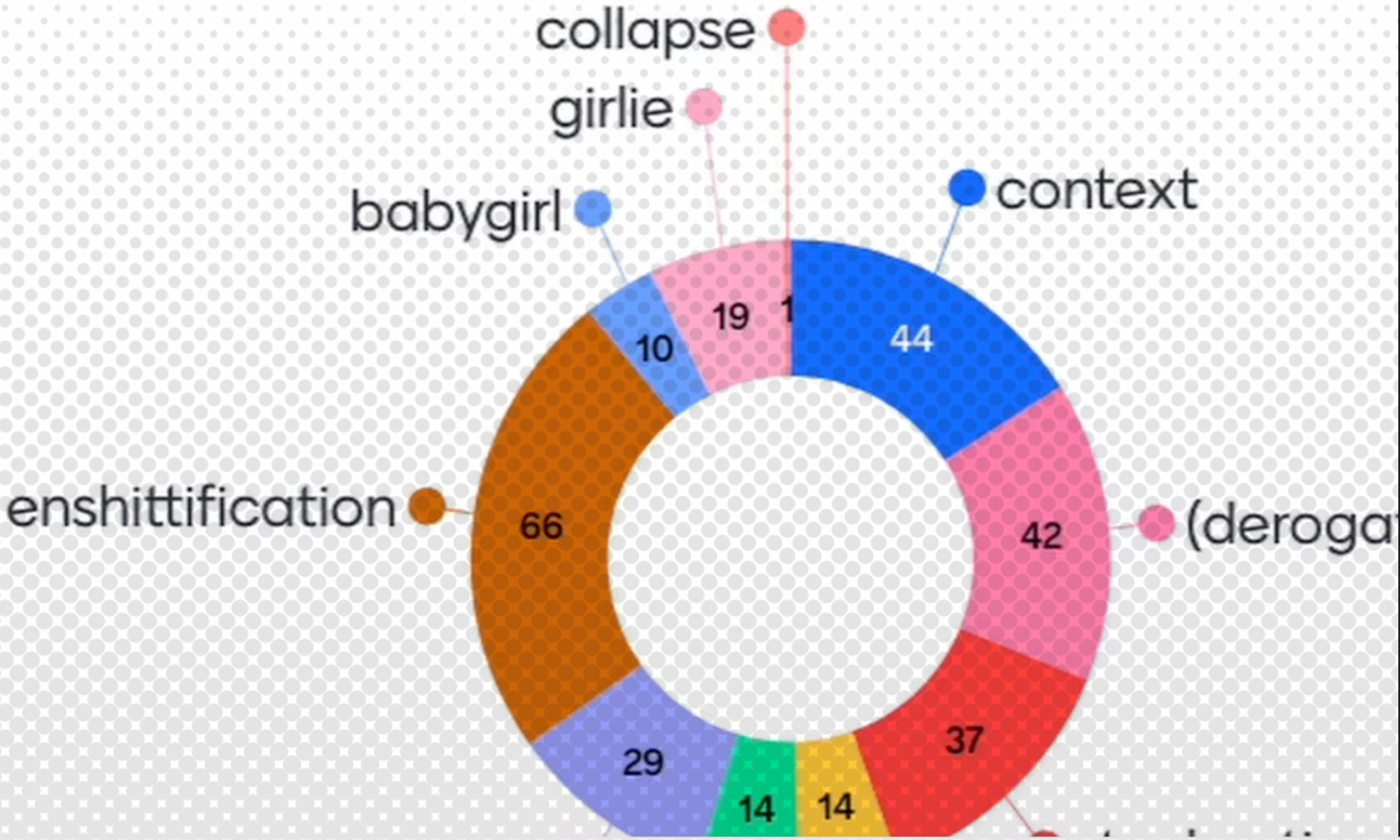
Technical Enshittification:

Why everything in it is horrible right now and how to fix it

Word of the Year

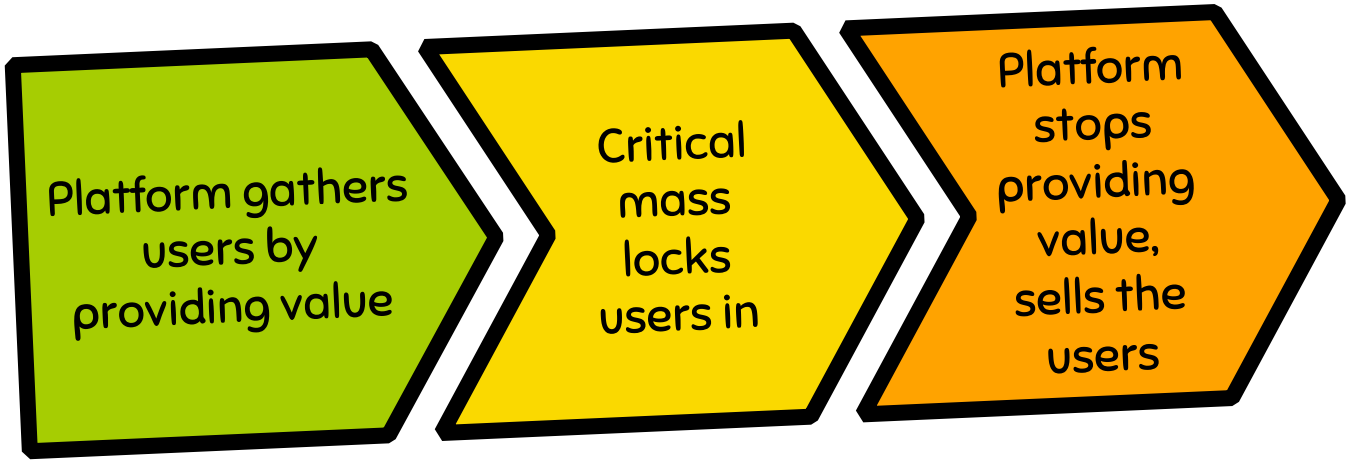


ENSHITTIFICATION:

"WHEN PLATFORM... STARTS TO EXPLOIT [ITS] USER BASE... AT THE EXPENSE OF USER EXPERIENCE"

CORY DOCTOROW

SOCIO-ECONOMIC ENSHITTIFICATION

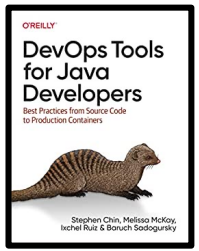


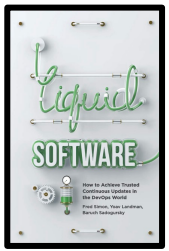
TTECHNICAL ENSHITTIFICATION

A purely technical (albeit reductionist) view

Baruch Sadogursky - @jbaruch

- Developer Productivity Advocate
- Development -> DevOps -> #DPE

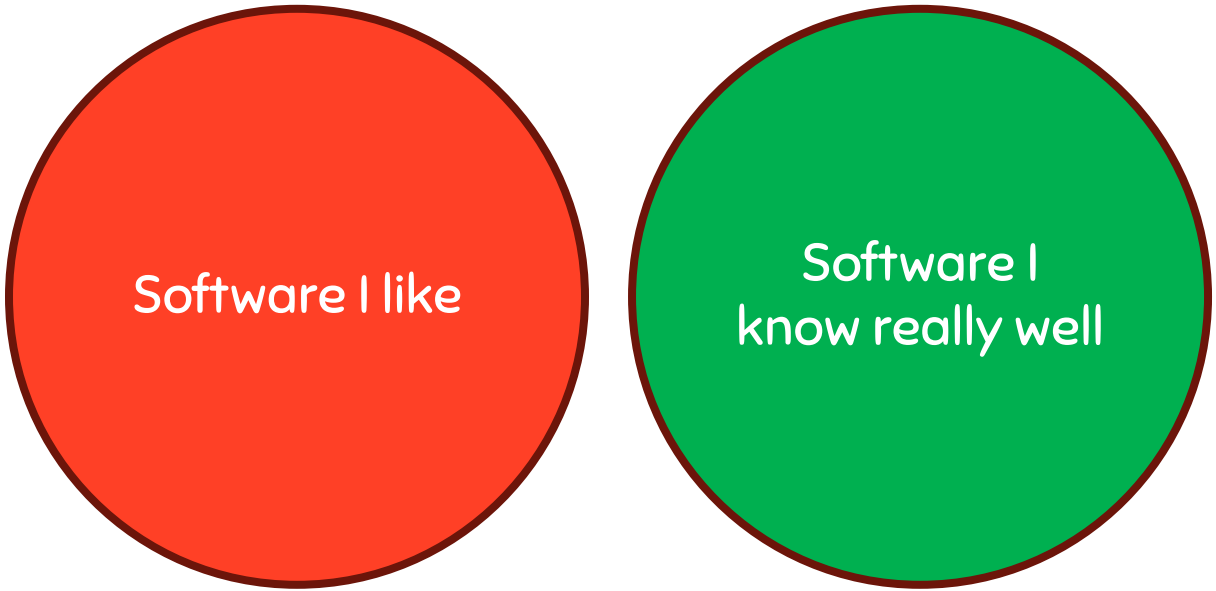




SHOWNOTES

- speaking.jbaru.ch
- Slides
- Video
- All the links!

IT'S A VEIN DIAGRAM



1.
EVERYTHING IS GETTING WORSE

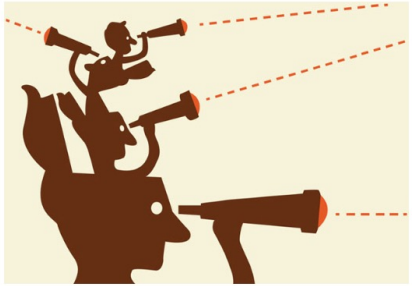
Bugs... bugs are everywhere

YOU HAD ONE JOB, OPERATING SYSTEM

Microsoft Fixes and Explains Lost Files Issue with Windows 10 Version 1809

By Kurt Mackie | 10/09/2018

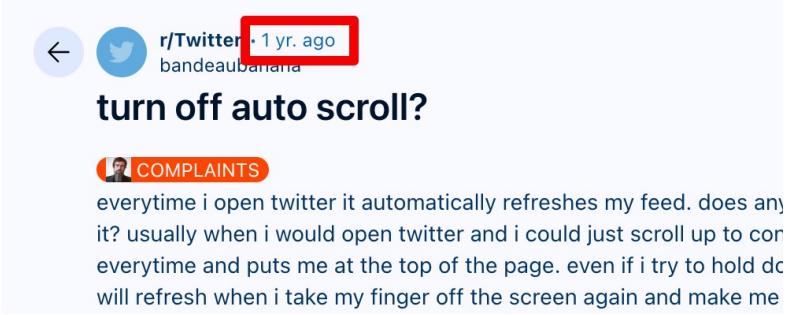
Microsoft on Tuesday offered an explanation, an apology and a future resolution for its **flawed Windows 10 version 1809 release** last week, which caused files to go missing for some users.



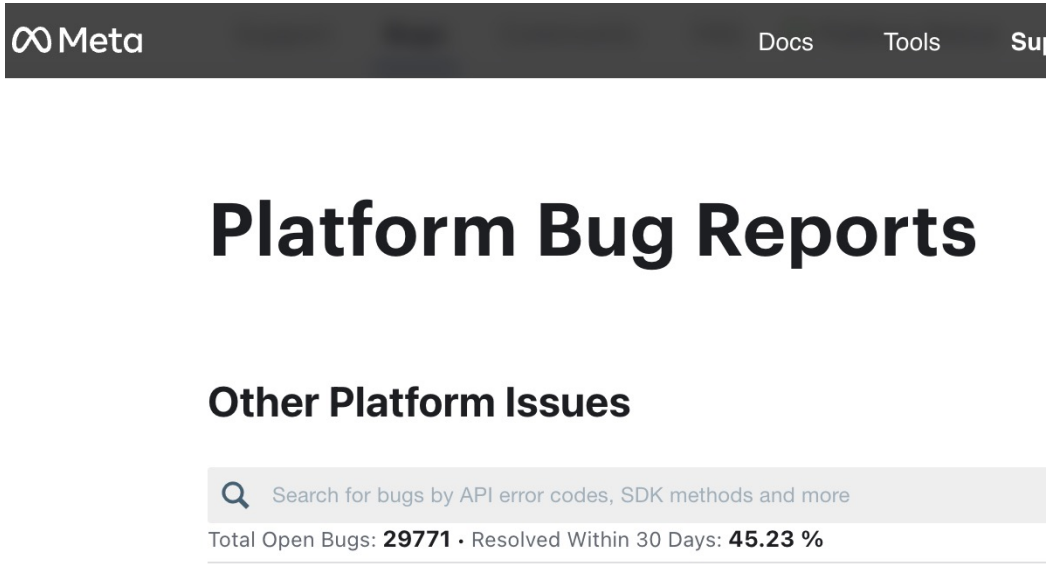
Some users really did lose files, which happened when they upgraded to Windows 10 version 1809, also known as the "October 2018 Update." The reason why they lost them had to do with a Windows 10 feature called "Known

PRIVACY. THAT'S APPLE. KINDA.

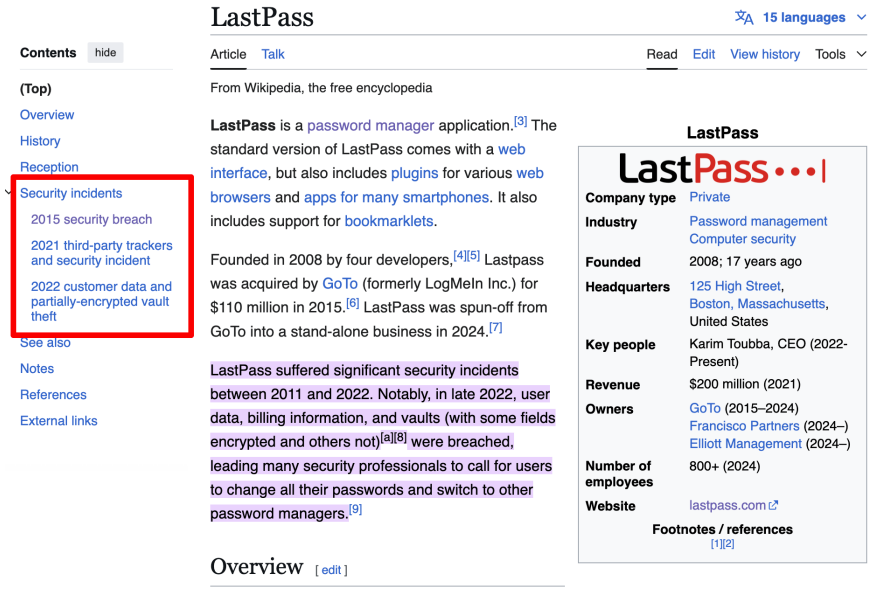
TWITTER/X UX: IT'S NOT (ONLY) ELON'S FAULT



~~MOVE FAST AND~~ BREAK THINGS



YOU HAD ONE JOB, SECURE VAULT



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2021 third-party trackers and security incident
2022 customer data and partially-encrypted vault theft
See also
Notes
References
External links

LastPass

15 languages

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From Wikipedia, the free encyclopedia

LastPass is a password manager application.[3] The standard version of LastPass comes with a web interface, but also includes plugins for various web browsers and apps for many smartphones. It also includes support for bookmarklets.

Founded in 2008 by four developers,[4][5] Lastpass was acquired by GoTo (formerly LogMeIn Inc.) for $110 million in 2015.[6] LastPass was spun-off from GoTo into a stand-alone business in 2024.[7]

LastPass suffered significant security incidents between 2011 and 2022. Notably, in late 2022, user data, billing information, and vaults (with some fields encrypted and others not)[a][8] were breached, leading many security professionals to call for users to change all their passwords and switch to other password managers.[9]

Overview [edit]

LastPass

LastPass •••|

Company type	Private
Industry	Password management Computer security
Founded	2008; 17 years ago
Headquarters	125 High Street, Boston, Massachusetts, United States
Key people	Karim Toubba, CEO (2022-Present)
Revenue	$200 million (2021)
Owners	GoTo (2015–2024) Francisco Partners (2024–) Elliott Management (2024–)
Number of employees	800+ (2024)
Website	lastpass.com

Footnotes / references
[1][2]

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IF IT'S DOWN, NO ONE CAN HACK IT

LET'S ADD AI, WHAT CAN POSSIBLY GO WRONG

Cornell University

We gratefully acknowledge support fro
member institut

arXiv > cs > arXiv:2108.09293

Search...

Help | Adva

Computer Science > Cryptography and Security

[Submitted on 20 Aug 2021 (v1), last revised 16 Dec 2021 (this version, v3)]

Asleep at the Keyboard? Assessing the Security of GitHub Copilot's Code Contributions

Hammond Pearce, Baleegh Ahmad, Benjamin Tan, Brendan Dolan-Gavitt, Ramesh Karri

There is burgeoning interest in designing AI-based systems to assist humans in designing computing systems, including tools that automatically generate computer code. The most notable of these comes in the form of the first self-described `AI pair programmer', GitHub Copilot, a language model trained over open-source GitHub code. However, code often contains bugs - and so, given the vast quantity of unvetted code that Copilot has processed, it is certain that the language model will have learned from exploitable, buggy code. This raises concerns on the security of Copilot's code contributions. In this work, we systematically investigate the prevalence and conditions that can cause GitHub Copilot to recommend insecure code. To perform this analysis we prompt Copilot to generate code in scenarios relevant to high-risk CWEs (e.g. those from MITRE's "Top 25" list). We explore Copilot's performance on three distinct code generation axes -- examining how it performs given diversity of weaknesses, diversity of prompts, and diversity of domains. In total, we produce 89 different scenarios for Copilot to complete, producing 1,689 programs. Of these, we found approximately 40% to be vulnerable.

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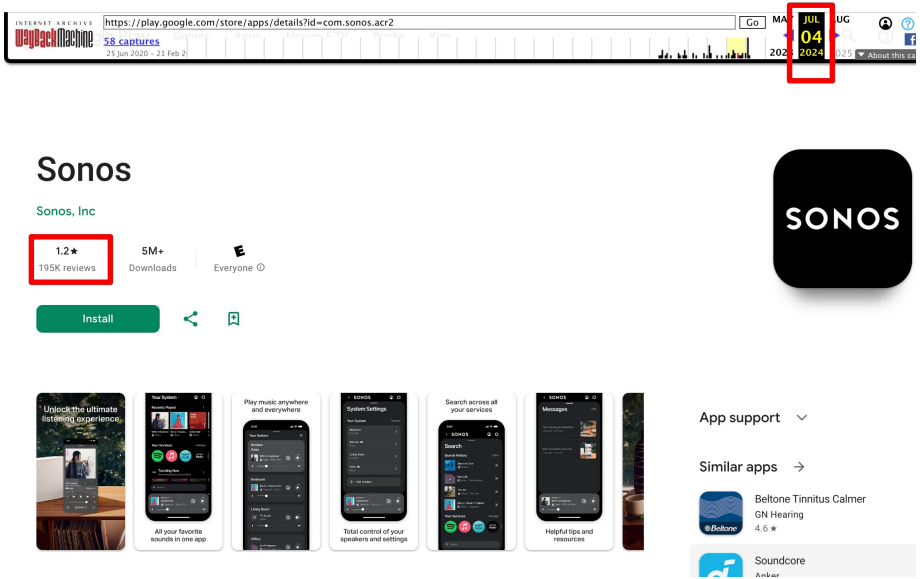
NUMBER OF ISSUES...

SONOS

We know that too many of you have experienced significant problems with our new app which rolled out on May 7, and I want to begin by personally apologizing for disappointing you. There isn't an employee at Sonos who isn't pained by having let you down, and I assure you that fixing the app for all of our customers and partners has been, and continues to be, our **number one priority**.

We developed the new app to create a better experience, with the ability to drive more innovation in the future, and with the knowledge that it would get better over time. However, since launch we have found a number of issues. Fixing these issues has delayed our prior plan to quickly incorporate missing features and functionality.

JUST A TINY BIT OF ISSUES



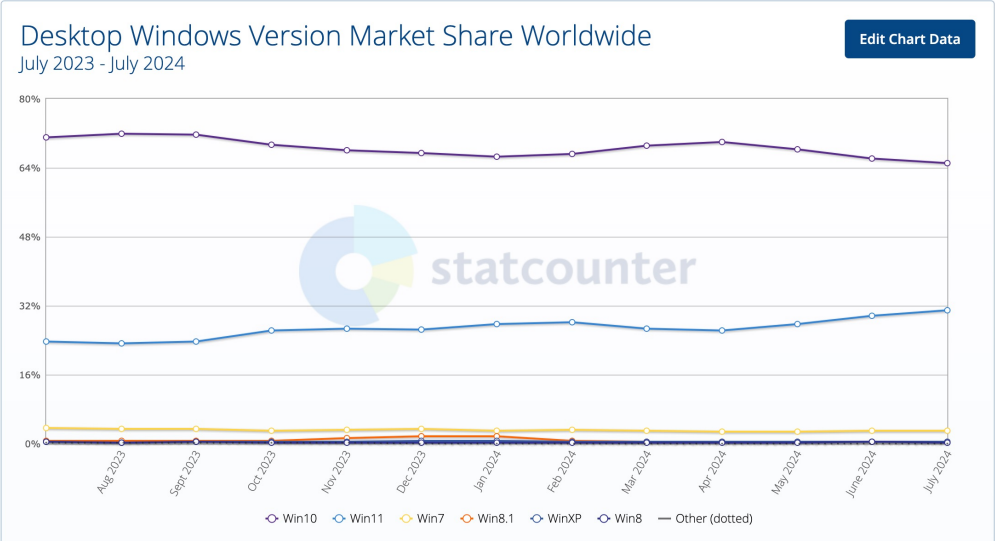
2.

STAGNATION

No, slapping chatbot on doesn't count

WHAT'S NEW IN THE LATEST ANDROID AND IOS

Windows 10 vs Windows 11: Name 3 Differences

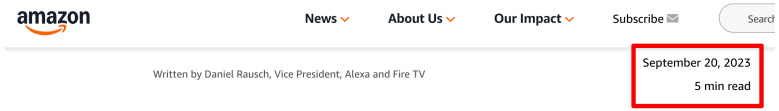


3.

SPEED OF INNOVATION

Can ANYTHING be released in less than two years?

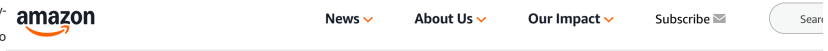
EVEN SLAPPING CHATBOT ON TAKES YEARS



Written by Daniel Rausch, Vice President, Alexa and Fire TV

September 20, 2023
5 min read

Over the last few years, we've often talked about how we're living in a golden age of artificial intelligence (AI). Ideas that seemed like science fiction not so long ago are now a reality- no better example of that than Alexa. What started as a sketch on a whiteboard has evo entirely new computing paradigm—one that has fundamentally changed how people ac world interact with technology in their homes. Having passed half a billion devices sold, tens of millions of interactions every hour, Alexa has become part of the family in millio households. We've always thought of Alexa as an evolving service, and we've been conti improving it since the day we introduced it in 2014. A longstanding mission has been to conversation with Alexa as natural as talking to another human, and with the rapid deve generative AI, what we imagined is now well within reach. Today, we're excited to share preview of what the future looks like.



Availability

Alexa+ will start rolling out in the U.S. in the next few weeks during an early access period, and subsequently in waves over the coming months. We will prioritize Echo Show 8, 10, 15, and 21 device owners in the early access period. If you don't have one of those devices, and want to be among the first to experience Alexa+, you can buy one now. If you want to put your name on the list to be considered for early access, please visit www.amazon.com/newalexa.

I'm pumped about Alexa+, and I can't wait for you to try it.

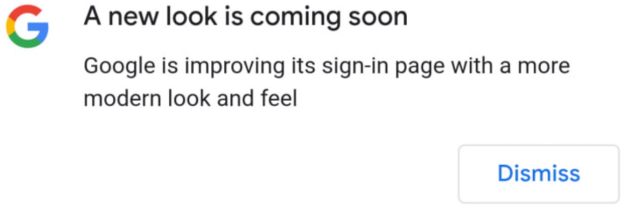
A FREAKING WIRELESS CHARGER

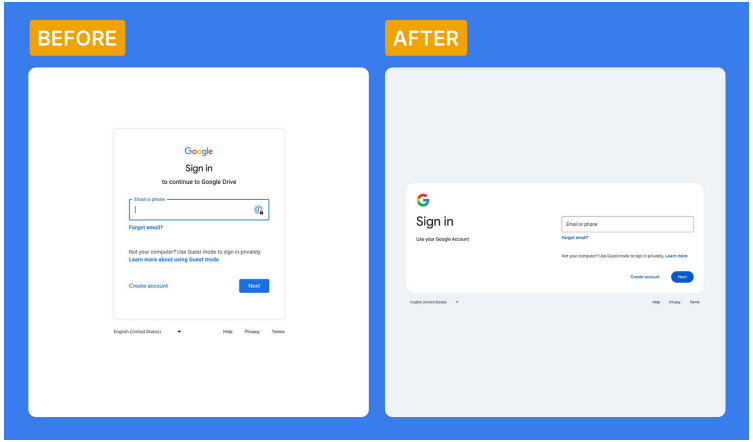
Apple Officially Cancels AirPower

Friday March 29, 2019 1:18 pm PDT by Juli Clover

Apple today canceled AirPower, the charging mat that it first announced in 2017, because of an inability to meet its high standards for hardware, reports *TechCrunch*.

A (NOT SO) NEW LOOK IS COMING (NOT SO) SOON





LIVING ON ELON'S TIME

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List of predictions for autonomous Tesla vehicles by Elon Musk

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(Redirected from List of Predictions for Autonomous Tesla Vehicles by Elon Musk)

This is a **list of predictions for autonomous Tesla vehicles** made by Elon Musk, CEO of Tesla, Inc. The predictions concern Tesla's suite of advanced driver assistance system (ADAS) functions, currently marketed as Full Self-Driving (Supervised) ("FSD"), and provide estimates for when Tesla will achieve fully autonomous driving, requiring no human intervention, which SAE considers Level 5 automation. Tesla does not classify FSD according to the SAE levels of autonomy, but has acknowledged that full autonomy is "dependent on achieving reliability far in excess of human drivers as demonstrated by billions of miles of experience, as well as regulatory approval, which may take longer in some jurisdictions".[1]

Musk has publicly stated estimated timelines and intended capabilities of the system since at least 2013.[2] FSD and Autopilot are classified as SAE Level 2 ADAS, as of January 2024.[3][1]

Elon Musk's predictions for autonomous Tesla vehicles

Date	Prediction	Quote	Met	Ref.
Sep 2013	2016	"We should be able to do 90 percent of miles driven [autonomously] within three years."	✗ No	[2]
Oct 2014	2015	"A Tesla car next year will probably be 90-percent capable of autopilot. Like, so 90 percent of your miles can be on auto. For sure highway travel."	AP/HW1 released Oct 2015 for highways[4]	[5][6]
Oct 2015	2018	"From a technology standpoint, Tesla will have a car that can do full autonomy in about three years, maybe a bit sooner."	✗ No	[7]

Tesla Cybertruck will get up to 500 miles of range and start at $39,900

/ Can wit
and bulle
thrown a

by Sean O'Kane an
Nov 21, 2019, 11:21 PM I

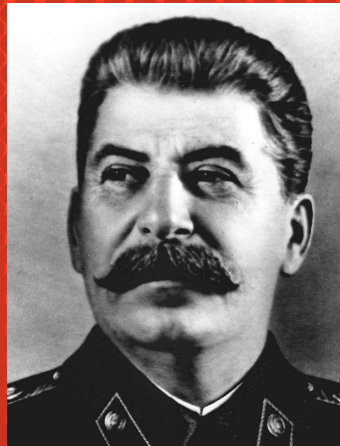
Tesla CEO Elon Musk just unveiled the company's first electric pickup truck, also known as Cybertruck, at an event in Los Angeles, California. The truck will come in three versions with 250 miles, 300 miles, and 500 miles of range, respectively. And it will start at $39,900, Musk said. The truck won't be rolling off the assembly line until late 2021, but preorders can be made at tesla.com/cybertruck.

4.

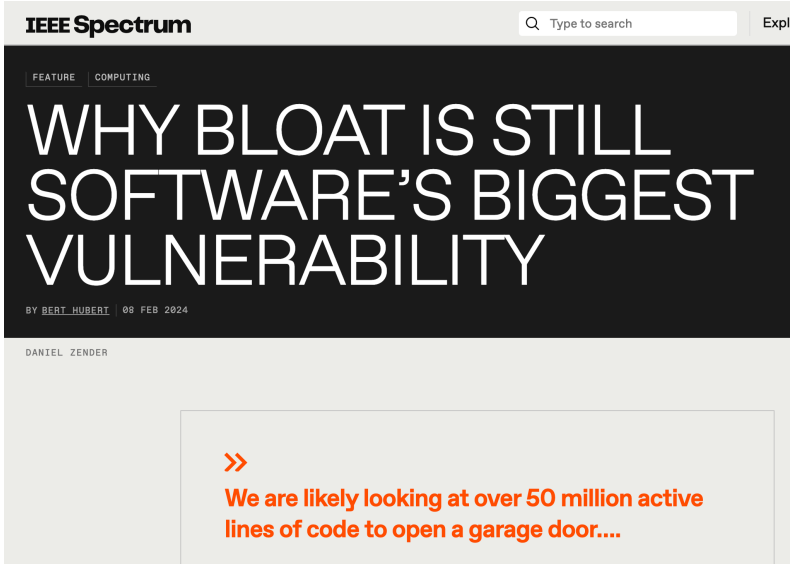
BLOAT

Old man yells at software size

QUANTITY HAS
QUALITY OF ITS OWN
JOSEPH STALIN



SURFACE OF ATTACK IS INSANE



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Expl

FEATURE | COMPUTING

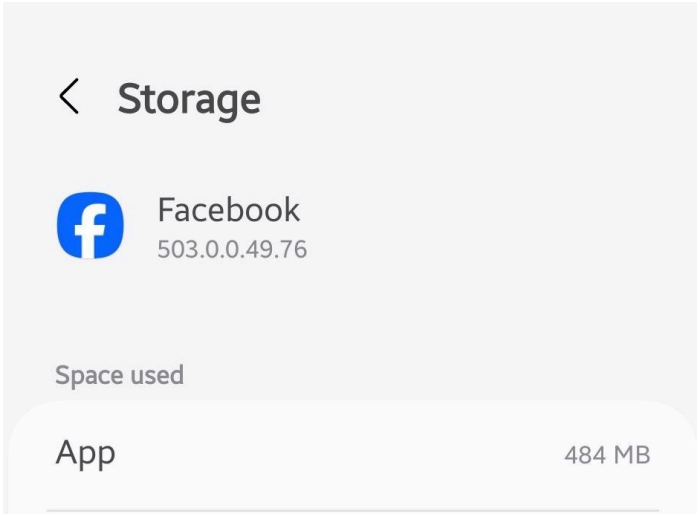
WHY BLOAT IS STILL SOFTWARE'S BIGGEST VULNERABILITY

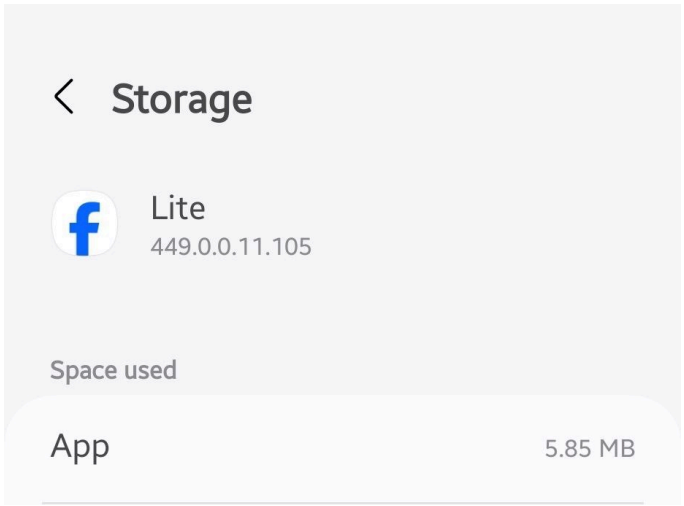
BY BERT HUBERT | 08 FEB 2024

DANIEL ZENDER

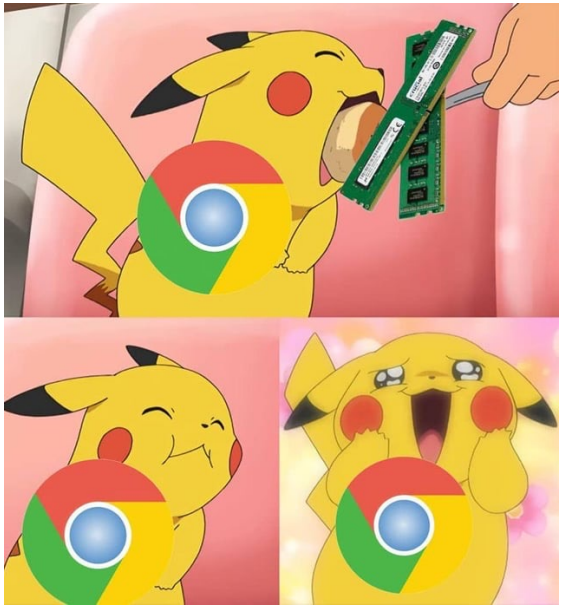
» We are likely looking at over 50 million active lines of code to open a garage door....

F*CK IT, WE'LL DO IT LITE

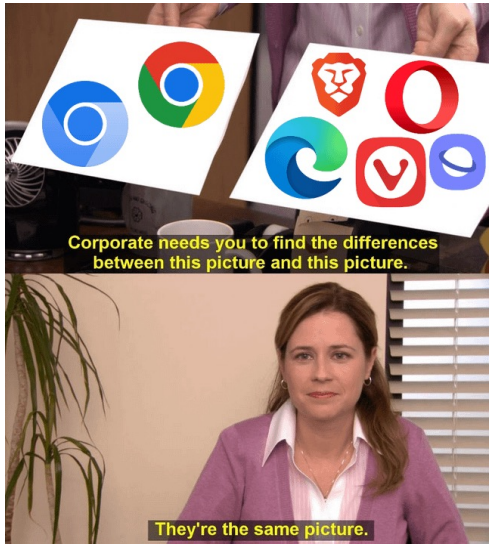




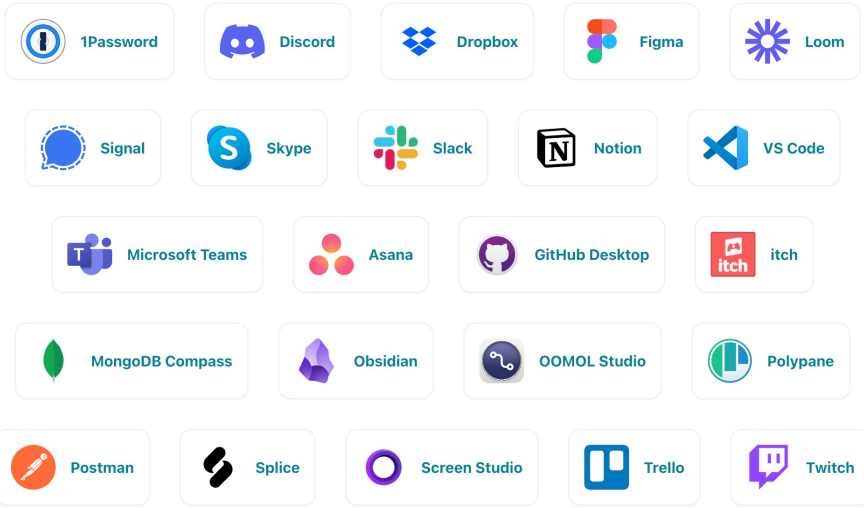
CHROME NOM-NOMS RAM



CHROMIUM NOM-NOMS RAM



ELECTRON APPS NOM-NOMS RAM



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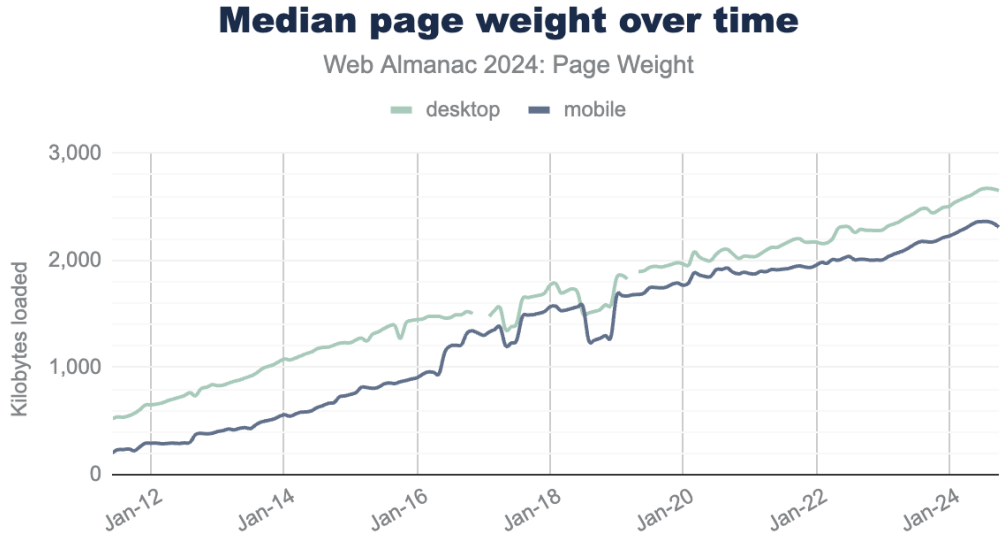
16.1 MB

TALE OF TWO PDF READERS

Acrobat Reader 64-bit on Windows

Component	Requirement
Processor	Intel or AMD processor (1.5GHz or faster)
Operating system	• Windows 11 (64 bit) • Windows 10 (64 bit) v1809 or later • Windows Server 2022 • Windows Server 2019 (64 bit) • Windows Server 2016 (64 bit)
RAM	2GB
Hard disk space	900MB of available hard-disk space for English 1GB of available hard-disk space for other languages

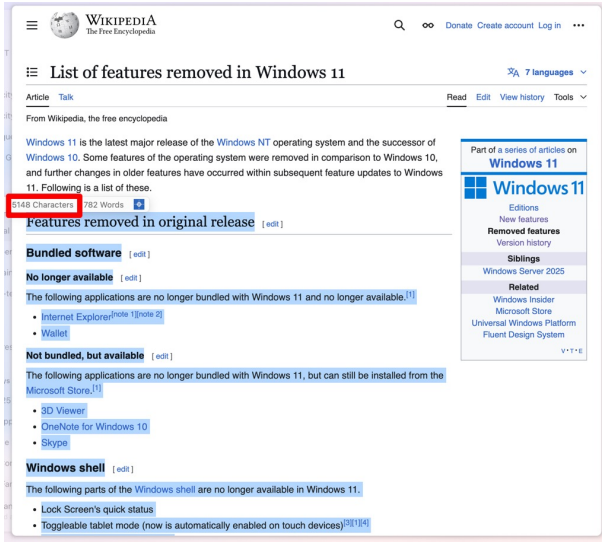
NO OZEMPIC FOR WEBSITES



5.
FEATURE MISMATCH

Let's add features no-one needs
and remove features people
like

WINDOWS 10 -> WINDOWS 11



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List of features removed in Windows 11

7 languages

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From Wikipedia, the free encyclopedia

Windows 11 is the latest major release of the Windows NT operating system and the successor of Windows 10. Some features of the operating system were removed in comparison to Windows 10, and further changes in older features have occurred within subsequent feature updates to Windows 11. Following is a list of these.

5148 Characters 782 Words

Features removed in original release [edit]

Bundled software [edit]

No longer available [edit]

The following applications are no longer bundled with Windows 11 and no longer available.[1]

- Internet Explorer[note 1][note 2]
- Wallet

Not bundled, but available [edit]

The following applications are no longer bundled with Windows 11, but can still be installed from the Microsoft Store.[1]

- 3D Viewer
- OneNote for Windows 10
- Skype

Windows shell [edit]

The following parts of the Windows shell are no longer available in Windows 11.

- Lock Screen's quick status
- Toggleable tablet mode (now is automatically enabled on touch devices)[3][1][4]

Part of a series of articles on
Windows 11

Windows 11
Editions
New features
Removed features
Version history

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Windows Server 2025

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Features new to Windows 11

5 languages

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- This article's **tone or style may not reflect the encyclopedic tone used on Wikipedia**. *(December 2021)*
- This article **needs additional citations for verification**. *(December 2021)*

Windows 11 is the current major release of Microsoft's Windows NT operating system. Released on October 5, 2021,[1] Windows 11 succeeds the previous major release, Windows 10.

Major updates introduced with the product include a redesigned user interface, new productivity and collaboration features, and updates to security and accessibility.[2][3][4]

As a current release, the operating system receives annual feature enhancements,[5] such as the addition of artificial intelligence features like Microsoft Copilot which launched in 2023.[6]

13645 Characters 2147 Words

Windows Shell [edit]

Main article: Windows shell

- **Fluent Design System:** Updates the Fluent Design System, a design language introduced by Microsoft in 2017,[7] are featured in Windows 11. According to Microsoft, the design of Windows 11 is "effortless, calm, personal, familiar, complete, and coherent."[8] The redesign focuses on simplicity, ease of use, and flexibility,[2] addressing some of the deficiencies of Windows 10.[4] Most interfaces in Windows 11 feature rounded geometry, refreshed iconography, new typography, and a refreshed color palette. In addition, translucency and shadows are made more prevalent throughout the system.[9] Windows 11 also introduces "Mica", a new opaque Material that is tinted with the color of the desktop wallpaper.[10][11]
- **Start Menu:** The Start menu has been significantly redesigned in Windows 11, adhering to the principles of the updated Fluent Design System. The menu has now been moved to the center by default, with an option to move it back to the left side. The Live

Part of a series of articles on
Windows 11

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Version history

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v • t • e

NEW APP AT ALL COSTS

Sonos says its controversial app redesign took ‘courage’ / The company hears what customers are saying but insists the new app was necessary – even if it’s ‘a few steps back’ for now because of missing features.

Sonos has responded to the avalanche of feedback — some good, plenty bad — about the company’s redesigned mobile app that was released on May 7th. In the days since, customers have complained about missing features like sleep timers, broken local music library management, and no longer having the ability to edit playlists or the upcoming song queue. More alarmingly, the Sonos app’s accessibility has also taken a hit, something the company says it’s aiming to resolve by next month.

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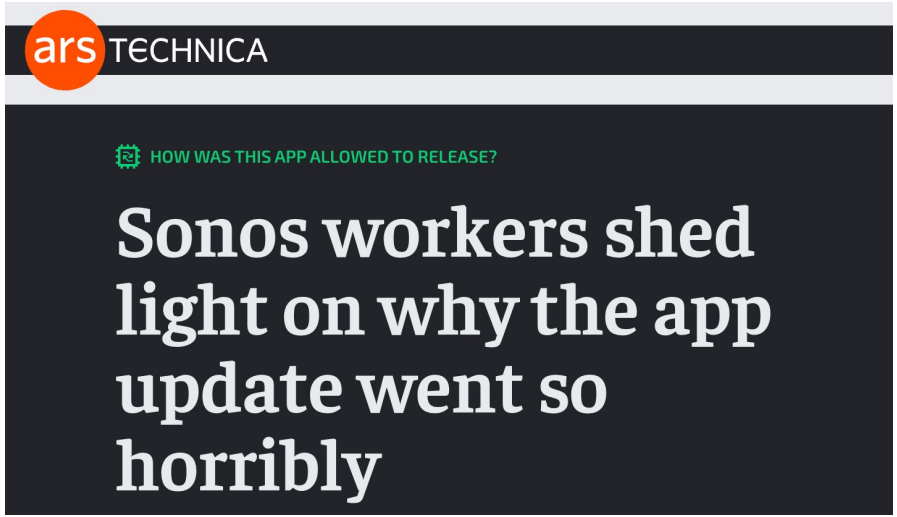
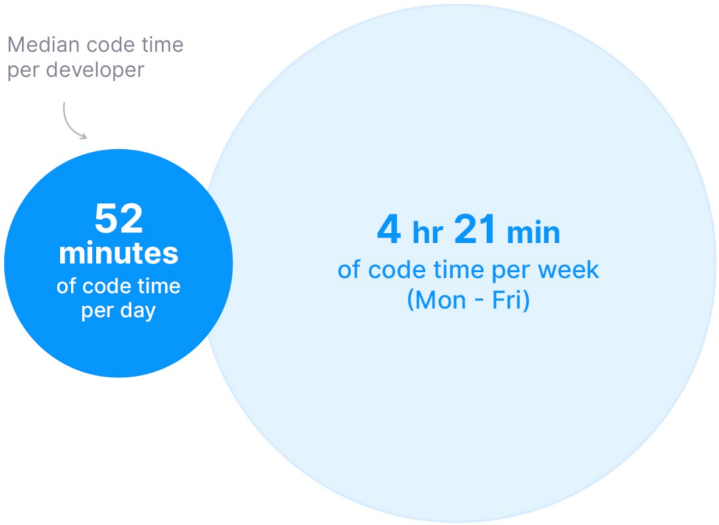
REMEMBER SONOS? LET'S LOOK WHY...



1.
NO-CODE

To get new features out, developers should write code. They don't.

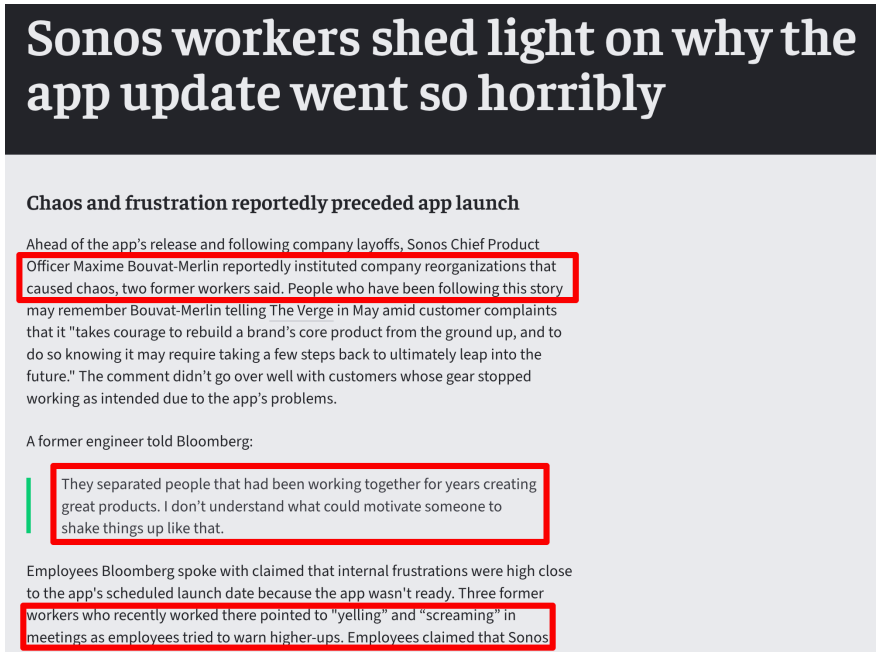
YOU CAN'T CREATE PRODUCT WITHOUT WRITING CODE



2. MANAGEMENT

There are so many ways to screw up when you're in managmenet

WITH OVERCONFIDENCE



Sonos workers shed light on why the app update went so horribly

Chaos and frustration reportedly preceded app launch

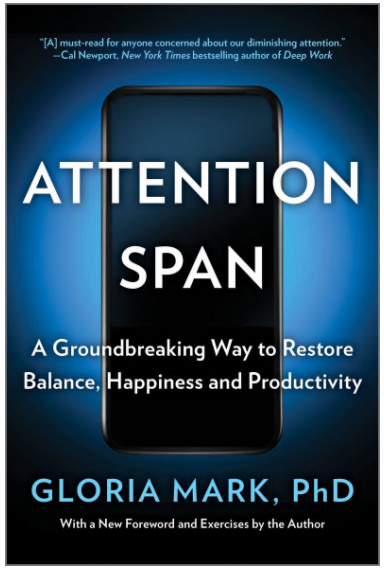
Ahead of the app's release and following company layoffs, Sonos Chief Product Officer Maxime Bouvat-Merlin reportedly instituted company reorganizations that caused chaos, two former workers said. People who have been following this story may remember Bouvat-Merlin telling The Verge in May amid customer complaints that it "takes courage to rebuild a brand's core product from the ground up, and to do so knowing it may require taking a few steps back to ultimately leap into the future." The comment didn't go over well with customers whose gear stopped working as intended due to the app's problems.

A former engineer told Bloomberg:

> They separated people that had been working together for years creating great products. I don't understand what could motivate someone to shake things up like that.

Employees Bloomberg spoke with claimed that internal frustrations were high close to the app's scheduled launch date because the app wasn't ready. Three former workers who recently worked there pointed to "yelling" and "screaming" in meetings as employees tried to warn higher-ups. Employees claimed that Sonos

BAD ORG HABITS CAN KILL PRODUCTIVITY



Is email stealing your focus?
The average person checks their email 77 times a day.

It takes 25 minutes to return focus to a task after interruption.

3.
ARTIFICIAL RIGID DEADLINES

"Because I said so"

THE "ART" OF NOT LETTING GO

Sonos workers shed light on why the app update went so horribly

In May, Bloomberg reported that Sonos aimed to release the new app "at least a few weeks" before Ace. At the time, Bloomberg said that the update was originally supposed to release in March but was delayed due to "software-engineering challenges."

Although it makes sense that Sonos' most mobile offering yet would need a more advanced, revamped app, it seems that the app's redesign could have been initiated earlier than the mid-2022 timeframe that Bloomberg reported. In addition to the years of technical debt that has been said to be built up, Sonos' headphones have been reported to be in development since at least 2019.

4.

BAD CODE

When developers do code, they are drawn in technical dept

YOU CAN'T CREATE VALUE FAST IF YOU'RE DROWNING

Sonos workers shed light on why the app update went so horribly

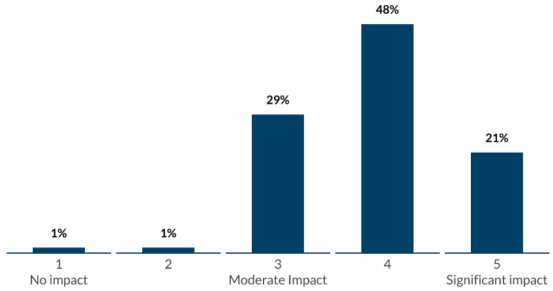
Outdated code

One reason for the app's failure is the outdated code and infrastructure that the prior app was running on. Anonymous employees Bloomberg spoke with claimed that the Sonos app's technical debt had been building up for 20 years before the update.

By the time Sonos decided to update the app in mid-2022, it was dealing with software based on virtually obsolete infrastructure and code languages. As such, the app update "was less about introducing new functionality than sorting out the existing mess," Bloomberg reported.

IT'S NOT JUST SONOS

What impact is technical debt having on your ability to innovate?



ONBOARDING TIME FOR NEW DEVELOPER

"Time to First Commit" as a metric

Published Feb 2, 2018

Filed under: development, work

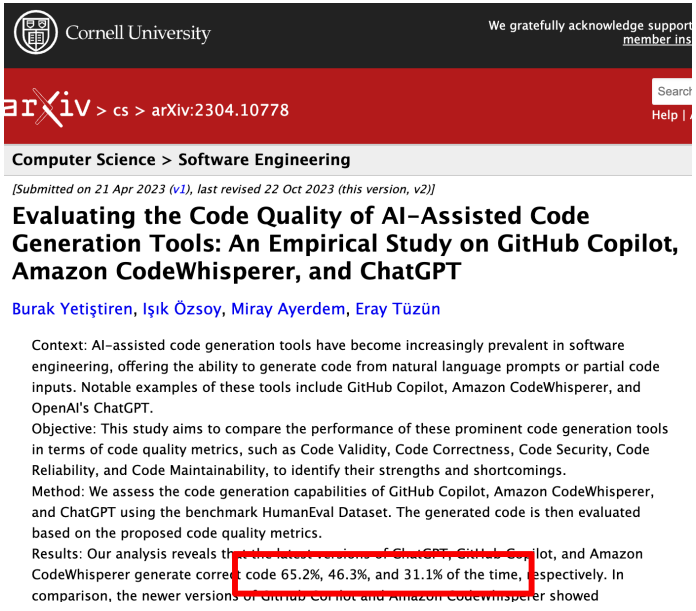
For a while now, I've tracked my time-to-first-commit on each new client project. i.e. how long is the time gap between starting on the project, and making my first meaningful commit to the code base?

Over the years, this number has varied from a few hours to several weeks. And with **almost 100% correlation,** the shorter that time gap, the happier I've been over the long term as a developer on that project.

5.
Much more bad code

Let's let AI generate tons of bad code, what can possibly go wrong

GARBAGE IN -> GARBAGE OUT



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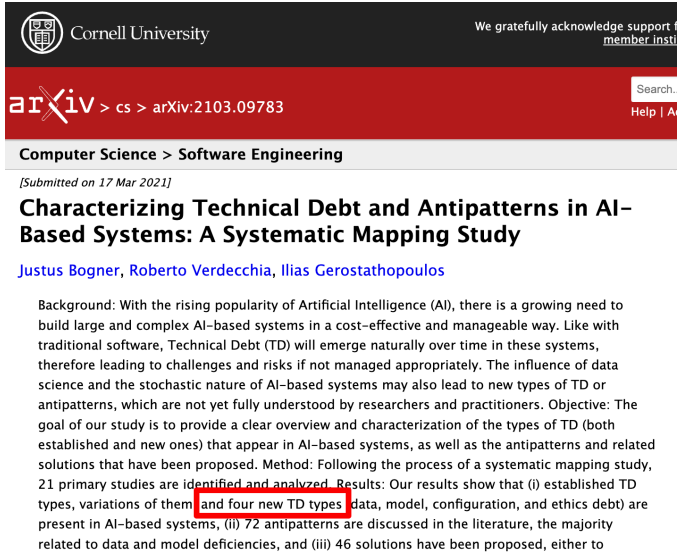
[Submitted on 21 Apr 2023 (v1), last revised 22 Oct 2023 (this version, v2)]

Evaluating the Code Quality of AI-Assisted Code Generation Tools: An Empirical Study on GitHub Copilot, Amazon CodeWhisperer, and ChatGPT

Burak Yetiştiren, Işık Özsoy, Miray Ayerdem, Eray Tüzün

Context: AI-assisted code generation tools have become increasingly prevalent in software engineering, offering the ability to generate code from natural language prompts or partial code inputs. Notable examples of these tools include GitHub Copilot, Amazon CodeWhisperer, and OpenAI's ChatGPT.
Objective: This study aims to compare the performance of these prominent code generation tools in terms of code quality metrics, such as Code Validity, Code Correctness, Code Security, Code Reliability, and Code Maintainability, to identify their strengths and shortcomings.
Method: We assess the code generation capabilities of GitHub Copilot, Amazon CodeWhisperer, and ChatGPT using the benchmark HumanEval Dataset. The generated code is then evaluated based on the proposed code quality metrics.
Results: Our analysis reveals that the latest versions of ChatGPT, GitHub Copilot, and Amazon CodeWhisperer generate correct code 65.2%, 46.3%, and 31.1% of the time, respectively. In comparison, the newer versions of GitHub Copilot and Amazon CodeWhisperer showed

AI GETS CREATIVE WITH TECHNICAL DEBT



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[Submitted on 17 Mar 2021]

Characterizing Technical Debt and Antipatterns in AI-Based Systems: A Systematic Mapping Study

Justus Bogner, Roberto Verdecchia, Ilias Gerostathopoulos

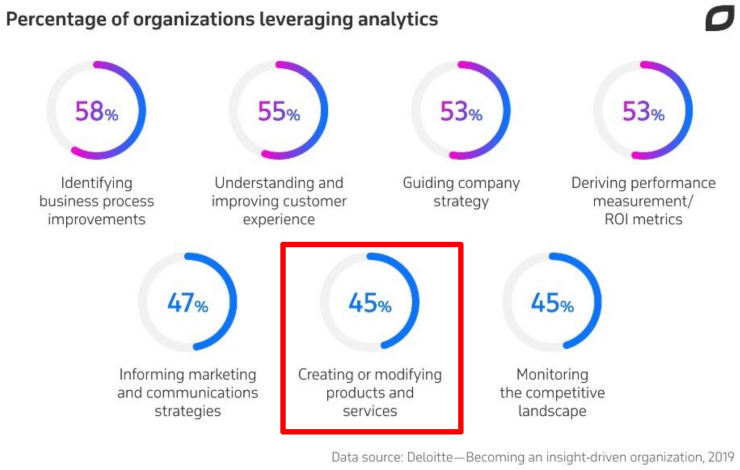
Background: With the rising popularity of Artificial Intelligence (AI), there is a growing need to build large and complex AI-based systems in a cost-effective and manageable way. Like with traditional software, Technical Debt (TD) will emerge naturally over time in these systems, therefore leading to challenges and risks if not managed appropriately. The influence of data science and the stochastic nature of AI-based systems may also lead to new types of TD or antipatterns, which are not yet fully understood by researchers and practitioners. Objective: The goal of our study is to provide a clear overview and characterization of the types of TD (both established and new ones) that appear in AI-based systems, as well as the antipatterns and related solutions that have been proposed. Method: Following the process of a systematic mapping study, 21 primary studies are identified and analyzed. Results: Our results show that (i) established TD types, variations of them and four new TD types (data, model, configuration, and ethics debt) are present in AI-based systems, (ii) 72 antipatterns are discussed in the literature, the majority related to data and model deficiencies, and (iii) 46 solutions have been proposed, either to

6.

WRONG FEATURES

How do product managers know what we want? They don't.

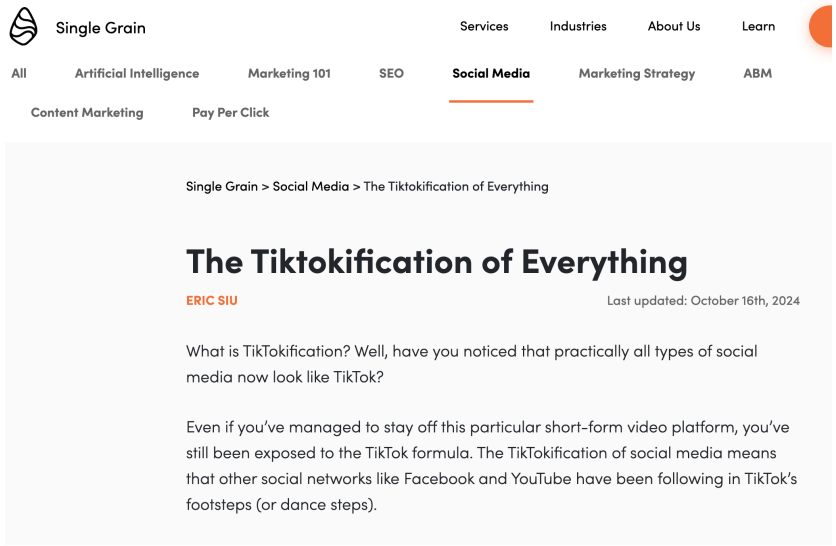
PRODUCT MANAGEMENT IS GUESSWORK



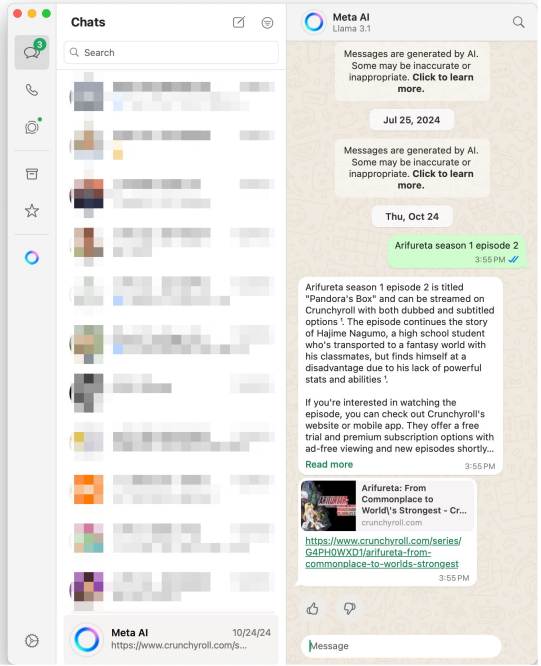
7.
COPY THE TREND

Let's just do the current thing

MORE "SHITTIFICATION"



AI ASSISTANTS EVERYWHERE



WE CAN FIX SOME OF IT

God, grant me the serenity to accept the things I cannot change, the courage to change the things I can, and the wisdom to know the difference.

1.
PRODUCTIVITY

How to write more code

FAST FEEDBACK = FAST FIXES

Keep loops tight.

AUTOMATE OR DIE

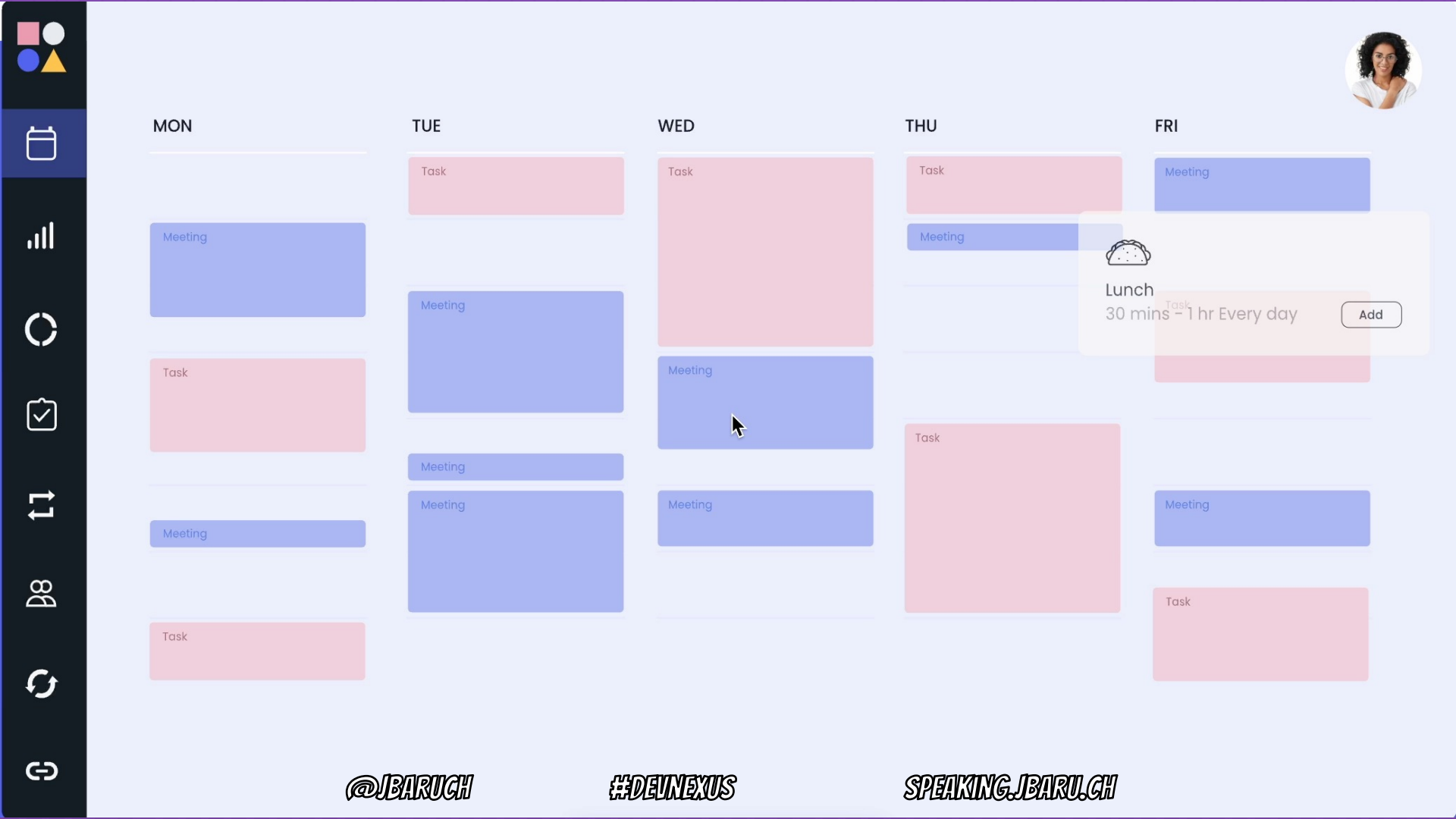
No manual toil.

TAKE POWER NAPS

Yeah, really.

KILL DISTRACTIONS

Protect deep focus time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Right tool - right job

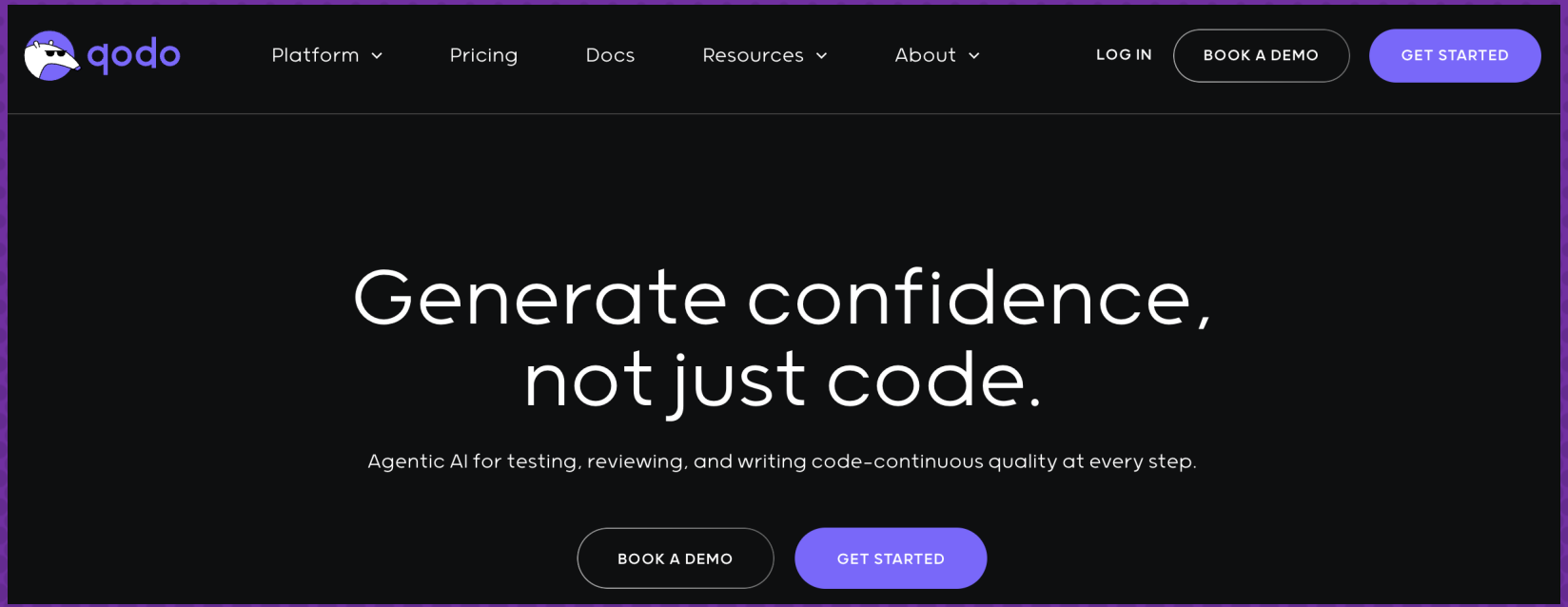
Not all tools are created equal.

Go deep, not wide

ATM specialized beats generalized

Local AI = control

Better control and privacy.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Agentic AI for testing, reviewing, and writing code-continuous quality at every step.
BOOK A DEMO
GET STARTED

2.
AGILE (YES, IT'S 2025)

Not necessarily what you think

1

REACT, DON'T OVERPLAN

Code > meetings

2

DECIDE LATE, BUT NOT TOO LATE

More data = better calls

3

SMALL BETS WIN

Make choices that are easy to undo

4

MOVE

Done is better than perfect

3.
DEVOPS (YES, IT'S 2025)

Probably exactly what you think

DevOps Team - No. DevOps - Yes.

DevOps Engineers do not exist, DevOps Team is just a silo. Do DevOps right

Don't do manual work

Automate all the things

Release = Breathing

It it's painful, you're doing it wrong

Feature flags > Branch hell

You test in production anyway. Make it less painful

4.
WRITE GOOD CODE

Well, that sounds actionable

WRITE FOR FUTURE-YOU

What idiot wrote this?!

READABLE > CLEVER

If it calls for comment, rewrite it

REFACTOR OR ROT

Bad code never gets better on its own.

TECHNICAL DEBT

Kill it before it kills you

WRITE DOCS, FIND DOCS

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Greater Context for Better Code

Naboo offers organization-specific LLMs (Dedicated RAG) for total code, product, and business context — built right into every step of your development workflow.

5.
THINK NEGATIVELY

Not in live, just about your code

HACKERS LOVE OPTIMISTIC DEVS

Don't feed them

ERROR HANDLING, NOT IGNORING

Catch and recover

RETRIES AND FALLBACKS = HAPPY USERS

Ensure resilience

MONITORING ISN'T OPTIONAL

Getting feedback on social is not great

6.
HELP YOUR BUSINESS

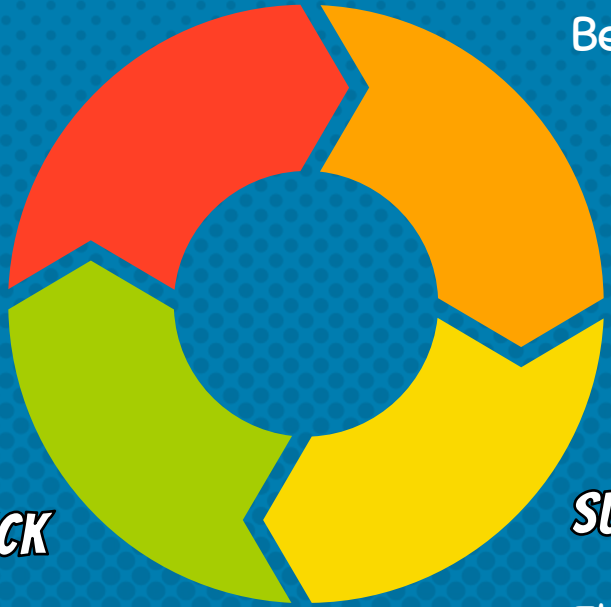
Even regular dev can help

TALK THEIR TALK

"Faster time-to-market"

SARCASM ≠ FEEDBACK

Be direct, not snarky



MEETINGS SUCK

Write it down

SURPRISES ARE BAD

Flag issues early

Everything is terrible, but it doesn't have to be

- It's not just you, enshittification is real
- Developer productivity and managerial decisions to blame
- You, the developer, can help!

THANKS!

Q&A and ~~Twitter~~ X/Bsky/Mastodon/LinkedIn ads:

- x @jbaruch
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