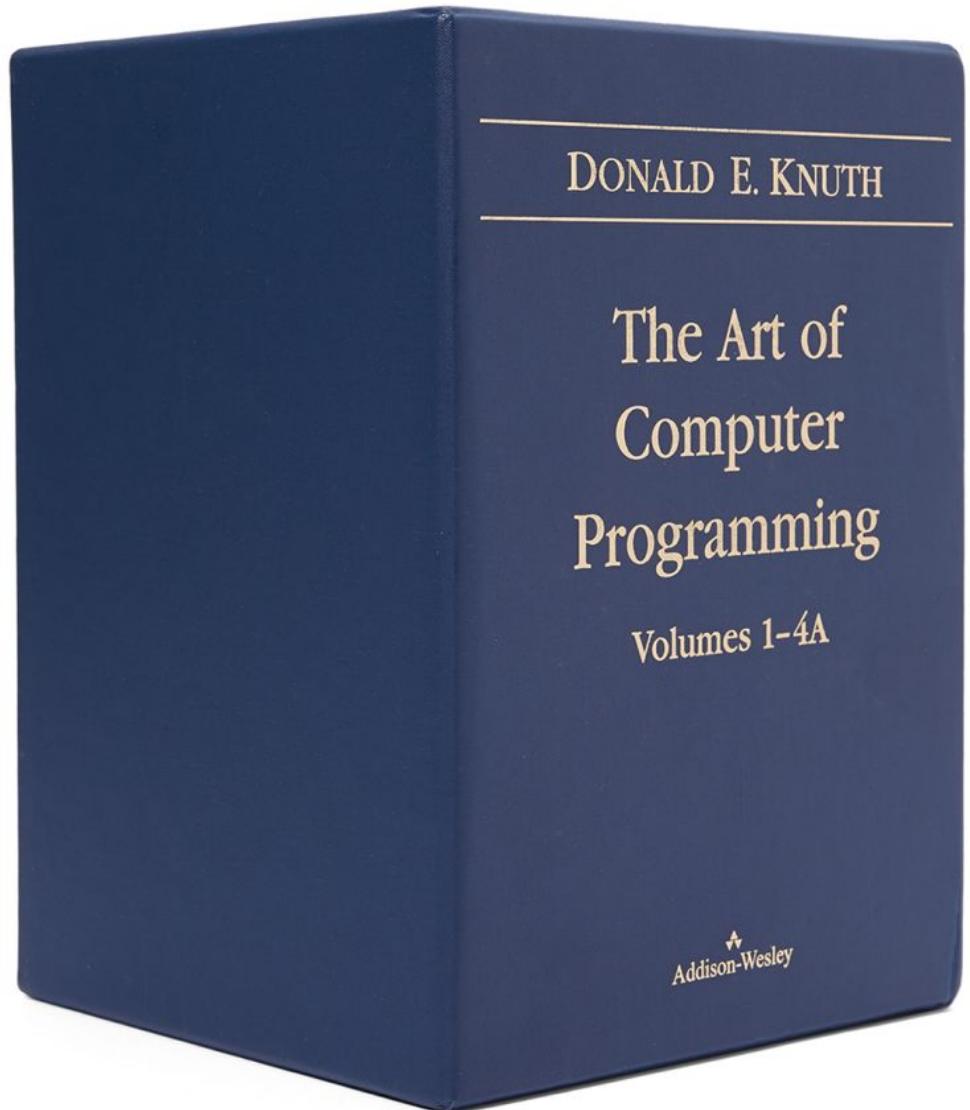


Developers are (Conceptual) Designers

Mathieu François - March 2022

<https://digitalstoic.io/>

Is programming science or art?



**This is the most mythical
programming book ever**

Written by a computer *scientist*

(acknowledged by [Bill Gates himself](#))

“Paul Graham’s prose is brimming with contrarian insight and practical wisdom.”

—Andy Hertzfeld, co-creator of the Macintosh computer

PAUL GRAHAM

HACKERS & PAINTERS

BIG IDEAS FROM THE COMPUTER AGE



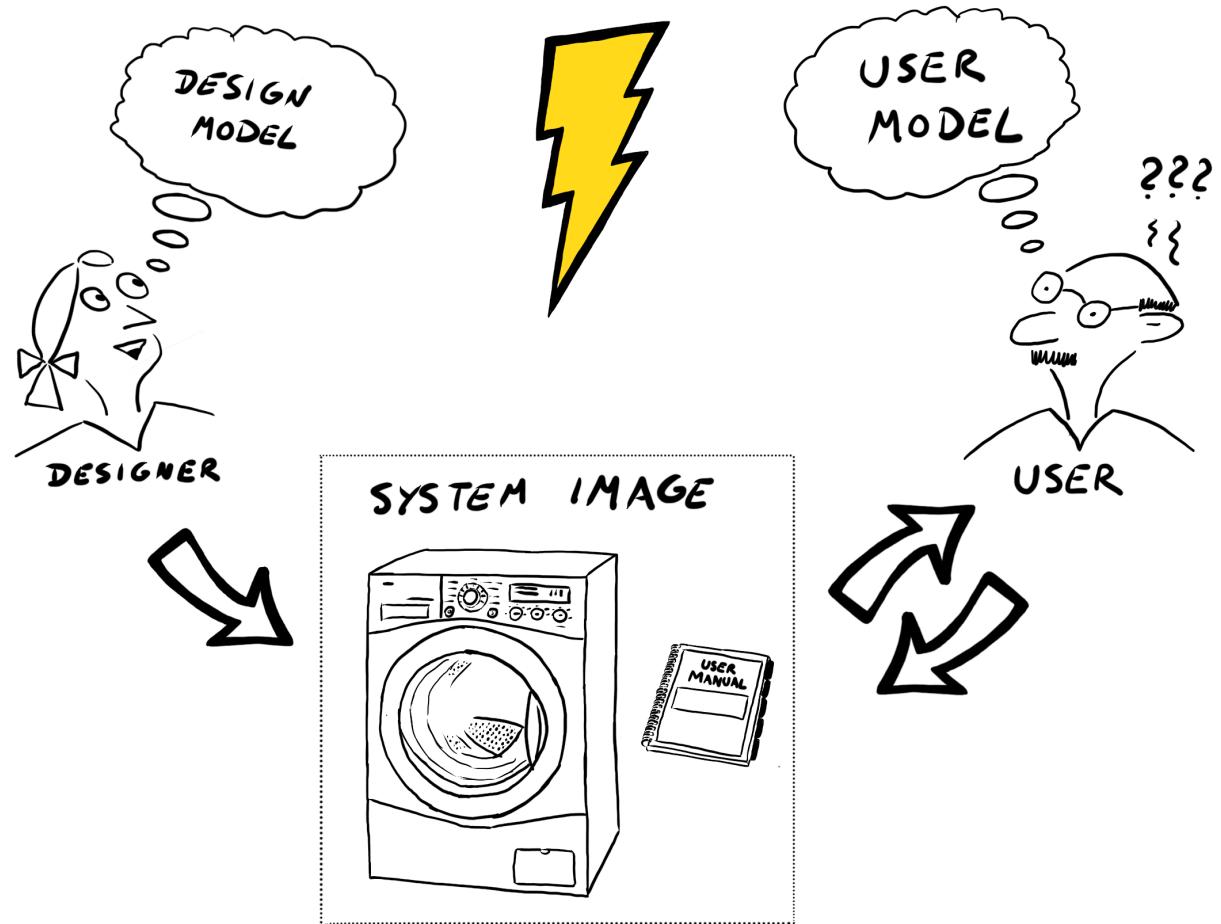
The founder of Y combinator
shares a similar vision

*Why do experts emphasize creativity in
programming?*

It's all about mental models

Good developers:

- Turn into reality conceptual models, in a clear and safe manner that meets the users' expectations and world view
- Are good at mental models of mental models

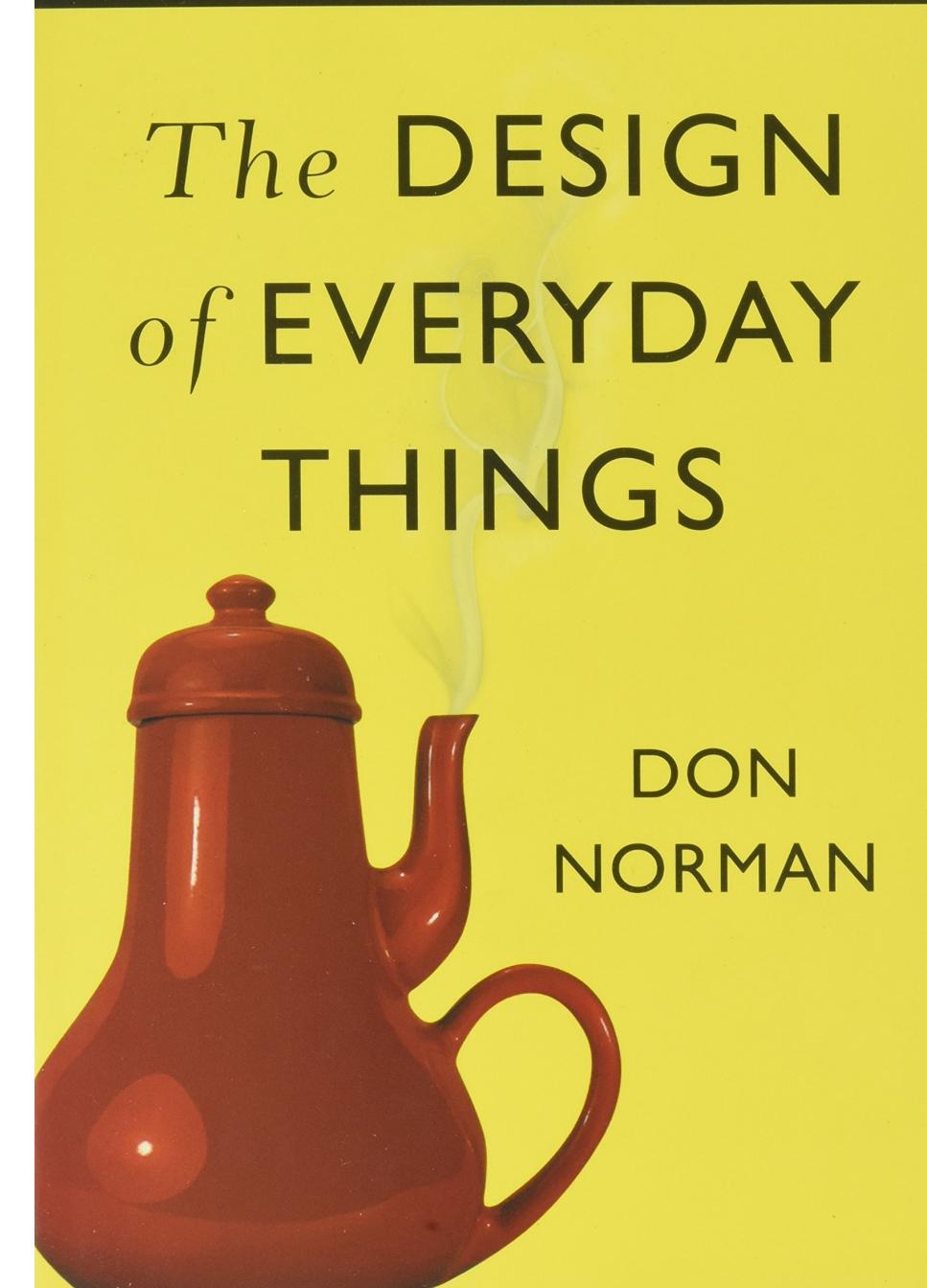


This is *real* design

Principles from the best design book ever:

- Visibility, affordance, **system image**, **mental models**, (natural) mapping, feedback

Sir Fred Brooks: [The Design of Design](#) (nothing new since the IBM 360 in the 60s)



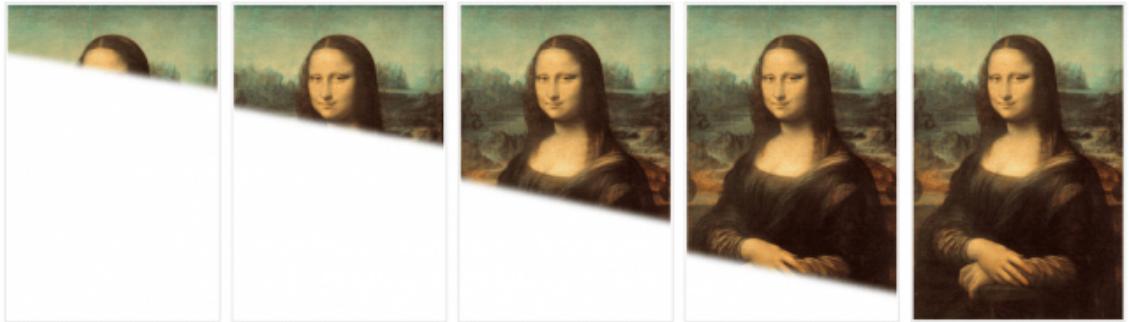
Waterfall development

Needed by space engineering



Corporate Agile

Iterative only is not enough



Real Agile = Sketching

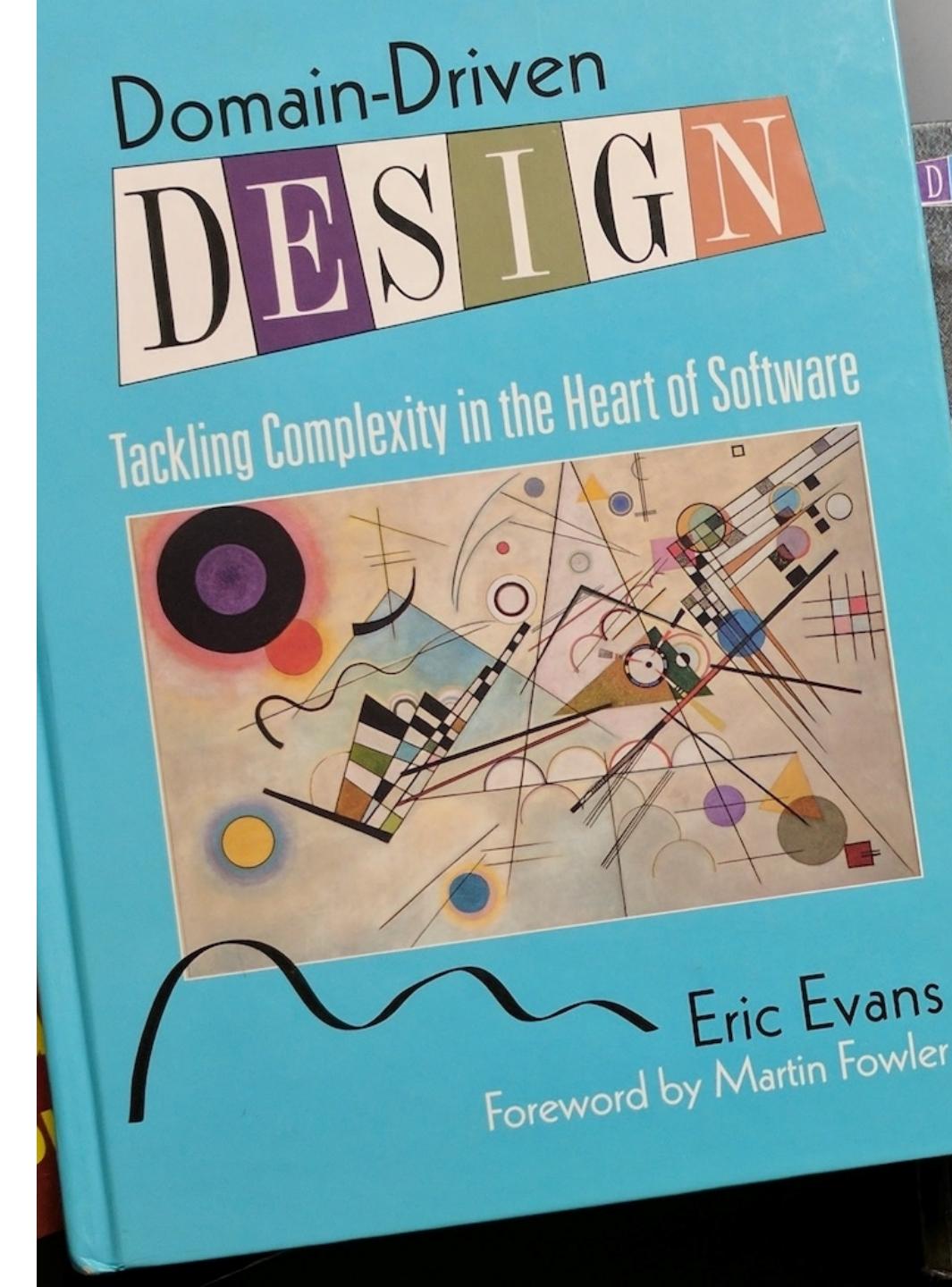
Refine over time the conceptual model



Many methodologies around the corner

Design Thinking, Domain-Driven Design,
Design Sprints, etc...

But we're far from satisfactory practices. As an industry, software is still *immature*



The dangers of bad design

It's not a process failure, it's a **design failure**:

- As a Maker, *what am I supposed to do?*
- As a Checker, *am I sure how the system work? Will there be side effects?*

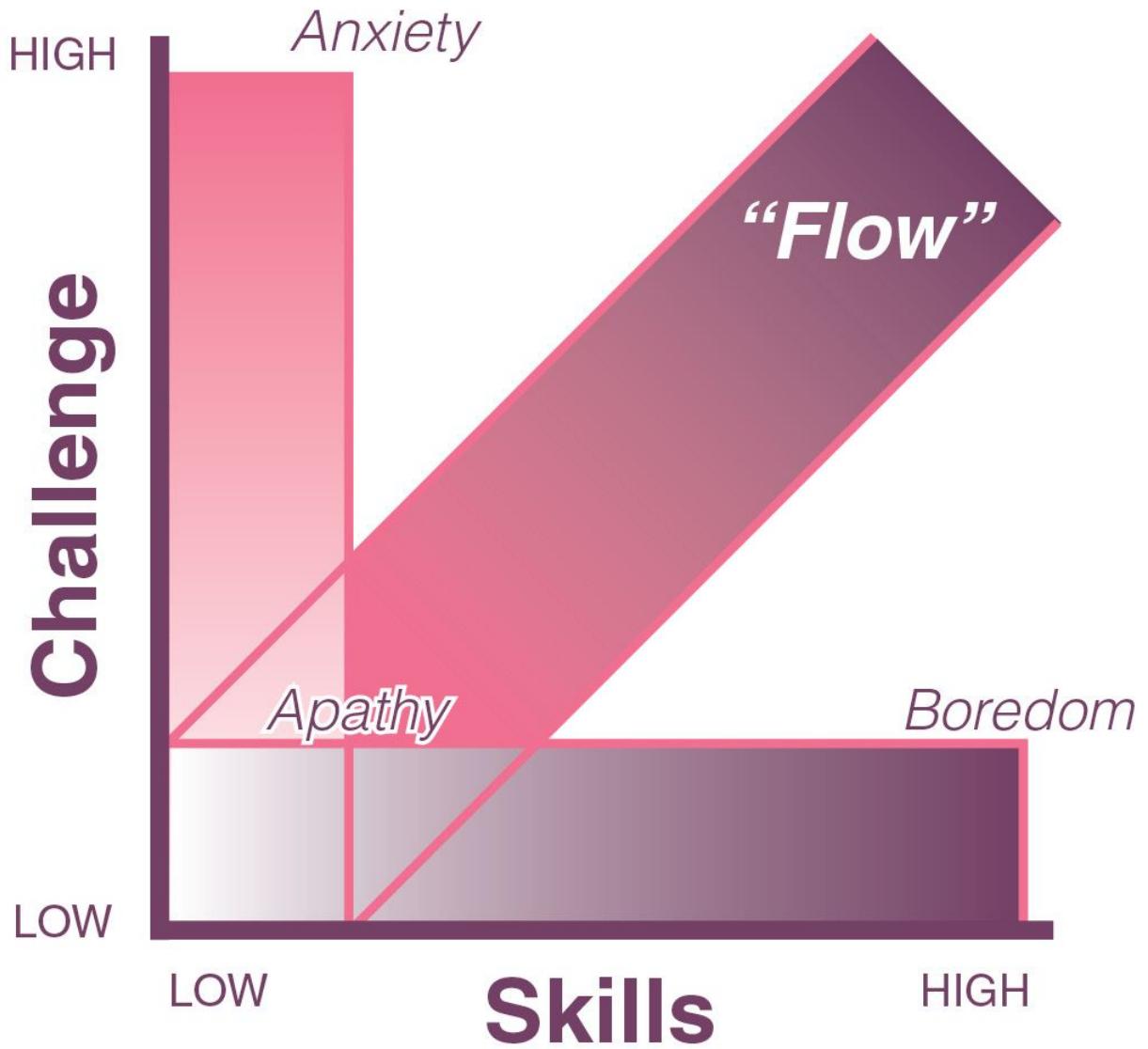
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So what should we do?

Foster good design

It's not about fancy office and post-its. What matters:

- Build **shared understanding**
- Protect the **flow of developers**
- Enable safe experiments
- ... and good **Agile philosophy**



The future of programming: better design

Low Code is for those who are afraid of code

Nothing new: "Everything besides assembly language is low-code"

Well managed clear code is an asset, not a liability

Can't Code? No Problem

We'll show you how to build your business without code – Just tell us what you want to create

Or check out our free resources below!

Online Store

Application

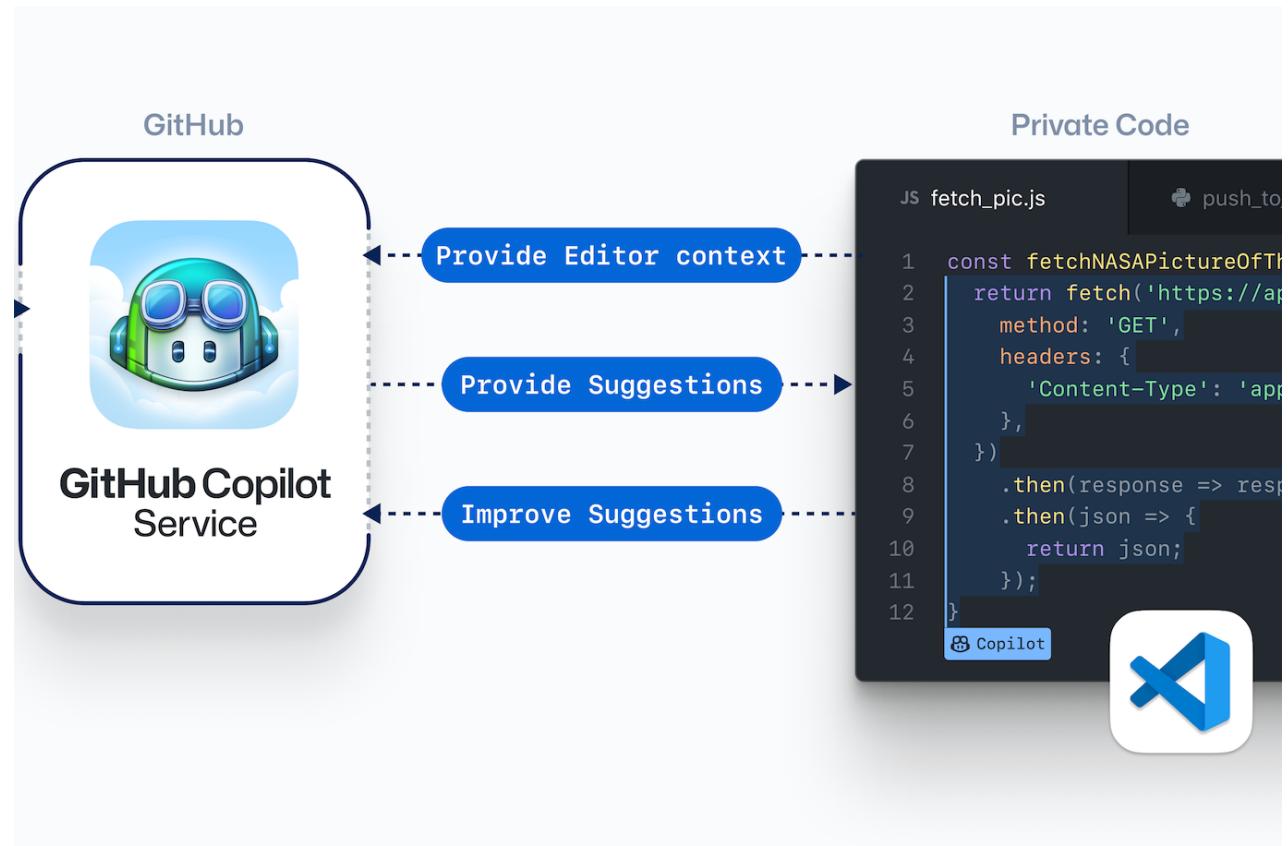
Newsletter

Landing Page

AI as developers?

GitHub Copilot is an impressive start
but it mostly generates boilerplate

AI generating conceptual models of
"real world" will be close to general
intelligence



Higher and higher level languages

Promising (but not new) techniques,
especially from FP:

ADT ([Algebraic Data Type](#)), DSL
([Domain Specific Language](#)), Literate
programming ([Knuth again](#)),
declarative languages, etc



Let's spread ❤️ and good (conceptual) design

PUSH

PUSH



PULL

PULL

