



One manuscript.
The whole course.

Bring in Word, Google Docs, Markdown or a notebook — then teach from it as slides, publish it as a book and run the exam in the same room.



TEACH
Slide mode is the default view — the lecture runs from the manuscript, no export step.



ASSESS
A table in the Word file becomes a live quiz, a file drop, or a judged coding task.



OBSERVE
Presence, quizzes, code and reading roll up into a 15-week diligence score.

4

Source formats ingested
Word · Google Docs · Markdown · Jupyter

3

Live modes from one file
Slide · book · exam room

8

Languages judged in-page
Monaco editor + Judge0 runner

6

Reading event classes
Logged without blocking the page

7

Weighted signals
Rolled into a 15-week score

1,427

Word pages in production
4 NEU textbooks · 239,969 words

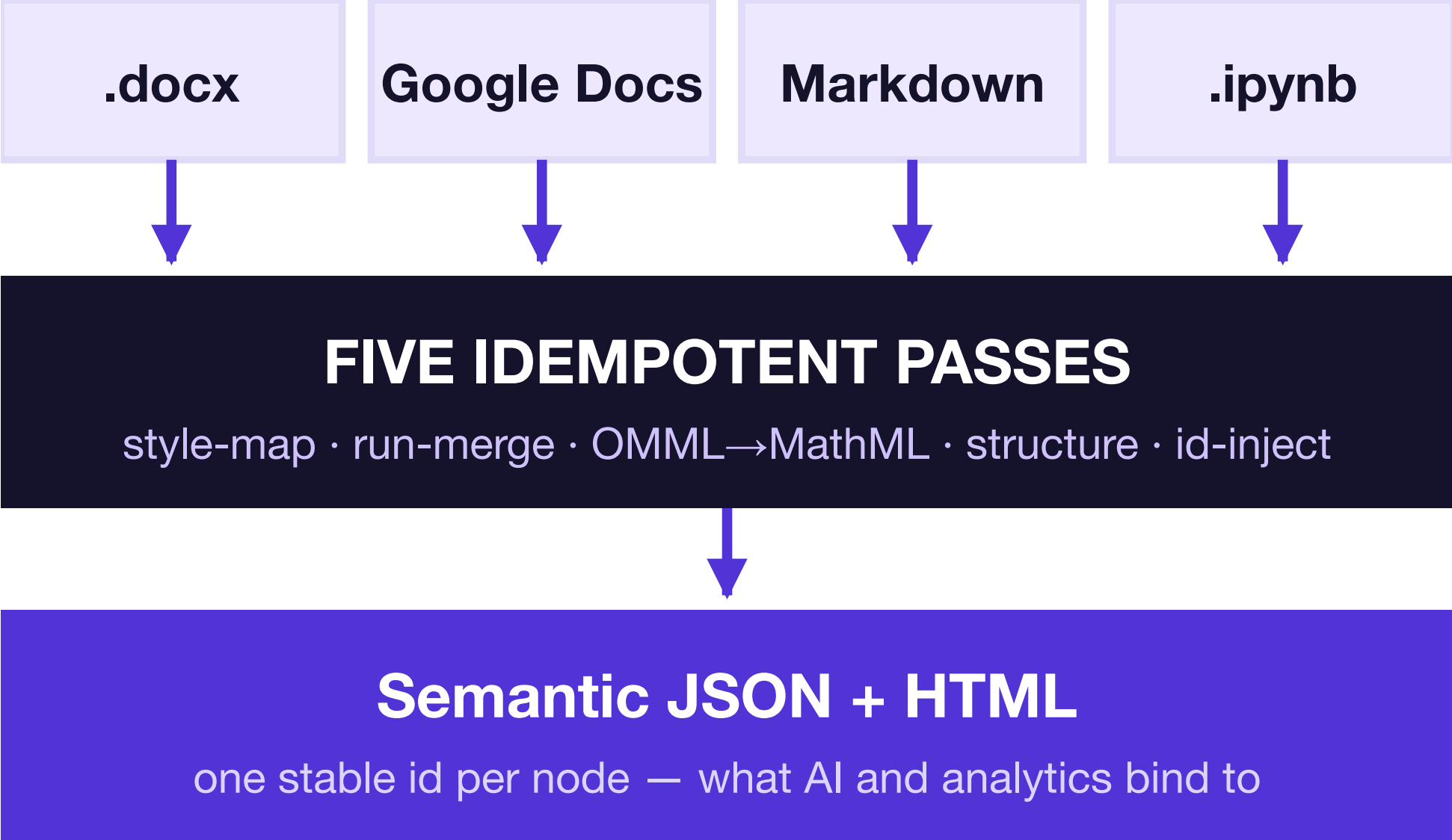
INTRODUCTION

Authored once.
Rebuilt three times.

The lecture becomes a PowerPoint, the handout a PDF, the quiz a third tool. Three copies of one course drift apart — and none of them can host an AI assistant or say how the class actually used them.

METHOD · INGESTION

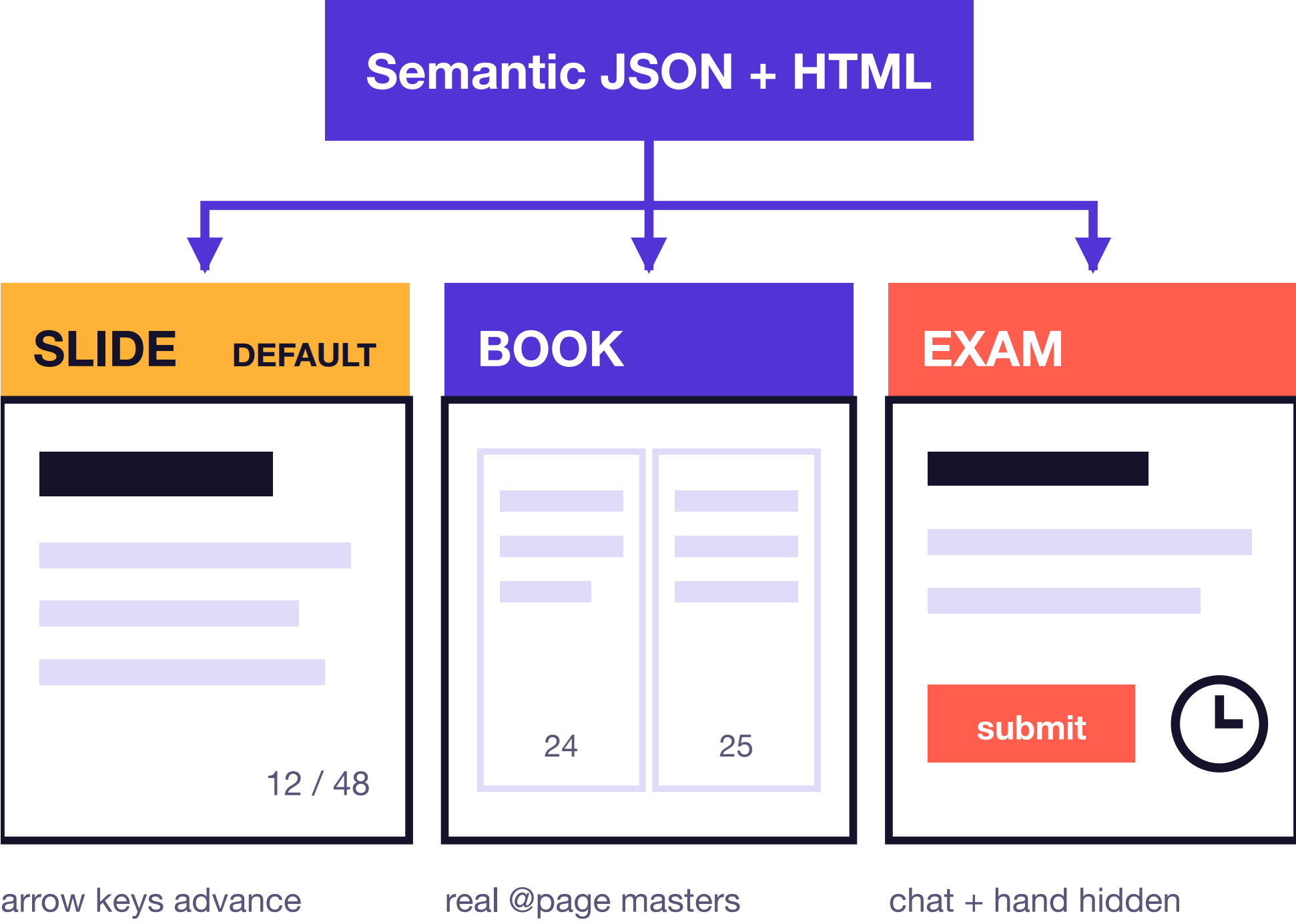
Four sources, one semantic stream



Word runs are merged, heading styles mapped, Office maths transcoded to MathML and a stable id injected on every node. Each pass can be re-run on any manuscript with no side effects.

METHOD · RENDERING

One file, three ways to meet it



The mode is a request-time switch, not a rebuild. Slides split on the manuscript's own headings, so re-ordering a chapter in Word re-orders the lecture.

DEPLOYMENT

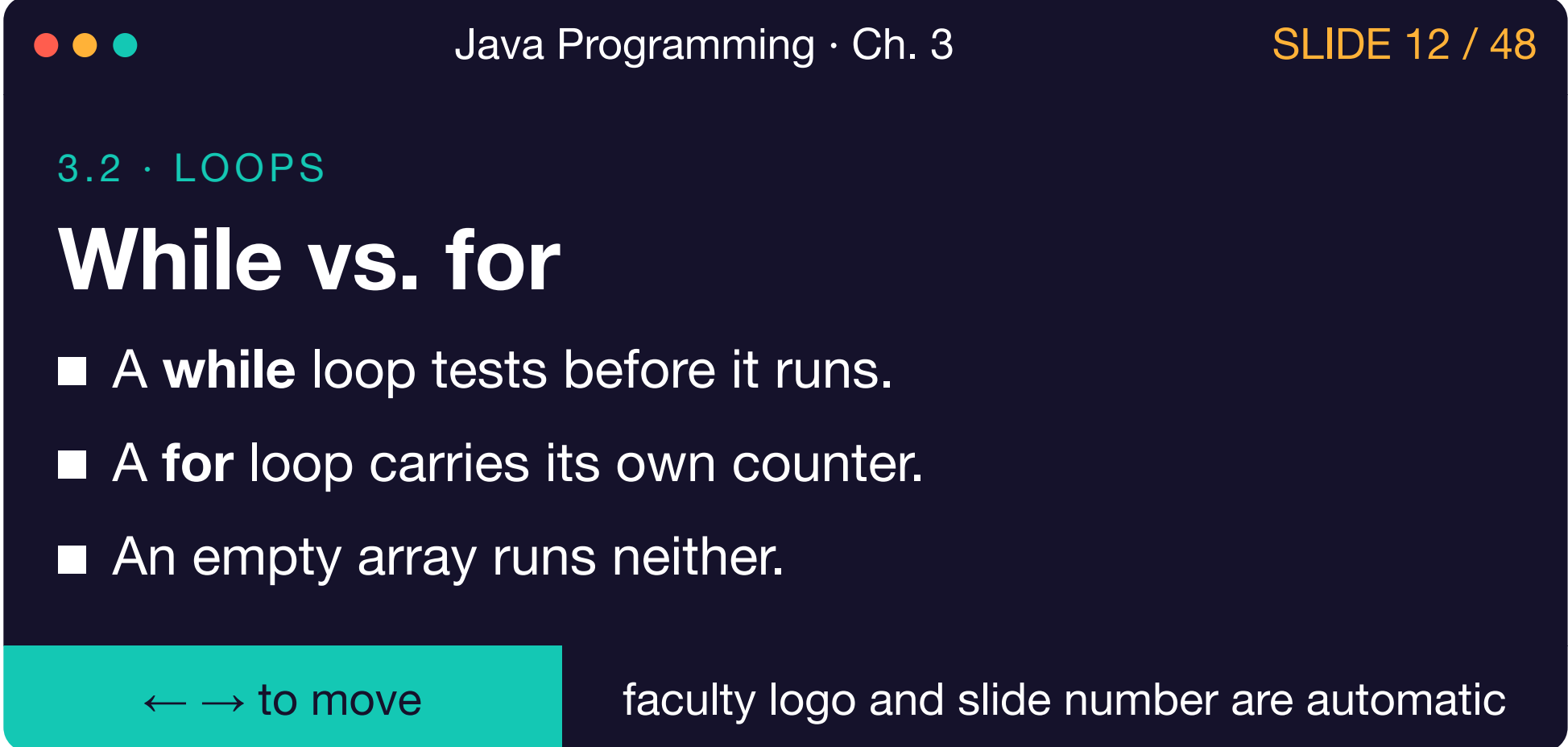
Runs on one mid-range server



Next.js reader, Spring Boot API and MongoDB behind the faculty proxy; live presence on Firebase; the language model on NEU research hardware. Students sign in with their university Microsoft account.

METHOD · THE LECTURE

The lecture runs from the manuscript



No deck is exported and none can go stale: the slide *is* the chapter.

METHOD · THE ROOM

A room around the document

Class room · KHDL2025		42 online
Slide 10		3
Slide 11		32
Slide 12		7
QR join Raise hand Chat Roles		

Each slide click writes presence, so the sidebar shows who is on which slide — and who has fallen behind. Teacher or student is decided by the e-mail domain; an exam room hides chat and raise-hand.

METHOD · PUBLISHING

Print-quality from the browser

- Paged.js with real @page masters — left, right and blank pages, running heads.
- Contents built from live page references, not a typed list.
- Cover, colophon and imprint edited in a form; print straight to PDF.
- The original .docx stays downloadable beside the web edition.

METHOD · ASSESSMENT

A table in Word becomes the exercise

Quiz · teacher view		34 answered
A. It prints 0		4
B. Nothing is printed		19
C. It throws an error		8
D. It loops forever		3

A two-column table becomes a quiz with live counts the teacher can hide while students answer; an oj cell becomes a judged coding task in eight languages; a file cell becomes an upload. Exercises travel inside the manuscript.

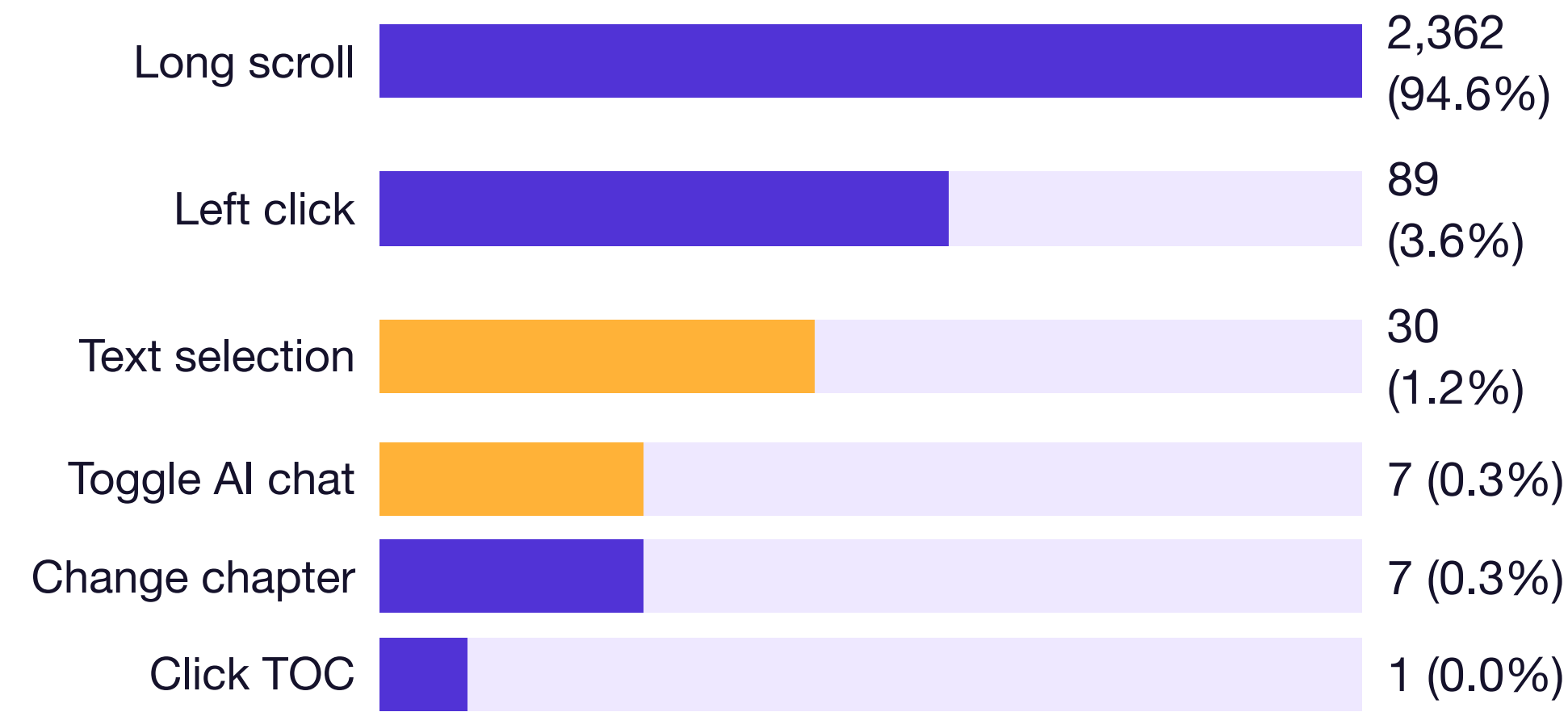
METHOD · AI

Student questions never leave campus

- Reading tutor — self-hosted qwen3:8b on NEU hardware, answering from the chapter on screen.
- Vietnamese spell check — whole book, one chapter or a selection, on the same model.
- Authoring actions for teachers — summarise, review, typeset — call an external model.
- The tutor sits in the book reader; the exam room runs without it.

RESULTS · READING BEHAVIOUR

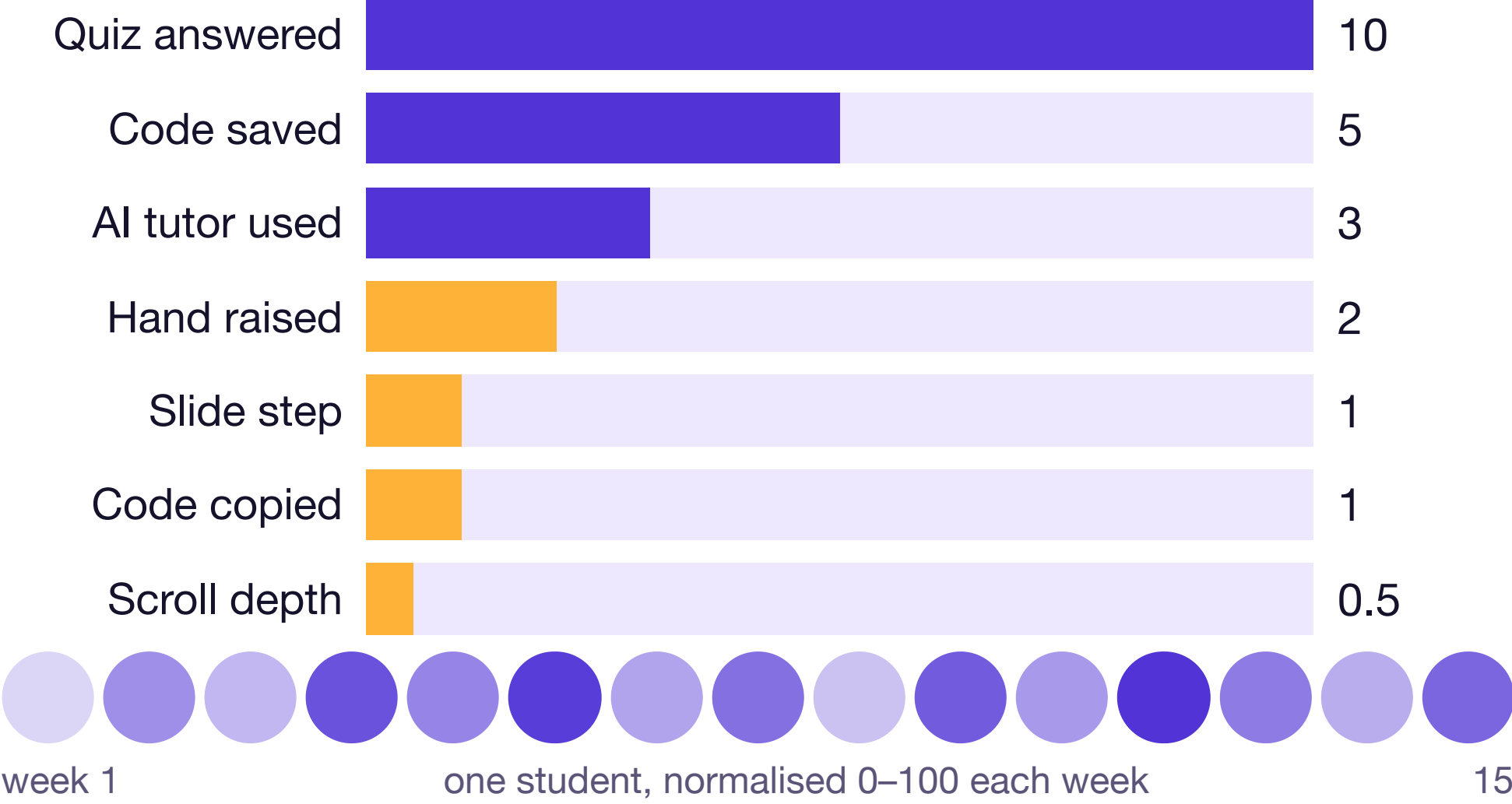
Reading is scrolling, not clicking



Log scale · 2,496 events from the NEU pilot. Events queue in memory and flush every 30 s, so the page never waits on a write.

RESULTS · DILIGENCE

Seven signals, one weekly score



Each week is scored against the most active student, turning behaviour that is invisible in a lecture hall into a comparable number.

CONCLUSIONS

- One manuscript drives teaching, reading and examination — no second authoring tool.
- Assessment lives inside the document, so exercises travel with the content.
- A sovereign model keeps student questions on campus hardware.
- Classroom behaviour becomes a weekly, comparable score.