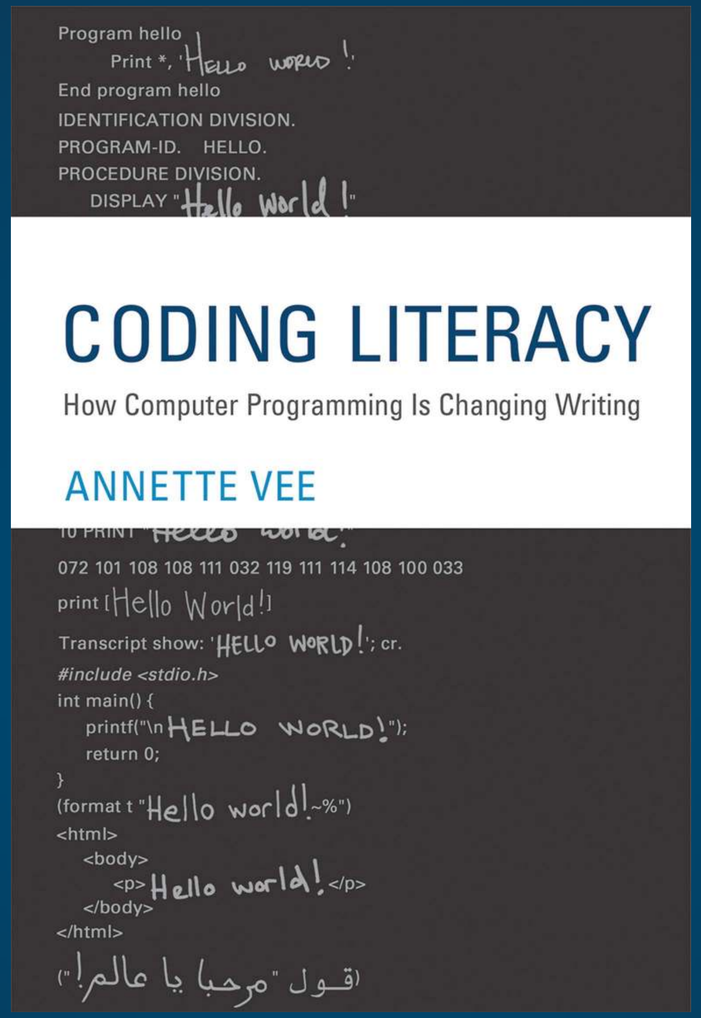

Add Scumbag Hat
Add Image
Draw
Too Damn High
Upload your own image
Popular Memes
My Templates
Search all memes
TOP TEXT
BOTTOM TEXT
More Options ▼
Pro-tip: If you Login or Join Imgflip, your captioned memes will be saved in your account
Private (you'll have to download your image to save or share it)
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.**”

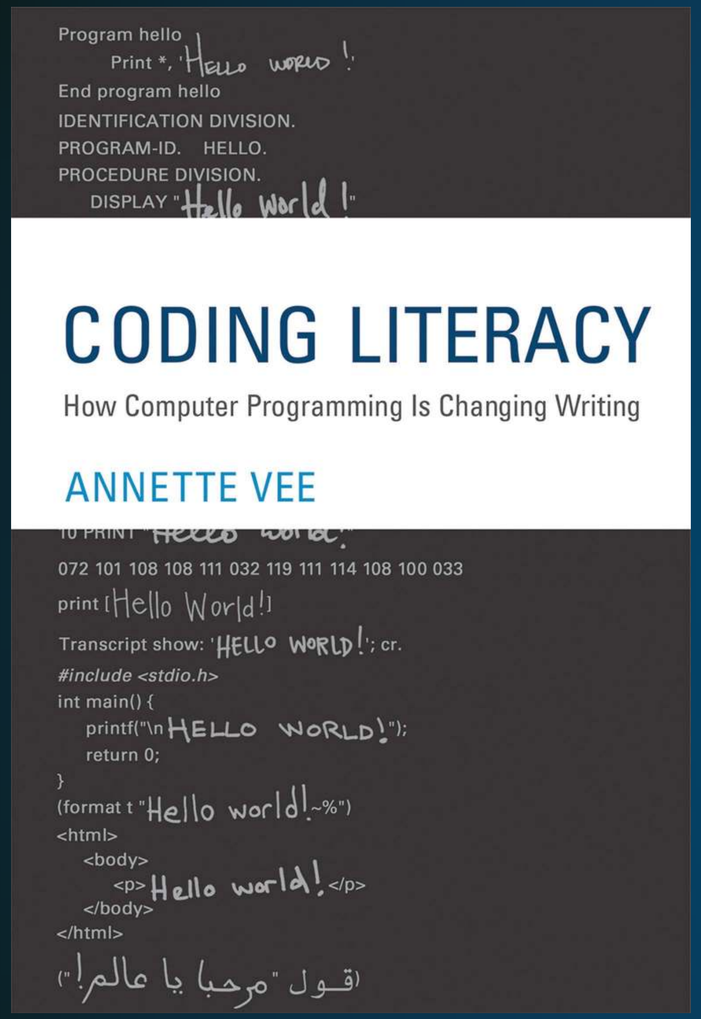
Marino, 2020, 5


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

Coding **Literacy**

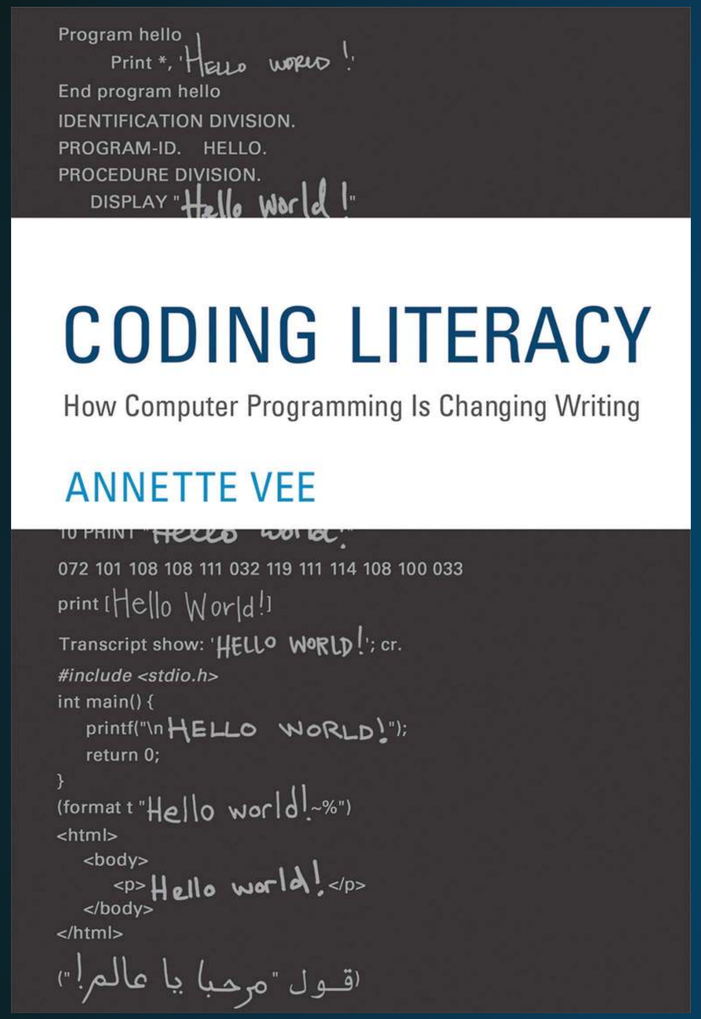


Vee, A. (2017). Coding literacy: How computer programming is changing writing. The MIT Press.



„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.



"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:	• **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:	• **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:	• **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:	• **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:	• **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:	• **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:	• **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:	• **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 F

Educational Theory

***and something like Bildung**

Indeterminacy

requires paedagogical action

is the result of peadagogical 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

REUTERS/Konstantin Chernichkin via http://archive.boston.com/bigpicture/2010/11/in_protest.html

Speaking Code

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

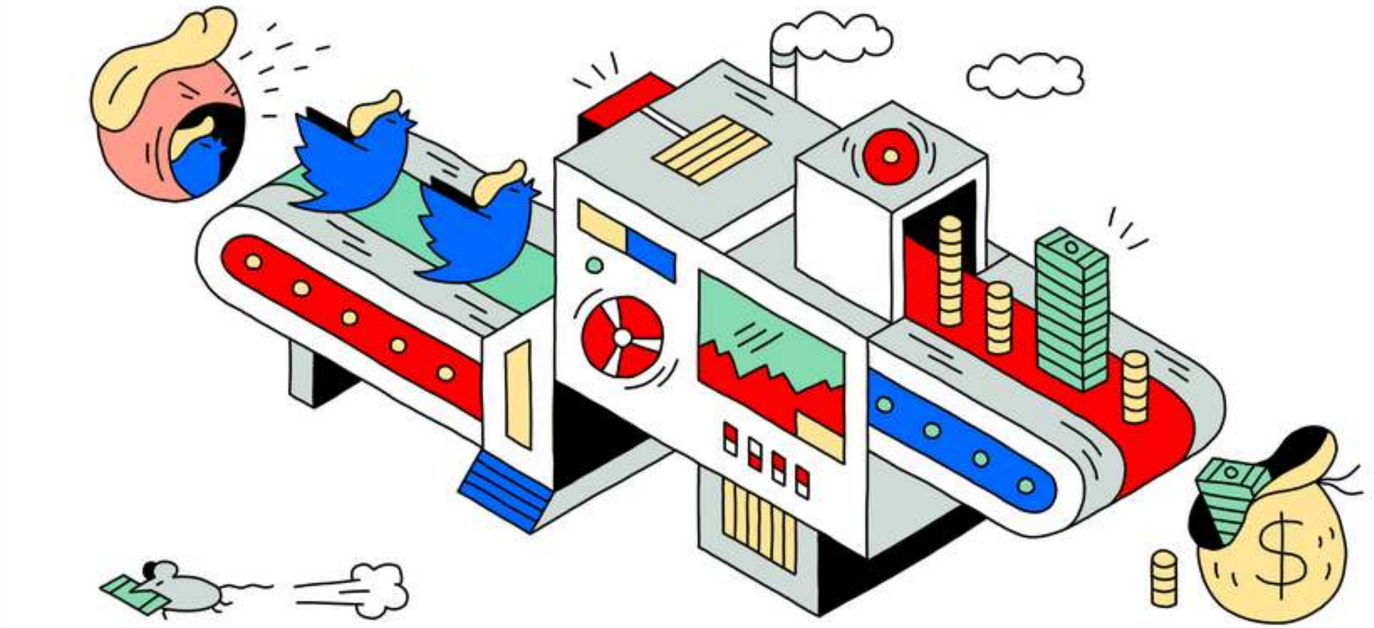
Cox, G., & McLean, C. A. (2013). Speaking code: Coding as aesthetic and political expression. The MIT Press.

```
#!/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/...protest.html

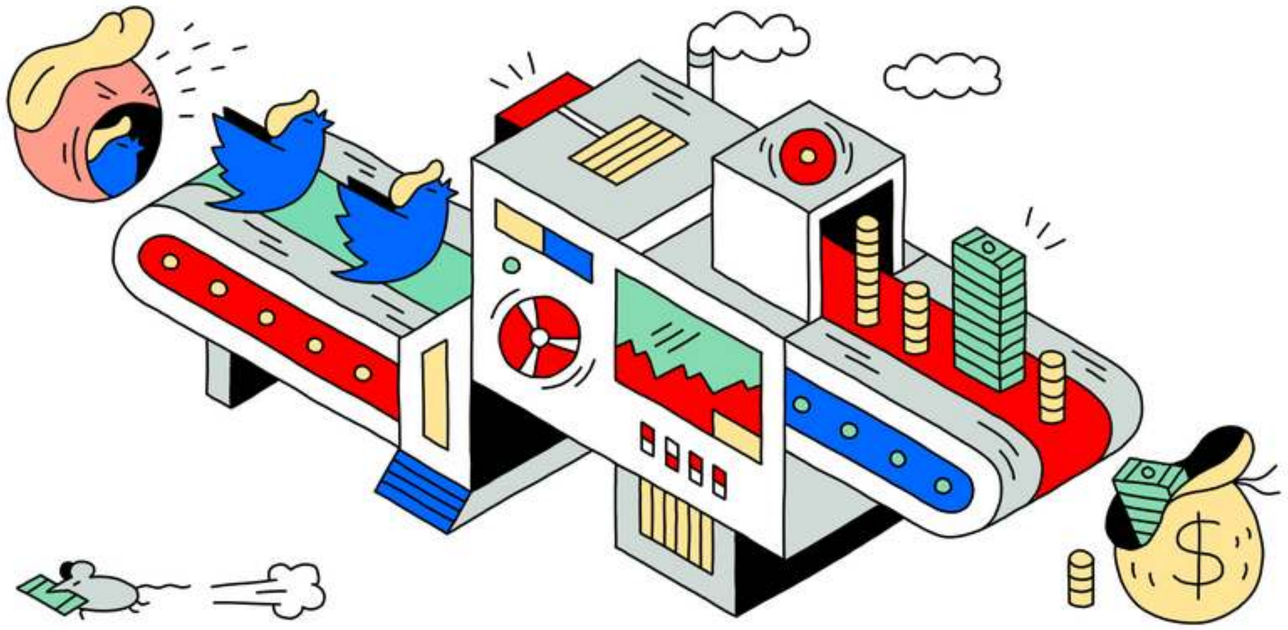


@Trump2Cash

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.

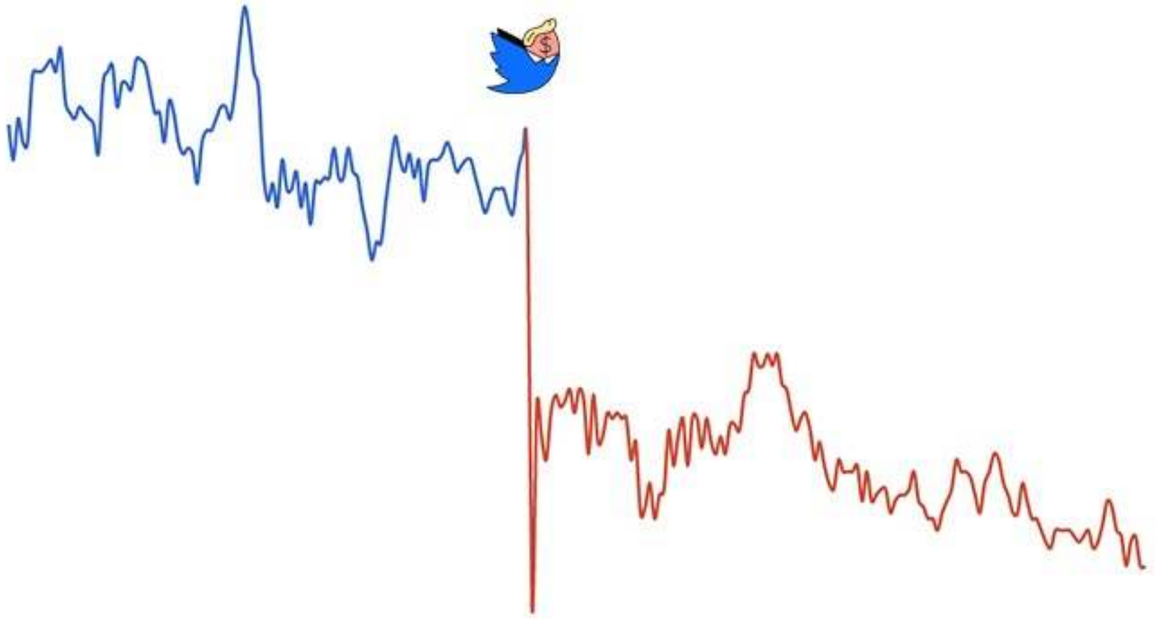
You can read more about the background story here.



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.

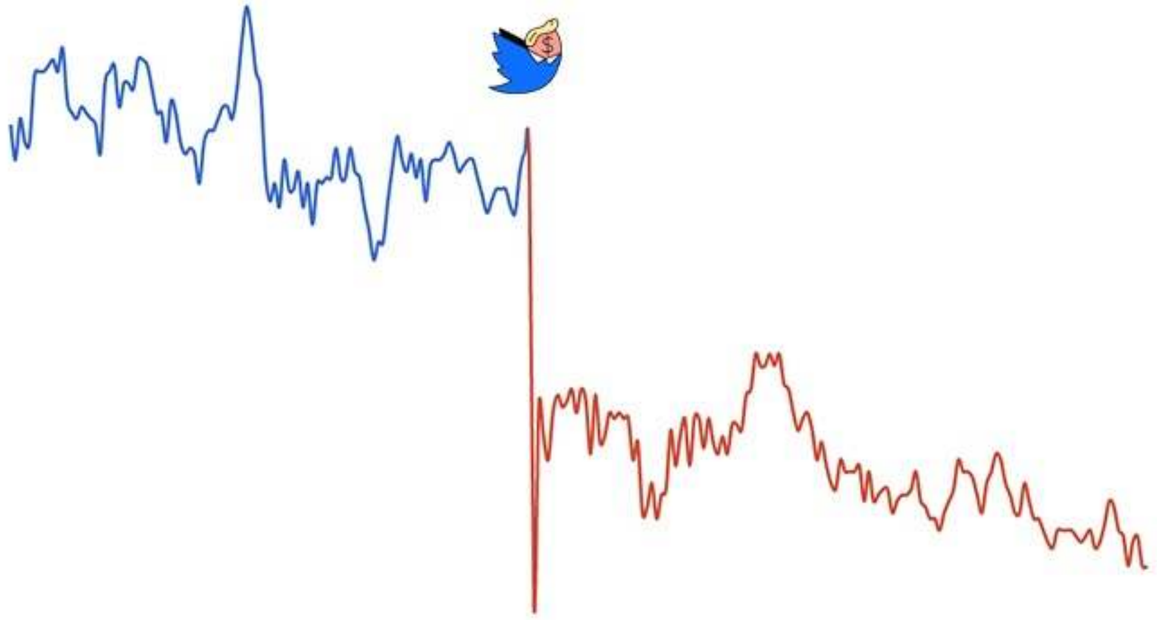
The `main` module defines a callback where incoming tweets are handled and starts streaming Trump's feed:

```
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)
```



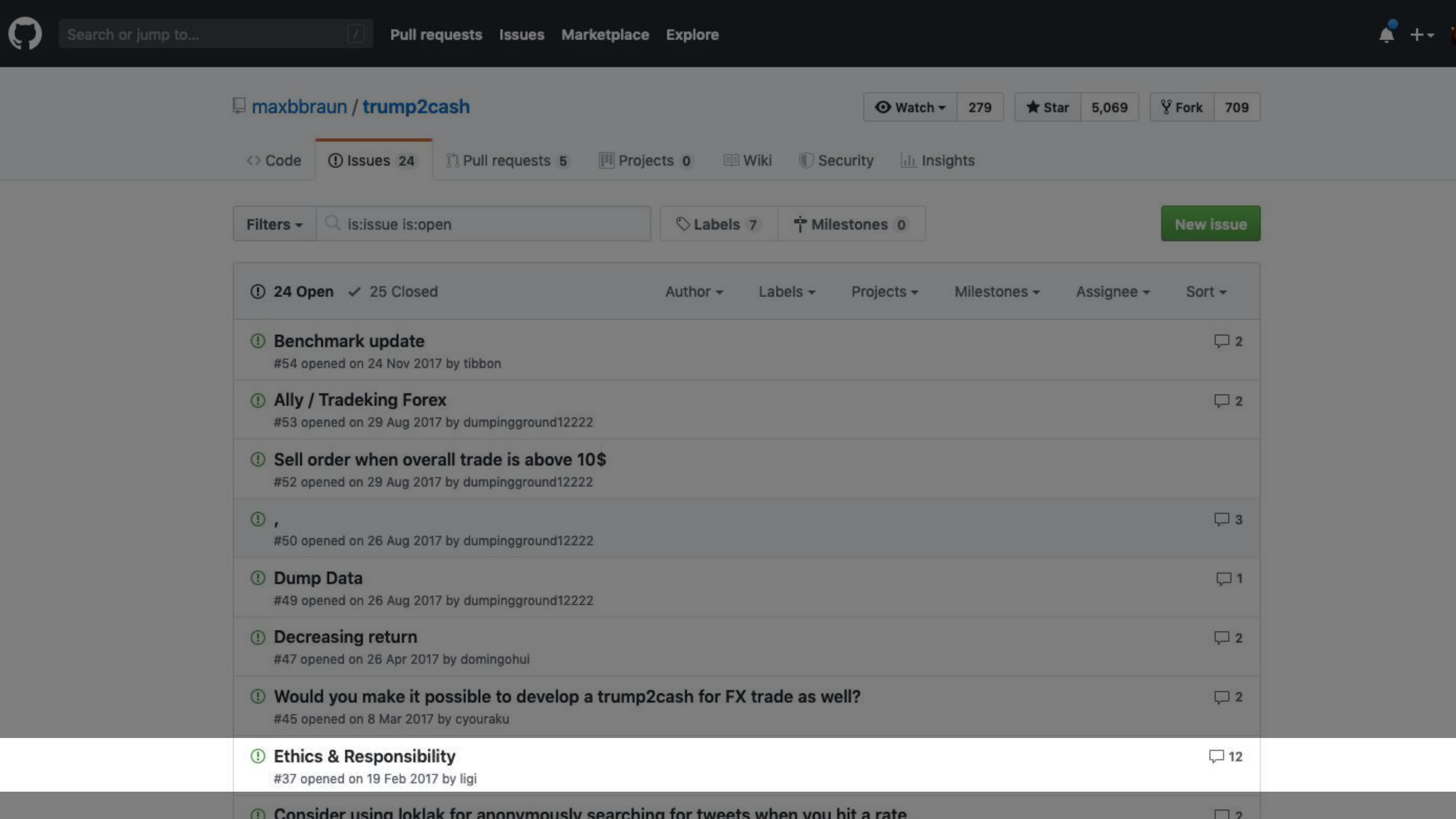
Toyota’s NYSE:TM stock price on January 5th 2017

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

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

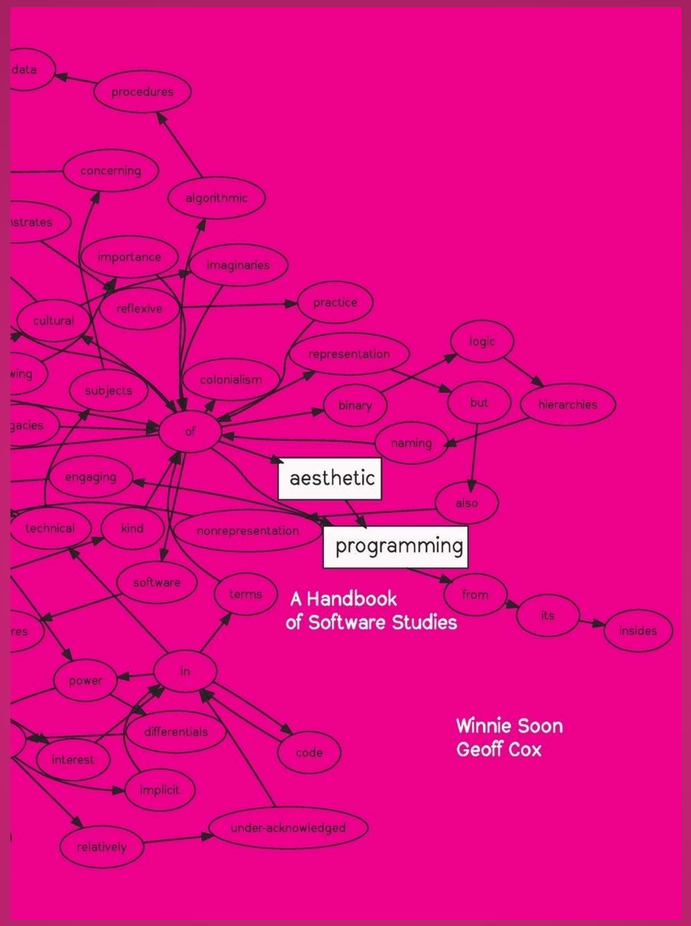
Subscribe

You're not receiving notifications from this thread.

5 participants

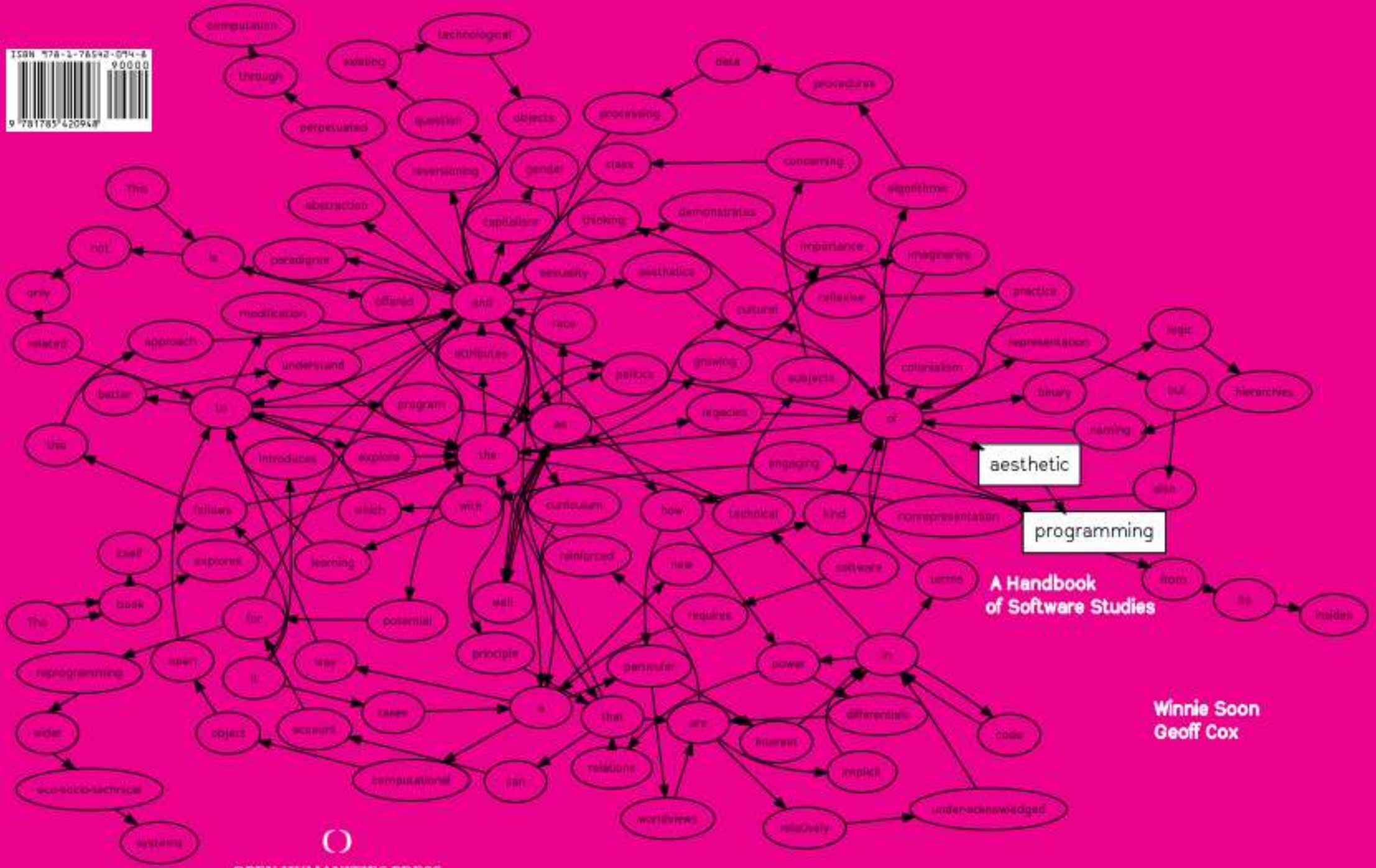
Aesthetic **Programming**

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/

ISBN 978-1-78542-094-8



Winnie Soon
Geoff Cox

OPEN HUMANITIES PRESS

1. Getting started

educational programes 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 }
```

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

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

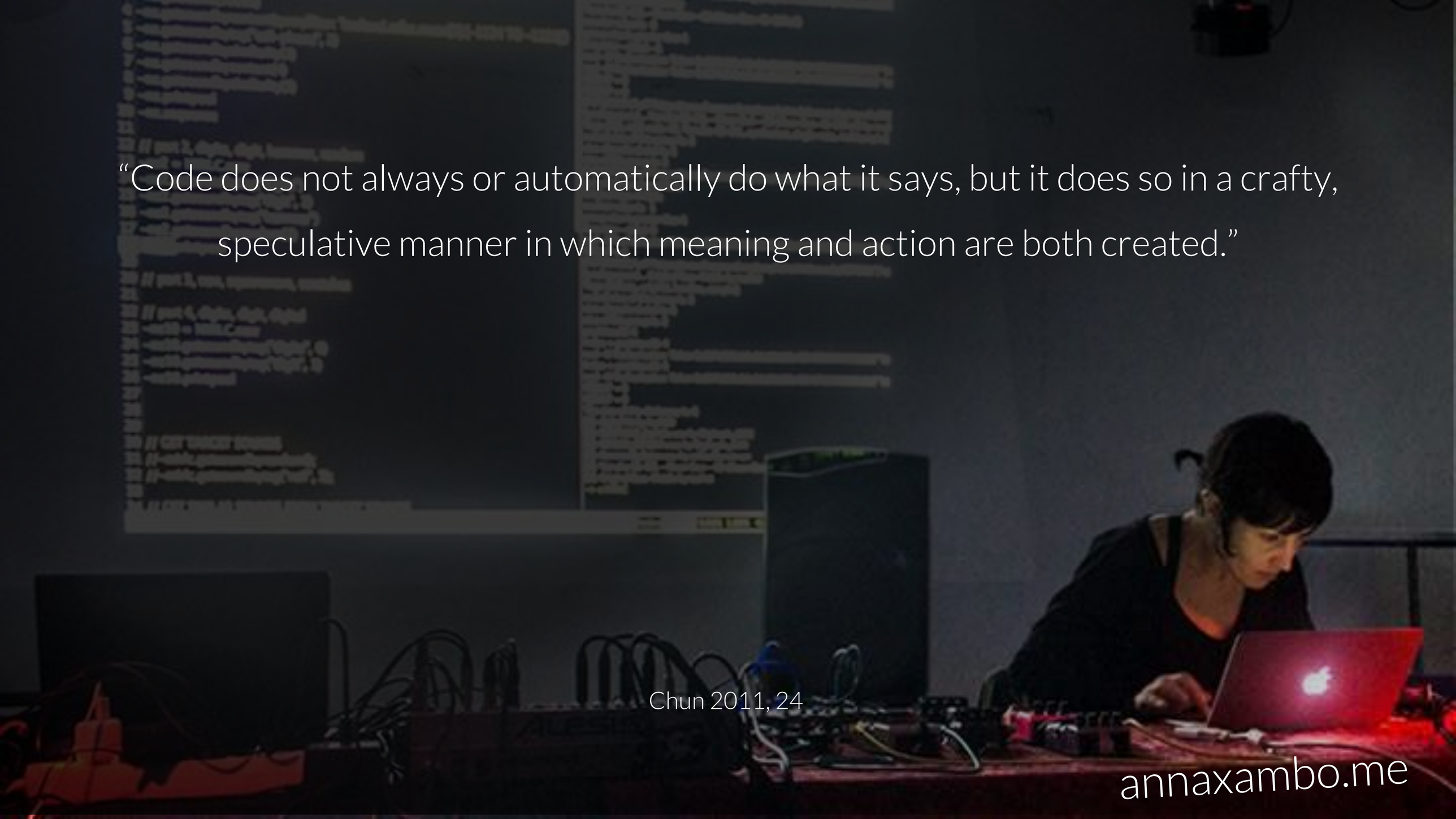
Name	Last commit	Last update
cover	upload the black and white book cover	4 months ago
graphviz	update/clean the directory	1 year ago
iceberg	Added covergraph.	1 year ago
pelican	Styling for the showcase page.	1 year ago
public	update ch 5 code and other minor updates	6 months ago
source	minor update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

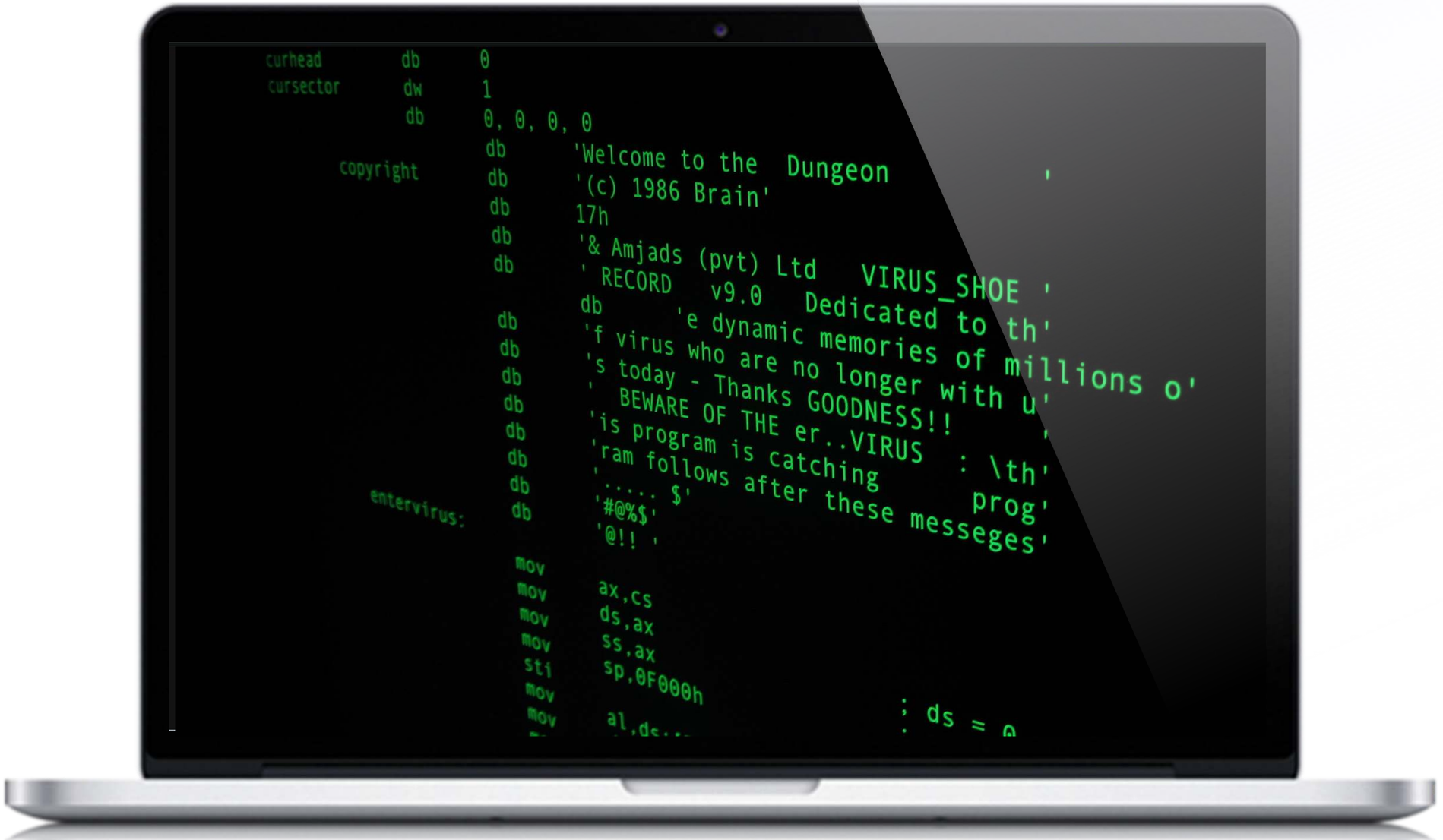
7 Sketches
23 Followers
Submit
Follow



“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
db 'Welcome to the Dungeon '
copyright 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 '..... $'
entervirus: db '#@%$'
db '@!! '
mov
mov ax,cs
mov ds,ax
mov ss,ax
sti sp,0F000h
mov
mov al,ds:...
; ds = 0

“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.”

Chun 2011, 25

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@danvers

Elevating Education

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Elevating Education

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

UNIVERSITÄT BIELEFELD
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Thank you!

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