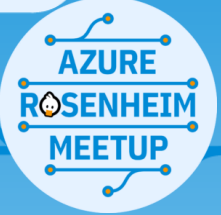


[@whiteduck\\_gmbh](#)

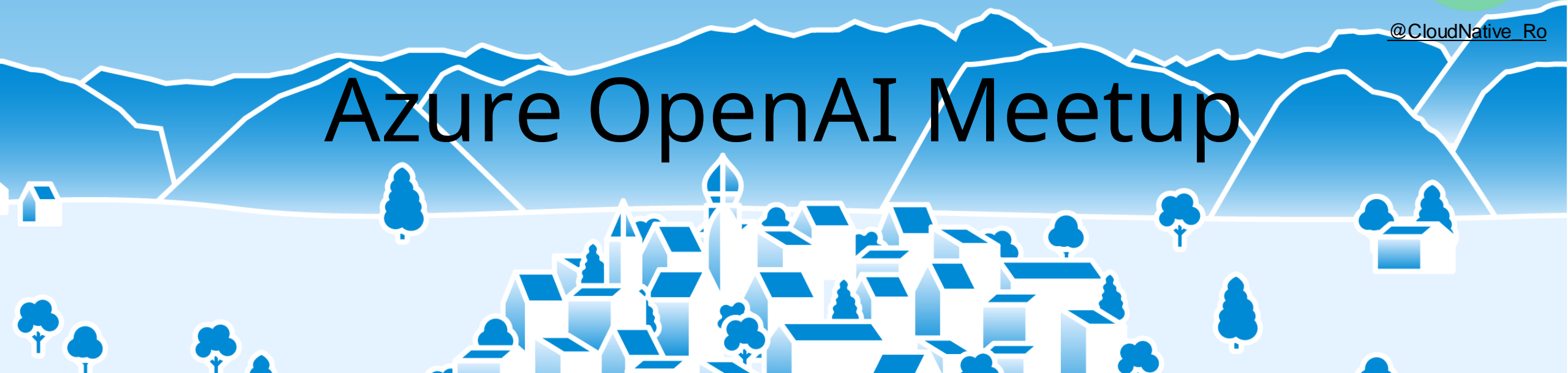


[@AzureMeetup](#)



[@CloudNative\\_Ro](#)

# Azure OpenAI Meetup



# Talks

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- Generative AI Use Cases mithilfe von Azure OpenAI umsetzen
  - Sophia Cullen (Microsoft)
- ChatGPT & JUNE: Wie wir Azure OpenAI in unser SaaS-Produkt integriert haben
  - Christian Häp (JUNE)
- Steigerung der Developer Productivity mit den Möglichkeiten von GitHub und AI
  - Martin Brandl & Nico Meisenzahl (white duck)



# Increase your Developer Productivity with the power of GitHub and AI

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Azure OpenAI Meetup, October 23



 **Microsoft**  
Solutions Partner  
Digital & App Innovation  
Data & AI  
Azure

**Specialist**  
Migrate Enterprise Applications  
to Microsoft Azure

# Who are we?

---



## Martin Brandl

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# white duck



## Cloud Native Development

Conception, development and operation of  
cloud native and SaaS applications



## Application Modernization

Modernization and transformation of existing  
applications



## DevOps

Introduction and coaching of DevOps as a  
method and DevOps platforms

# Agenda

- The Importance of Developer Productivity
- How GitHub can Boost Your Teams
- The Power of GitHub Copilot



# The Importance of Developer Productivity

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# What is Developer Productivity?

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- Measures how **efficiently** and **effectively** developers can complete tasks and implement features
- Is a gauge of a developer's ability to deliver **high-quality** results in a timely and **cost-effective** manner
- Can be influenced by several factors, including development, tool sets, processes, and team dynamics
- Not easy to measure; DORA and SPACE metrics can

# Key takeaways of Developer Productivity

---

- **Efficient use of time and resources**
  - Faster time-to-market & reduced costs
  - Helps meet project deadlines which leads to less stress
- **Higher feature quality**
  - Efficiency goes hand-in-hand with the quality
  - A more stable, reliable, and robust codebase leading to reduces long-term maintenance costs

# Key takeaways of Developer Productivity

---

- **Team collaboration & innovation**

- Opens up more time to collaborate with team members, share knowledge
- Also leads time to focus on exploring new technologies, tools, and approaches

- **Employee satisfaction & motivation**

- Skills are being effectively utilized which leads to a higher level of job satisfaction and motivation
- Reduces cognitive load
- Attracts and retains top talent

# How GitHub can Boost Your Teams

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# Unify your DevOps lifecycle with GitHub

GitHub got you covered!

- Your environment at your fingertips with Codespaces
- Collaborate with your fellows within Issues and PRs
- Manage your team with Projects
- Automate everything with GitHub Actions
- Centralize your artifacts with Packages
- Integrated security in all stages (DevSecOps)



# DevSecOps – why is it important?

- Early vulnerability detection aka. “shift-left”
- Continuous security testing & streamlined risk management
- Greater business agility & Faster delivery aka. “fail-fast”
- Increased collaboration

# How GitHub can help

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- Security Policy
- Security Advisories
- Dependabot alerts and security updates
- Dependabot version updates
- Dependency graph
- Secret scanning alerts for partners  
(public Repos only)



# GitHub Advanced Security

- Code scanning for vulnerabilities and errors
- Dependency review for better awareness in your supply chain
- Secret scanning alerts and push protection keep you secure

Available for free for public Repos on [github.com](https://github.com)!



# Code scanning

- Static Code Analysis (SAST)
- Based on CodeQL
- Fully-integrated (PRs, Security Tab)

The screenshot shows a GitHub pull request interface. At the top, there's a navigation bar with tabs for Code, Issues (2), Pull requests (1), Actions, Projects, and Wiki. Below this, there's a sub-navigation bar with tabs for Conversation (1), Commits (1), Checks (2), and Files changed (7). The main content area shows a comment from user 'greysteil' on 2 Jun: "Adds an email confirmation flow. We'll include a token in the emails we send users, and check for it when they click the 'verify your email' link." Below the comment is a commit link for 'Basic confirmation email flow' with commit hash '91f2d41'. A code scanning alert from 'github-code-scanning' bot is shown, dated 2 Jun. The alert title is 'Check failure' and the severity is 'High'. The alert message is 'Database query built from user-controlled sources'. The alert details show a code snippet from 'server/apps/routes/auth.js' with lines 23-25: 'router.get('/verify', async (req, res) => {', 'const token = req.query.t;', and 'const user = await User.findOne({ token });'. The alert also includes a 'Show more details' link and buttons for 'Show paths' and 'Dismiss alert'. At the bottom, there's a 'Reply...' input field.

Search or jump to... Pull requests Issues Codespaces Marketplace Explore

<> Code Issues 2 Pull requests 1 Actions Projects Wiki

Conversation 1 Commits 1 Checks 2 Files changed 7

greysteil commented on 2 Jun

Adds an email confirmation flow. We'll include a token in the emails we send users, and check for it when they click the "verify your email" link.

Basic confirmation email flow 91f2d41

github-code-scanning bot found potential problems on 2 Jun

View changes

server/apps/routes/auth.js

```
... @@ -17,9 +20,17 @@
23 + router.get('/verify', async (req, res) => {
24 +   const token = req.query.t;
25 +   const user = await User.findOne({ token });
```

Check failure

Code scanning / CodeQL

Database query built from user-controlled sources High

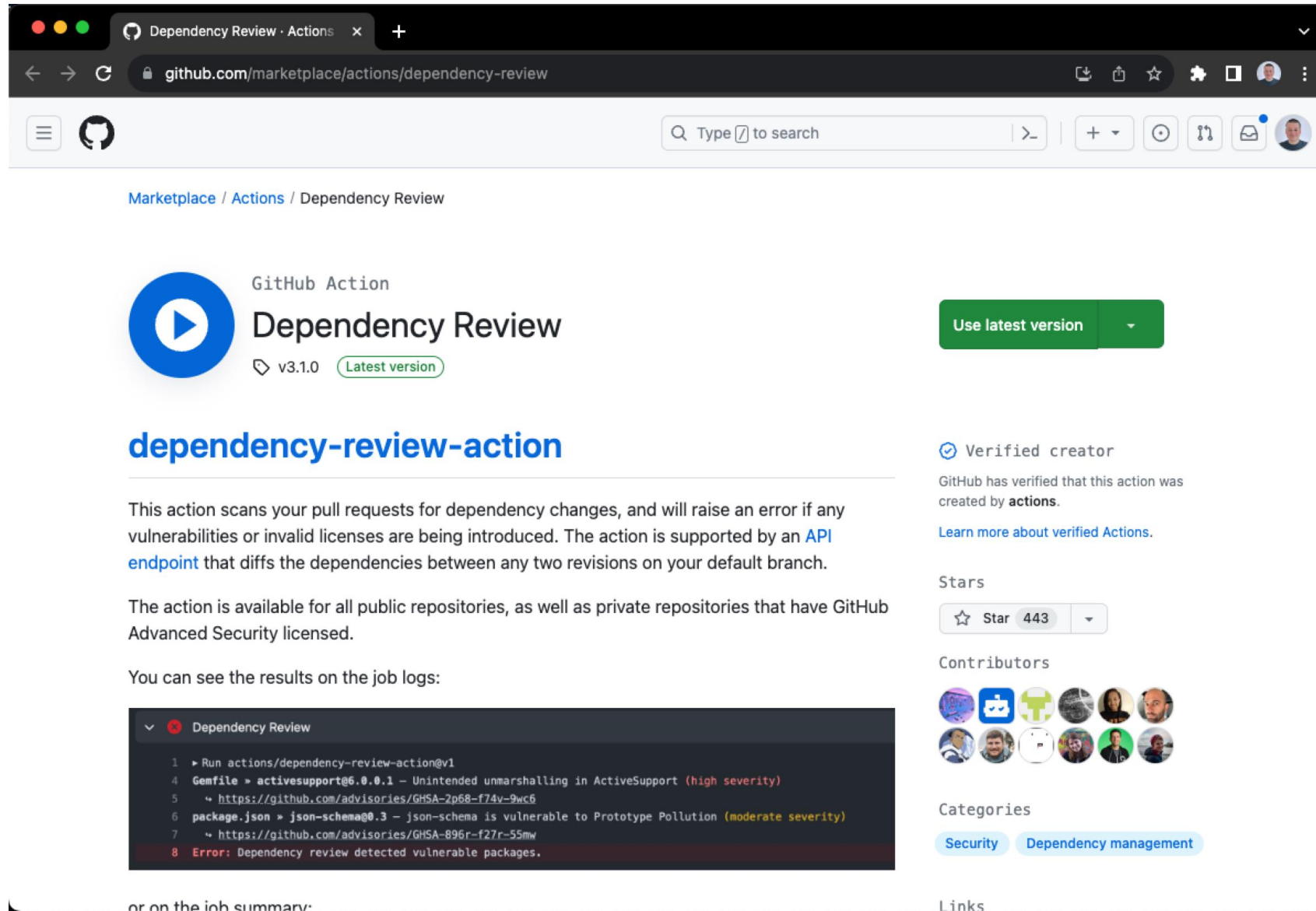
This query depends on a user-provided value.

Show more details

Show paths Dismiss alert

Reply...

# Dependency review



The screenshot shows the GitHub Actions marketplace page for the 'Dependency Review' action. The browser address bar shows 'github.com/marketplace/actions/dependency-review'. The page header includes 'Marketplace / Actions / Dependency Review'. The main section features the 'Dependency Review' action by 'GitHub Action', version 'v3.1.0' (marked as 'Latest version'), and a 'Use latest version' button. Below this is the action name 'dependency-review-action' in blue. The description states: 'This action scans your pull requests for dependency changes, and will raise an error if any vulnerabilities or invalid licenses are being introduced. The action is supported by an [API endpoint](#) that diffs the dependencies between any two revisions on your default branch. The action is available for all public repositories, as well as private repositories that have GitHub Advanced Security licensed. You can see the results on the job logs:'. A code block shows the job logs for a 'Dependency Review' step, highlighting an error: 'Error: Dependency review detected vulnerable packages.' The right sidebar includes a 'Verified creator' badge, a 'Stars' section showing 443 stars, a 'Contributors' section with 10 avatars, and a 'Categories' section with 'Security' and 'Dependency management' tags. A 'Links' section is partially visible at the bottom.

Marketplace / Actions / Dependency Review

GitHub Action

Dependency Review

v3.1.0 Latest version

Use latest version

**dependency-review-action**

This action scans your pull requests for dependency changes, and will raise an error if any vulnerabilities or invalid licenses are being introduced. The action is supported by an [API endpoint](#) that diffs the dependencies between any two revisions on your default branch.

The action is available for all public repositories, as well as private repositories that have GitHub Advanced Security licensed.

You can see the results on the job logs:

```
Dependency Review
1 ▶ Run actions/dependency-review-action@v1
4 Gemfile ▶ activesupport@6.0.0.1 - Unintended unmarshalling in ActiveSupport (high severity)
5   ↳ https://github.com/advisories/GHSA-2p68-f74v-9wc6
6 package.json ▶ json-schema@0.3 - json-schema is vulnerable to Prototype Pollution (moderate severity)
7   ↳ https://github.com/advisories/GHSA-896r-f27r-55mw
8 Error: Dependency review detected vulnerable packages.
```

Verified creator

GitHub has verified that this action was created by **actions**.

[Learn more about verified Actions.](#)

Stars

Star 443

Contributors

Categories

Security Dependency management

Links

# Secret scanning

```
acme-corp — zsh — 80x29
[→ push-protection-demo git:(main) git push origin main
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 1020 bytes | 1020.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
remote: error GH009: Secrets detected! This push failed.
remote:
remote:          GITHUB PUSH PROTECTION (beta)
remote: -----
remote: Resolve the following secrets before pushing again.
remote:
remote: — GitHub Personal Access Token —————
remote: locations:
remote:   - commit: e9e201cf2386222cdb4459ac3e78b7711221e8a8
remote:     path: .env.example:27
remote:
remote: (?) To push, remove secret from commit(s) or follow this URL to allow the secret
remote: http://github.com/dsp-testing/push-protection-demo/security/secret-scanning/unblock
! [remote rejected] main -> main (push declined due to a detected secret)
error: failed to push some refs to 'github.com:dsp-testing/push-protection-demo.git'
→ push-protection-demo git:(main)
```

Search or jump to... Pull requests Issues Marketplace Explore

Sponsor Watch 4

requests 1 Discussions Actions Projects Wiki Security Insights

## Secret scanning

☐ 7 open ✓ 3 closed

- ☐ Amazon AWS Secret Access Key Verified - read access  
Detected in amazon-test.xlsx 5 days ago
- ☐ Mailgun API Key  
Detected in infra.env#L2 5 days ago
- ☐ Google API Key Verified - write access  
Detected in infra.env#L1 5 days ago
- ☐ GoCardless Live Access Token Verified - read access  
Detected in payments.java#L16 5 days ago
- ☐ Stripe API Key Verified - read access  
Detected in payments.java#L15 5 days ago
- ☐ RoyalMail API Verified - write access  
Detected in bbb#L2 5 days ago
- ☐ Amazon AWS Access Key ID  
Detected in bbb#L1 5 days ago

# The Power of GitHub Copilot

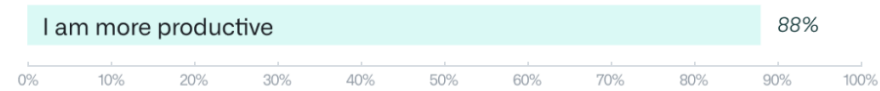
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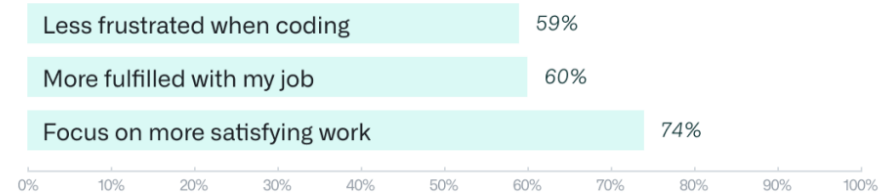
# Why GitHub Copilot?

## When using GitHub Copilot...

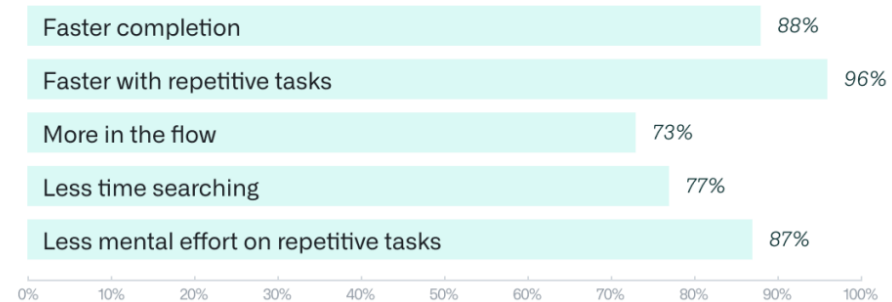
### Perceived Productivity



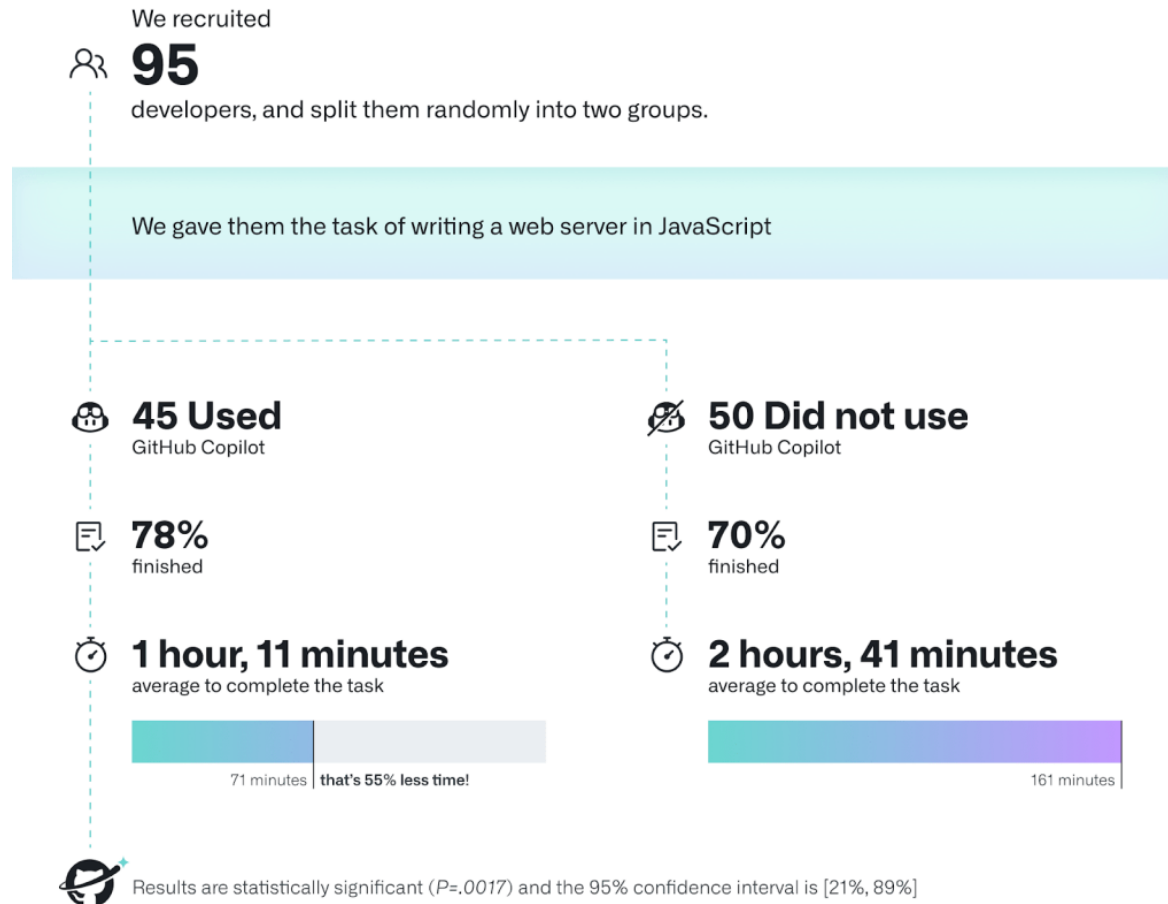
### Satisfaction and Well-being\*



### Efficiency and Flow\*



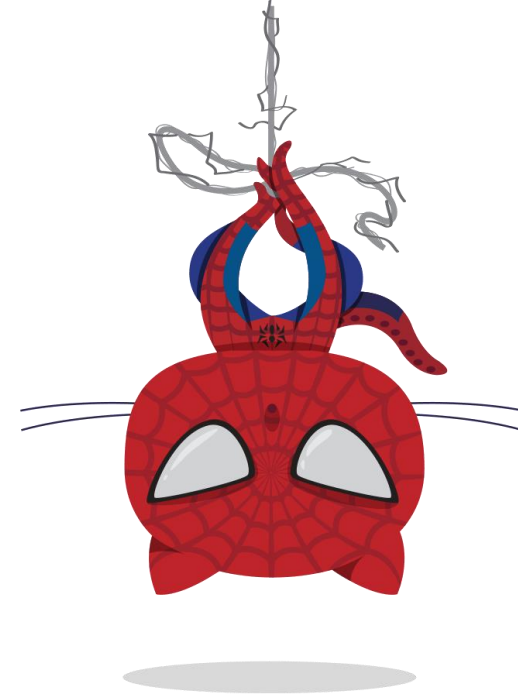
# Why GitHub Copilot?



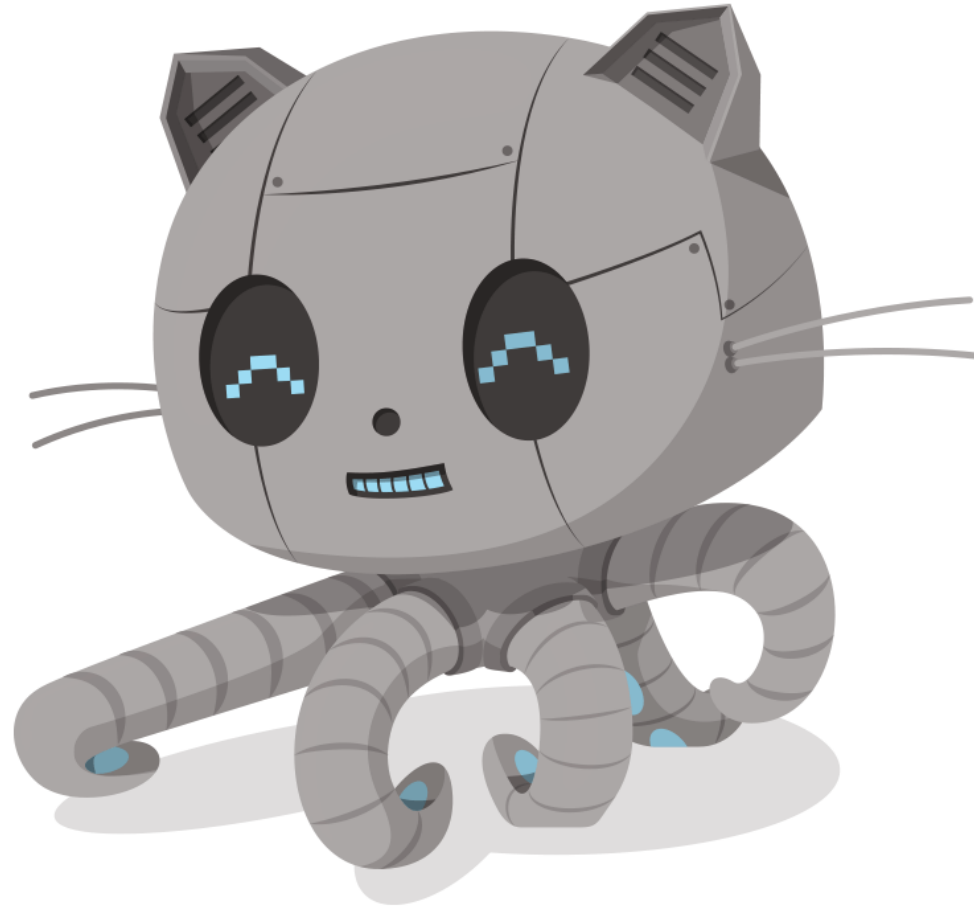
# What you need

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- A GitHub account
- A Copilot seat (license)
  - Free (students, teachers, Open Source maintainer)
  - Individual \$ 10 / month
  - Business \$ 19 / month
- Supported IDE
  - Visual Studio
  - Visual Studio Code
  - VIM
  - Neovim
  - JetBrains IDEs
  - Azure Data Studio



# Copilot in Action





# Tips

---

- Give Context
  - Comments
  - Keep a couple of relevant tabs open
- Give GH Copilot an example
- Use good coding practices.
  - Use descriptive variable names and functions
  - Follow consistent coding styles and patterns



# Legal

---

Can I use Microsoft's Copilot services and the output they generate without worrying about copyright claims?

**yes, you can**

[Source.](#)



# What is next?

---

- [Copilot for Docs](#)
- [Copilot for PullRequests](#)
- [Copilot Voice](#)
- [Copilot for CLI](#)

=> Visit <https://githubnext.com/>

# Slides & Links

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- <https://github.com/whiteducksoftware/azure-meetup-rosenheim>
- <https://octodex.github.com> 😊

# Questions?

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**Thank you!**