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CLASS _____

HISPANIC HERITAGE MONTH

Luis von Ahn

The Computer Scientist Who Put Puzzles to Work

Turning Puzzles Into Something Useful

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 loved it. He moved to the United States for college. Later, he became a computer science professor at Carnegie Mellon University.

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

Then Luis had another idea. Millions of people were solving CAPTCHAs every day. What if all that effort could do something useful? So he invented **reCAPTCHA**. It showed people words from old books that computers could not read. Each time a person typed a word, they helped **digitize** the book, which means turning it into a computer file.

Later, Luis started **Duolingo**, a free app that teaches languages. All of his ideas follow the same plan: take something millions of people already do, and make it add up to something useful.

WORDS TO KNOW

- **CAPTCHA:** A small puzzle on a website that is easy for a person to solve but hard for a computer program.
- **reCAPTCHA:** A CAPTCHA that uses real words from old books, so solving it also helps turn the books into computer files.
- **digitize:** To turn something, like a page of a book, into a computer file.

Part 1 • Reading Comprehension

1. What problem did websites have that the CAPTCHA was invented to solve?

2. How was reCAPTCHA different from a regular CAPTCHA?

3. What does "digitize" mean?

4. What is Duolingo, and how much does it cost?

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

A good CAPTCHA is easy for a person and hard for a computer. Try designing one.

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

- 2 Pretend you are a sneaky computer program. How might you try to get past the question you wrote?

- 3 reCAPTCHA split a big job (digitizing books) into tiny pieces that lots of people did. Name another big job that could be split into tiny pieces for lots of people.

Part 3 • Think About It

People who solved reCAPTCHAs were helping digitize books, but most of them did not know it. Do you think that was fair? Explain why or why not.
