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HISPANIC HERITAGE MONTH

Luis von Ahn

The Computer Scientist Who Put Puzzles to Work

Turning Puzzles Into Progress

Luis von Ahn was born in Guatemala City, Guatemala, in 1978. His mother gave him a computer when he was eight years old, and he never really stopped using one. He moved to the United States for college and later became a computer science professor at Carnegie Mellon University.

In the early 2000s, websites had a problem. Computer programs pretending to be people were signing up for millions of fake accounts. Luis and his teammates invented the **CAPTCHA** — a small puzzle that is easy for a human and hard for a computer. If you can read the squiggly letters or spot the buses in the pictures, you are probably a person.

Then Luis noticed something. Millions of people were solving these puzzles every day, and all that brain power was being thrown away. So he invented **reCAPTCHA**. It showed people real words scanned from very old books that computers could not read. Every time someone solved the puzzle, they helped **digitize** a page of a real book — without even knowing it.

Later Luis co-founded **Duolingo**, an app that teaches languages and is free to use. His big idea has always been the same: find something millions of people are already doing, and make it add up to something useful.

WORDS TO KNOW

- **CAPTCHA:** A small test on a website that is easy for a person to pass but hard for a computer program.
- **digitize:** To turn something from the real world, like a page of a book, into a computer file.
- **crowdsourcing:** Getting a big job done by having a huge number of people each do a tiny piece of it.

Part 1 • Reading Comprehension

1. What problem were websites having that CAPTCHA was invented to solve?

2. What made reCAPTCHA different from a regular CAPTCHA?

3. What does the word "digitize" mean?

4. What is Duolingo, and what does it cost to use?

Part 2 • Design Challenge: A Puzzle Only Humans Can Solve

A good CAPTCHA is easy for a person and hard for a computer. That is harder to design than it sounds. Try it.

- 1 Write a question that almost any person could answer but a computer would struggle with.

- 2 Now think like the other side: how might a very clever computer program cheat on your question?

- 3 Luis made solving puzzles useful by having them digitize books. Name another big job that could be split into tiny pieces for lots of people to do.

Part 3 • Think About It

reCAPTCHA had people help digitize books without telling them they were doing it. Was that a fair trade? Explain your thinking.



