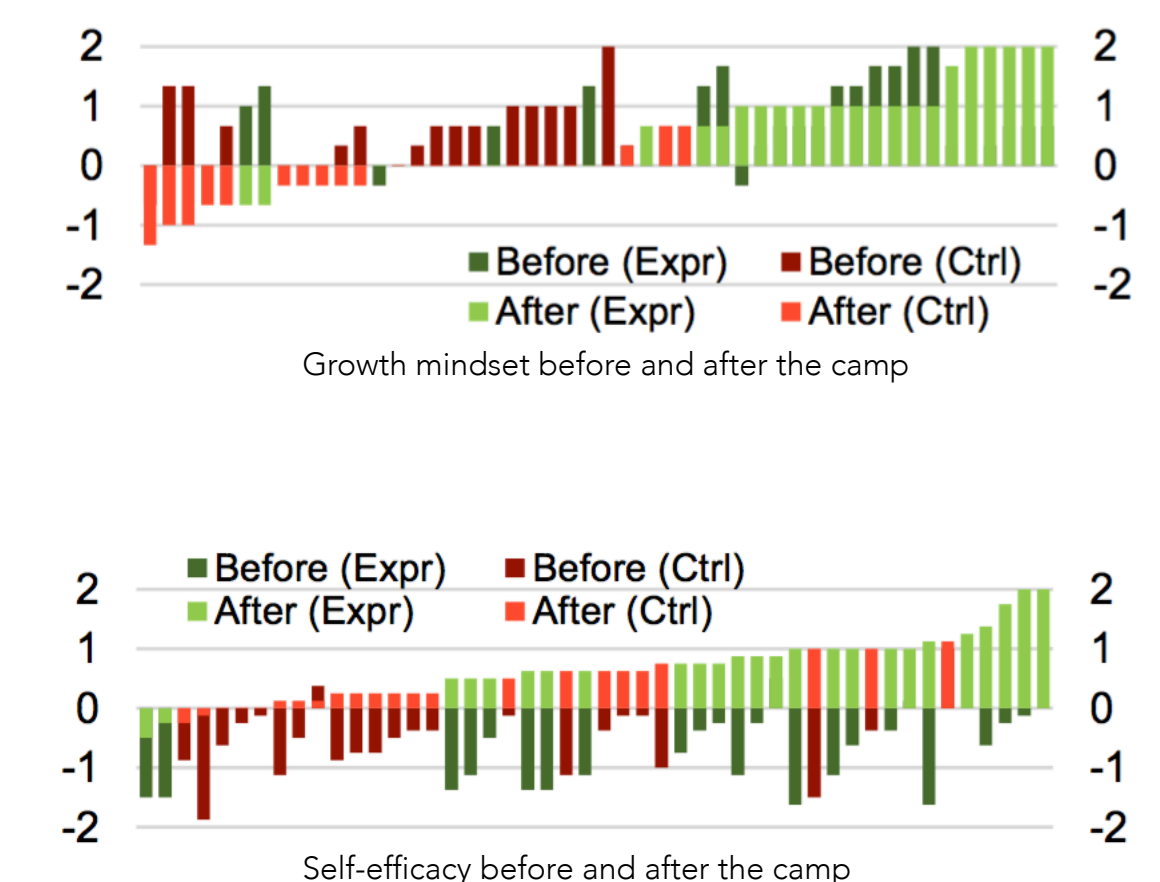
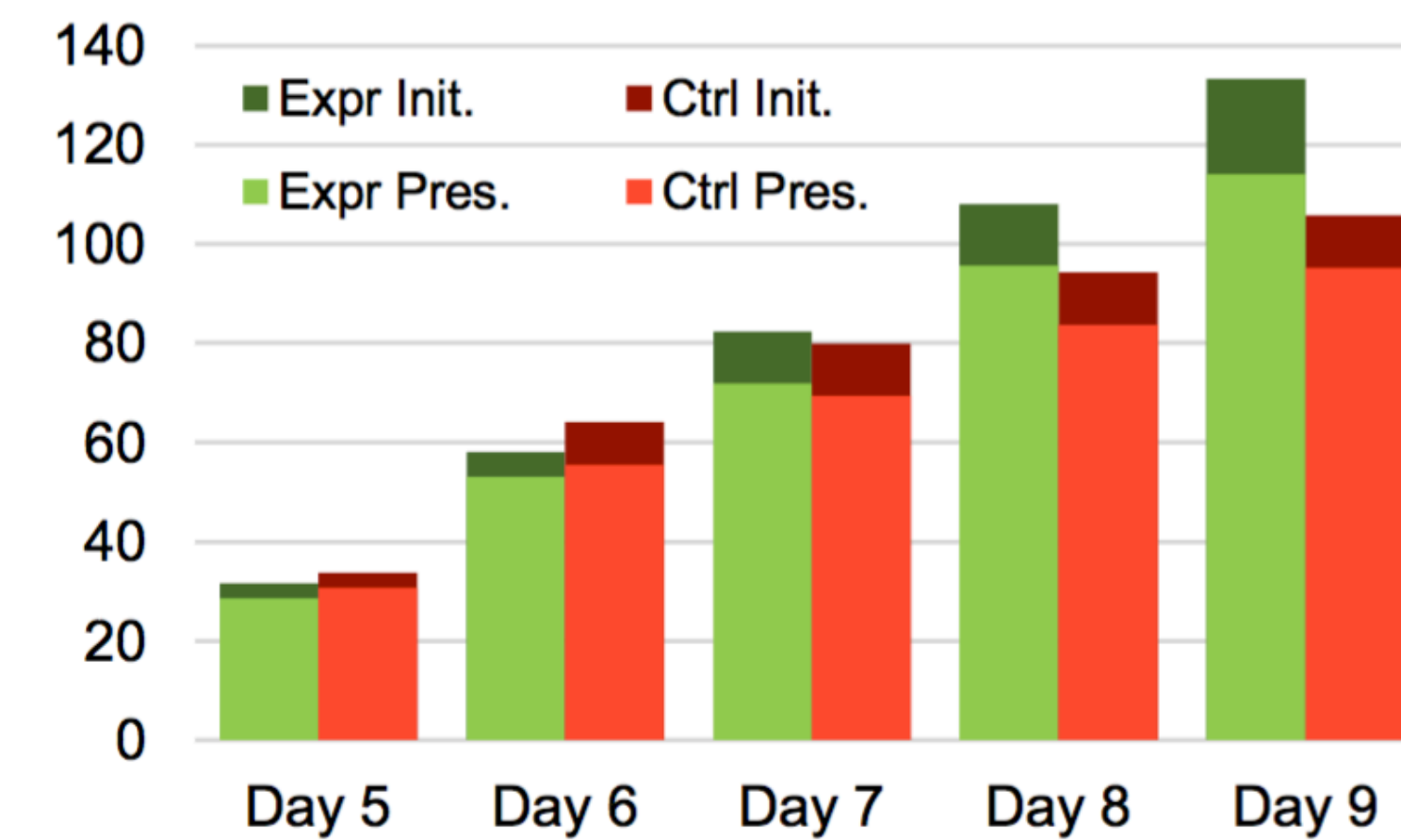
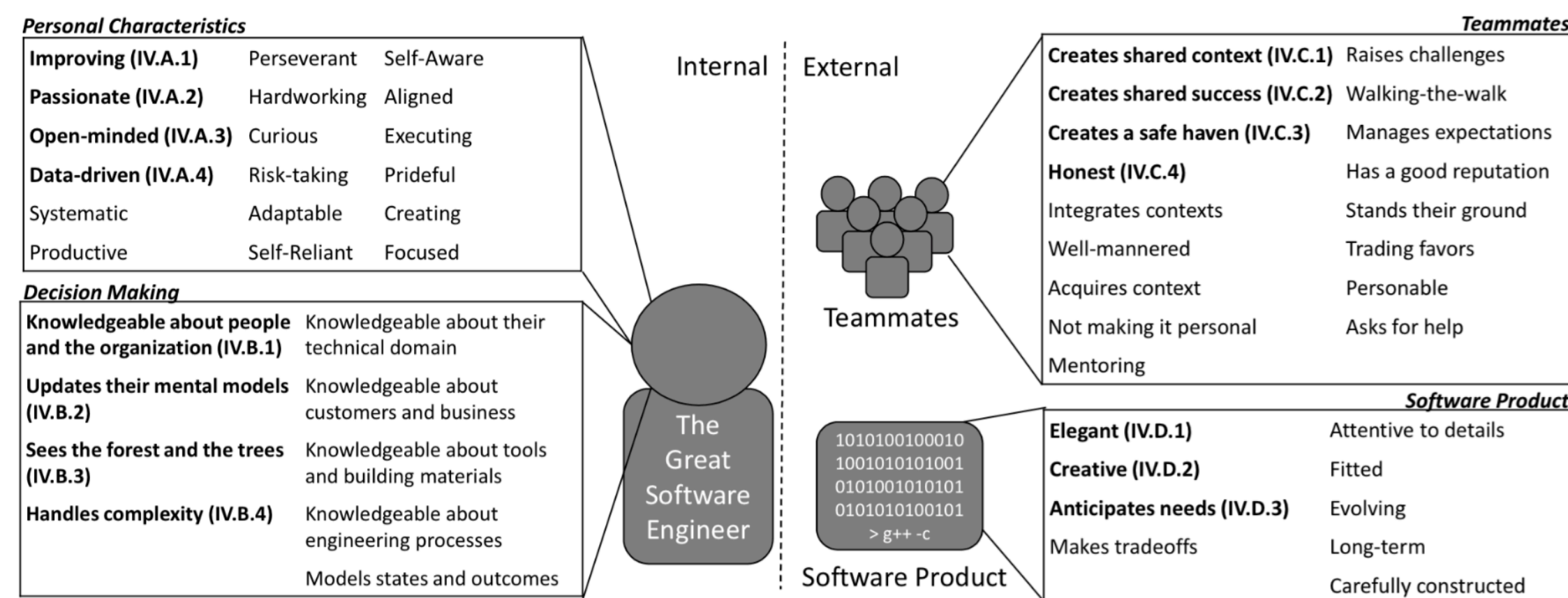


use group



We study interactions between people and code.
Here are some of our latest discoveries.

Andrew J. Ko, Ph.D., The Information School



What makes a great software engineer?

Paul Li et al., International Conference on Software Engineering 2015

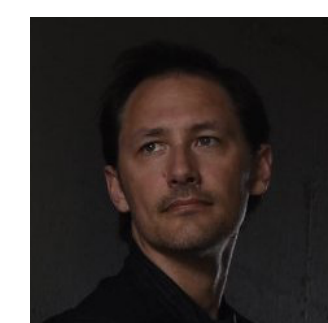
We interviewed 59 senior engineers at Microsoft, finding broad agreement that honest, open-minded, life-long learners, who can handle multiple levels of complexity and abstraction, and write code that methodically accounts for the operating conditions. We also discovered dozens of other surprising attributes that are critical to success. Ongoing work is analyzing over 1,900 survey responses and an 40 interviews with experts from other disciplines (e.g., designers, data scientists).



How well do online coding tutorials produce programming skills?

Michael J. Lee et al., ACM International Computing Education Research Conference, 2015

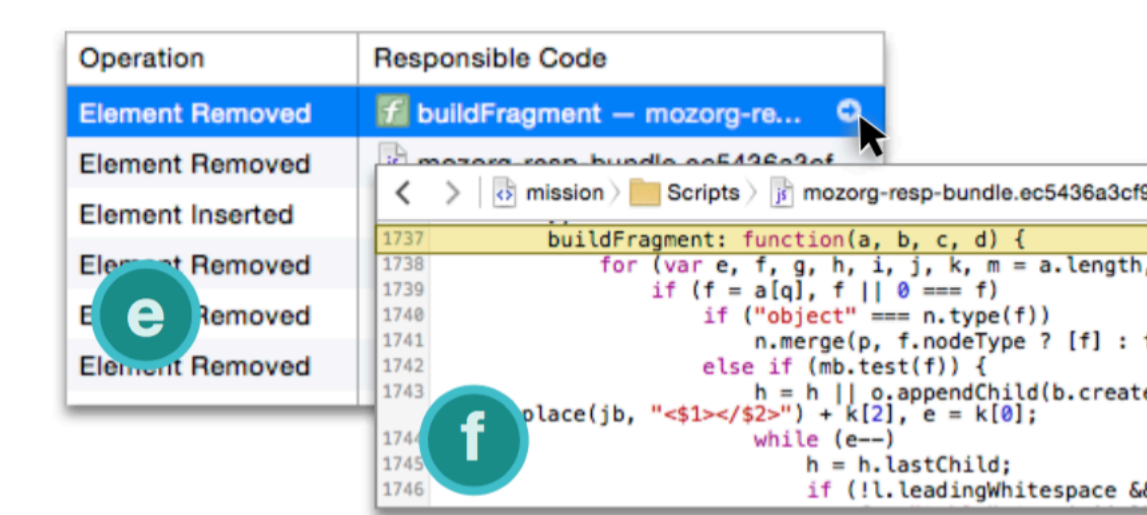
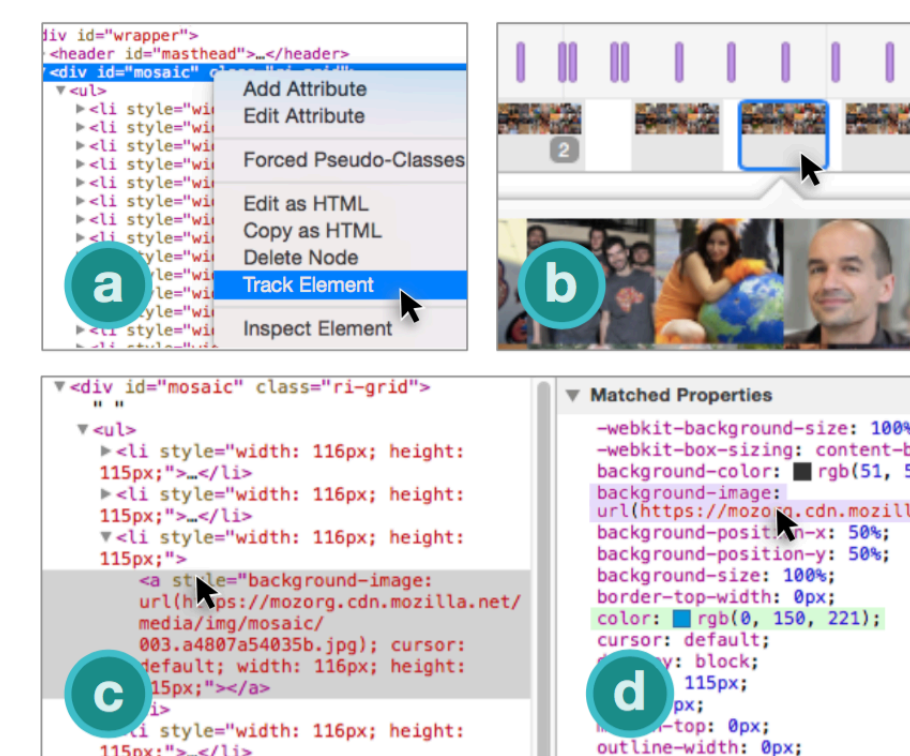
We experimentally evaluated the learning outcomes of Gidget, Codecademy's Python Tutorial, and a version of Gidget focused on creative expression. Learners made significant learning gains with Gidget and Codecademy, but Gidget learners learned twice as fast.



How can we teach programming problem solving?

Dastyni Loksa et al. In review.

We invented a new framework for programming problem solving and way to teach it, promoting metacognitive awareness about strategy selection and evaluation. We experimentally evaluated the pedagogy across two 2-week web development camps with high school novices, finding that it had significant impacts on productivity, self-efficacy, growth-mindset, and dependence on help from instructors.



How can web developers reverse engineer interactive behaviors?

Brian Burg, ACM Symposium on User Interface Software and Technology, 2015

Web developers often want to repurpose features from web pages, but struggle to locate the source code that implements a feature. Scry enables developers to select a page element, a before and after state, and then view the JavaScript code directly responsible for their differences.