

VS Code Dev Days

# VS Code: The Open Source AI Code Editor

Essential Techniques for GitHub Copilot in VS Code



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## Visual Studio Family

50+ million monthly  
active developers



## GitHub

150 million developers  
worldwide

functionality.md

index.html

styles.css

HIKING-JOURNAL

docs

journal-enteries

website

index.html

styles.css

OUTLINE

TIMELINE

functionality.md

index.html

styles.css

```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="UTF-8">
5   <meta name="viewport" content="width=device-width, initial-scale=1.0">
6   <title>Hiking Journal</title>
7   <link rel="stylesheet" href="styles.css">
8   <link rel="preconnect" href="https://fonts.googleapis.com">
9   <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
10  <link href="https://fonts.googleapis.com/css2?family=PT+Serif:wght@400;700&display=block" rel="stylesheet">
11 </head>
12 <body>
13   <main>
14     <header>
15       <h1>Hiking journal</h1>
16       <button class="add-button" aria-label="Add new entry">
17         <svg width="24" height="24" viewBox="0 0 24 24" fill="none" stroke="currentcolor">
18           <path d="M12 5V19M5 12H19" stroke="currentcolor" stroke-width="2">
19         </svg>
20       </button>
21     </header>
22
23     <article class="journal-entry">
24       <div class="entry-header">
25         <div class="meta-info">
26           <span class="date">March 10, 2025</span>
27           <span class="separator">|</span>
28           <span class="location">2201 Imola Ave. Napa, CA 94558</span>
29         </div>
30         <h2>Morning hike at Skyline Wilderness Park</h2>
31       </div>
32       <p>For my hike this morning I did the Skyline Trail and Manzanita Loop. It was a beautiful day with a clear sky and a light breeze. The trail was well-maintained and the views were spectacular. I saw many beautiful flowers and trees. The hike was challenging but rewarding. I was able to see some of the best scenery in the area. I was able to see some of the best scenery in the area. I was able to see some of the best scenery in the area.
33       
34     </article>
35   </main>
36 </body>
37 </html>
```

CHAT

collection to make the font styles.

I'll help you create the landing page based on the Figma design. Let me first check the Figma design and then create the necessary files.

Ran get\_Figma\_data

1. Create basic file structure

2. Set up CSS variables for theming and typography

3. Create HTML structure

4. Style components using CSS

5. Add interactive elements

Let me first check the existing file structure in the website folder:

Read website

I see the website folder is empty, so I'll create the necessary files. Let me start implementing the landing page based on the Figma design:

index.html +37 -1

2 file changed

index.html

styles.css

8 Add Context...

Ask Copilot or type / for commands

Agent Claude 3.7 Sonnet

Ln 17, Col 3 Spaces: 2 UTF-8 LF {} TypeScript

# Code with extensions

Customize VS Code with AI-powered functionality from extensions and Model Context Protocol servers to use in Chat. Or, build your own extension to power your team's unique scenarios.



**Python**

Adds rich language support for Python



**Stripe**

Build, test, and use Stripe inside your editor



**C/C++**

Adds rich language support for C/C++



**Jupyter**

Language support for Jupyter Notebooks



**GitLens**

Supercharge your Git experience



**C# Dev Kit**

Powerful tools for your C# environment



**MongoDB**

Extension for the @MongoDB agent



**GitHub Copilot for Azure**

Streamline the process of developing for Azure



**Remote Development**

Open folders in a container on a remote machine

View 75k+ extensions in the [Extension Marketplace](#)



# Code in any language

VS Code supports almost every major programming language. Several ship in the box, like JavaScript, TypeScript, CSS, and HTML, but extensions for others can be found in the VS Code Marketplace.

**JS** JavaScript

**TS** TypeScript

**C#** C#

**C++** C++

**J** Java

**{ }** JSON

**↓** Markdown

**>\_** Powershell

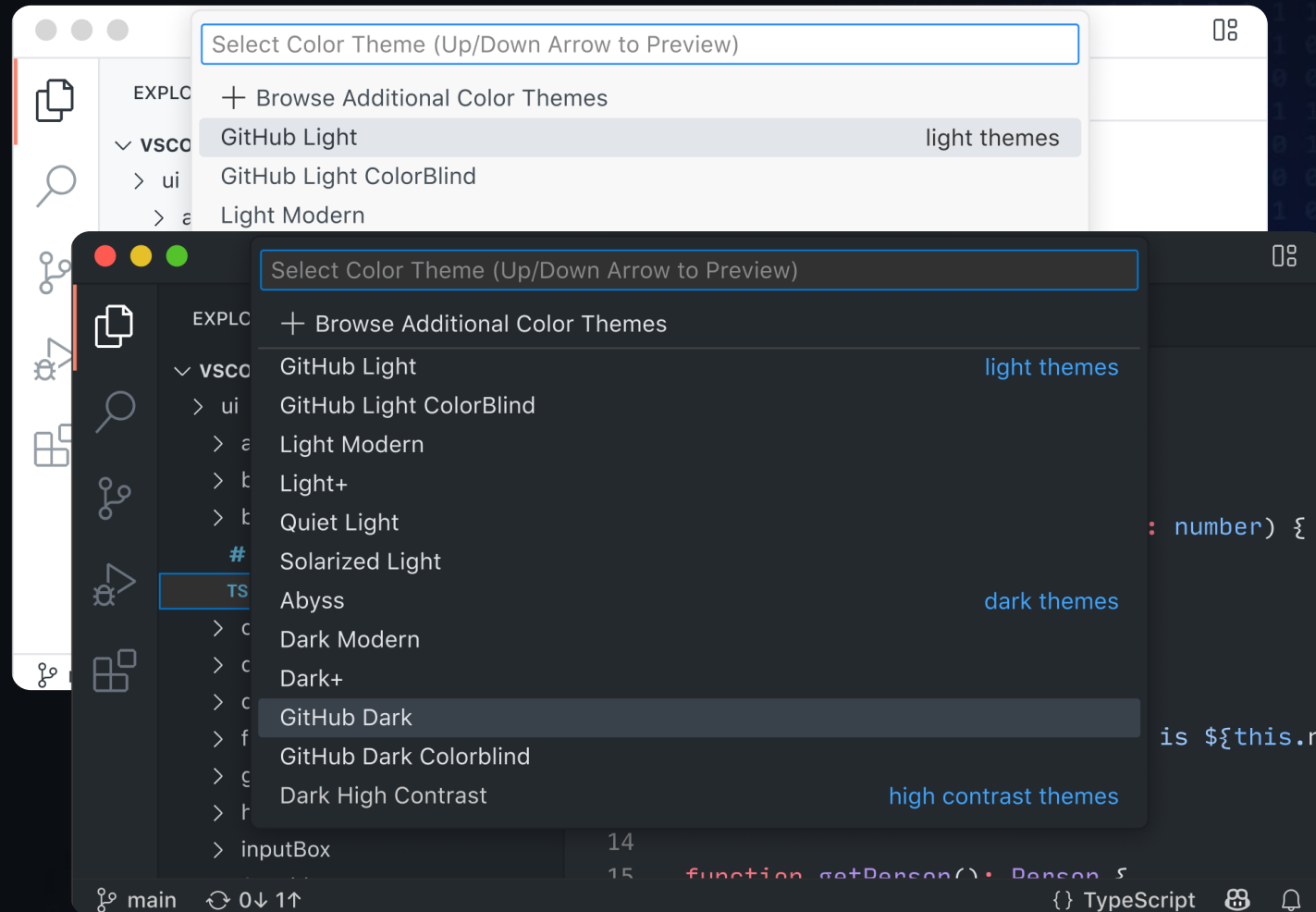
# Fully customizable

Customize your VS Code UI and layout so that it fits your coding style.

Color themes let you modify the colors in VS Code's user interface to suit your preferences and work environment.

Settings Sync enables you to share your user settings across your VS Code instances with the Settings Sync feature.

Profiles let you create sets of customizations and quickly switch between them or share them with others.

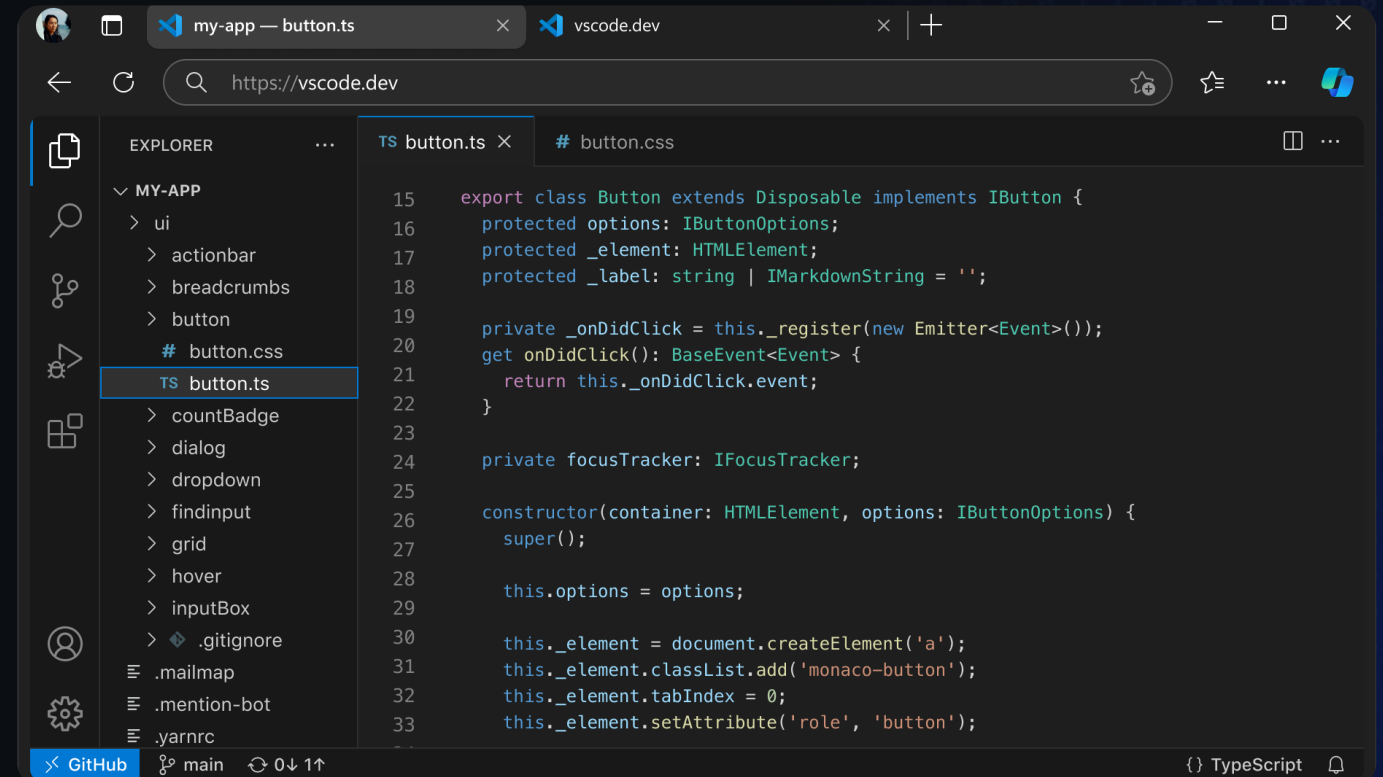


# Code anywhere

Code wherever you're most productive, whether you're connected to the cloud, a remote repository, or in the browser with VS Code for the Web (vscode.dev).

Built-in Source Control empowers you with Git support out-of-the-box. Many other source control providers are available through extensions.

GitHub Codespaces provides cloud-powered development environments for any activity - whether it's a long-term project, or a short-term task like reviewing a pull request.



# Code with rich features

There's a lot more to an editor. Whether it's using built-in features or rich extensions, there's something for everyone.



## Integrated terminal

Use your favorite shell whether it's zsh, pwsh, or git bash, all inside the editor.



## Run code

Run and debug your code without leaving your editor.



## Version control

Built-in support for git and many other source control providers.



## Build tasks

Run tools and analyze their results from within VS Code.



## Local history

Never lose your changes with automatically tracked local history.



## Themes

Your theme is an extension of your personality. Add some flair to your editor and add your touch.



## Accessibility

Optimized experience for screen readers, high contrast themes, and keyboard-only navigation.



## Web support

Whether you are on your phone, tablet, or desktop, you can access your code from anywhere.

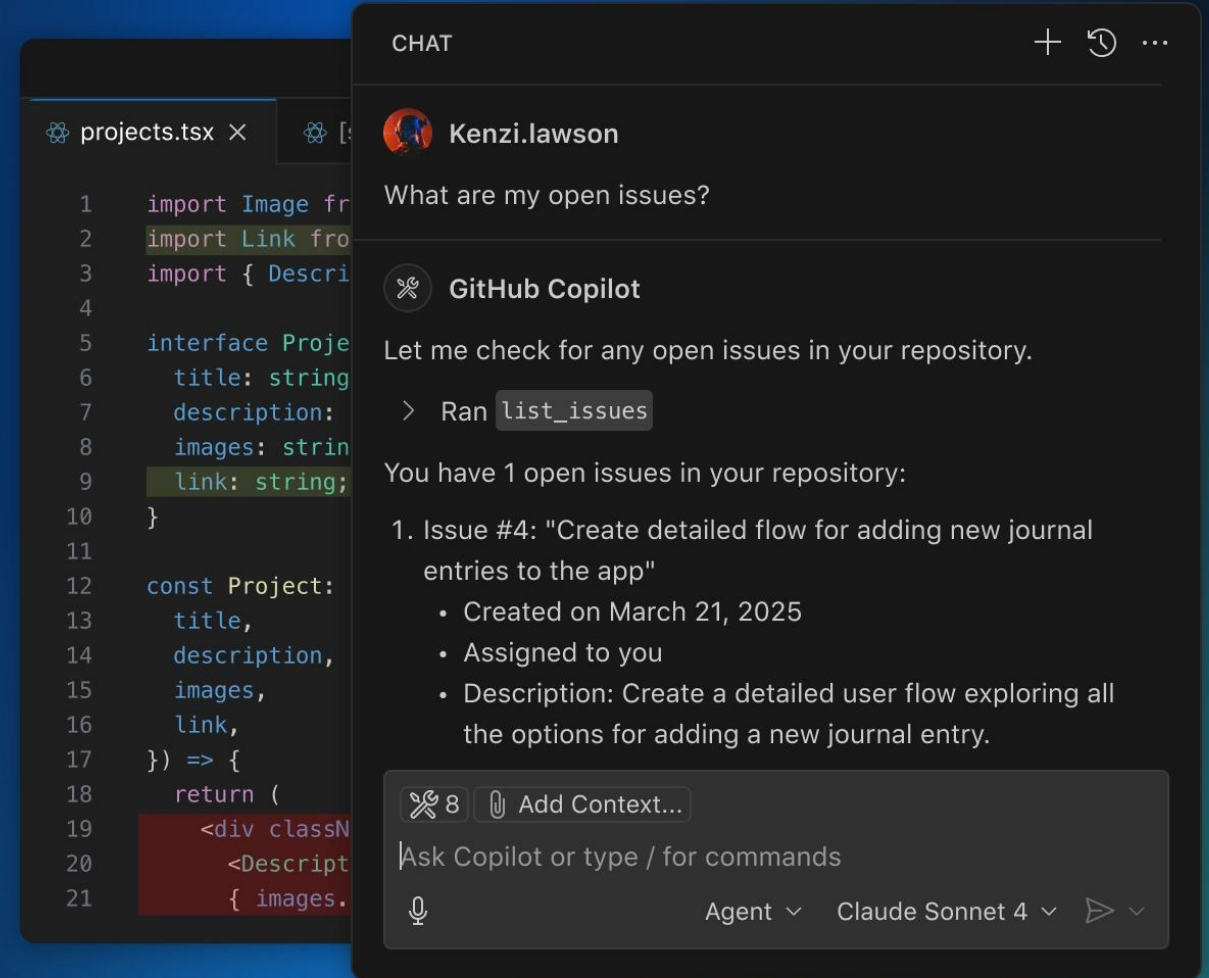


The background is a dark gray grid filled with various code-related symbols in a light blue/teal color. These symbols include hash marks (#), asterisks (\*), percent signs (%), equals signs (=), and binary digits (0 and 1). The symbols are arranged in a repeating, slightly offset pattern that creates a sense of depth and texture, reminiscent of a digital or code environment.

# The open source AI code editor

# Agent Mode

Tackle complex, multi-step tasks. Agent mode reads your codebase, suggests edits across files, runs terminal commands, and responds to compile or test failures — all in a loop until the job is done. Further refine agent mode to fit your team's workflows with VS Code extensions and Model Context Protocol (MCP) servers.





Claude Sonnet 4 ▾ ➤ ▾

Claude Sonnet 3.7  
✓ Claude Sonnet 4  
Gemini 2.5 Pro  
GPT-4.1  
Manage Models...

📎 Add Context...  
{} settings.json Current file ✕  
#codebase #file:HistoryView.swift |  
@ 🎤 Ask ▾ Claude Sonnet 4 ▾ ➤ ▾

```
1 "github.copilot.chat.codeGeneration.instructions":  
2 [  
3   {  
4     "text": "Use React functional components."  
5   },  
6   {  
7     // Import instructions from file  
8     "file": "code-style.md"  
9   }  
10 ],
```

## Any model for any team

Use AI models like Claude Sonnet out of the box, or bring your own key to access models from Azure, Anthropic, Google, Ollama, OpenAI, and OpenRouter.

## An expert on your codebase

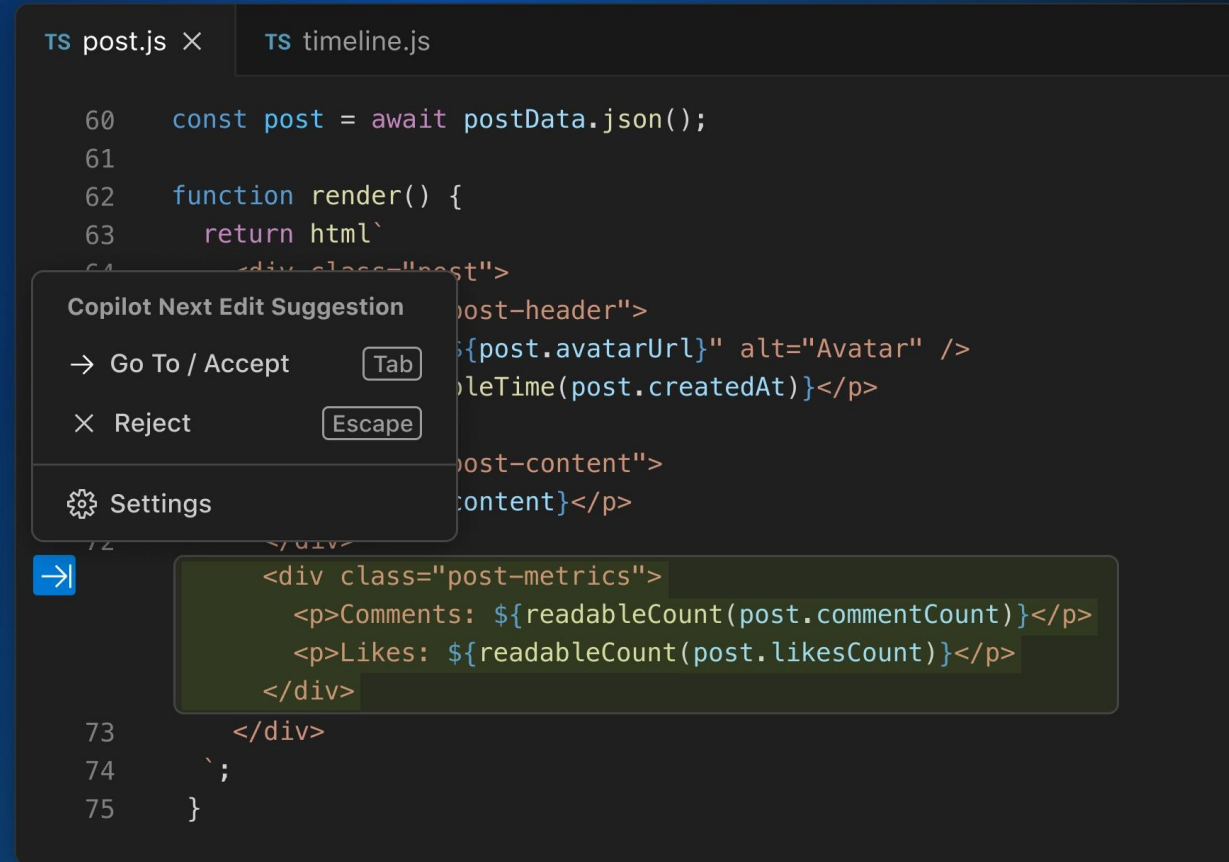
Your codebase is indexed locally and remotely (on GitHub) to understand what's relevant, enabling fast, context-aware interactions.

## AI that works the way you do

Personalize interactions using custom instructions and reusable prompt files tailored to your workflows, tools, and projects.

# Next edit suggestions

VS Code predicts your next move as you code. Use the Tab key to accept AI-powered suggestions right in your editor. It intelligently recommends what to change — and where — based on the edits you're already making.



The screenshot shows a VS Code editor with two tabs: 'TS post.js' and 'TS timeline.js'. The active file is 'TS timeline.js', which contains the following code:

```
60 const post = await postData.json();
61
62 function render() {
63   return html`
64     <div class="post">
65       <div class="post-header">
66         <img class="avatar" alt="${post.avatarUrl}" alt="Avatar" />
67         <p>Created: ${formatTime(post.createdAt)}</p>
68       </div>
69       <div class="post-content">
70         ${post.content}</div>
71     </div>
72   `;
73 }
74
75 }
```

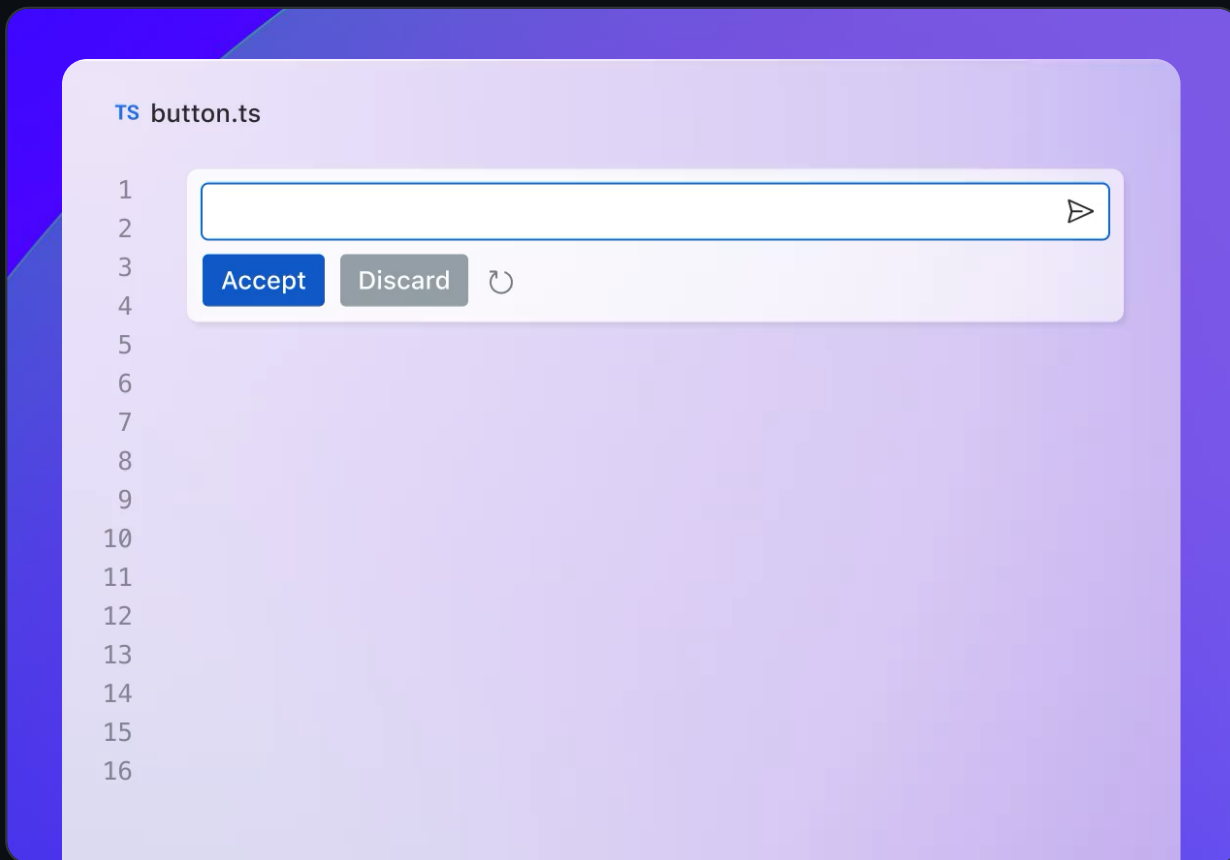
A 'Copilot Next Edit Suggestion' popup is displayed over the code. It contains the following options:


- Go To / Accept (Tab)
- × Reject (Escape)
- ⚙ Settings

The suggestion itself is a code block that will be inserted into the editor:

```
<div class="post-metrics">
  <p>Comments: ${readableCount(post.commentCount)}</p>
  <p>Likes: ${readableCount(post.likesCount)}</p>
</div>
```





 GitHub Copilot

# Your AI pair programmer

- ✓ Real time code suggestions
- ✓ Comments to code
- ✓ Next edit suggestions
- ✓ Improved gpt4o-copilot model
- ✓ GitHub Copilot Chat & Edits
- ✓ Inline chat commands
- ✓ Agent mode

the new command center...|

Agentic layer

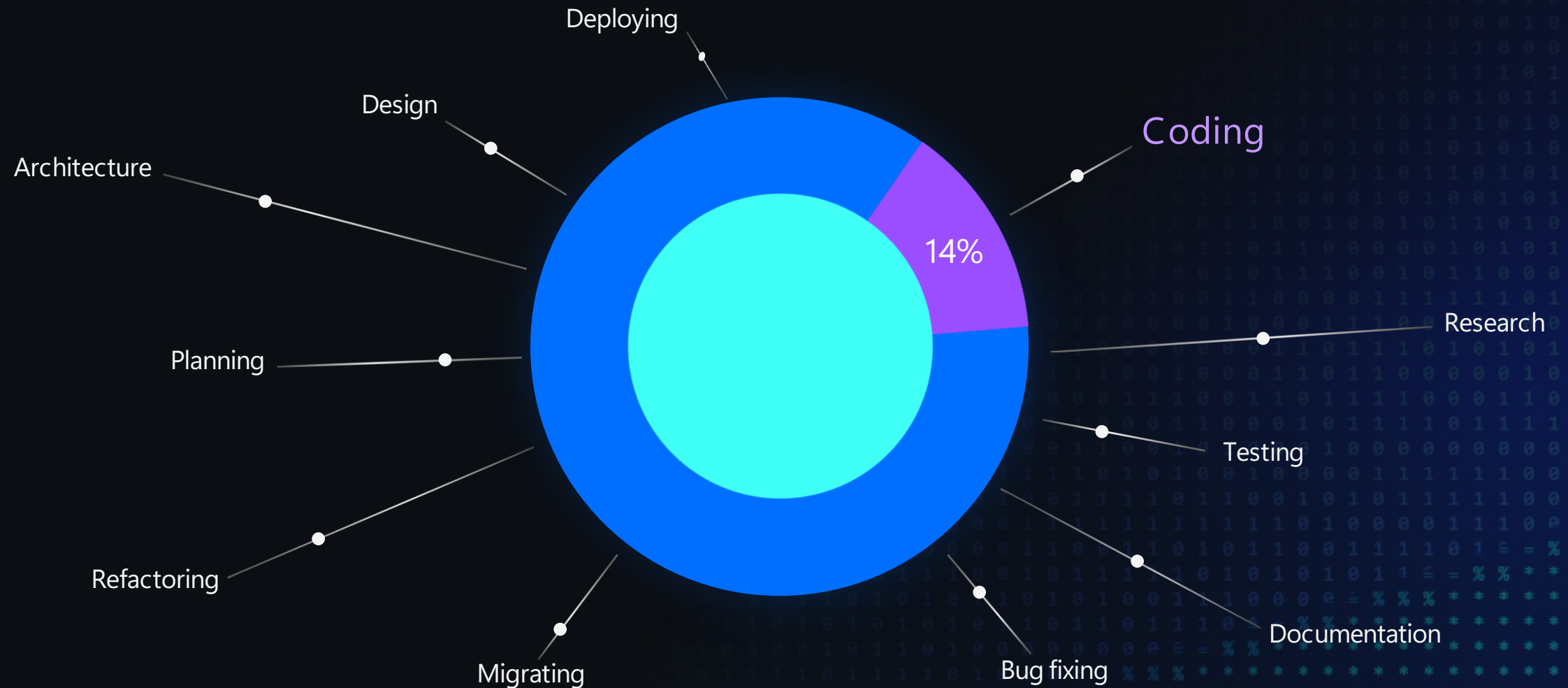


Create

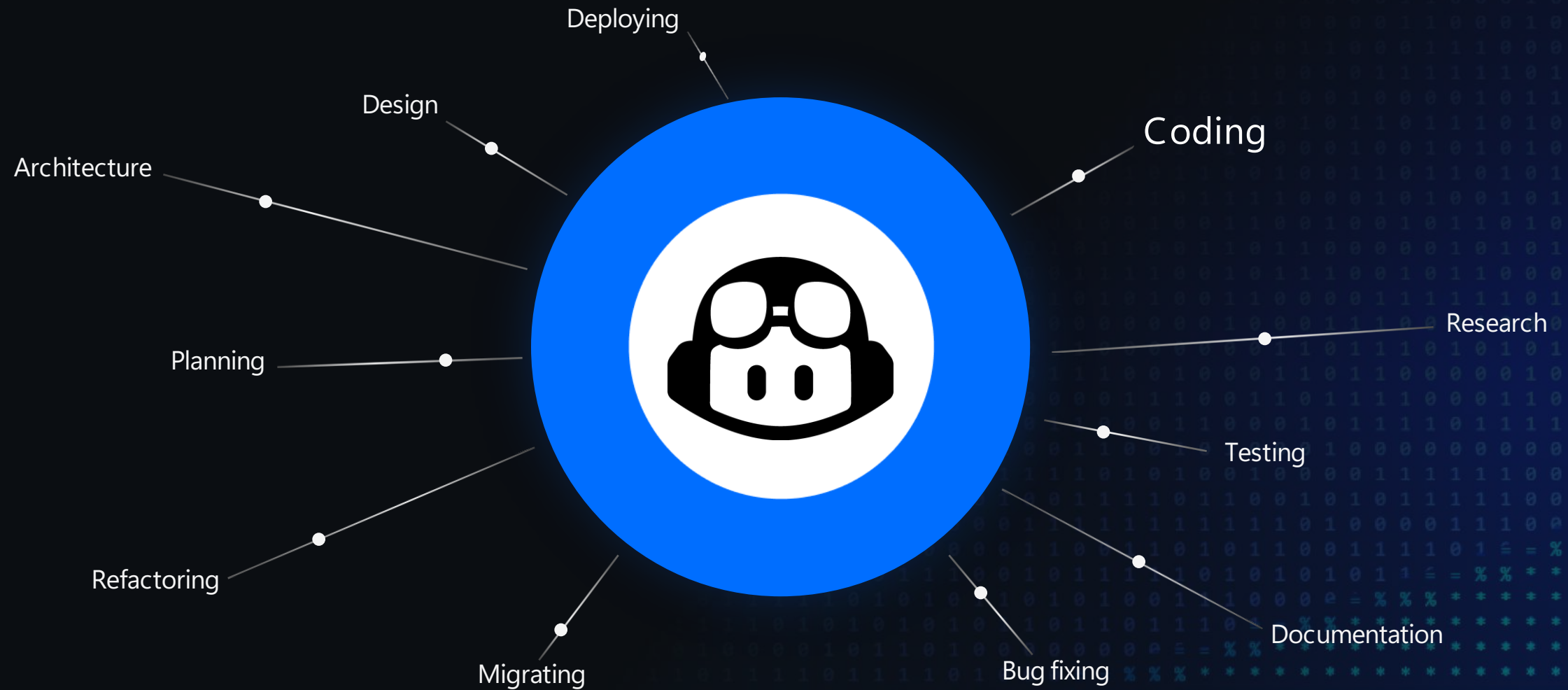
Collaborate

Operate

# Developers spend only a fraction of their time writing new code



# GitHub Copilot can help you with everything

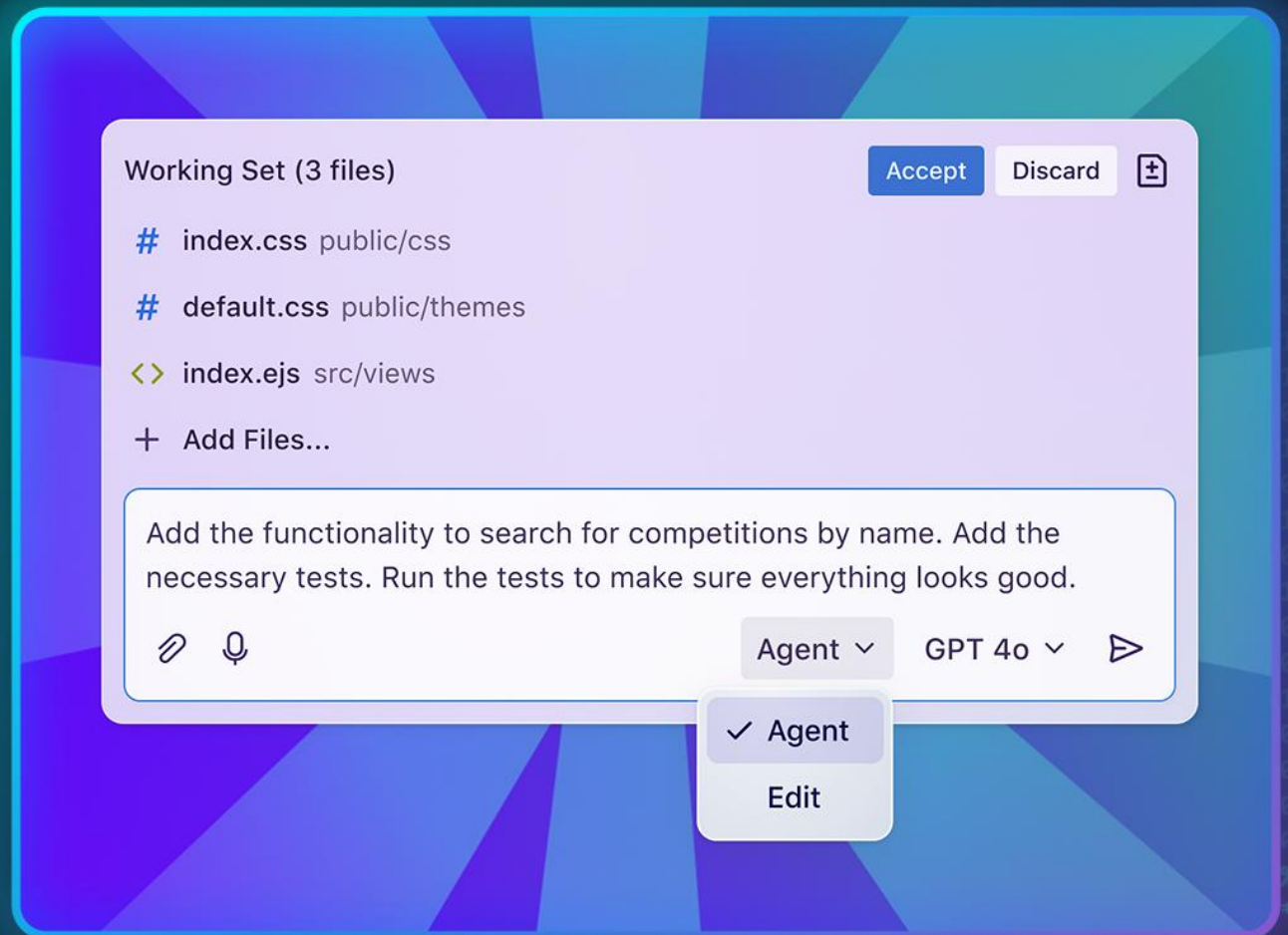




# GitHub Copilot Agent mode

Now in **Visual Studio**, **Visual Studio Code**,  
JetBrains IDEs, Eclipse, and Xcode

<https://aka.ms/copilot-free>



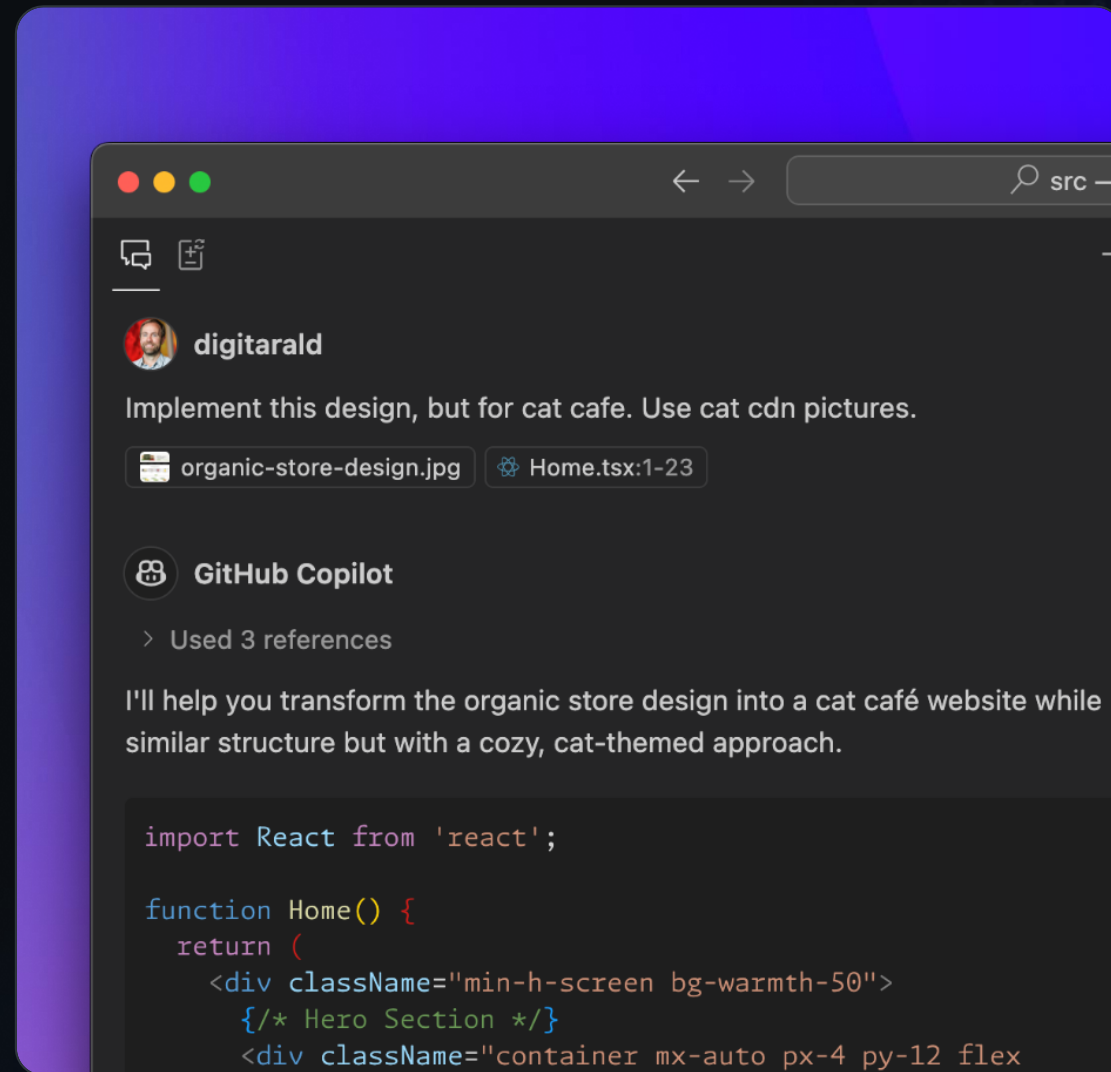


Multi-Model Choice

# Latest Models

Use the **best model for your task and project** with support for the latest models from OpenAI, Anthropic, and Gemini, including GPT 5, Gemini 2.5 Pro, and Claude Sonnet 4.

Level up your interactions with GitHub Copilot with support for vision across models.





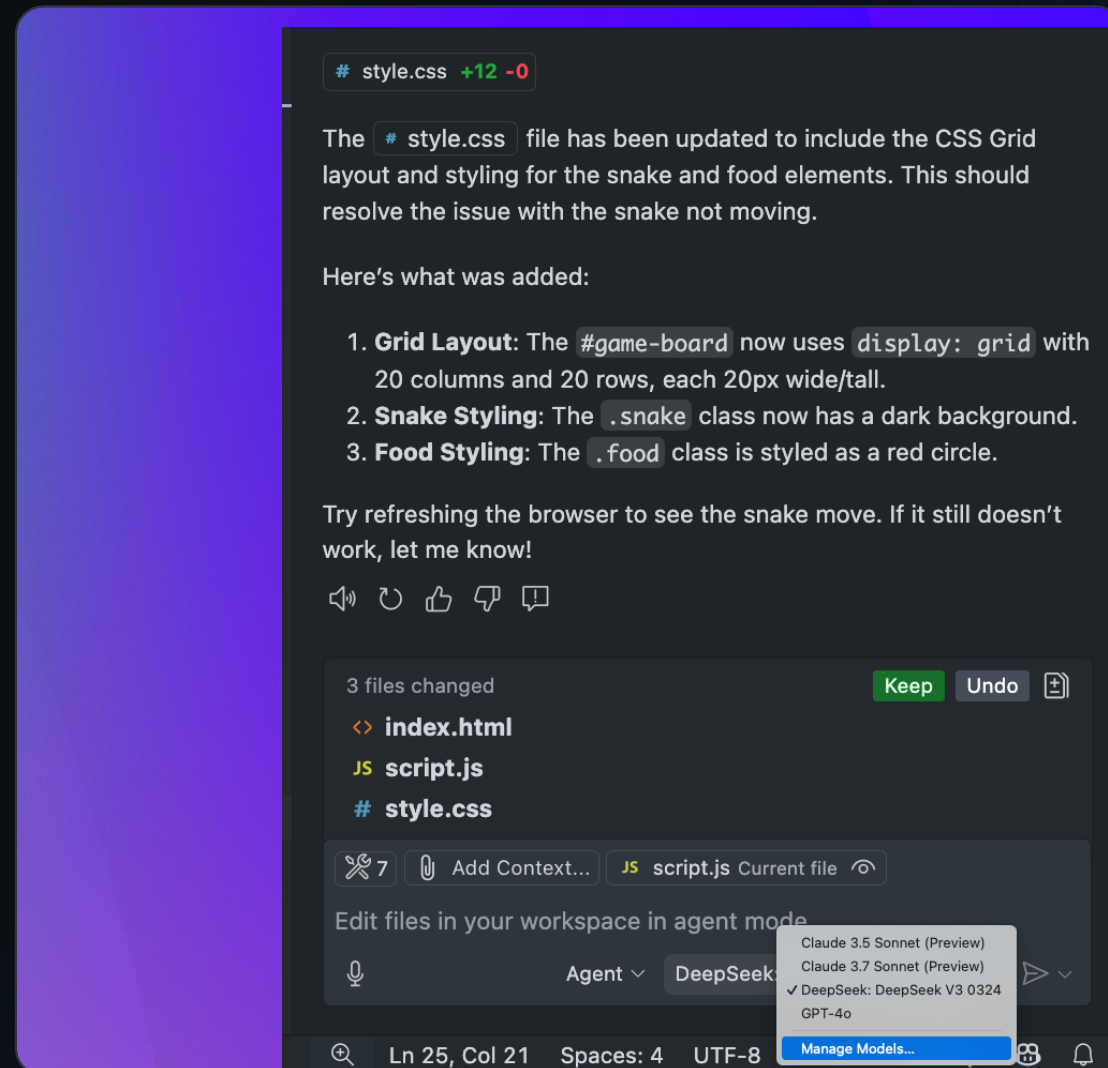
Multi-Model Choice

# Bring Your own model & key

Connect custom LLM providers and use model that work best for you

Anthropic, Azure OpenAI (including government), Google Vertex, Ollama, OpenAI, OpenRouter

*Public Preview – Copilot Free & Pro only*



 Team Customization

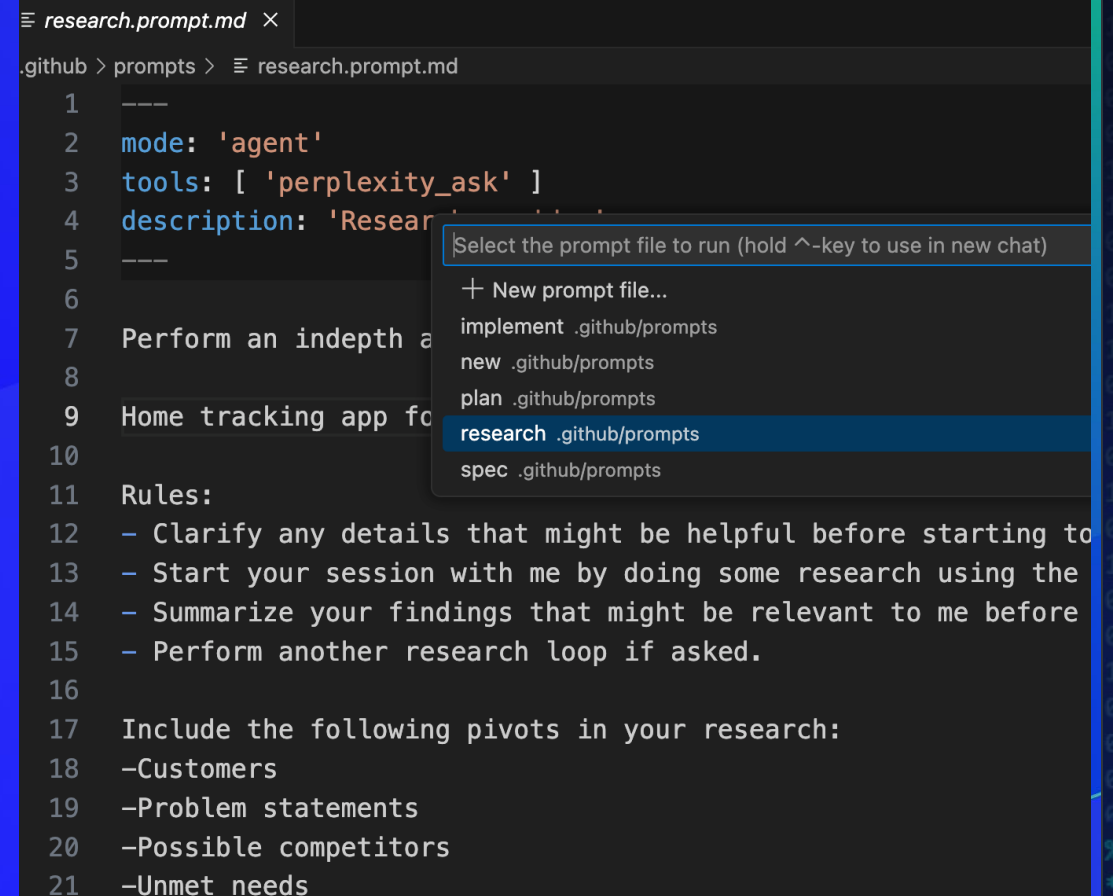
# Personalized code and workflows

Build **repeatable, AI-powered workflows** for your **team** with **prompt files** that describe their own prompts, tools, and models.

Scale domain knowledge from senior engineers across the team with **custom instructions**.

Create **custom modes** that encapsulate different **workflows**, like planning, debugging, etc.

Discover the **community resources** in the **Awesome Copilot** repo.



```
research.prompt.md X
.github > prompts > research.prompt.md
1 ---
2 mode: 'agent'
3 tools: [ 'perplexity_ask' ]
4 description: 'Research'
5 ---
6
7 Perform an indepth a
8
9 Home tracking app fo
10
11 Rules:
12 - Clarify any details that might be helpful before starting to
13 - Start your session with me by doing some research using the
14 - Summarize your findings that might be relevant to me before
15 - Perform another research loop if asked.
16
17 Include the following pivots in your research:
18 -Customers
19 -Problem statements
20 -Possible competitors
21 -Unmet needs
```

Select the prompt file to run (hold ^-key to use in new chat)

- + New prompt file...
- implement .github/prompts
- new .github/prompts
- plan .github/prompts
- research .github/prompts**
- spec .github/prompts



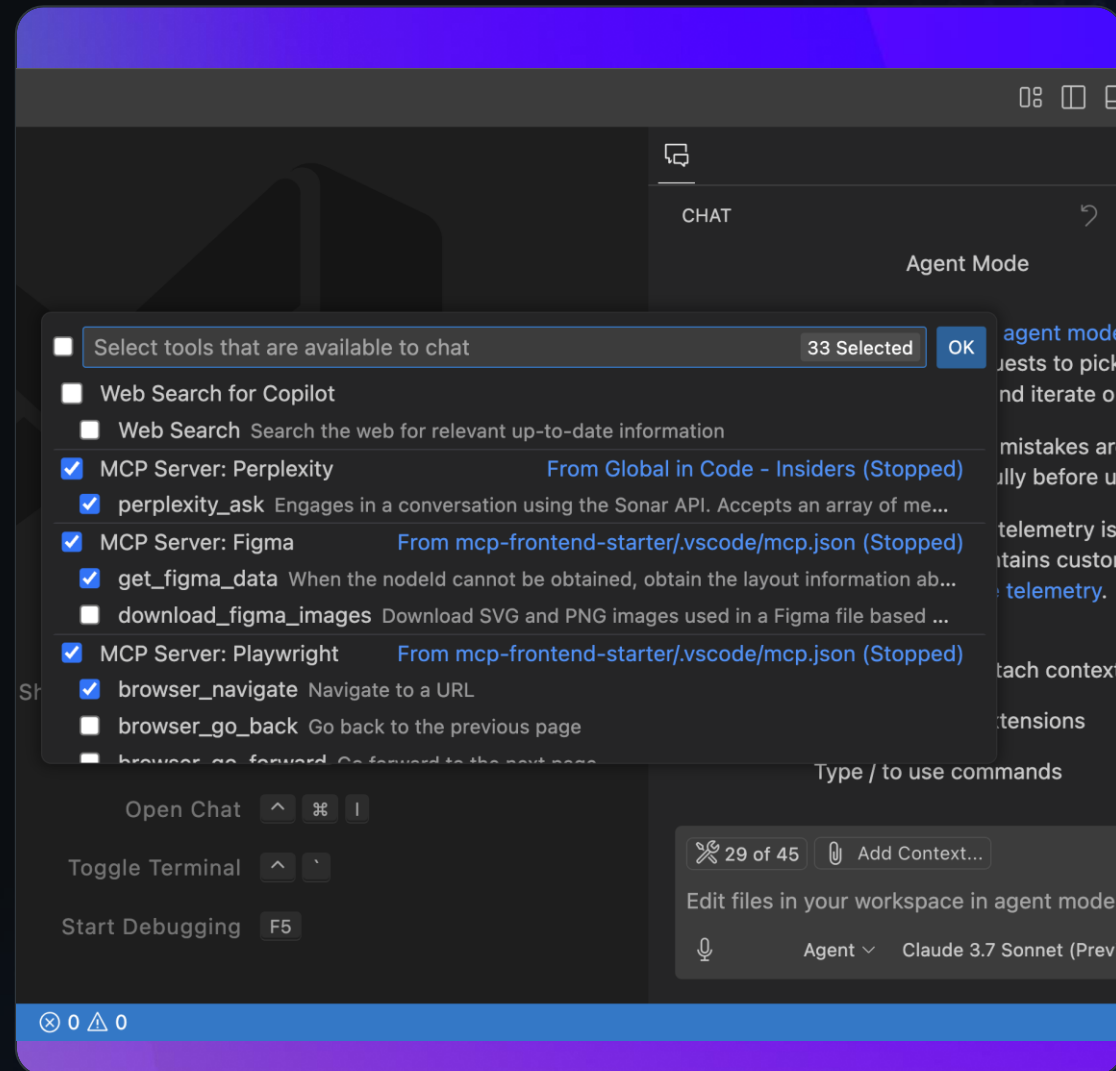


MCP Extensibility

# Extend agent mode with Model Context Protocol (MCP)

Make agent mode your own by adding tools contributed by MCP servers like Figma, GitHub, or Perplexity.

VS Code is the *only* editor to support the full MCP specification, including OAuth, prompts, sampling, and resources.



 Browser Context

# Visual web vibing

Add element to chat

Start



Click to select an element.

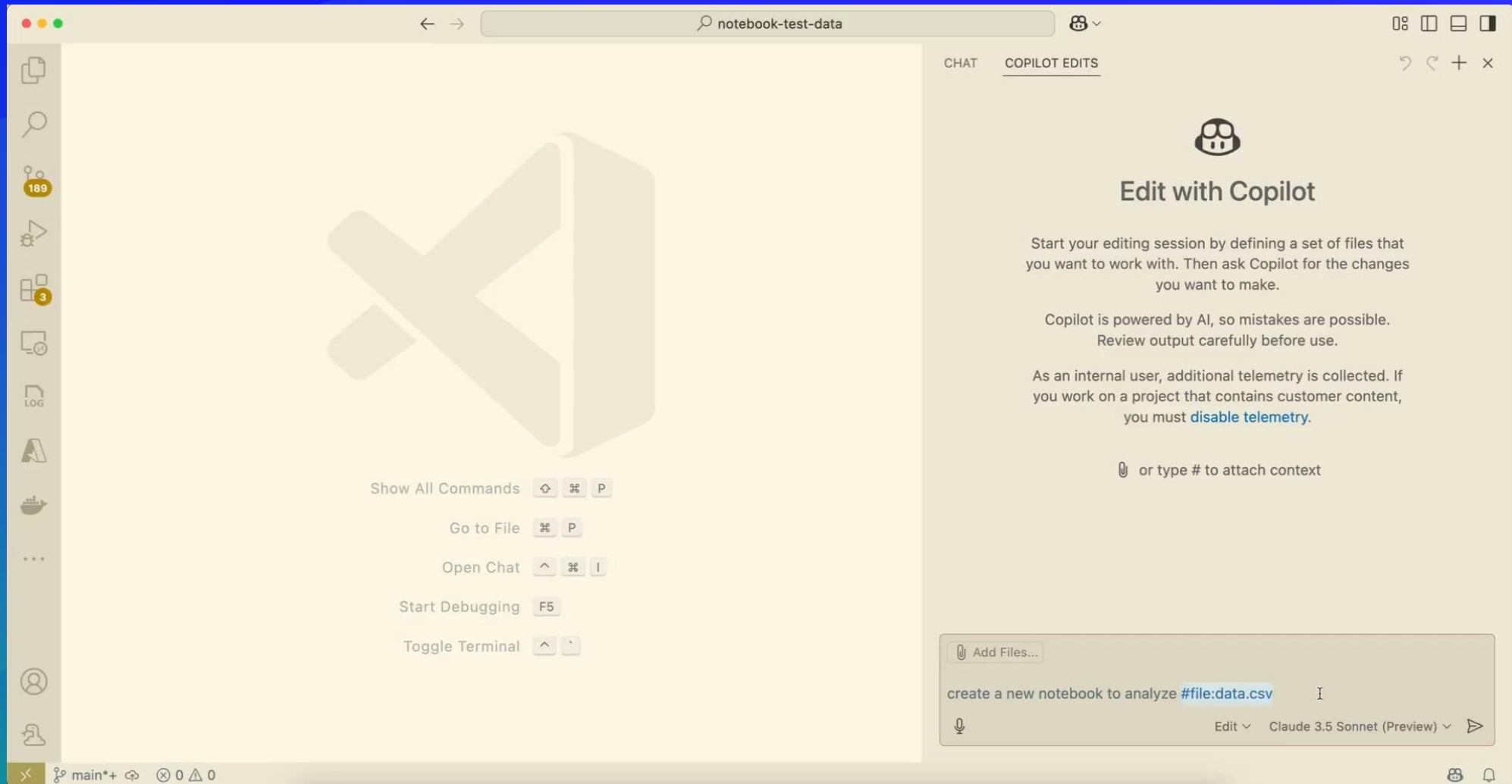


Ac

Edit fi



# Copilot-powered Data Science

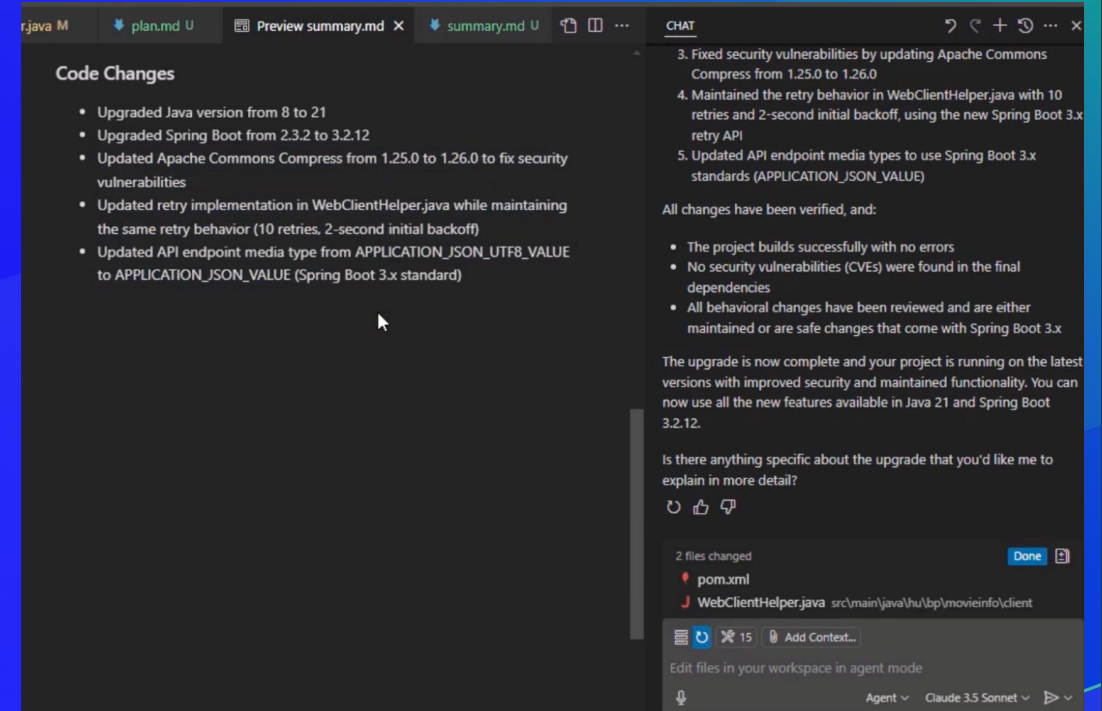


🤖 Java & .NET Upgrade (Preview)

# Specialized agents to reduce developer toil

Expert team members to solve specialized problems and reduce engineering toil.

Leading with agents for .NET and Java upgrade, with more in the pipeline.





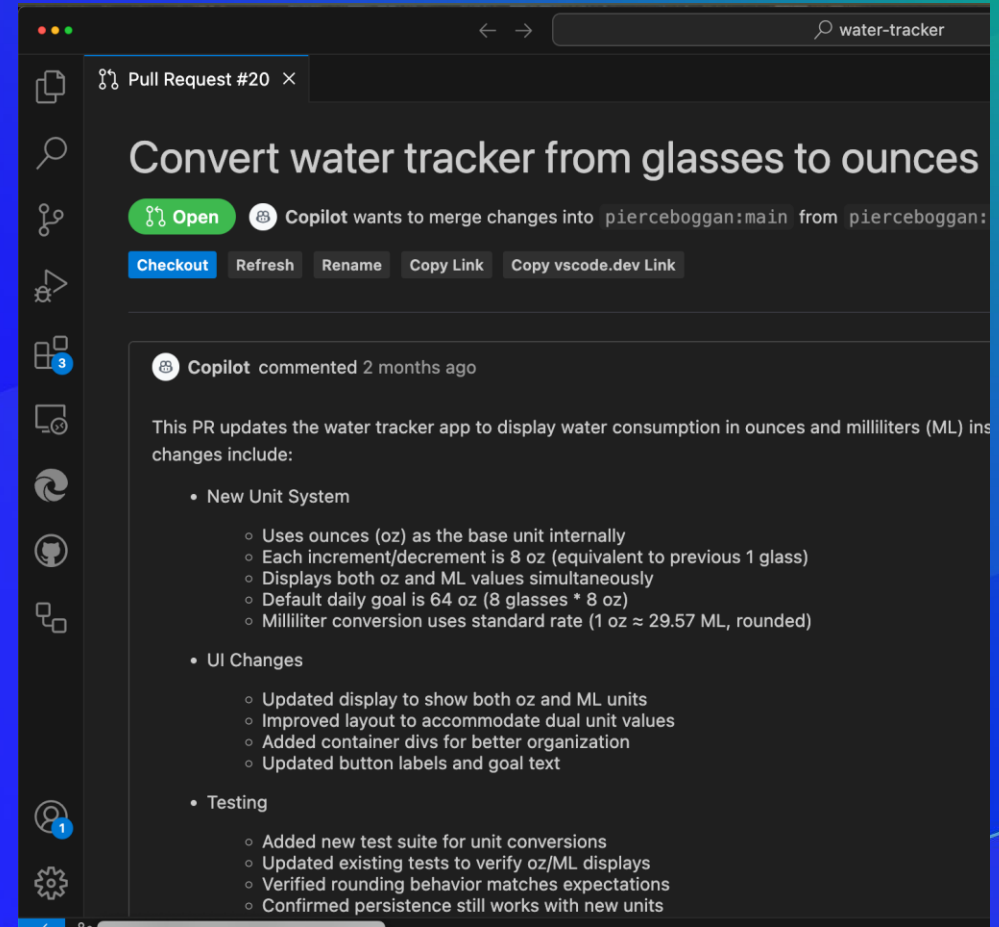
 VS Code & Coding Agent (Preview)

# Hand off tasks to async agents

Developers can **achieve even more with agent mode by delegating tasks to coding agent** in VS Code.

Coding agent **works just like any other team member**: by creating issues and submitting PRs.

Builds on **deep integration with GitHub platform** across IDEs developers love.

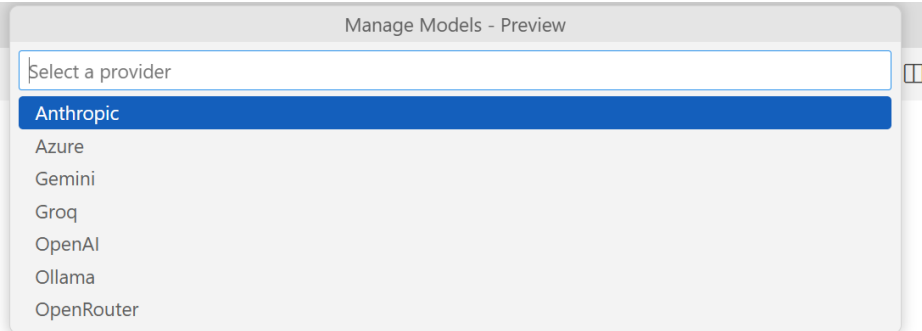
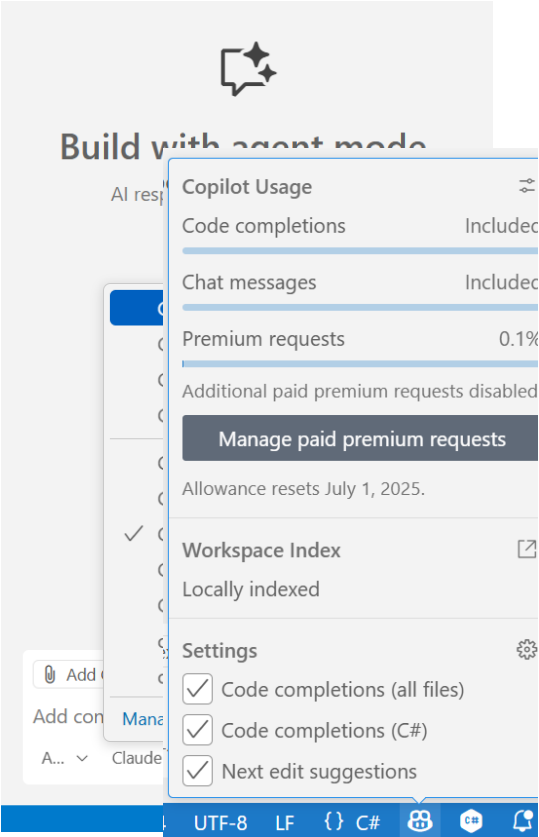


# Model Selection and Premium Requests



# Copilot Premium Requests (updated Sept 2025)

Model	Multiplier for paid plans
GPT-4.1	0
GPT-5 mini	0
GPT-5	1
GPT-4o	0
o3	1
o4-mini	0.33
Claude Sonnet 3.5	1
Claude Sonnet 3.7	1
Claude Sonnet 3.7 Thinking	1.25
Claude Sonnet 4	1
Claude Opus 4.1	10
Claude Opus 4	10
Gemini 2.0 Flash	0.25
Gemini 2.5 Pro	1
Grok Code Fast 1	0.25



Only in Copilot Enterprise



# Copilot Premium Requests in VS2022 and JetBrains

efficient coding in Visual Studio?

Help m

How do

the avail

/help what ca

+

Ask Copilot o

Ask

GPT-4.1

Premium Models

o1-mini (Preview)

o1 (Preview)

o3-mini

Claude Sonnet 3.5

Claude Sonnet 3.7

1x

Claude Sonnet 3.7 Thinking

1,25x

Claude Sonnet 4

1x

Claude Opus 4

10x

Gemini 2.0 Flash

0,25x

Gemini 2.5 Pro (Preview)

1x

Standard Models

✓ GPT-4.1

0x

GPT-4o

0x

Copilot Consumptions

Pro Plan

Limits refresh on 01/07/2025.

Premium requests used

Chat, auto (agent) mode, and more

0%

Get more requests

Ask Edit Agent (Preview)

New Conversation

GitHub Copilot

Hi @geniodelmale, how can I help you?

I'm powered by AI, so surprises and mistakes are possible. Make sure to verify any generated code or suggestions, and share feedback so that we can learn and improve.

Share feedback

Premium Models

Claude Opus 4

10.0x

Claude Sonnet 3.5

1.0x

Claude Sonnet 3.7

1.0x

Claude Sonnet 3.7 Thinking

1.25x

Claude Sonnet 4

1.0x

GPT-4.5 (Preview)

50.0x

Gemini 2.0 Flash

0.25x

Gemini 2.5 Pro (Preview)

1.0x

o1 (Preview)

10.0x

o3 (Preview)

1.0x

o3-mini

0.33x

o4-mini (Preview)

0.33x

Standard Models

GPT-4.1

included

GPT-4o

included

Ask Copilot a question or type '/' for co

+ Add Context...

GPT-4.1

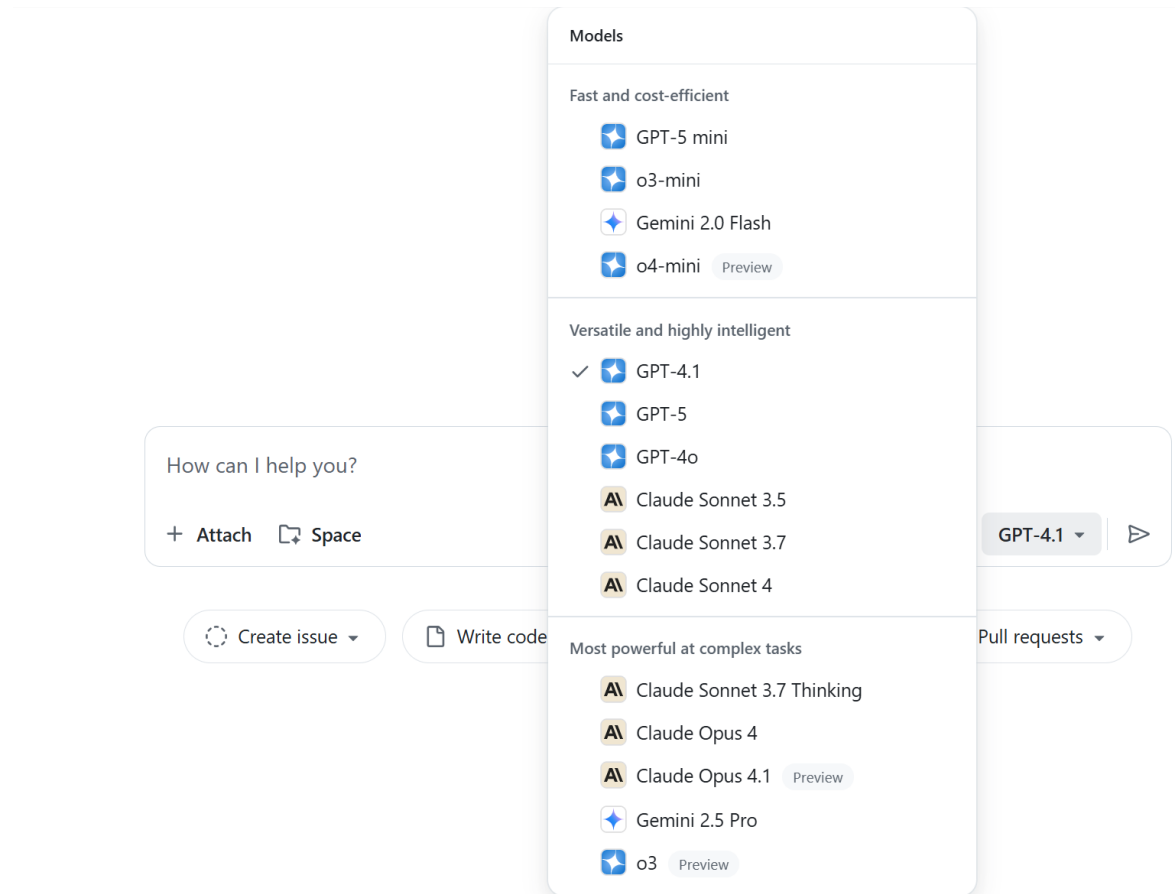
15:2 LF UTF-8 4 spaces

software

one



# Copilot Premium Requests in github.com



# Integrations with GitHub Enterprise



# GitHub Copilot inside github.com

 New chat

 Agents

Preview

 Spaces

Preview

 Spark

Preview

No conversations yet

Ask Copilot anything on the right to start your first conversation.





How can I help you?

+ Attach  Space

GPT-4.1 ▾



 Create issue ▾

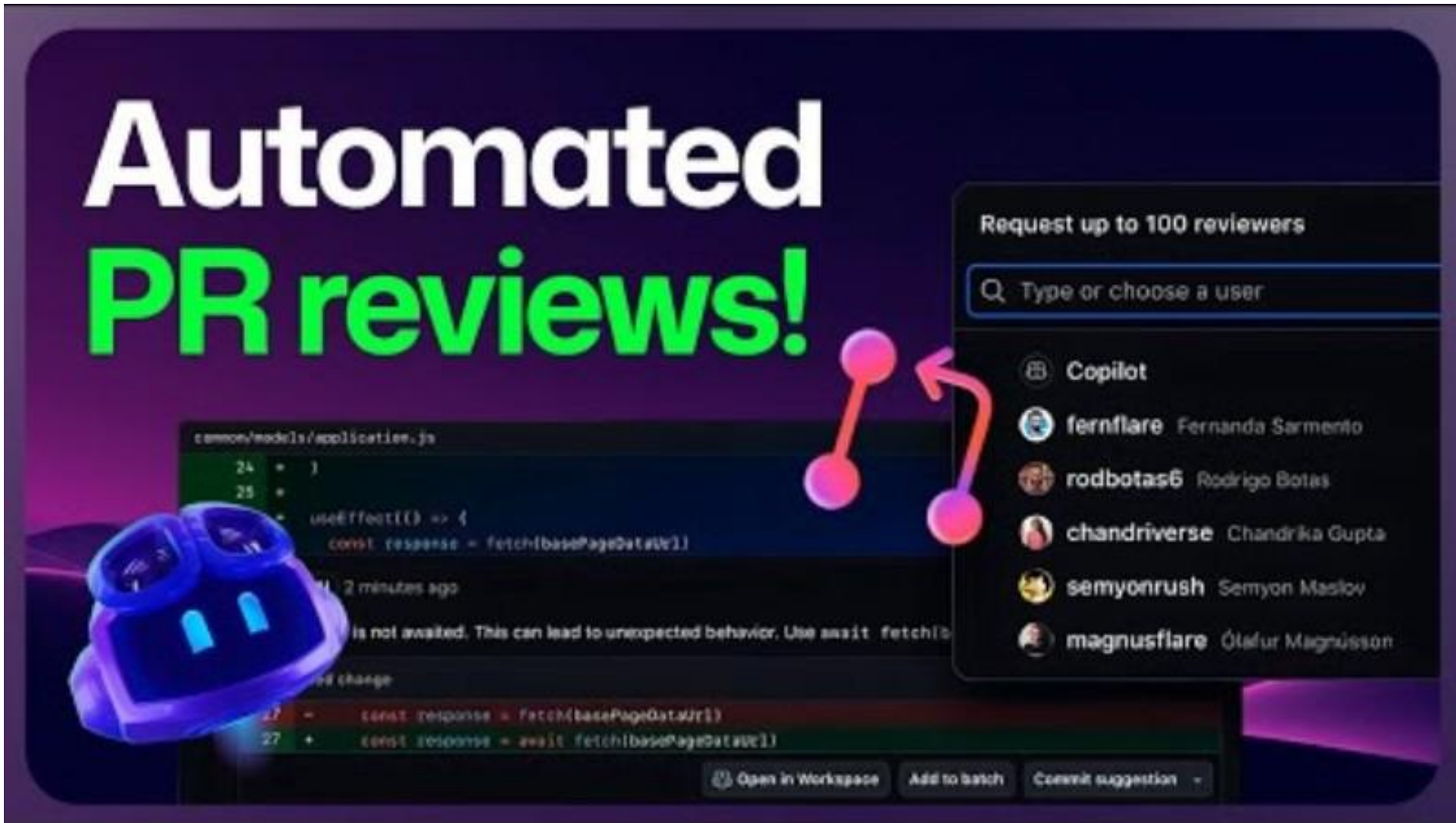
 Write code ▾

 Git ▾

 Issues ▾

 Pull requests ▾

# Automated PR reviews!



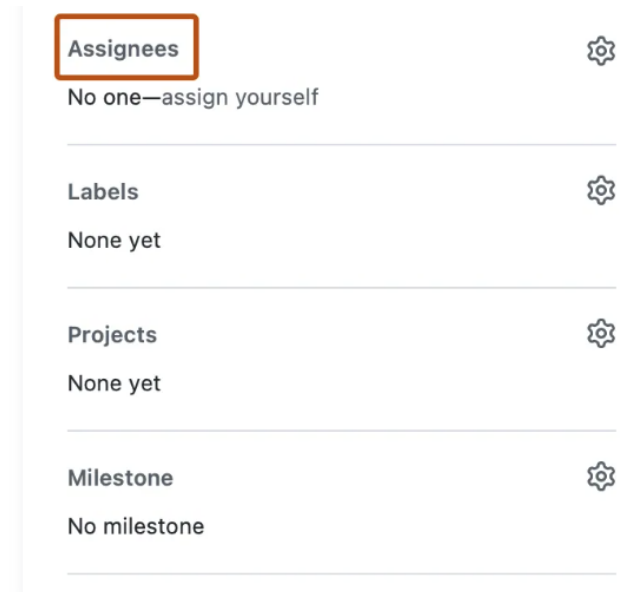
\*When you assign Copilot as a reviewer for a pull request, **one premium request** is used each time Copilot posts comments to the pull request.



# Assign Issues to Copilot

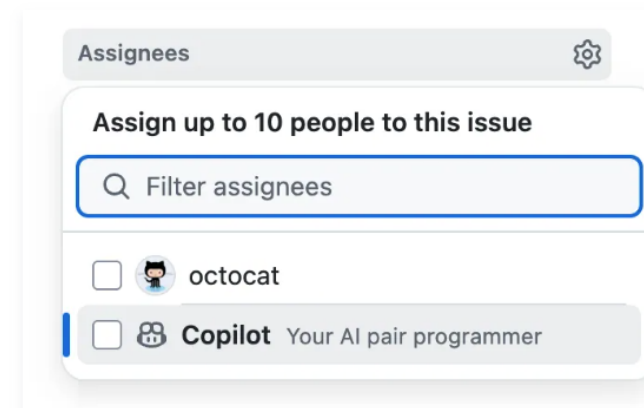
- You can assign Issues to Copilot
- Copilot will create a Pull Request and will work on the issue.
- If you need to «change» the Issue, you need to comment the Pull Request, not the Issue
- Codespaces should be enabled

\*Copilot coding agent uses **one premium request** per session. A session begins when you ask Copilot to create a pull request or make one or more changes to an existing pull request.




The screenshot shows the right sidebar of a GitHub issue page. It contains four sections: 'Assignees' with the text 'No one—assign yourself', 'Labels' with 'None yet', 'Projects' with 'None yet', and 'Milestone' with 'No milestone'. Each section has a gear icon for settings. The 'Assignees' section is highlighted with an orange border.

5 Click Copilot from assignees list.



The screenshot shows the 'Assignees' dropdown menu. At the top, it says 'Assign up to 10 people to this issue'. Below this is a search bar labeled 'Filter assignees'. The list of assignees includes 'octocat' and 'Copilot Your AI pair programmer'. The 'Copilot' option is highlighted with a blue bar on the left.

# Agents Pane and Agent tasks

 Copilot coding agent now uses fewer premium requests! From now on, each session uses just one premium request.


[Learn more](#)




## Agents

Delegate tasks to GitHub Copilot coding agent to work on in the background, and then monitor Copilot's progress.

Describe a coding task to work on

 genidelmale/ha-addon-ore... ▾

 main ▾




Open **0** Closed **0**

No open tasks yet. Start a new task to see it here.

## Agent tasks

Describe a coding task to work on

 genidelmale/ha-addon-ore... ▾

 main ▾



### Start a new task with Copilot

Describe your task in natural language. Copilot will work in the background and open a pull request for your review.

[Learn more about Copilot coding agent](#)

# GitHub Copilot Spaces

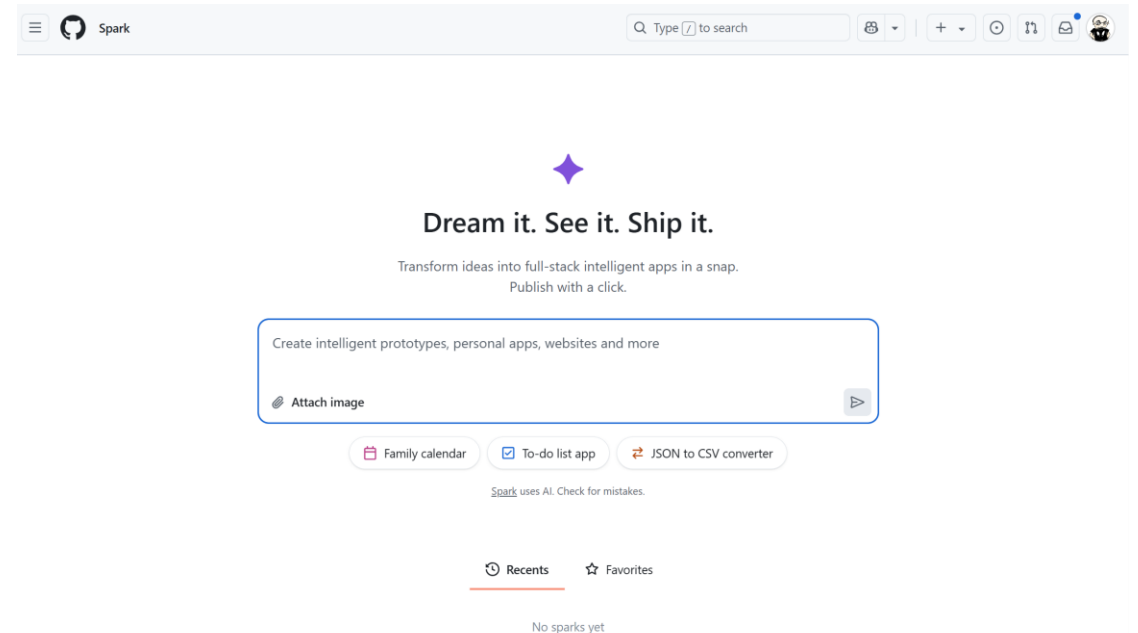
The screenshot displays the GitHub Copilot Spaces interface. On the left is a sidebar with the GitHub logo at the top. Below it are four navigation items: 'New chat', 'Agents' (with a 'Preview' badge), 'Spaces' (highlighted with a blue bar and a 'Preview' badge), and 'Spark' (with a 'Preview' badge). The main area on the right is titled 'Spaces / New Space 1'. It features a 'New Space 1' header with a subtext 'Enter a description...'. Below this is a large text input box containing the placeholder 'How can I help you?'. To the left of the input box is a '+ Attach' button, and to the right is a 'GPT-4.1' dropdown menu and a send button. Under the input box is an 'Instructions' section with a subtext 'Set up instructions for Copilot in this space'. At the bottom of the main area, there are two tabs: 'Sources' (active, with a count of 0) and 'Conversations' (with a count of 0). To the right of these tabs is a '+ Add sources' button. A large 'Welcome' message is centered at the bottom, stating: 'Add sources to your space once and access them in every chat. Start adding your first source.'

\*Copilot Spaces uses **one premium request** per user prompt, multiplied by the model's rate.

# GitHub Spark

GitHub Spark is an AI-powered tool for creating and sharing micro apps (“sparks”), which can be tailored to your exact needs and preferences and are directly usable from your desktop and mobile devices. **Without needing to write or deploy any code.**

\*Each prompt to Spark uses a fixed rate of **four premium requests**.





**One More  
Thing!**



# Awesome GitHub Copilot

A curated collection of prompts, instructions, and chat modes to supercharge your GitHub Copilot experience across different domains, languages, and use cases.

Includes a MCP Server (running locally).

[github.com/github/awesome-copilot](https://github.com/github/awesome-copilot)



# Next steps

1. **Download VS Code:**  
[aka.ms/vscode-dev-days/get-vscode](https://aka.ms/vscode-dev-days/get-vscode)
2. **Get GitHub Copilot Free:**  
[aka.ms/vscode-dev-days/get-copilot](https://aka.ms/vscode-dev-days/get-copilot)
3. **Start training:**  
[aka.ms/vscode-dev-days/training](https://aka.ms/vscode-dev-days/training)