

Vibe-coding as a creative design medium

RESEARCH QUESTION

How can vibe-coding be designed as a creative medium that enables non-technical creatives to build interactive systems with genuine agency, appropriate trust and reflective understanding?

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The first 80% takes hours.
The last 20% can take months.

BACKGROUND

Vibe-coding is building software by describing it to an AI (Karpathy, 2025). In my case studies a convincing prototype arrived within hours; making it safe took far longer. I call that remaining work *the compression gap*.



Fig. 1 · Schematic, not to scale. A long last stretch is familiar from conventional software (Bentley, 1985); vibe-coding shrinks only the first part.

01 Findings

Six recurring failure modes

Across two full-stack apps; most were invisible from the interface.

- 1



Configuration blindness

Services never configured
- 4



Dependency drift

One change breaks another
- 2



Permissions mismatch

Users see or edit too much
- 5



Overconfident unsafe defaults

Keys exposed, storage open
- 3



Data boundary violations

Private data shown publicly
- 6



Regeneration problems

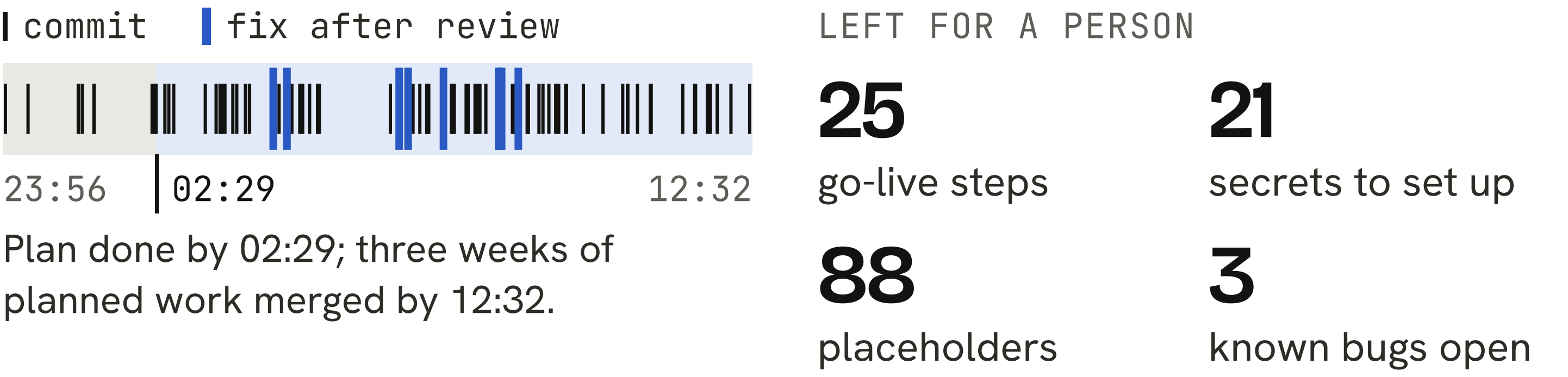
One fix rewrites far more

Five of the six recurred in a third build, a live business website.

02 Findings

An overnight agent build

Coding agents built a full-stack web platform overnight while a second model tried to refute its security claims.



The compression gap did not close; it moved to work that needs human sign-off.

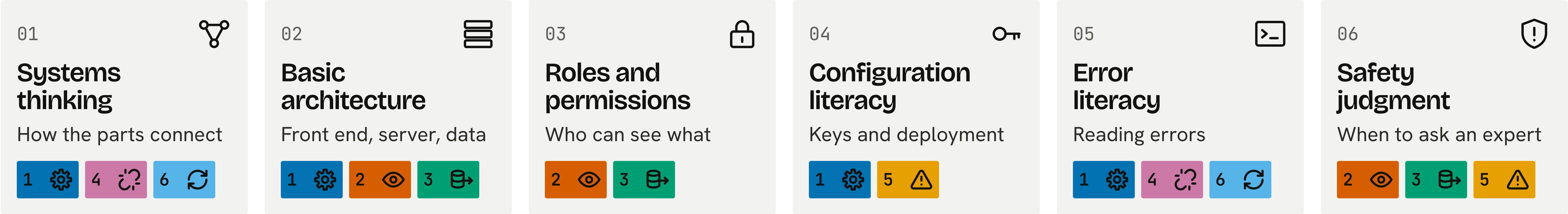
Fig. 2 · From the build’s git history.

03 Contribution

Minimum Viable Literacy

The smallest set of concepts a non-technical creative needs to direct an AI, check what it builds and know when to stop and ask an expert. Writing code is not among them.

Fig. 3 · MVL v1, from the case studies. Tiles mark the failure modes in 01 it helps prevent.



04 Progress

Where the studies are

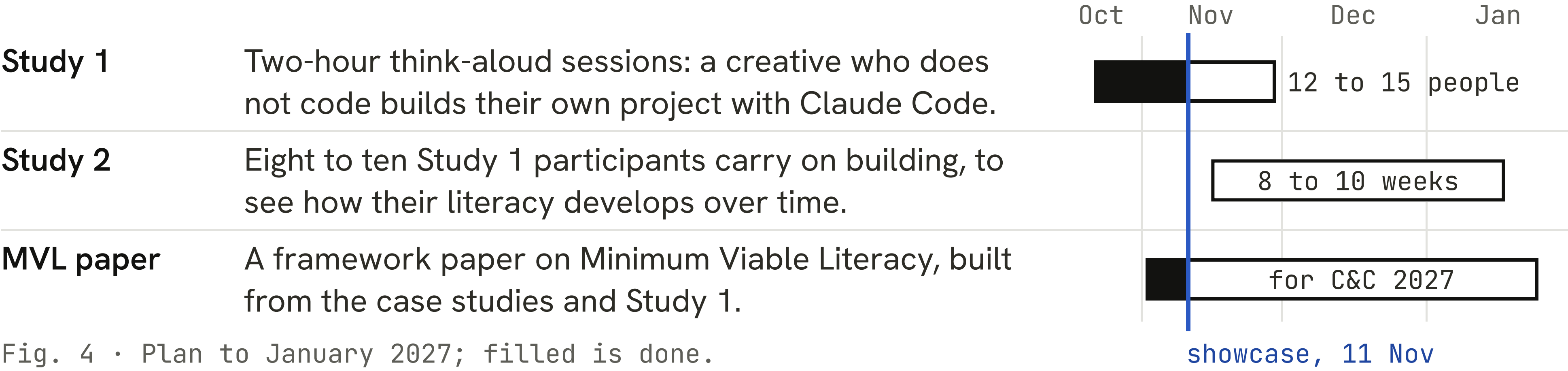


Fig. 4 · Plan to January 2027; filled is done.

EARLY SIGN FROM STUDY 1

Difficulty shows as silence rather than complaint.

METHOD: research through design (Zimmerman et al., 2007); distributed cognition (Hutchins, 1995).

COMMUNITY

56,897 r/vibecoding posts, about 30% coded.

05 Discussion

What is specific to creatives

In 3D, CAD and game tools, checking what the agent built means judging an image.

- 1 **Write the scene** as code
- 2 **Render a frame** the agent runs the tool
- 3 **Check the image** by eye, not by reading code
- 4 **Fix the code** then render again

Beyond the MVL floor, creatives need literacy in their medium too, and the two compound.

Limits: the case studies are my own builds.

This work is supported by the UKRI AI: CDT in AI for Digital Media Inclusion [Grant Number: EP/Y030915/1].

References · Bentley, J. (1985) Programming pearls: bumper-sticker computer science. *Commun. ACM* 28(9), 896–901. · Hutchins, E. (1995) *Cognition in the Wild*. MIT Press. · Karpathy, A. (2025) “Vibe coding”, post on X, 2 February. · Zimmerman, J., Forlizzi, J. and Evenson, S. (2007) Research through design as a method for interaction design research in HCI. *Proc. CHI '07*, 493–502.



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