



Reimagining software development and DevOps with Agentic AI



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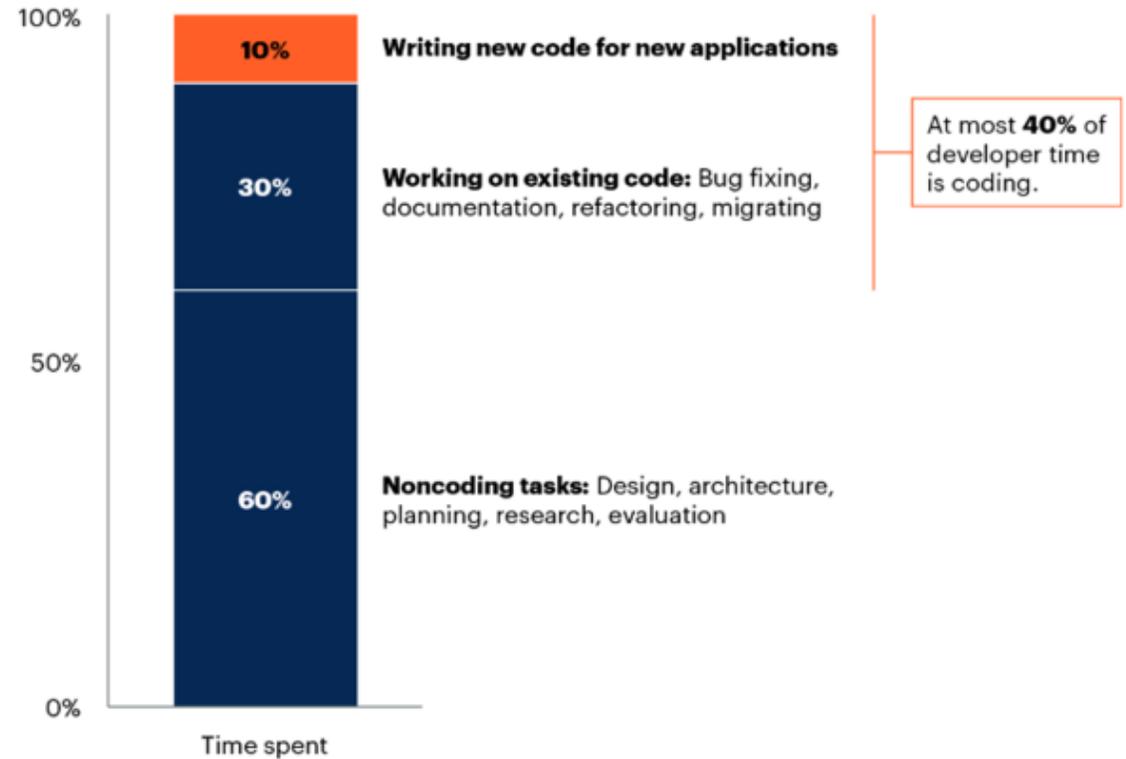
Agenda

1. Introduction
2. From idea to app
3. Supercharge your IDE
4. Coding agent joins the team
5. Integrate tools with MCP servers
6. Ensuring app health with SRE Agent
7. Modernize your application
8. Secure your application
9. Conclusion

Developers spend up to 60% of time on noncoding tasks

Writing New Code Is Only a Small Fraction of a Developer's Time

Percent of developer's time (representative example)



Source: Gartner
811209_C

Gartner

[Emerging Tech: AI Developer Tools Must Span SDLC Phases to Deliver Value](#), Gartner

Software development is increasingly complex

Demands to deliver **complex AI apps** and agents with **speed and scale**

Need to evaluate and test a **massive volume and diversity of AI models**

Requirements to learn **new skills** and quickly evolving **AI technologies**

Backlog of **low-value, time-consuming tasks**, compounded by **growing technical debt**

App infrastructure is growing increasingly **complex, diverse, and hard to manage**

New security risks that must be addressed to make safe AI applications

AI is transforming the developer experience



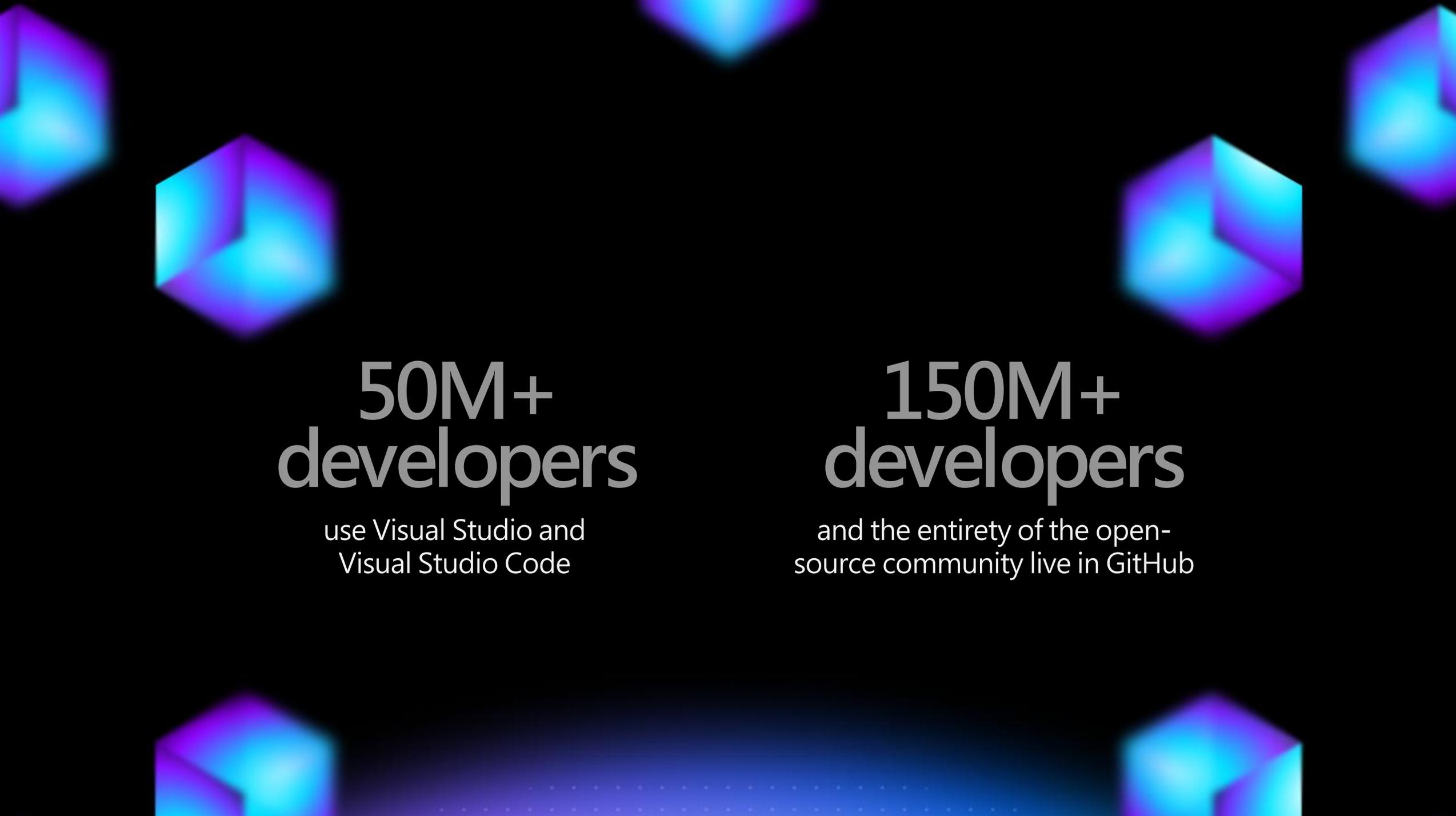
Evolve the developer experience **from AI-infused to AI-native**



Increase productivity with **AI extended across the software lifecycle**



Accelerate delivery of AI apps and agents with AI platform services



50M+
developers

use Visual Studio and
Visual Studio Code

150M+
developers

and the entirety of the open-
source community live in GitHub

The Copilot effect



The world's most widely adopted AI developer tool.



Maximize developer happiness



Increase developer productivity



Accelerate software development

15 million

GitHub Copilot users

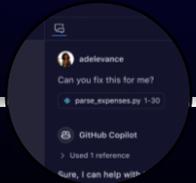


2022 2023 2024 2025



Jun 2021

Code completions



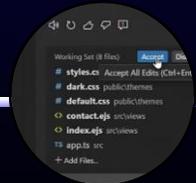
Mar 2023

Chat



Nov 2023

Workspace



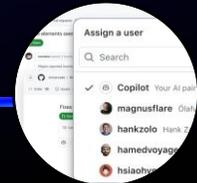
Oct 2024

Multi-file edits



Feb 2025

Agent mode



May 2025

Coding agent

Evolving DevOps

DevOps

“Union of **people, process, and technology** to enable continuous delivery of value to end users.”

DevSecOps

“Union of **people, process, and technology with security** as a shared responsibility to enable continuous delivery of value to end users.”

Agentic DevOps

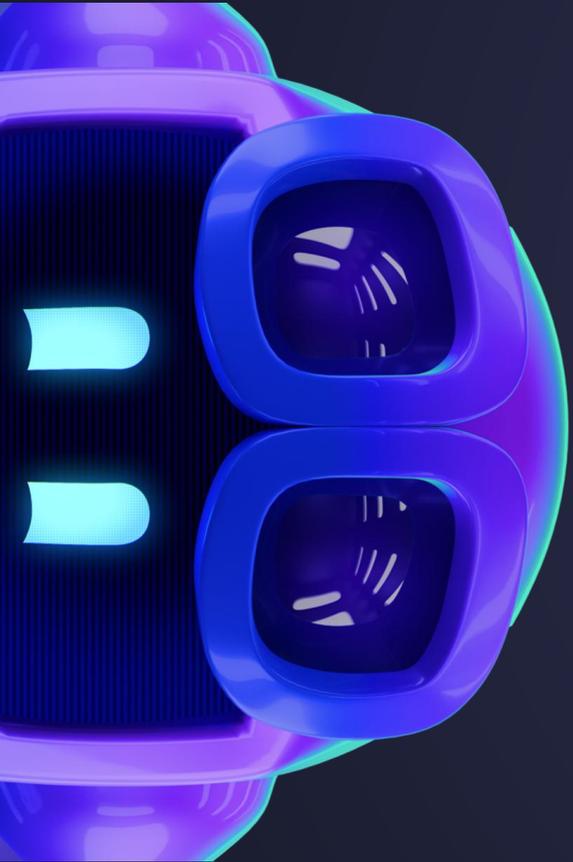
AI-powered agents operating as a member of your dev team to **automate, optimize, and accelerate every stage** of the software development lifecycle.

Agentic DevOps

AI-powered agents operating as a member of your dev team to automate, optimize, and accelerate every stage of the software development lifecycle.

GitHub Copilot is built for developer experience

Automate the mundane and empower developers to focus on what matters



Experiences

Sense making (summarization, code understanding)

Writing code

Writing tests, documentation

Debugging code

Reviewing code

Fixing bugs and vulnerabilities

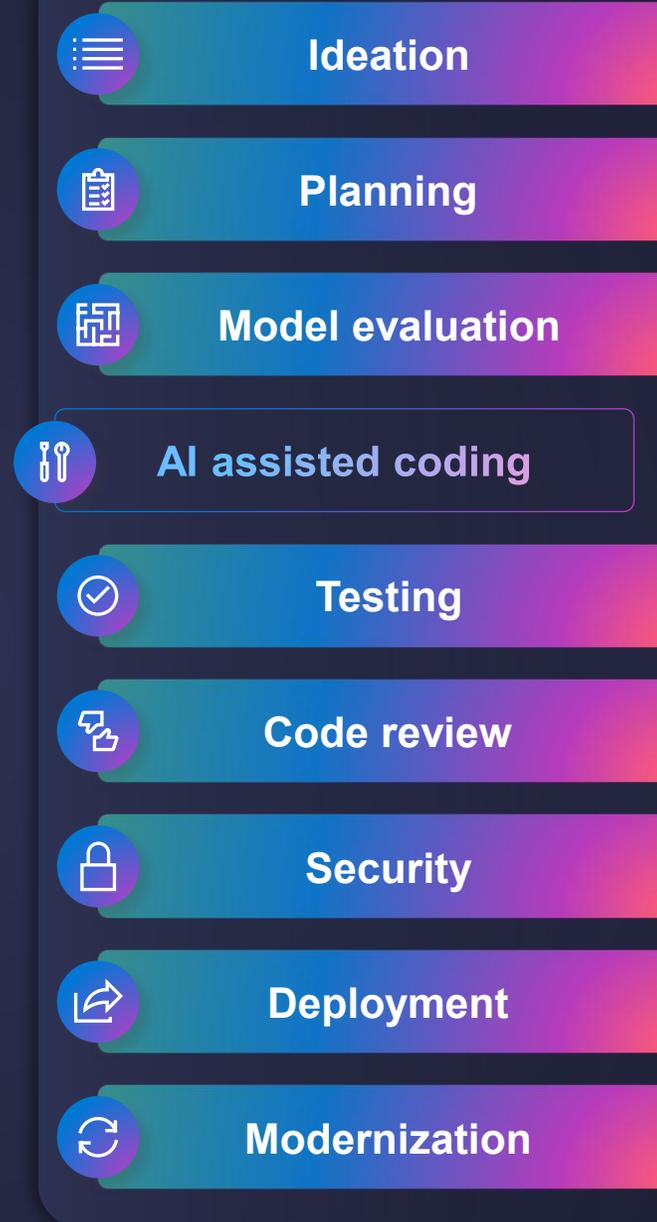
Upgrading dependencies

Code modernization, refactoring

Updating stakeholders

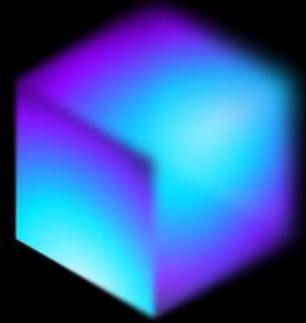
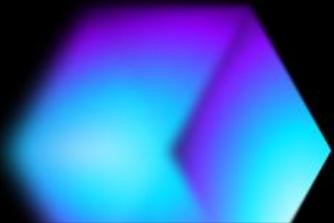
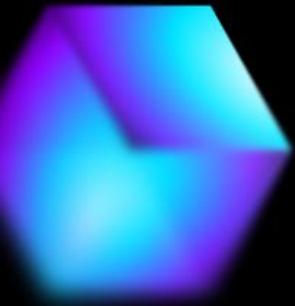
The next evolution of GitHub Copilot

New agents help solve real-world problems throughout the software lifecycle



From idea to app

Turning concepts into reality





- 🕒 Create an issue for a bug
- 🔗 My open pull requests
- 🔗 Summarize a pull request
- 🕒 Suggest next steps for an issue
- 💡 What's new in Copilot?
- 🔗 Get code feedback

Copilot uses AI. Check for mistakes.

Ask Copilot

📎 Attach GPT-4.1 ▾ 🔍



Dream it. See it. Ship it.

Transform ideas into full-stack intelligent apps in a snap.
Publish with a click.

Create intelligent prototypes, personal apps, websites and more

Attach image ▶

- Time zone converter
- Note taking app
- Family calendar

Spark uses AI. Check for mistakes. [Terms of service.](#)

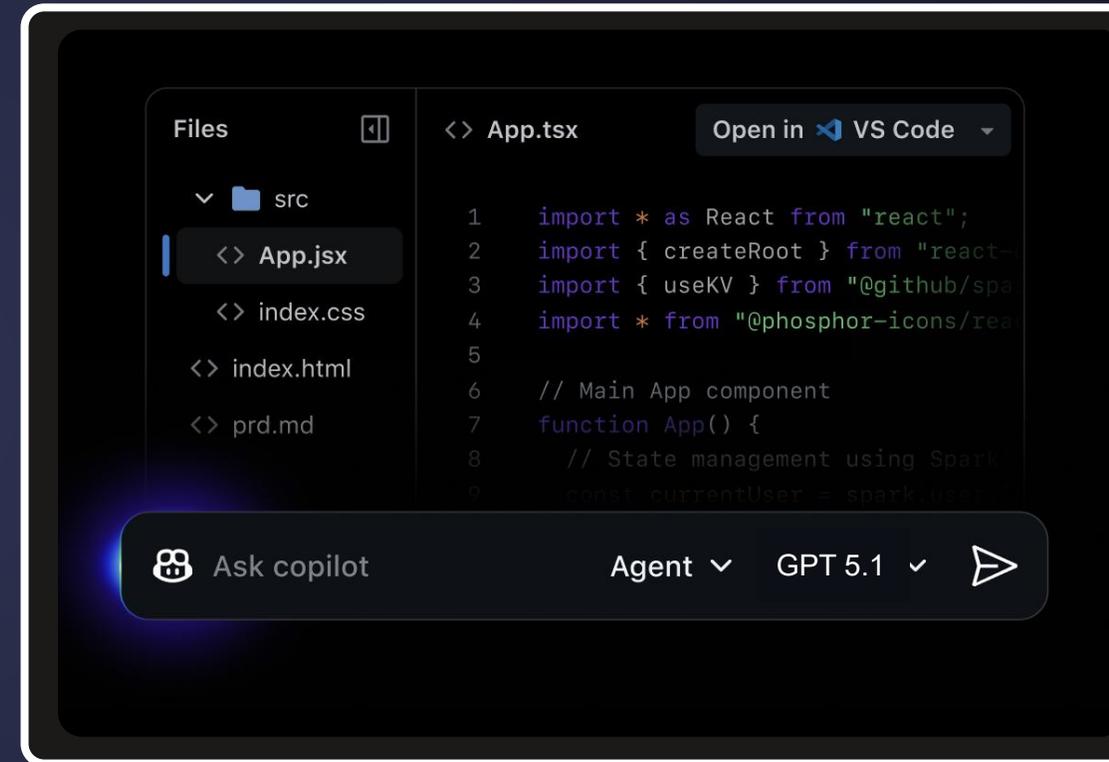
Recent ☆ Favorites

- Athlete Collab: Custom Gear Creator**
 Last updated 5 days ago ☆ ...
- Athlete Co-Lab: Custom Gear Creator**
 Last updated 5 days ago ☆ ...

From idea to app faster with AI

Dream it. See it. Ship it.

- Quickly go from idea to app by rapidly generating sophisticated app prototypes using natural language
- Generate your prototype, refine its underlying code, and deploy to Azure all from a single platform
- Maintain professional development, authentication, and permissions practices while prototyping in GitHub



Relevant products
and features:



GitHub Spark



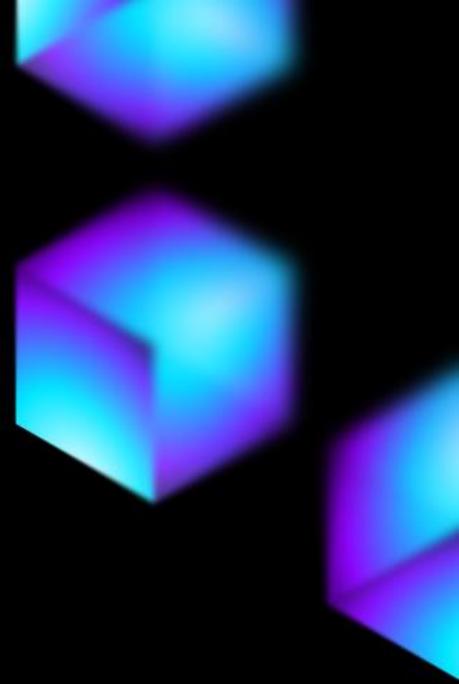
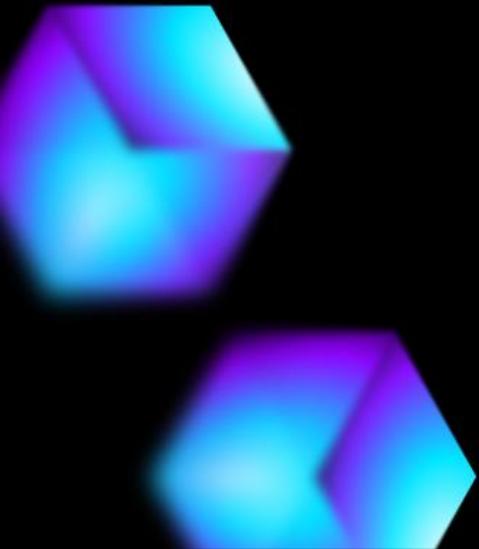
GitHub Copilot



GitHub Codespaces

Supercharge your IDE

A true peer programmer



CHAT



Ask Copilot

Copilot is powered by AI, so mistakes are possible.
Review output carefully before use.

As an internal user, additional telemetry is collected. If you work on a project that contains customer content, you must [disable telemetry](#).

📎 or type # to attach context

@ to chat with extensions

Type / to use commands

📎 Add Context...

Ask Copilot



Ask ▾

Claude 3.7 Sonnet (Preview) ▾



Show All Commands ⌘ ⌘ P

Go to File ⌘ P

Open Chat ^ ⌘ I

Open Settings ⌘ ,

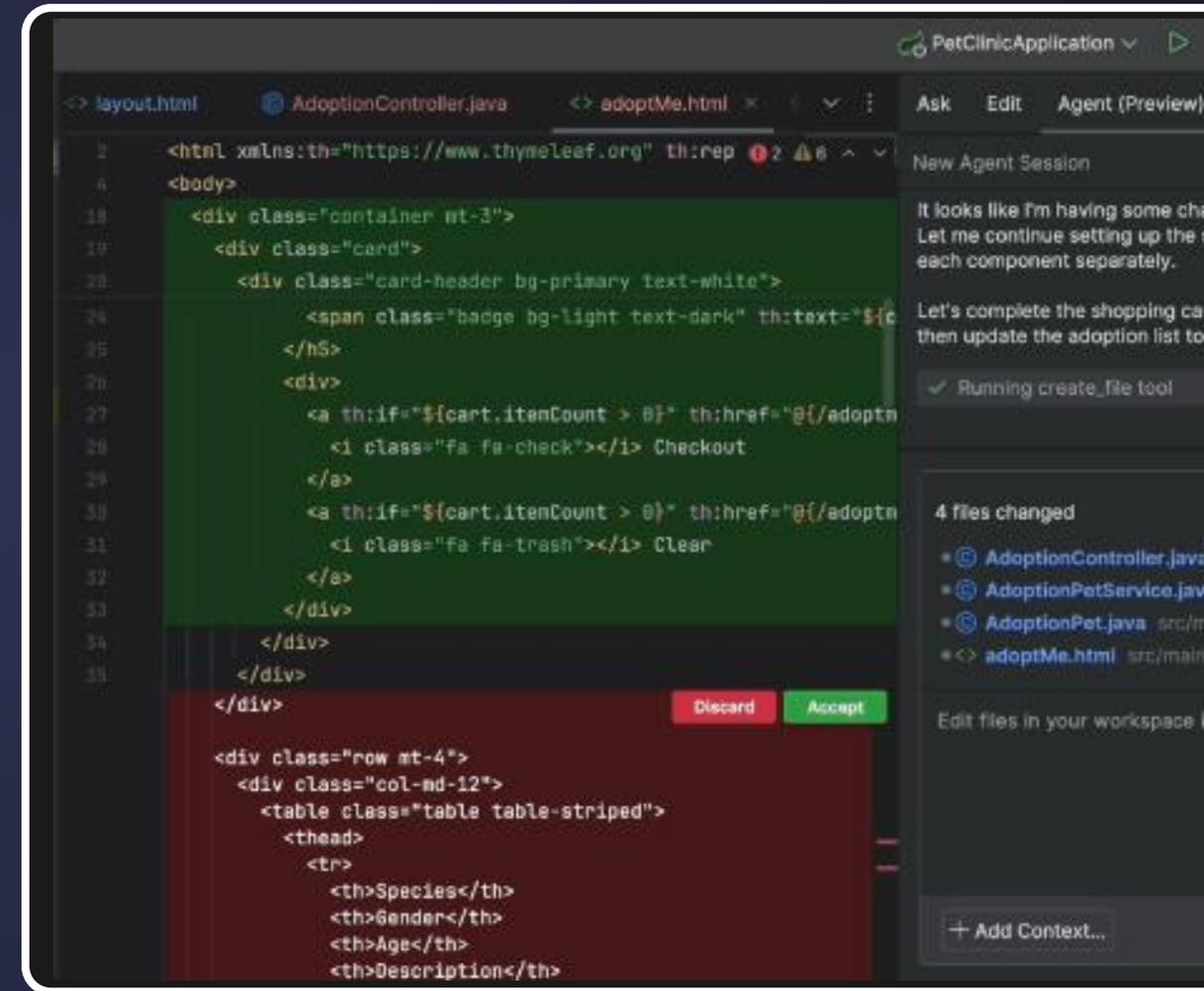
Find in Files ⌘ ⌘ F



Agent Mode

Supercharge the AI-assisted coding experience directly in your IDE

- Expand your AI capabilities beyond autocomplete by assigning multi-step coding tasks directly from your IDE
- Leverage an AI-powered peer programmer that can build new features, refactor legacy code, and heal itself when things break
- Analyze a codebase, edit files, run tests, fix errors, and suggest terminal commands—all from a single prompt
- Use agent mode in the IDE of your choice with support for Visual Studio and Visual Studio Code, and public preview support for Xcode, Eclipse, and JetBrains



EXPLORER

- MCP-BADGE-CREATOR
 - .github
 - .vscode
 - data
 - dist
 - node_modules
 - public
 - specs
 - src
 - assets
 - components
 - pages
 - Extensions.module.css
 - Extensions.tsx
 - Home.module.css
 - Home.tsx
 - MCP.module.css
 - MCP.tsx
 - Packages.module.css
 - Packages.tsx
 - Settings.module.css
 - Settings.tsx
 - styles
 - types
 - utils
- OUTLINE
- TIMELINE

Simple Browser x

http://localhost:5173

README **BADGE CREATOR**

BADGE TOOLKIT

Build beautiful badges in seconds

Choose a generator to craft rich badges, shareable markdown, and ready-to-run commands for your projects.



MCP Badges

Generate install badges, README snippets, and CLI commands for MCP servers.

[Open generator →](#)

VS Code Extensions

CHAT CHAT DEBUG

- Enhancing MCP.tsx with dynamic arguments and p... 2 days ago
- Adding an orange theme to the application 3 days ago
- Creating a Repository Badges Page Plan 3 days ago
- [Chat history...](#)



Build with Agent

AI responses may be inaccurate.

[Generate Agent Instructions](#) to onboard AI onto your codebase.

Add Context...

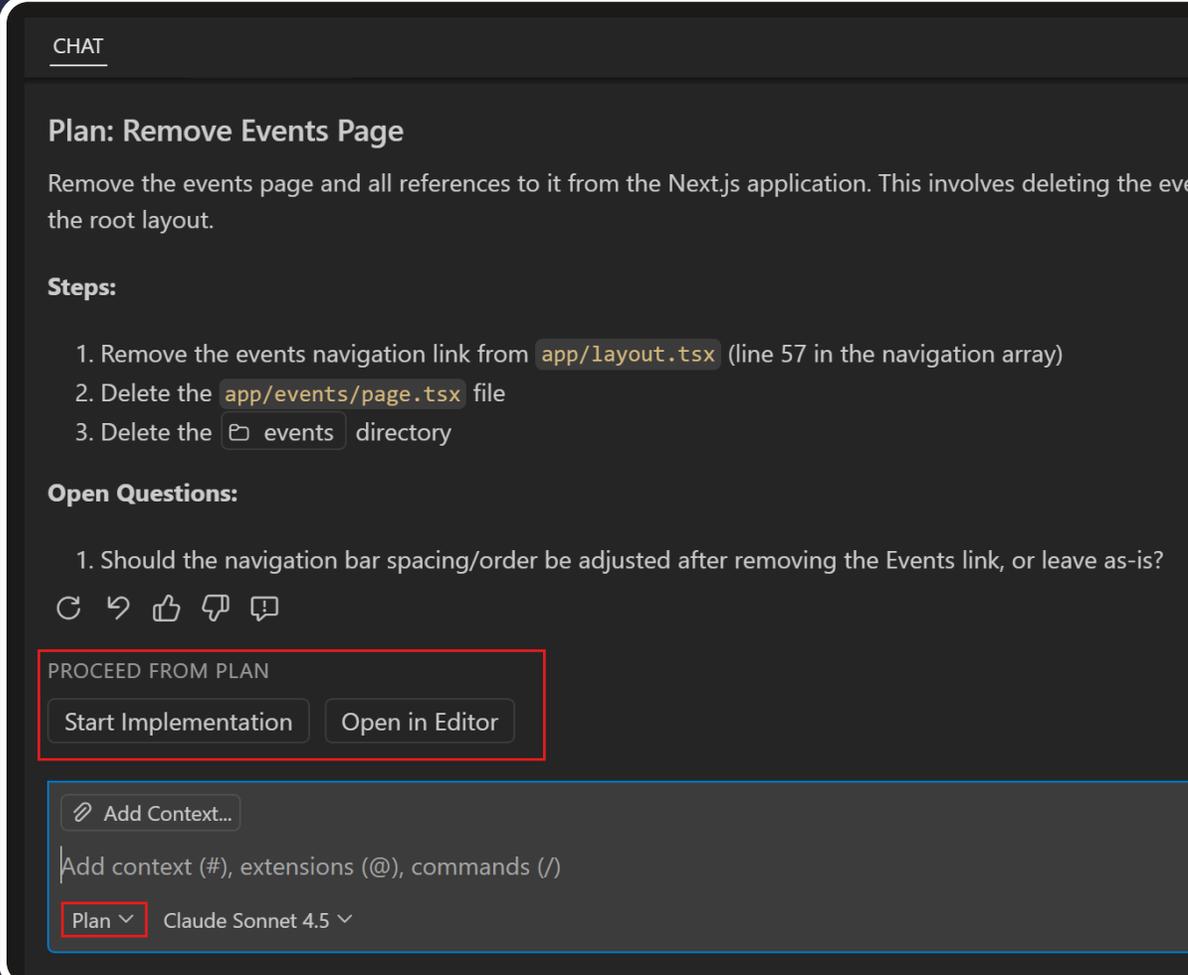
Describe what to build next

Agent Claude Haiku 4.5

Plan Mode

Plan mode helps developers create, refine, and execute step-by-step implementation plans directly in their IDE.

It analyzes your codebase, generates detailed execution plans, and validates that requirements are covered before you start coding.



CHAT

Plan: Remove Events Page

Remove the events page and all references to it from the Next.js application. This involves deleting the events page and the root layout.

Steps:

1. Remove the events navigation link from `app/layout.tsx` (line 57 in the navigation array)
2. Delete the `app/events/page.tsx` file
3. Delete the `events` directory

Open Questions:

1. Should the navigation bar spacing/order be adjusted after removing the Events link, or leave as-is?

🔄 ↶ 👍 🗑️ 💬

PROCEED FROM PLAN

Start Implementation Open in Editor

🔗 Add Context...

Add context (#), extensions (@), commands (/)

Plan Claude Sonnet 4.5

Supercharge your IDE

Code completion

Ask and Edit Mode 

Next Edit Suggestions 

Copilot Vision 

Model Context Protocol (MCP)

GitHub 

Playwright 

Azure 

Custom MCP Server



Agentic Features

 Agent Mode

Plan Mode and Custom

3rd Party Agents

Extensibility

 App Modernization

 Upgrade

 Migrate

 Copilot for Azure



VS Code



Neovim



IDE JetBrains



Visual Studio



Eclipse



Xcode

Coding agent joins the team

Enhance team productivity
like an AI teammate

Idea to Prod

Add status update

- Backlog
- Team capacity
- Current iteration
- Roadmap
- My items
- + New view

Filter by keyword or by field

Discard Save

Todo 6 / 10

This item hasn't been started

- octopets-prototype #5
Typography System Enhancement: Implement Cal Sans and Playfair Display
- octopets-prototype #7
Responsive Card Layout Enhancement
- octopets-prototype #6
Icon System Modernization: Replace emoji icons with custom SVG system
- octopets-prototype #17
Update "Why choose Octopets?" section on homepage from Figma design using Dev Mode MCP integration
- octopets-prototype #9
Create Comprehensive Design System Documentation
- octopets-prototype #8
Enhance Accessibility Based on Figma Design

+ Add item

In Progress 2 / 5

This is actively being worked on

- octopets-prototype #4
Implement Venue Owner Dashboard
- octopets-prototype #19 ...
PRD: Add pet profiles

+ Add item

PRs 4

This has been completed

- octopets-prototype #18
Add Prototype Venue Booking Feature
- octopets-prototype #20
Add pet profiles feature
- octopets-prototype #21
Add "Add Pets" functionality to UI
- octopets-prototype #35
Add venue booking feature to Octopets application

+ Add item

Done 1

This has been completed

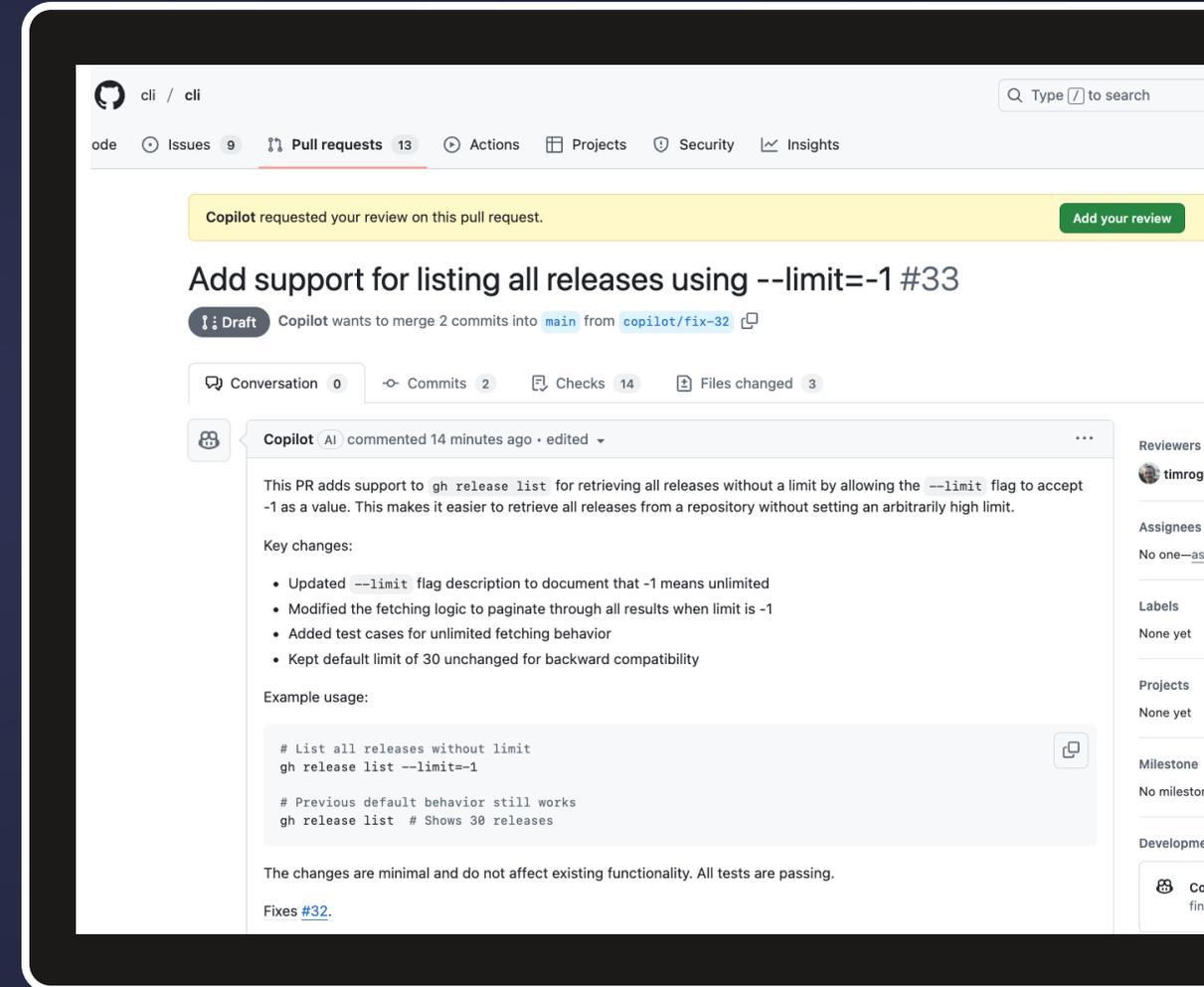
- octopets-prototype #26
Convert landing page from Figma design

+ Add item

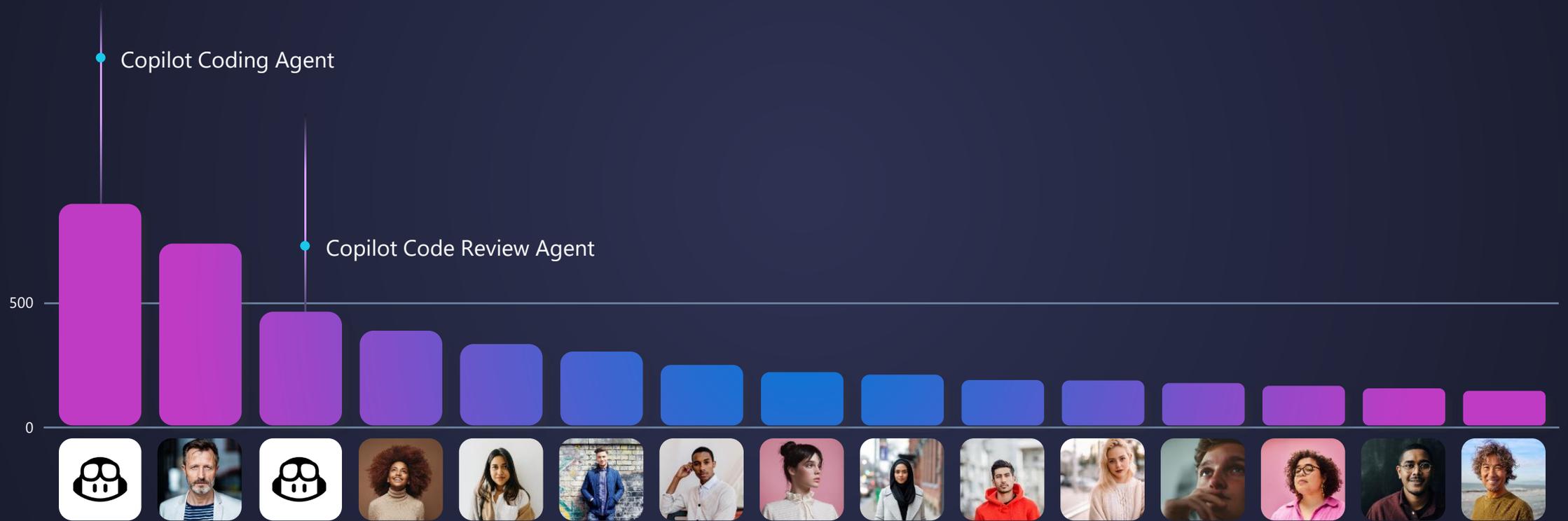
Coding Agent

Agentic capability in GitHub to enhance team productivity like an AI teammate

- Assign issues to GitHub Copilot and get back pull requests, automatically validated with tests and linters
- Stay in control by working with Copilot just like any other developer and iterating through pull request reviews
- Tailor Copilot to your needs by customizing its dev environment, adding custom instructions, and providing external context through MCP servers



Agents within our workflow



Integrate tools with MCP servers

Design-to-code with Figma integration
End-to-end testing with Playwright

Add pet profiles feature #20

Draft

Copilot wants to merge changes into `github:main` from `github:copilot/fix-19`

Checkout Refresh Rename Copy Link Copy vscode.dev Link

Reviewers

 hollenberry

Assignees

 hollenberry
 Copilot

Labels

None yet

Project

Sign in with more permissions to see projects

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS COMMENTS

```
mariorod@Marios-M1-Pro octopets-prototype % git checkout main
M      .vscode/mcp.json
M      frontend/package.json
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
mariorod@Marios-M1-Pro octopets-prototype %
```

+ v ... ^ x

-  dotnet
-  node fronte...
-  zsh

CHAT



Edit with Copilot

Agent Mode

Ask Copilot to edit your files in [agent mode](#). Copilot will automatically use multiple requests to pick files to edit, run terminal commands, and iterate on errors.

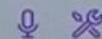
Copilot is powered by AI, so mistakes are possible. Review output carefully before use.

As an internal user, additional telemetry is collected. If you work on a project that contains customer content, you must [disable telemetry](#).

 or type # to attach context

 Add Context...

Edit files in your workspace in agent mode



Agent v

GPT-4.1 v



Find purrfect pet-friendly places

Discover and share amazing spots for your furry, feathery, or scaly friends.

[Browse listings](#)

Find places for your pets

We make finding pet-friendly places easy and fun

- 
Doas
- 
Cats
- 
Birds
- 
Mammals
- 
Other Pets

Ensuring application health with SRE Agent

Manage in production

Find purrfect pet-friendly places

Discover and share amazing spots for your furry, feathery, or scaly friends.

Dogs Cats Birds Mammals Other

Browse listings

Why choose Octopets?

Discover

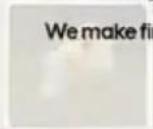
Connect

Rate & Review

Find places for your pets

Explore venue types

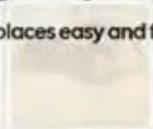
We make finding pet-friendly places easy and fun



Park



Coffee



Hammock



Hotels



Custom venue

Have a pet-friendly place to share?

SRE Agent

AI-powered incident management and resource optimization in production

- **Automatic incident management** reduces the number of pager alerts for human SREs
- **Proactive diagnosis and mitigation** to improve application uptime, protecting revenue and reputation
- **Automated deployments** and autonomous rollbacks across large-scale environments help scale your ops without scaling the costs
- **Continuous monitoring** of health and performance of Azure resources, so talent can focus on high-value projects

The screenshot displays the SRE Agent interface for a session titled "session550demo-sreagent". The interface includes a navigation bar with "Activities", "Managed resources", "Settings", and "Logs". The main content area shows an "Incident Alert - [Sev3] [webapp-myfirstapp] servererror-alert". A sidebar on the left contains a search bar, a "New chat thread" button, and a list of active threads, including the current incident. The incident details panel on the right shows the alert was detected on 5/9/2025 at 7:44:28 PM. The alert rule is "servererror-alert" and the description is "raises alert when 500 errors are sent". The monitored resource is "webapp-myfirstapp". A table below the description shows the alert ID and the time it was fired. At the bottom of the interface, there is a note: "AI-generated content might be incorrect, so review carefully before use. Do not include".

session550demo-sreagent

SRE Agent

Activities | Managed resources | Settings | Logs

Incident Alert - [Sev3] [webapp-myfirstapp] servererror-alert

+ New chat thread

Search

All threads | Incidents

7d | 0 | 0

4 actions completed

List All Managed Resource Groups Across Subscri...
Here is a visualization of the average response times f...

Incident Alert - [Sev3] [webapp-myfirstapp] se...
Active | Incident Response Summary for **web...

Services Distribution Pie Chart Across Subscriptio...
Here are the subscriptions I manage: 1. **dchelupati-s...

Azure Resource Types Distribution Pie Chart
Here is a visual breakdown of Azure application types ...

TLS Best Practices
TLS 1.2 Enforcement Plan Complete - webapp-...

Consumption Container Apps Response Times Vi...
individual heatmaps for each storage account

Azure Resource Types Distribution Pie Chart
There is no available response time metric data for the...

New Azure Monitor Alert Detected

SRE Agent
5/9/2025, 7:44:28 PM

Alert ID	Fired At
a4b88cea-ef69-4fda-b837-1a3dc3a8f000	05/10/2025 02:43:22 +00:00

Alert Rule
servererror-alert

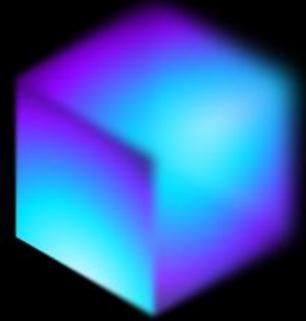
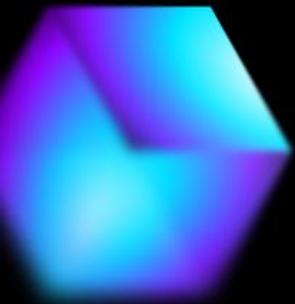
Description
raises alert when 500 errors are sent

Monitored Resource
webapp-myfirstapp

I want to...

AI-generated content might be incorrect, so review carefully before use. Do not include

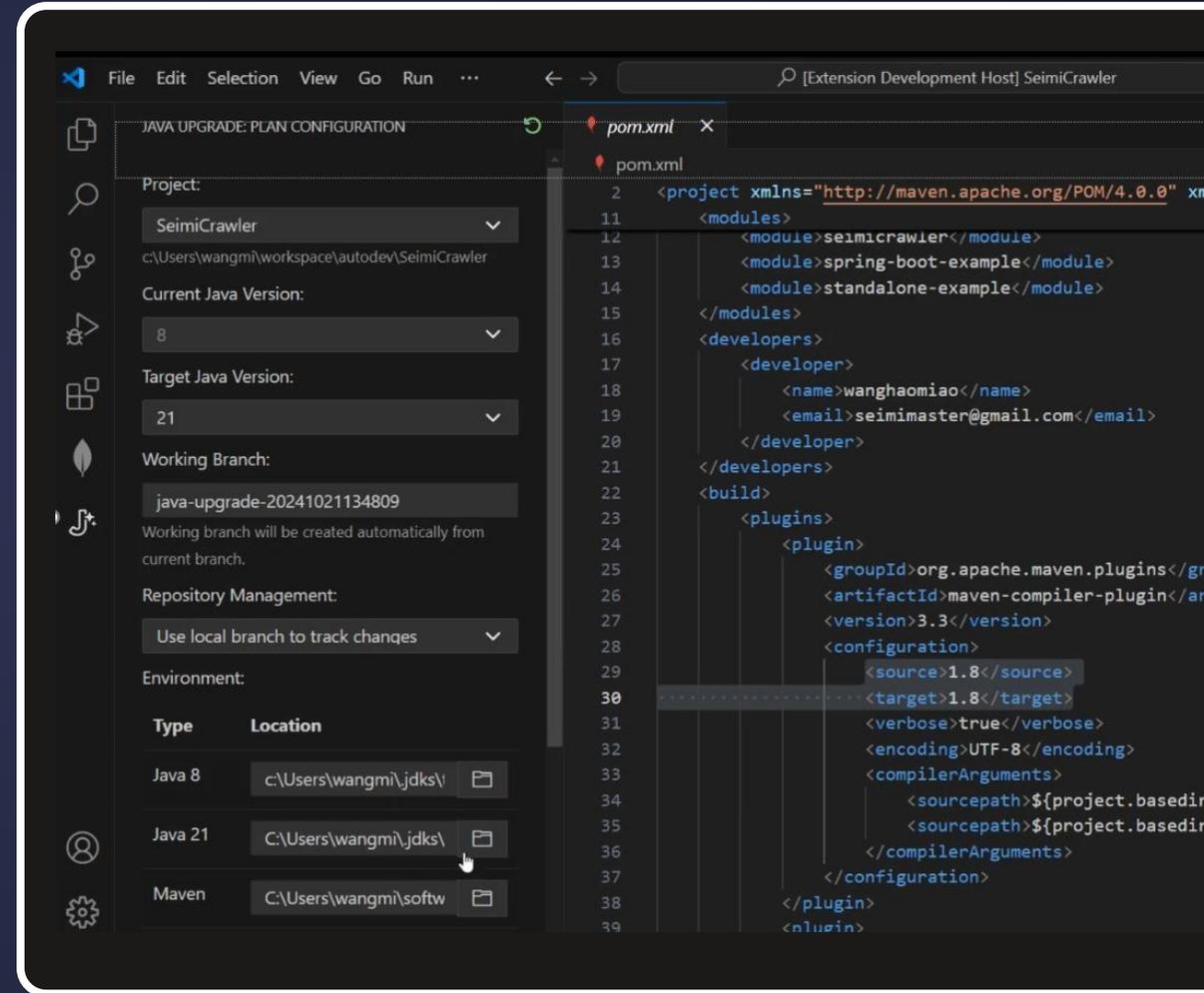
**Modernize your
application**



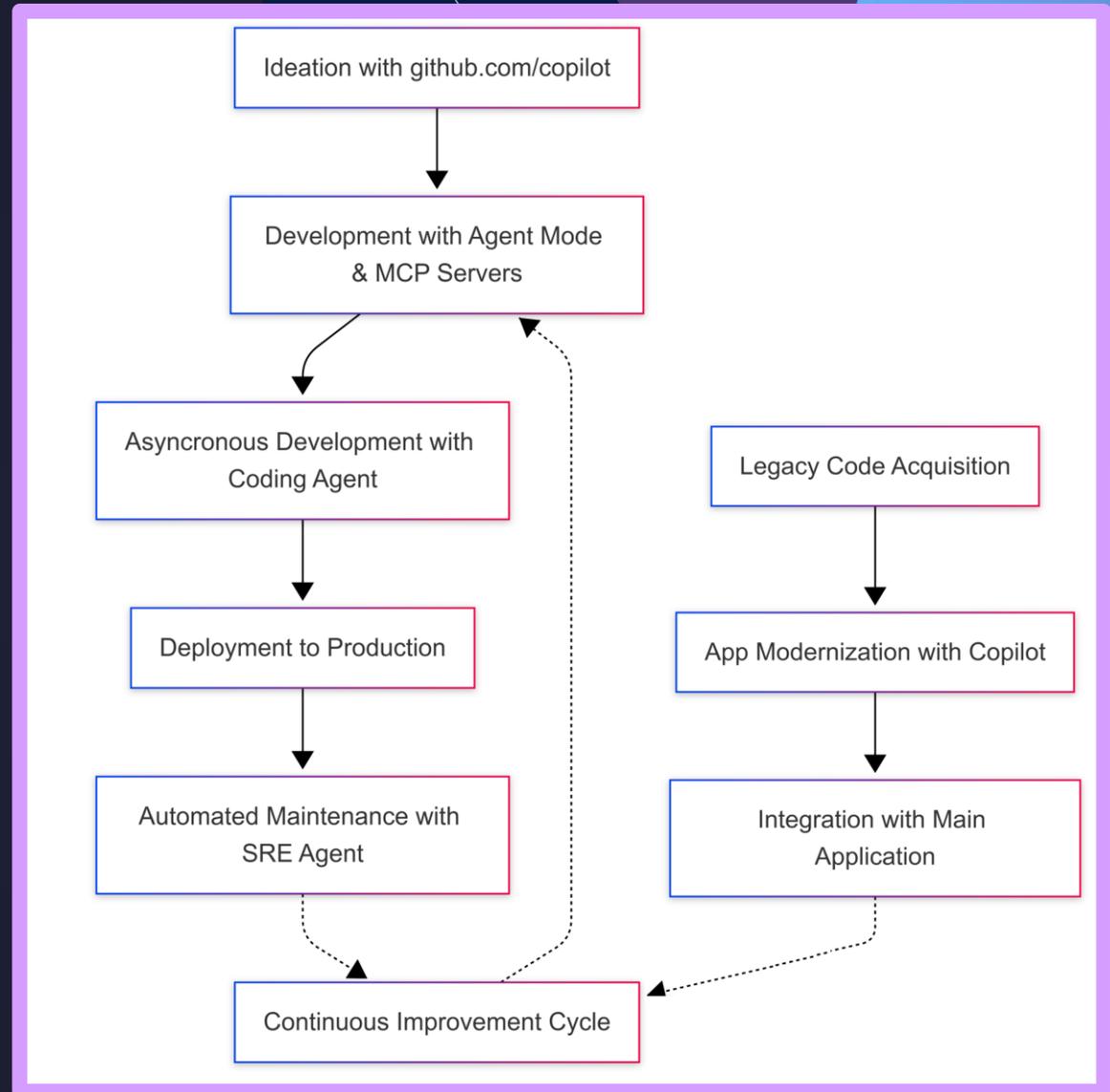
App Modernization

Modernize Java and .NET apps faster than ever with AI agents

- **Quickly upgrade** Java or .NET versions and associated frameworks with AI agents to increase app performance
- **Perform end-to-end code assessment and remediation** for apps to migrate to Azure
- **Use AI agents to auto remediate** code change and bug fixes for moving to Azure app platform services
- **Stay in control** with developer guidance, leverage organizational knowledge/best practices, and validate



The software development lifecycle reimagined



Secure your application

« Found means Fixed »

Open

Refactor page and add runner tracker #3

GeekTrainer wants to merge 1 commit into `main` from `update-client`



Some checks were not successful

[Hide all checks](#)

1 successful, 1 in progress, and 1 failing checks

- CodeQL / Analyze (javascript-typescript) (dynamic)** Successful in 1m [Details](#)
- CodeQL / Analyze (python) (dynamic)** *In progress — This check has sta...* [Details](#)
- Code scanning results / CodeQL** Failing after 4s — 1 configuration not fo... [Details](#)



This branch has no conflicts with the base branch

Merging can be performed automatically.

Merge pull request

You can also [open this in GitHub Desktop](#) or view [command line instructions](#).



Add a comment

Write

Preview

Rich text editor toolbar:

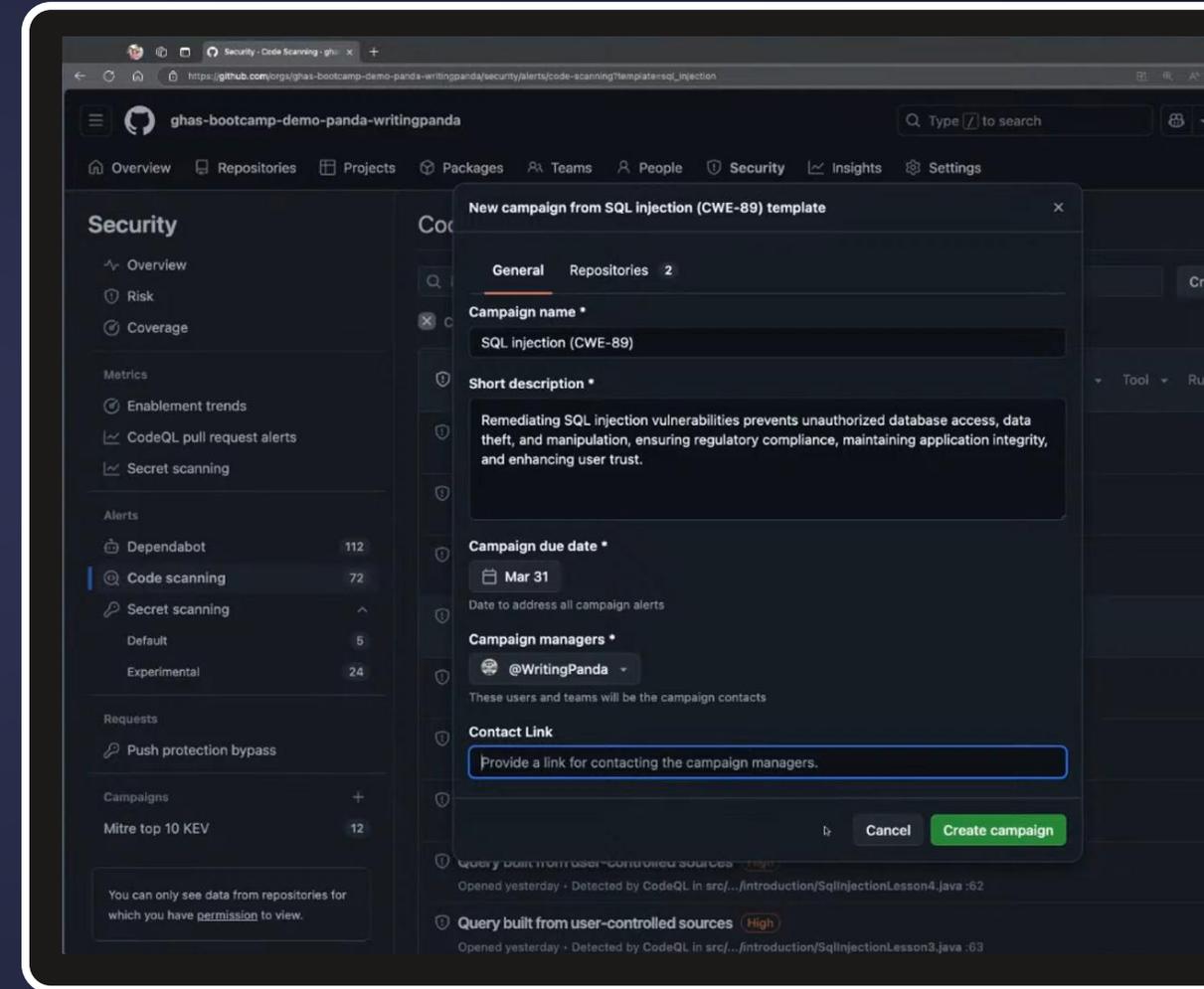
Add your comment here...

GitHub Advanced Security

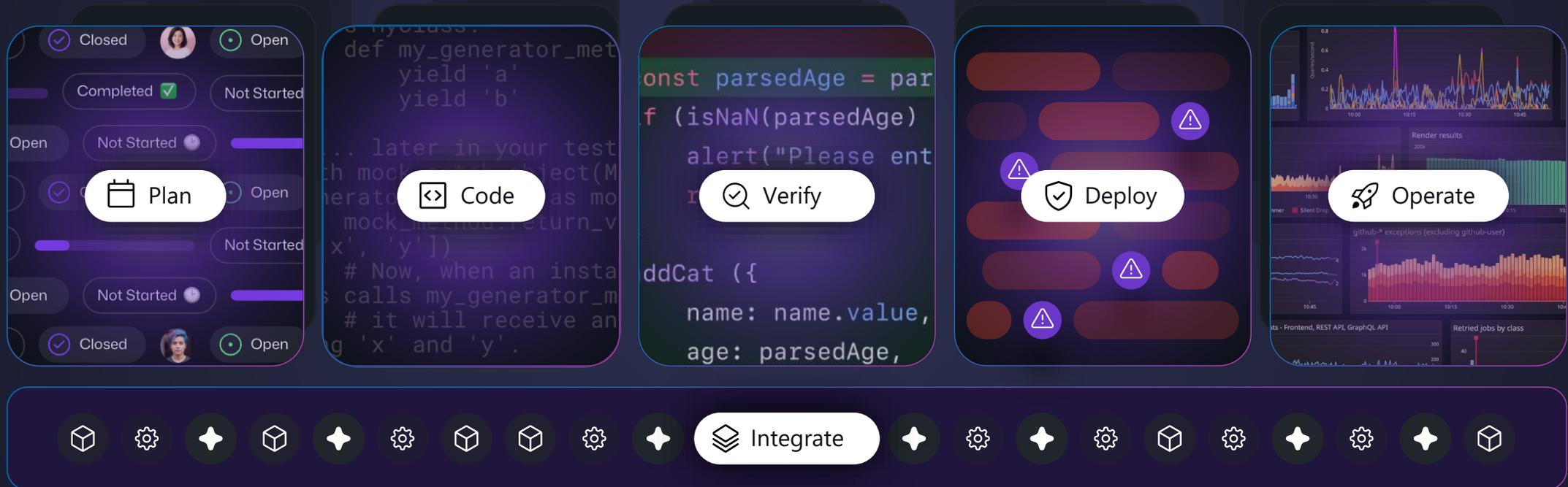
Secure Code by Default

Prevent vulnerabilities in your code with advanced AI support

- Embed security into your developers' workflows by shifting security left with dependency, secret, and code scanning
- Provide ways to fix security findings in real time with intelligent, AI-powered remediation suggestions
- Empower developers with just-in-time education and stay up-to-date with the latest vulnerabilities using an AI-powered peer programmer



Transforming the entire software lifecycle with agentic DevOps



The background features a dark blue gradient with a light blue grid pattern. On the left side, there are two overlapping circles: a large, semi-transparent light blue circle and a smaller, solid dark blue circle. A thin horizontal line is visible at the bottom of the frame.

| Thank You