

The background is a collage featuring a blue sky with white clouds. On the right side, there is a large, metallic padlock. The image is decorated with various geometric shapes: red squares and rectangles are scattered in the top right and bottom left corners, while blue and teal rectangles are arranged in a stepped pattern on the left side. Vertical teal and red lines are also present in the bottom left area.

IT Track

AI development: wat u
moet weten over AI-
assistenten



Wim Depoorter



Senior Architect
Ambassador AI voor Dev



Wim.depoorter@inetum-realdolmen.world

+32 2 801 55 88

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Assistants**

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Q&A

What is AI ?

01

Based On

Mathematical insights

- Cannot handle ambiguity and complexity of real-world data
- Output simple and logical to follow

Inspired by Biology (neurons)

- Handles real-world data well
- Black box
- Deep Learning (2012)
- Large Language Models

Large Language Models

- Designed to understand and generate human-like text
- Trained on vast amounts of diverse input data
- Many Models (openai, google, anthropic, meta, ...)

Use Cases

- Information retrieval
- Sentiment analysis
- Text and code generation
- Chatbots and conversational AI

Dangers

- Hallucinations



Claude
3.5
Sonnet



GPT4-o



Gemini
1.5 Pro



Mixtral



...



Llama
3.2




*We have a very good idea of sort of roughly what it's doing.
But as soon as it gets really complicated, we don't actually
know what's going on any more than we know what's going
on in your brain.*

- Geoffrey Hinton
CBS 60 minutes
16-06-2024

Geoffrey Hinton

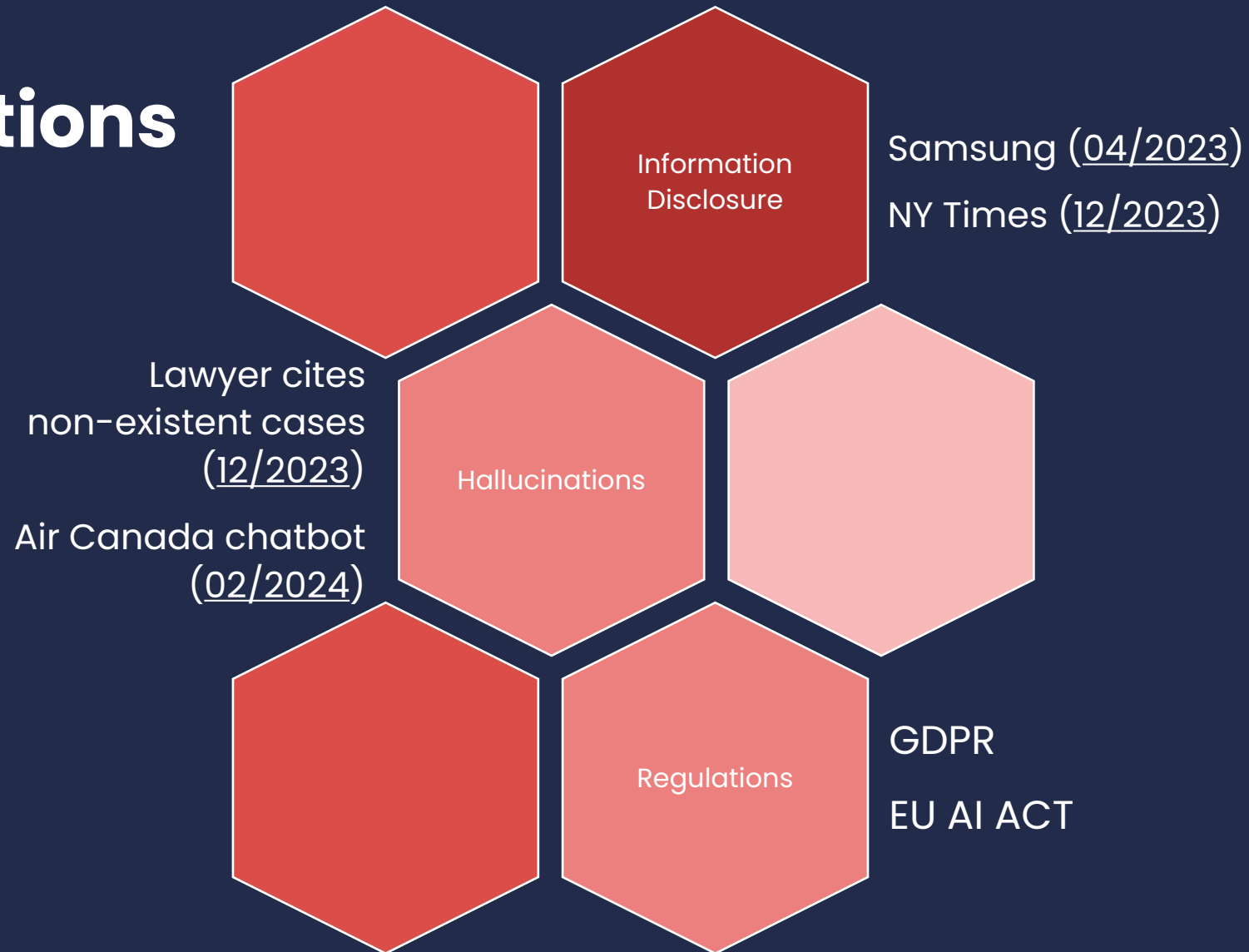


The background is a collage of various elements. It features a blue sky with white clouds, a large golden padlock on the right side, and several geometric shapes in shades of blue, teal, and red. The text 'Risks & Regulations' is prominently displayed in the center in a bold, red, sans-serif font. Below the text, there is a dark blue rectangular area. To the right of this area, the number '02' is written in a large, thin, blue outline font.

Risks & Regulations

02

Risks & Regulations



AI Policy @Inetum

- No Shadow AI
- AI is not in the Lead

Relevant Policies:

- AI Usage Policy
- Secure Development Policy

The background is a complex collage. It features a blue sky with white clouds, a large golden padlock on the right side, and various geometric shapes in shades of blue and purple. Some shapes are solid, while others are outlined. The overall aesthetic is modern and tech-oriented.

AI Coding Assistants

03

Overview



Amazon CodeWhisperer



Considerations

- **Online vs “local”**
 - Most interesting models in cloud → **data is sent to 3rd party**
- **Privacy**
 - Don't become part of training data
- **Training data**
 - Cutoff → less support for new frameworks/vulnerabilities
 - **Copyright concerns**
- **Management**
 - Content exclusions → management externally from code repo's; no standard among AI Assistants

GitHub Copilot

- Online
- IP Indemnification
- Code completion + Chat
- Content Exclusions
- NEW: GitHub Copilot Extensions
 - @mongodb get avg of customer_sentiment
 - @docker How can I containerize this project?
- Near Future: multi-model
 - Claude 3.5 Sonnet → complex and multi-step tasks
 - Gemini 1.5 Pro → coding, large context window
 - GPT-4 o1-preview/mini → understanding code constraints



GitHub Copilot (How To and What For)

How To Interact with GitHub Copilot

- **Single:** Always focus your prompt on a single, well-defined task or question
- **Specific:** Ensure that your instructions are explicit and detailed
- **Short:** While being specific, keep prompts concise and to the point
- **Surround:** Utilise descriptive filenames and keep related files open

Where can you use it for?

- **Monkey work**
 - Unit tests (but verify!)
 - Mappings
 - Documentation
- **Copilot Chat**
 - Replacement for google/stackoverflow
- **At the moment:** simple code / documentation that is repetitive and time consuming

One of the trade-offs to the usefulness of coding assistants is their unreliability. The underlying models are quite generic and based on a huge amount of training data, relevant and irrelevant to the task at hand. Also, Large Language Models make things up, they “hallucinate” as it’s commonly called.

*That unreliability creates **two main risks: It can affect the quality of my code negatively, and it can waste my time.** Given these risks, quickly and effectively assessing my confidence in the coding assistant’s input is crucial.*

- Martin Fowler

[Exploring Generative AI \(martinfowler.com\)](https://martinfowler.com)

29-11-2023

Martin Fowler





What to Expect?



04



Zanzibar

Devops Team

- 4 – 5 person
- Multiple client
- Using GitHub Copilot since beginning 2024



GitHub Copilot Poc @Inetum

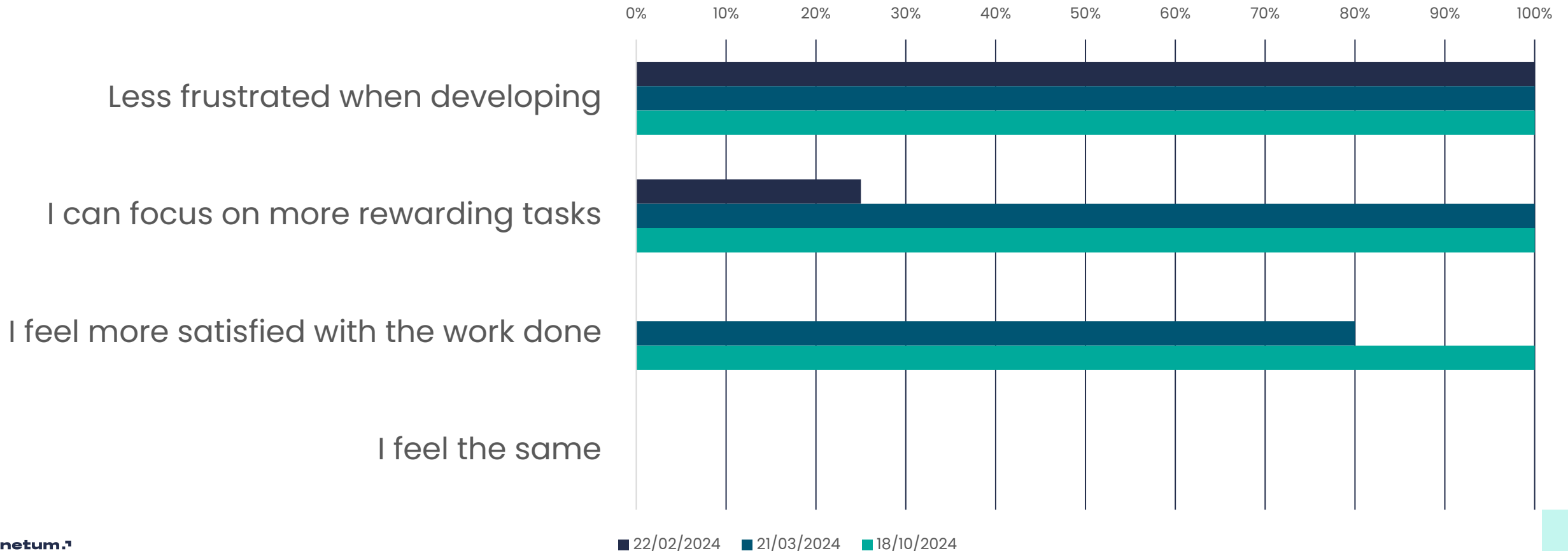
SPACE Framework¹ to measure productivity, capturing different dimensions of productivity

- Satisfaction – Team members' engagement and fulfilment
- Performance – Quality and quantity of work produced
- Activity – Processes and behaviours in task completion
- Communication & Collaboration – Effectiveness of team interactions
- Efficiency – Optimal use of resources to minimize waste

Github Copilot

How fulfilled, happy, and healthy one is

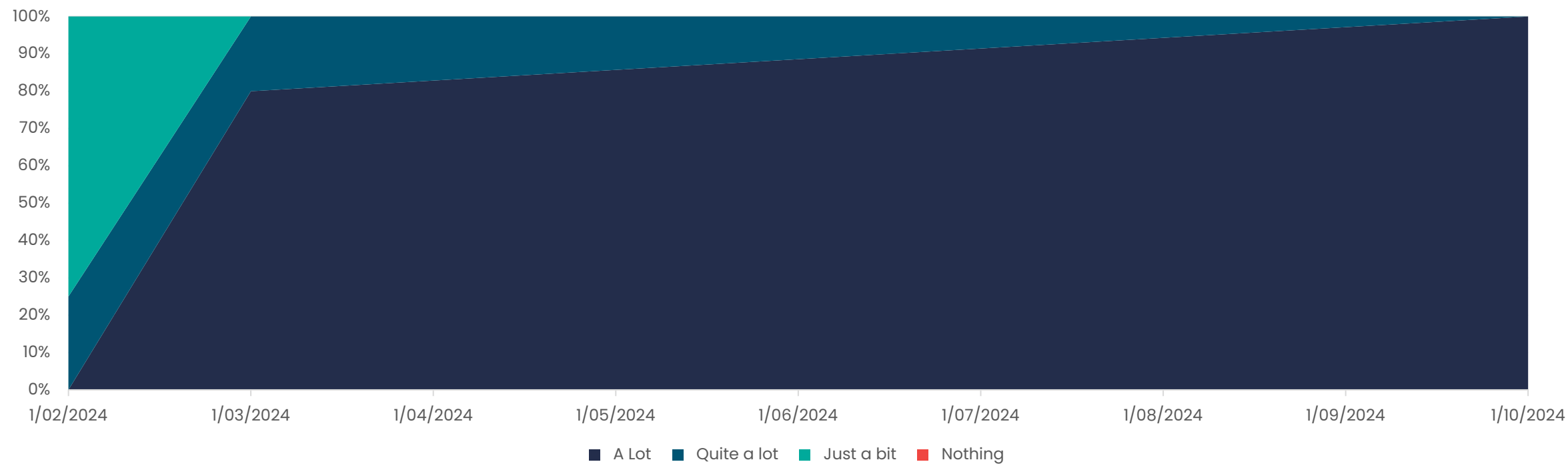
Since using the tool, what is your level of satisfaction in your work?



Github Copilot

An outcome of a process

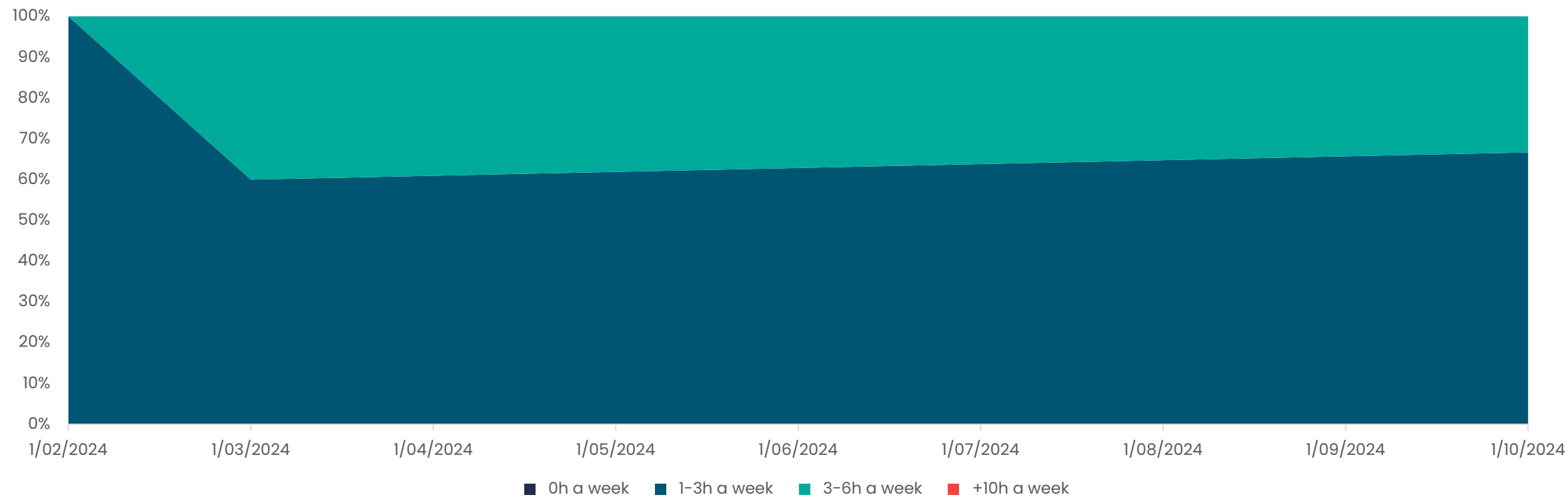
Do you consider that the tool has increased your productivity?



Github Copilot

An outcome of a process

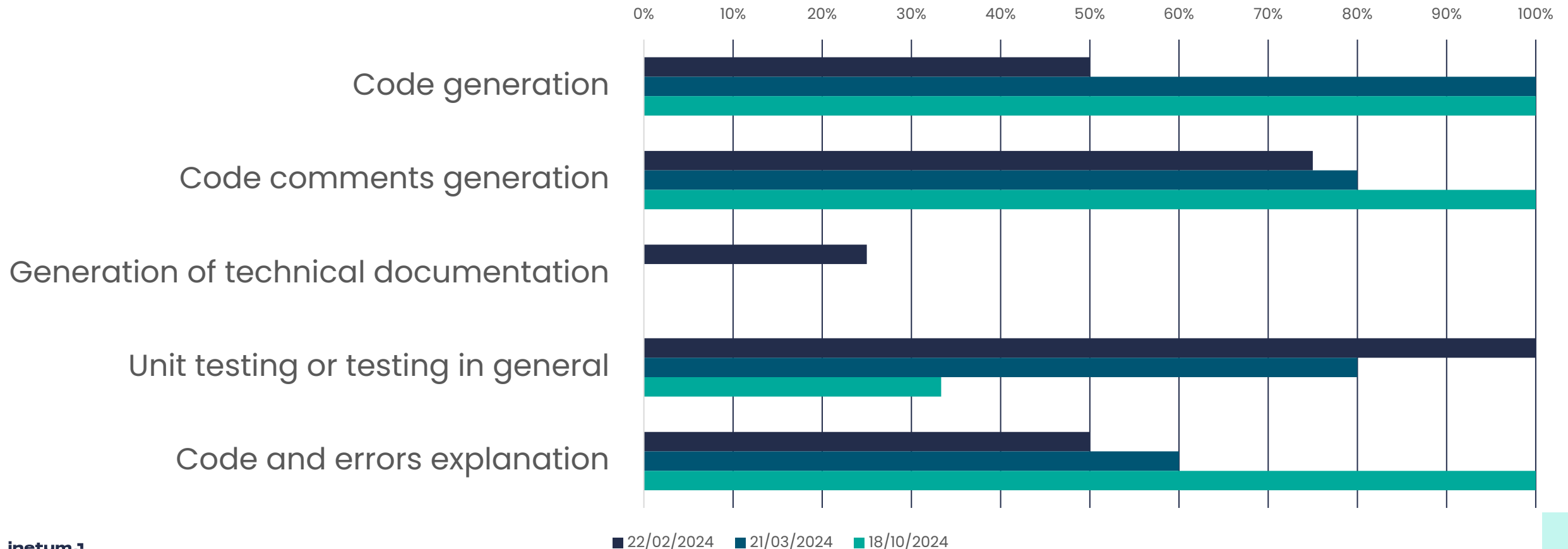
How much time do you think the tool has saved you this month?



Github Copilot

The count of actions or outputs

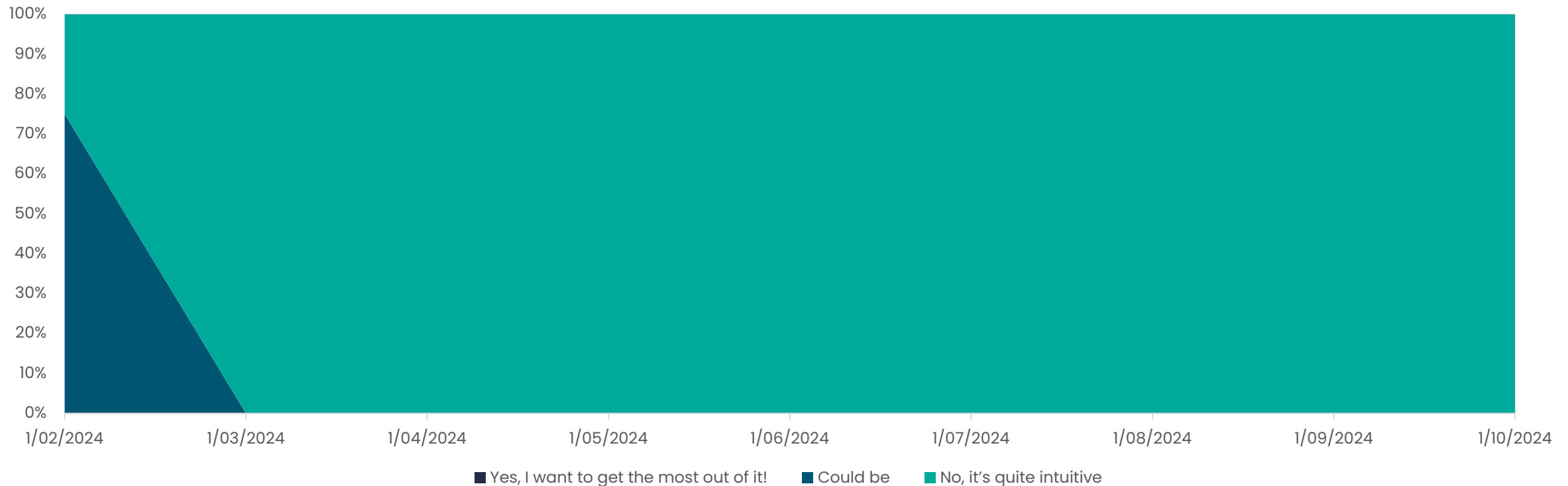
In what specific use case are you getting more productivity with Copilot?



Github Copilot

How people talk and work together

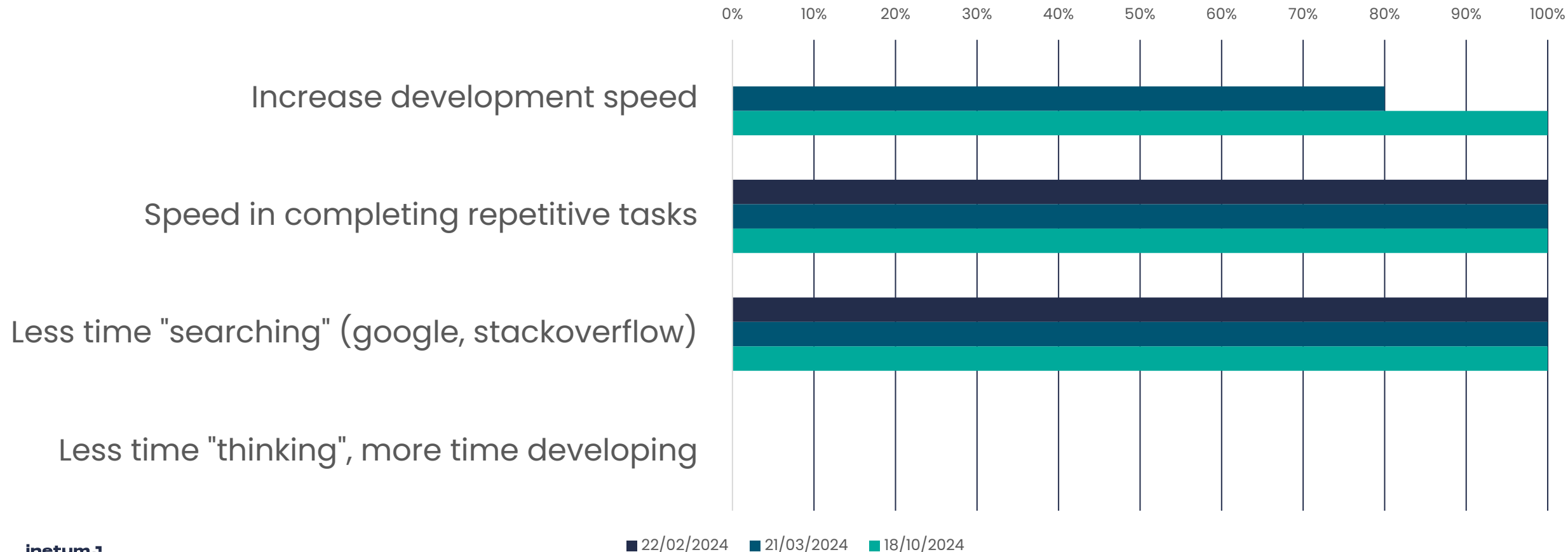
Do you consider training sessions on good practices in the use of the tool necessary?



Github Copilot

Doing work with minimal delays or interruptions

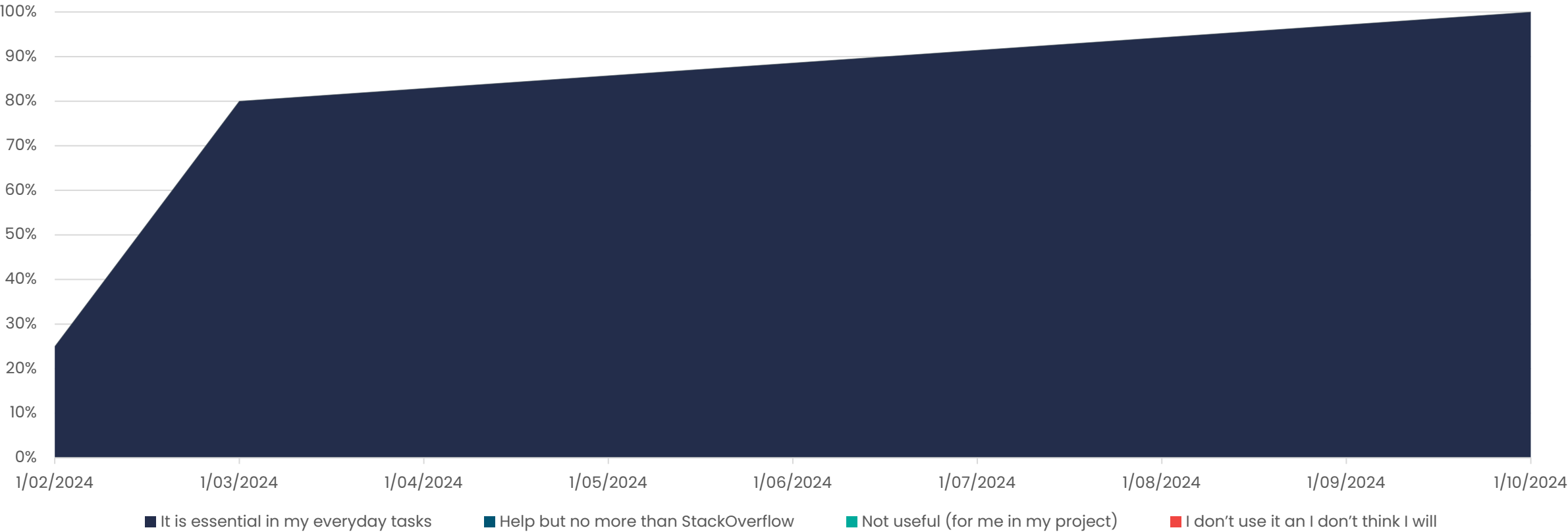
What features would you highlight of the tool?



Github Copilot

Doing work with minimal delays or interruptions

Today, Github Copilot...



Key Take-Aways

- **GitHub Copilot**

- Nobody in the team wants to work without it anymore
- Huge enrichment for coding

- **ChatGPT**

- Still used for **general** questions (e.g. "How can I do X in frontend framework Y?")

Thank you