Supercharging developer productivity

GitHub Copilot, Codespaces, GitHub Advanced Security and Search

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October 27, 2023

DevOps Today

Lost Productivity

37% of employee time is wasted due to poor collaboration.

23+ min switching between tools per person.

Source: UCI.edu

Security Risks

Flaws in applications are the #1 attack vector.

1 security team member for every 100 developers.

Source: Verizon Data Breach Investigations reports 2016, 2017, 2018, 2019 and 2020

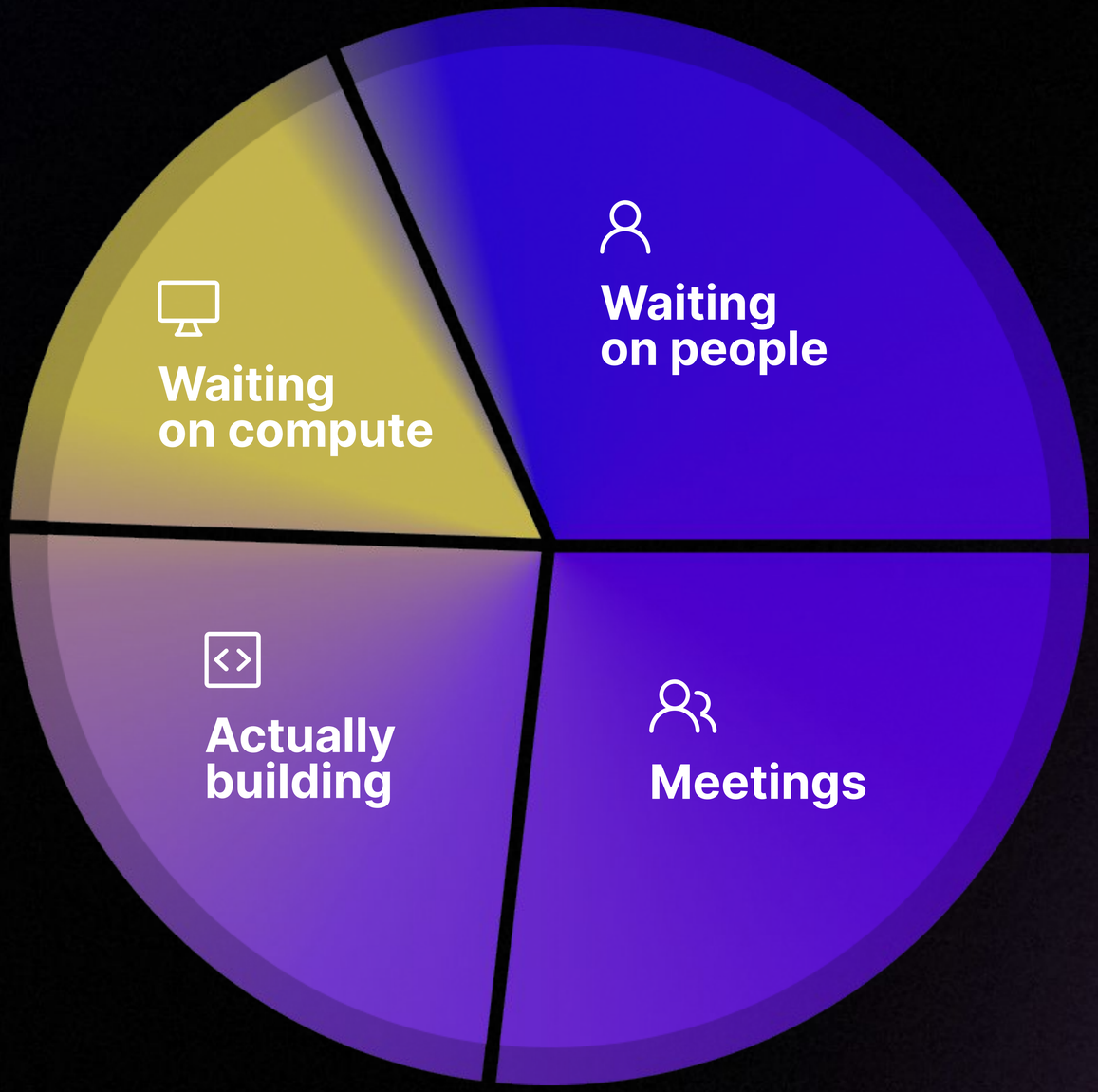
Missed Opportunities

Companies are not equipped to fully realize the power of AI.

Only 10% of companies have figured out how to use AI in their organizations.

Source: McKinsey, 2021

A day in the life of a developer



The GitHub experience

A single integrated enterprise-ready platform

Industry-best collaborative tools for developers

Security at every step of the workflow

Powered By AI

100M+
Registered Users

4M+
Organizations

330M+
Repositories

90%
Fortune 100

...and backed by the world's largest software company

Usage of GitHub

90% of Fortune 100 companies use GitHub.

The research shows

Developer productivity

22%

Improvement

Developer onboarding

80%

More time saved

Time spent managing tools and code infrastructure

75%

Improvement

After go-live

<6

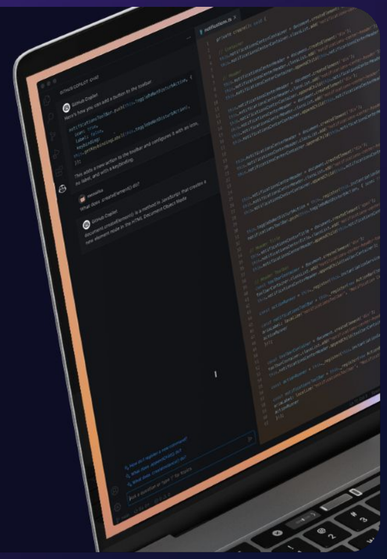
Months payback

GitHub Platform

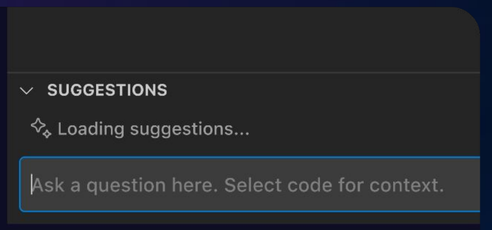
The AI Powered Developer Platform to Build, Scale, and Deliver Secure Software

Powered by AI

Copilot enables **faster coding by 55%**

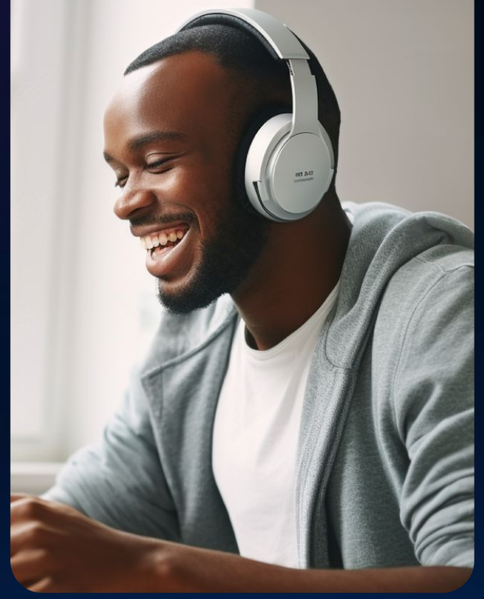


20,000+ businesses have used it



46% of code is written with the help of Copilot

75% of developers are more fulfilled



More than **1M developers**

Collaboration

Seamlessly connecting teams to build their best together.

Faster onboarding

Reduce developer onboarding training time by 80%, resulting in savings of USD 3.2 million

Employee satisfaction

Ready-made solutions built into the platform — so you can focus on creativity

No silos through innersource

Bring the best of open source to your company through innersource practices

Productivity

Enabling every developer to focus all their creativity on the big picture.

Improve time to market

- **Faster deployment through core platform services**
- **Ready-made solutions built into the platform**

Increased revenue growth

- **Prioritize reuse over invention**
- **Reduce admin tasks with automation**

Increased customer satisfaction

Default to transparent work to work more efficiently and productively, together

Security

Native, first party security by design to fix issues in minutes, not months.

Reduce risks

- **Secure your development environments**
- **Reduce time spent on remediation, resulting in savings of USD 5.2 million**

Seamless management

- **Admin controls and management**
- **Embed security in your developer workflow**

Security policy creation and enforcement

- **Prevent code vulnerabilities in production**
- **Native Application Security Capabilities**

Scale

Scale your business with GitHub

Leverage one platform

Use one platform to scale your company’s software development

Reduce maintenance

Built-in compliance controls, governance, and administrative tools

Reliability

Jumpstart with a platform developers know and love

GitHub

Platform

Powered by AI

Collaboration

Pull requests · Projects · Issues · Discussions · Merge queue · Search

Productivity

CI/CD with Actions · Automation · Copilot · Codespaces · Runners · npm

Security

Advanced Security · Secret scanning · Code scanning · Security overview · Supply chain · Dependabot

Scale

100M+ developers · Source code management

GitHub Enterprise Platform

Codespaces

Codespaces

A cloud dev environment that lets you code from anywhere

Code without compromise

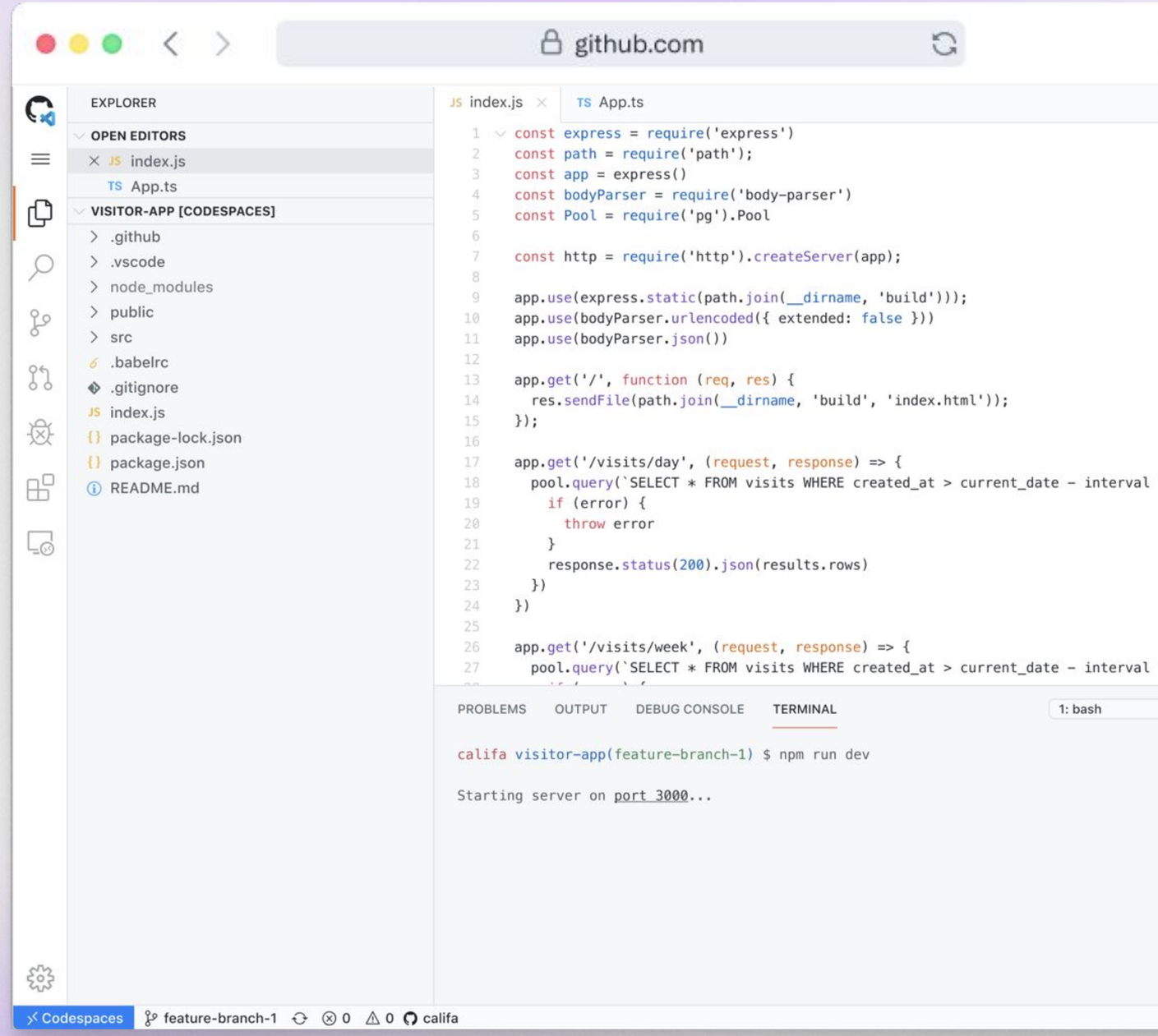
Code, build, test, debug, and deploy with a complete development environment in your browser, running on Azure.

Simplify your workflow

Automatically set up dependencies and SSH keys.
Go from code to commit faster on any project.

Extend and customize

Configure your editor with dotfiles and VS Code extensions to create a consistent environment in every Codespace.



Why Codespaces?

Repo and User level configuration for ease and efficiency

Immediate, effortless onboarding to any project

Work from anywhere, on any device

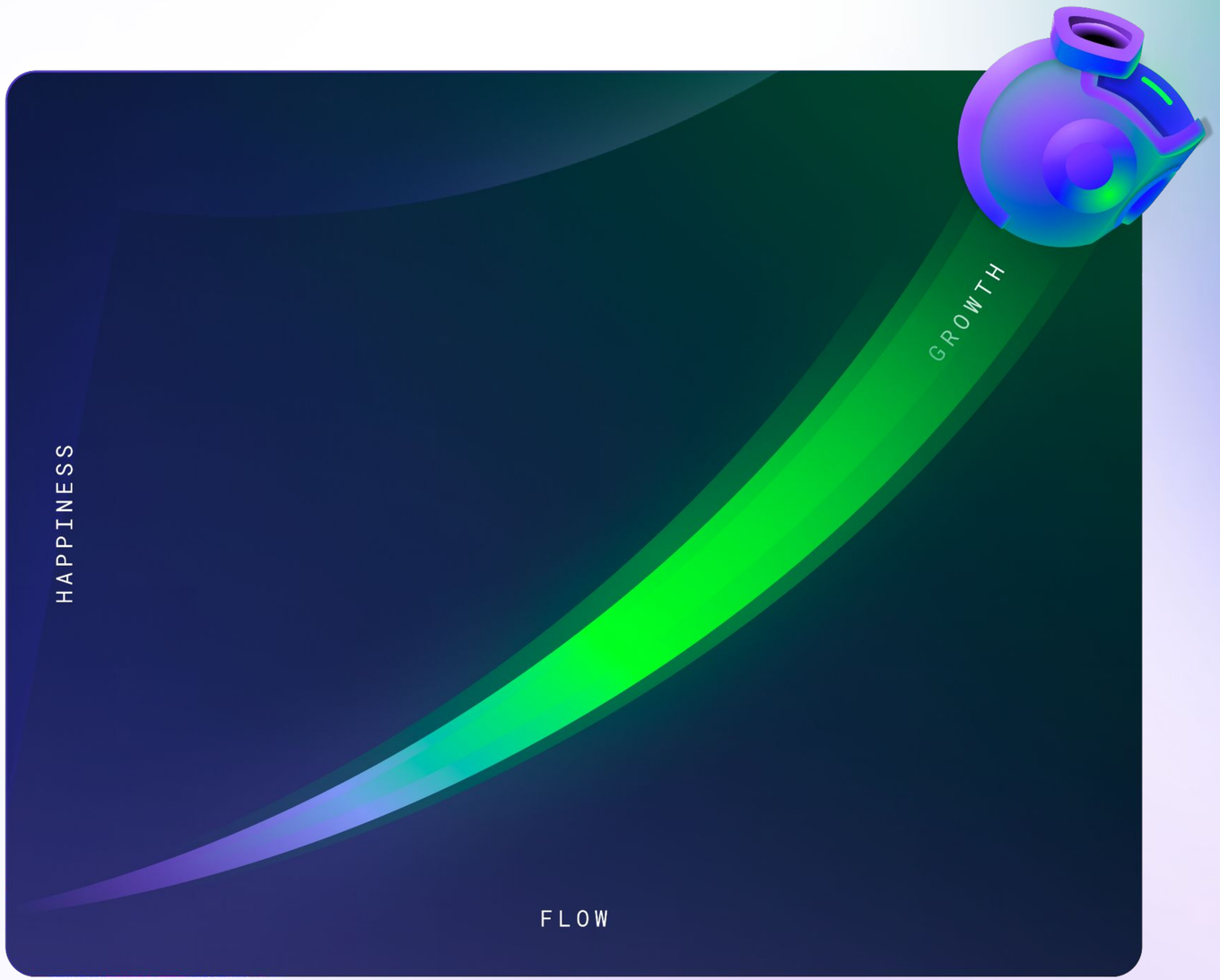
Consistent, ephemeral development environments

GitHub Enterprise Platform

Copilot

AI is the next frontier in DevEx.

A McKinsey study found that equipping developers to be their most productive also significantly improves the developer experience, and developers using generative AI–based tools were more than twice as likely to report overall happiness, fulfillment, and a state of flow.

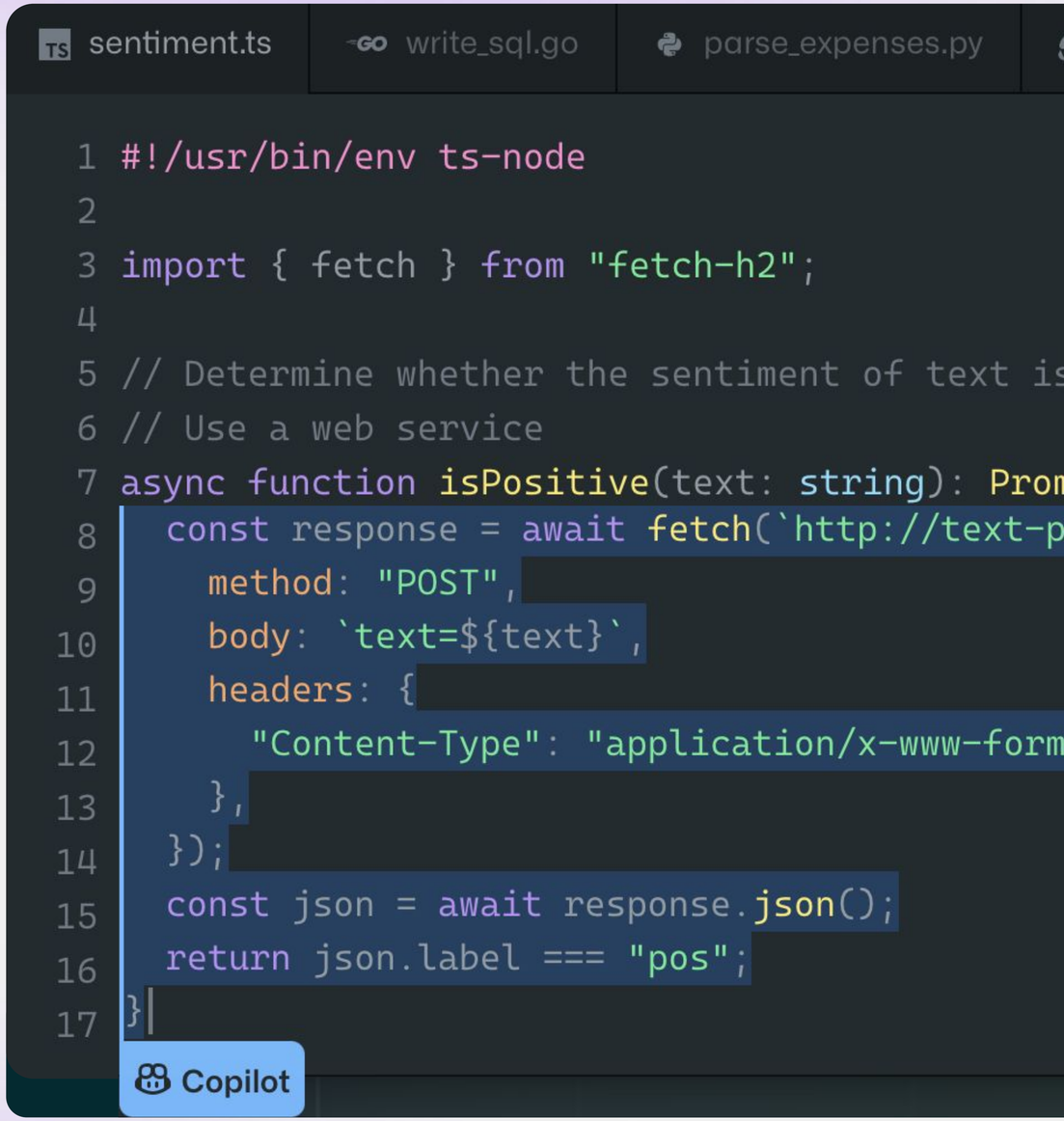


Copilot

Your AI pair programmer.

Uses the context you've provided and synthesizes code to match.

- Convert comments to code
- Autofill for repetitive code
- Autosuggest tests
- Show alternatives



Demo

The Copilot effect.

The world’s most widely adopted AI developer tool.

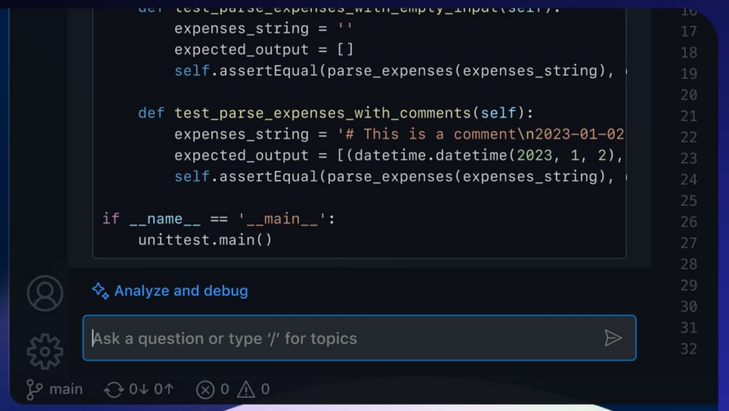
- Maximize developer happiness
- Increase developer productivity
- Accelerate software development

Pioneer in enterprise adoption of AI.

Over 1 in 5 Fortune 500 companies use Copilot

(<1 yr since launch)

27,000+ businesses building software with Copilot



Coca-Cola · Coyote Logistics · duolingo · gm · mercado libre · shopify · stripe

Developer productivity with Copilot **goes beyond speed.**

87% less **mental effort** on repetitive tasks

74% focus on more **satisfying** work

73% say they are more **in the flow**

Developer productivity with Copilot means developers focus on what matters most.

More time on

- Designing
- Brainstorming
- Collaborating
- Iterating
- Planning

Less time on

- Writing Tests, Repetitive Code, & Boilerplate
- Debugging
- Searching Documentation
- Finding Vulnerabilities
- Deciphering Existing Code
- Correcting Syntax
- Summarizing Changes and Comments
- Learning Git Commands

Developer productivity with Copilot benefits enterprises.

Release cycle agility

55%

Faster completion

Developer onboarding

57%

More upskilling

Developer retention

41%

Less burnout

GitHub Copilot / Chat PUBLIC BETA IDE

Improve code quality with contextual conversations.

- Context specific coding support
- Explains concepts and specific code blocks
- Debugging and vulnerability remediation assistance

GitHub Copilot / **CLI** PRIVATE BETA CLI

Enable developers to take command of the CLI.

- Git command assistance in the terminal
- Command and script explanations

GitHub Copilot / **Pull Requests** PRIVATE BETA PLATFORM

Simplify collaboration by adding clarity to pull requests.

- Pull request summaries
- Automated code reviews
- Explanations on changes and comments

GitHub Copilot / **Documentation** PRIVATE BETA PLATFORM

Search through documentation effortlessly.

- Conversational documentation search
- Customized to your documentation
- Summaries and references to sources

Safe, Trustworthy, and Reliable

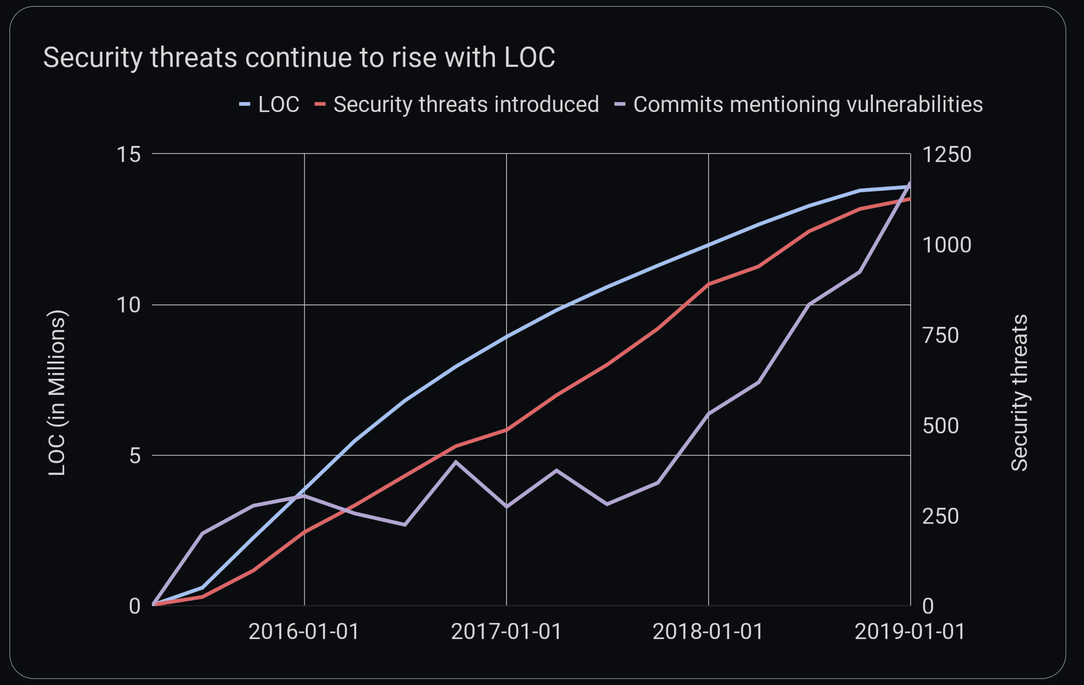
Committed to creating responsible AI by design so you can trust in not only the technology and product but also GitHub as a partner.

- Privacy: Handling your data responsibly
- Security: Azure infrastructure and encryption
- Copyright: Respecting intellectual property rights

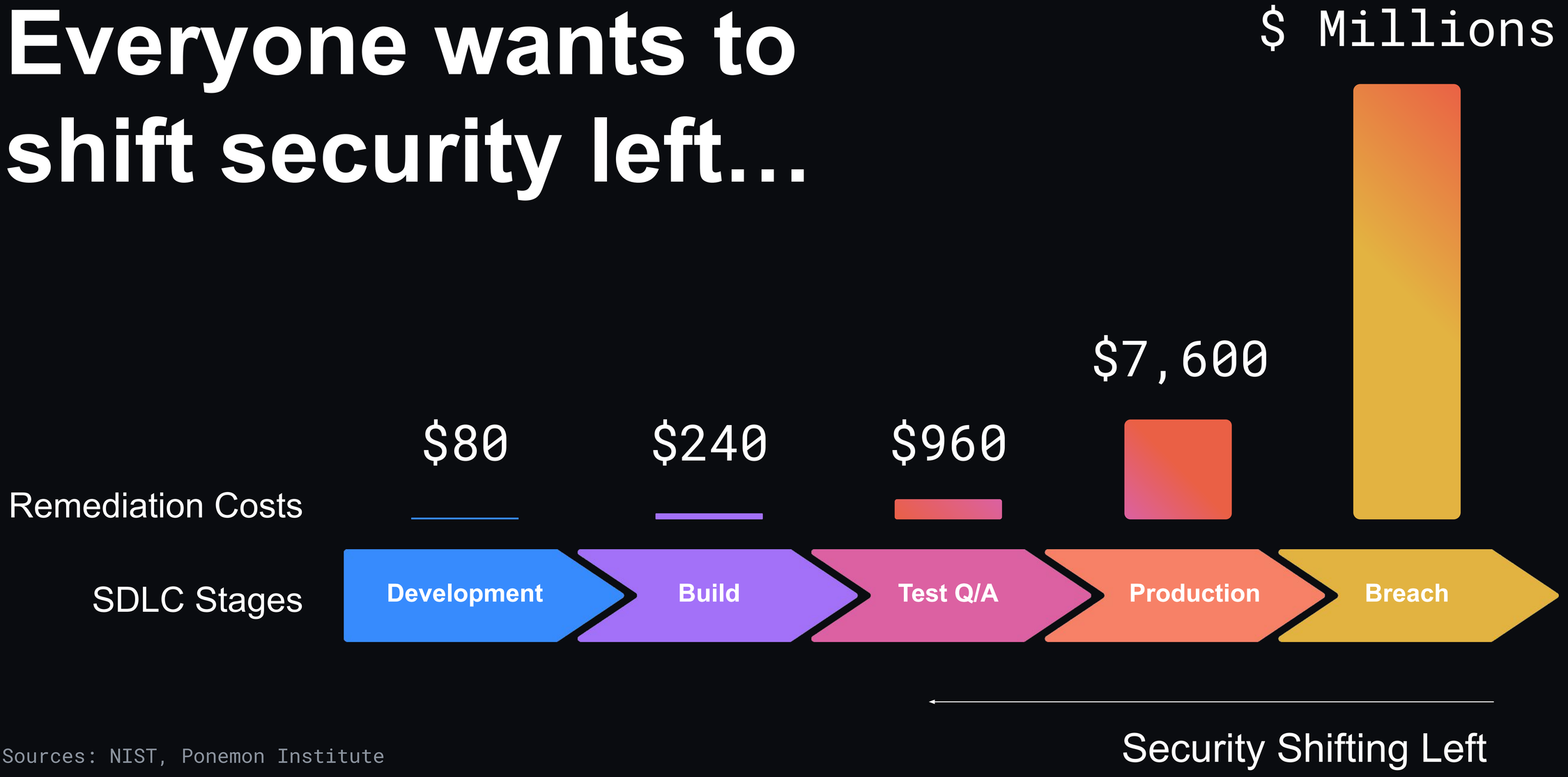
GitHub Enterprise Platform

GitHub Advanced Security

Despite increasing developer awareness, **security threats continue to rise**



Everyone wants to shift security left…



Sources: NIST, Ponemon Institute

Solution: Shift security left, but how?

800x more developers than security researchers

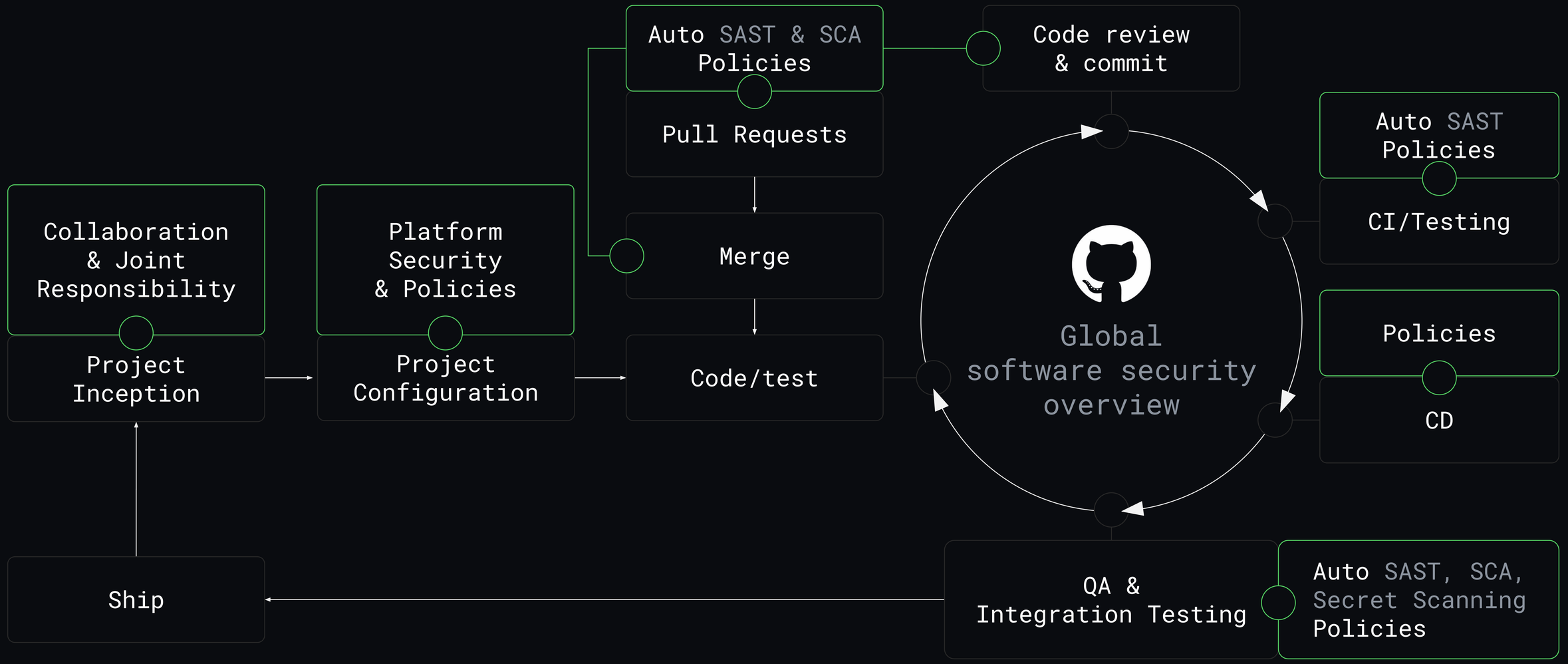
~ 56M

Professional Developers

~ 70K

Security Researchers

Application Security using DevSecOps



Community-powered security and compliance

Dependency insights

Real-time inventory

License compliance

Vulnerability alerting

Vulnerability Management

Automated code scanning

Private secret scanning

Largest vulnerability database

Automated security updates

CodeQL

World’s most advanced code analysis

Vulnerability hunting tool

Community of top security experts

GitHub

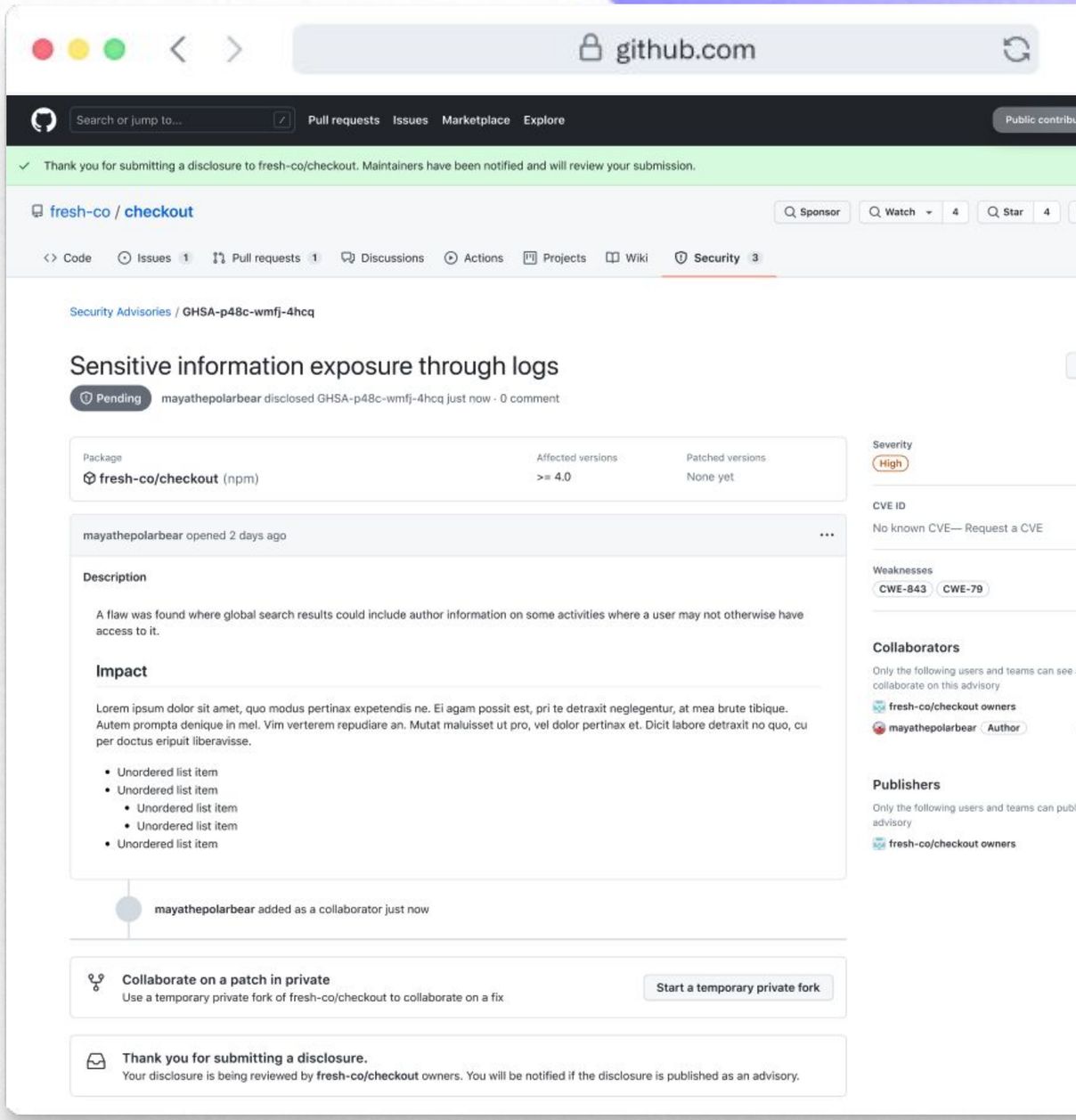
Advanced Security

Natively embedded security with unparalleled access to curated security intelligence unlocking your ability to keep your code, supply chain, and secrets secure before you push to production

48% Real-time fix rate in the PR

72% Fix rate in 28 days

22% Productivity boost realized compared to traditional tools



Demo

Dependabot

Automatically update vulnerable and out-of-date dependencies

Automated pull requests for security & version updates

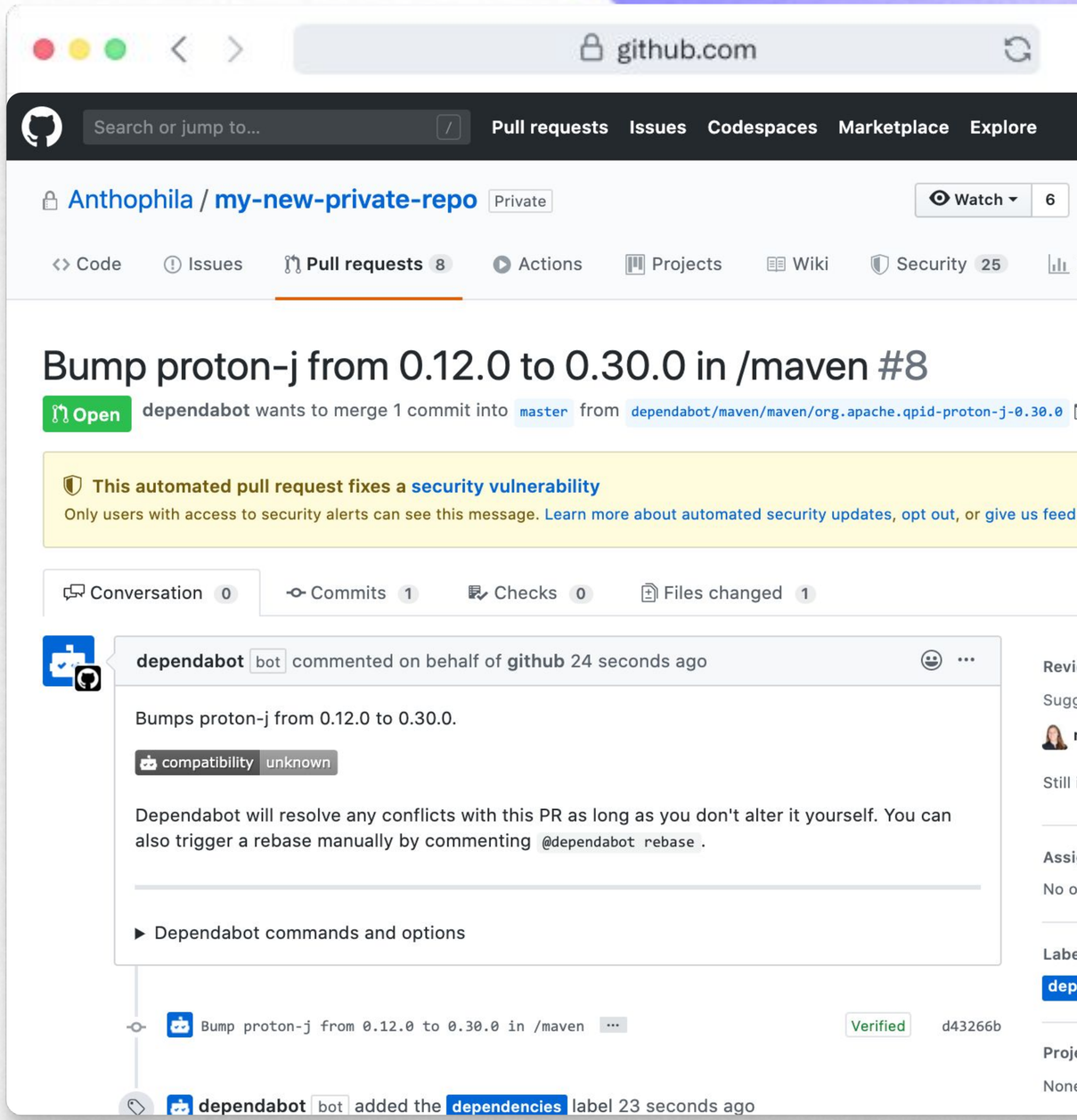
Keep your projects secure and up to date by monitoring them for vulnerable and out-of-date components. If a suggested update is found, we'll automatically open a pull request with suggested fixes.

Integrated with developer workflow

Dependabot is integrated directly into the developer workflow for a frictionless experience and faster fixes.

Rich vulnerability data

GitHub tracks vulnerabilities in packages from supported package managers using data from security researchers, maintainers, and the National Vulnerability Database— all discoverable in the GitHub Advisory Database.



Code scanning

Find and fix vulnerabilities as you code

Find and fix vulnerabilities fast

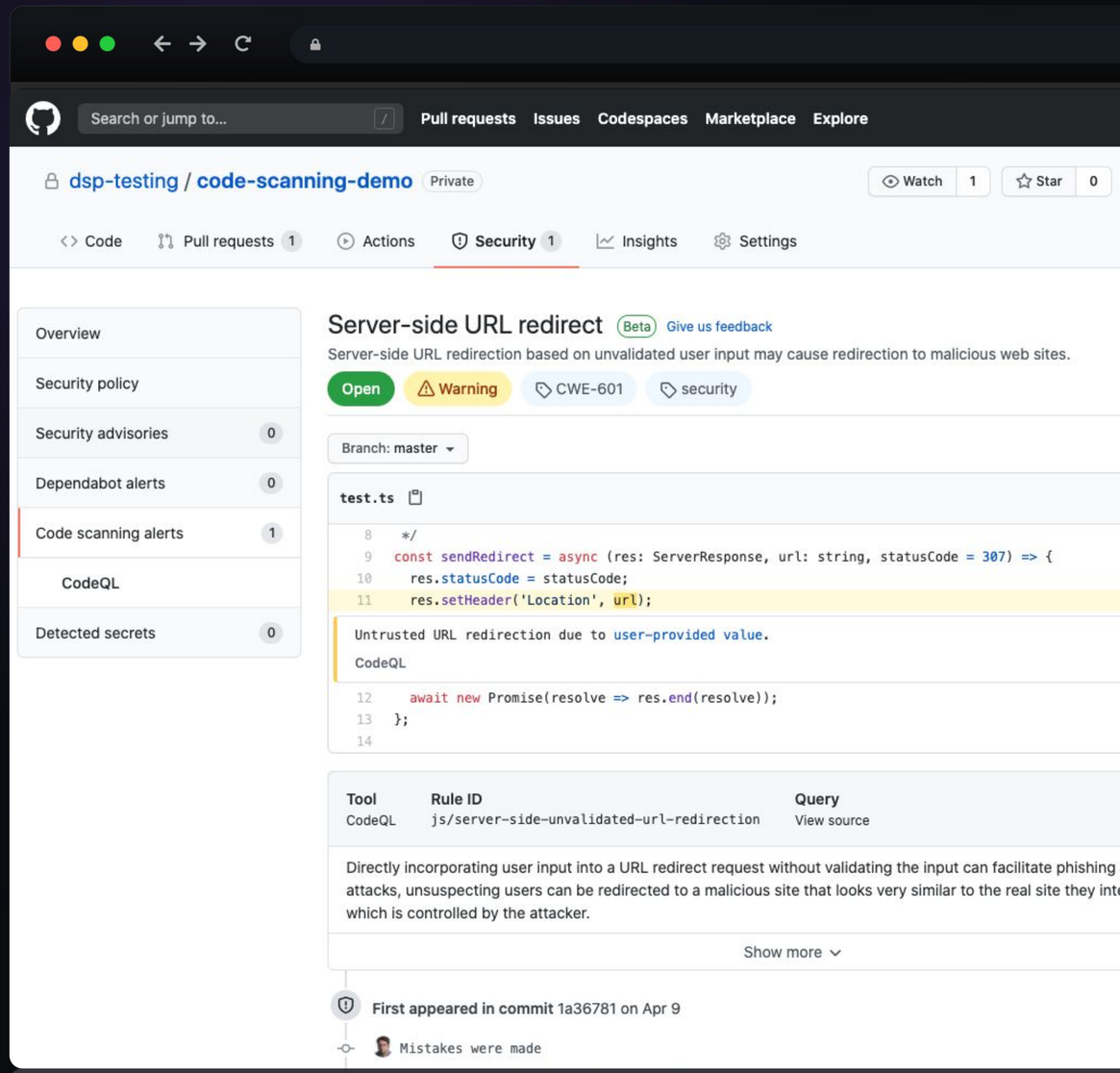
Find and fix vulnerabilities before they are merged into the code base with automated CodeQL scans.

Community of top security experts

Your projects are powered by world-class security teams. Use queries created by the security community in your projects.

Integrated with developer workflow

Integrate security results directly into the developer workflow for a frictionless experience and faster development



Secret scanning

Find and manage hard-coded secrets

Identifies secrets as early as possible

Finds secrets (including Azure secrets) the moment they are pushed to GitHub and immediately notifies developers when they are found.

Community of secret scanning partners

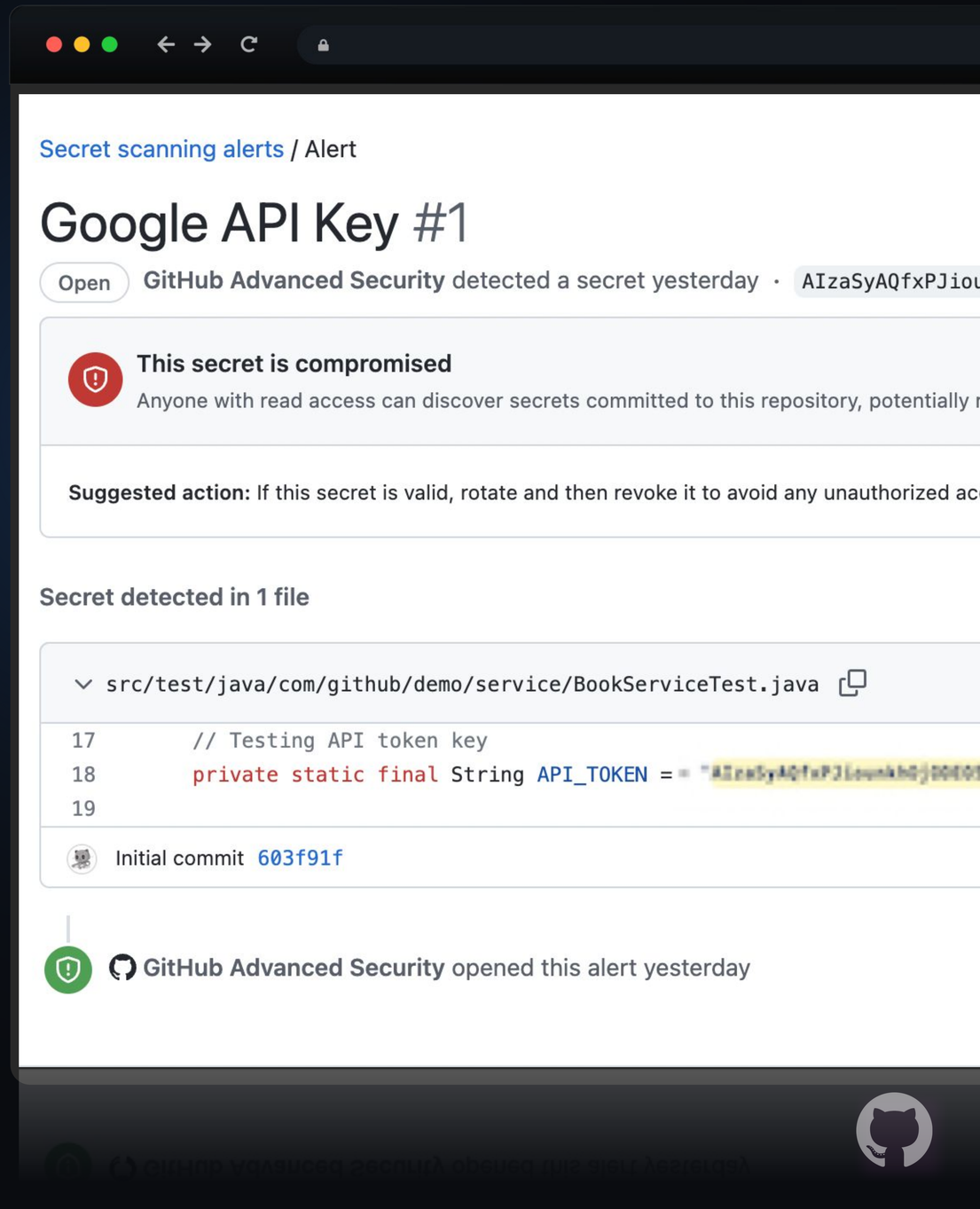
For every commit made to your repository and its full git history, we'll look for secret formats from secret scanning partners.

Define custom patterns

Scan for patterns that are internal to your organization across your repositories.

Supports both public and private repos

Secret scanning watches both public and private repos for potential secret vulnerabilities.



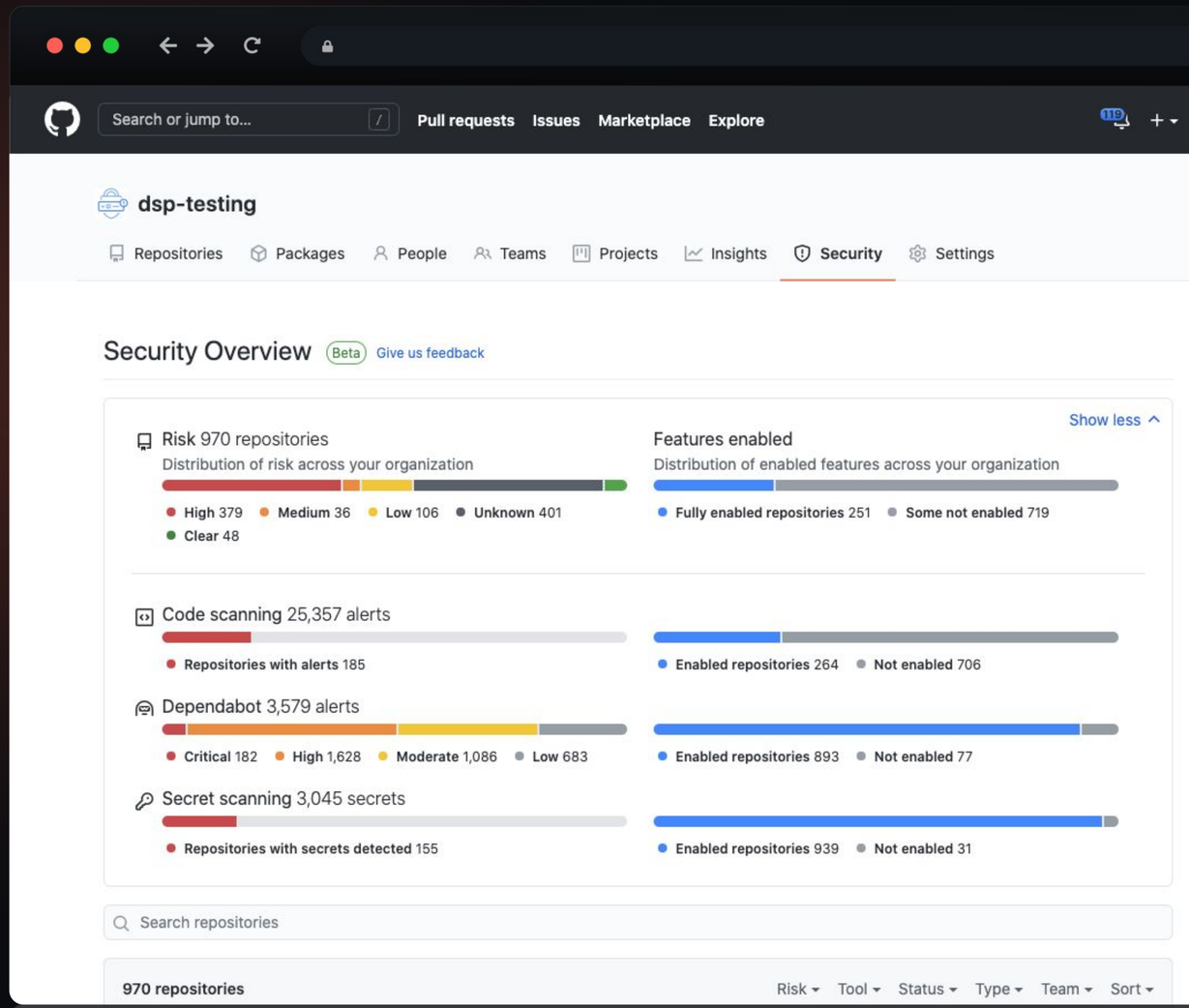
Security Overview

GA

A single place to view code scanning, secret scanning and Dependabot alerts across your codebases

Determine the riskiest repos with high numbers of unaddressed alerts

Monitor enrollment status as you rollout security features across your organization



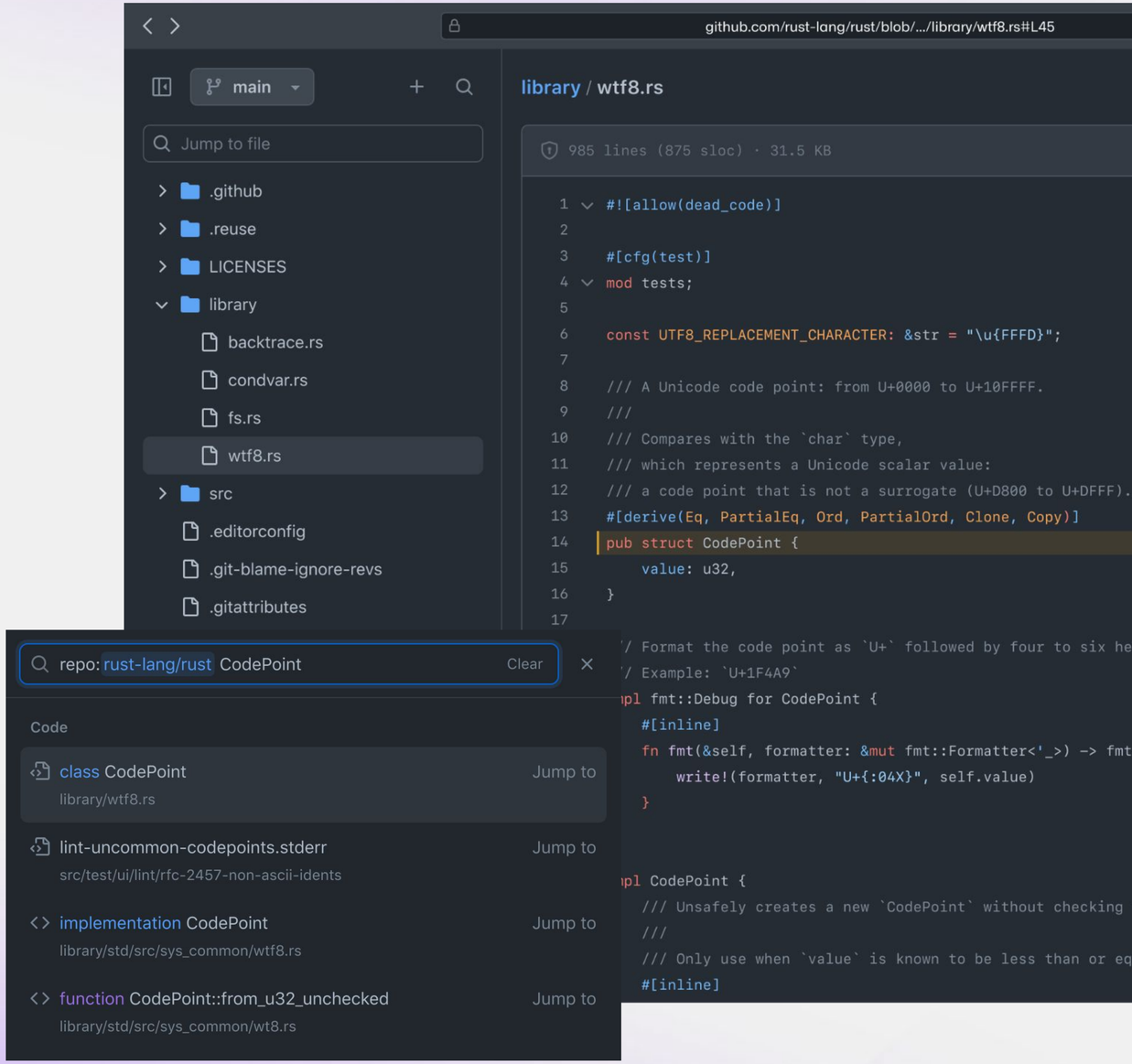
GitHub Enterprise Platform

Code search

Code search

Entirely redesigned search interface, with suggestions, completions and the ability to slice and dice the results

- Advanced search syntax
- Streamlined UI
- File browser
- Improved code navigation



Demo

Q&A