Duolingo.com users will translate web as they learn a new language

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PITTSBURGH—Users of a new, free website, Duolingo.com, will help tackle the gargantuan task of translating the Web even as they learn a new language. The site, created by Carnegie Mellon University computer scientists Luis von Ahn and Severin Hacker, features computer tools that enable these foreign language learners to translate text as well as a professional.

Duolingo, which has been used by more than 100,000 people in a just-completed beta test, offers free language lessons in English, Spanish, French and German. In addition to computer-generated exercises to build vocabulary and grammar skills, Duolingo offers users a chance to practice their new language skills on real-world texts from the Internet, with the computer providing advice and guidance on unknown words.

"When you're doing the real-world stuff, such as reading a news report in German or French, you really feel like you're accomplishing something," said von Ahn, an associate professor of computer science at Carnegie Mellon. "It reinforces why you're working to understand this new language."

But these exercises do more than motivate the language student. They also generate translated text. Von Ahn and Hacker, a Ph.D. student in computer science at CMU, have found these translations match the quality of professional translators and are far better than those generated by automated translation services. If Duolingo can attract enough of the one billion people worldwide who are at any given time trying to learn a new language, these exercises could go a long way toward translating the Web.

Language remains a major barrier that limits the reach of the Internet. It is estimated English-speakers can access a bit more than half of all Web pages, but that leaves a significant percentage of the Web inaccessible to them. For the majority of global users, who are not English speakers, the language barrier is even more formidable.

Already, the beta testers have translated tens of millions of sentences, von Ahn noted. About 500,000 people were on a waiting list to try Duolingo at the end of the beta test. The site soon will add language lessons in Portuguese and Chinese.

Von Ahn has used such crowdsourcing approaches successfully in the past to tackle big problems. In 2007 he created the online puzzles known as reCAPTCHAs, which serve to reduce spam and protect websites from automated, malicious programs. When people solve the puzzles, they simultaneously digitize words from pre-computer-age books and periodicals. So far, more than a billion Internet users have

solved reCAPTCHA puzzles and millions of books have been made suitable for search and for reading on any digital device. Von Ahn's spinoff company, reCAPTCHA Inc., was acquired by Google Inc. in 2009.

Duolingo.com was spun off from Carnegie Mellon last November and the startup now employs 13 people in Pittsburgh. Eventually, the company plans to provide commercial translation services, though its primary purpose will remain translating Web resources for free. Duolingo has received funding from Union Square Ventures, a venture capital firm with technology investments that include Twitter, Tumblr, Foursquare and Zynga, and from actor-producer Ashton Kutcher.

"So far, the reception for Duolingo has been great," von Ahn said. Of the 100,000 people who have tried Duolingo since its beta test began in November, about 30,000 have become regular users who visit the site for at least 30 minutes a week. More than half of the users opt for practicing their skills on the real-world texts, he noted.

In addition to generating the lessons for each user, Hacker said, the computer also keeps track of what words the user has learned and which ones are causing trouble; the computer will then focus on those weak areas as it designs additional lessons.

In the real-world translation exercises, he explained, users can use the computer mouse to scroll over words they don't know, which causes the computer to offer possible translations for the word. Likewise, the computer can detect when the user makes an obvious translation error.

CMU's culture of entrepreneurship is supported by six campus incubator groups, collectively known as Greenlighting Startups. One group, the School of Computer Science's Project Olympus, has assisted Duolingo. An engine for accelerating innovation and job creation, Greenlighting Startups builds upon the university's impressive record of turning campus innovations into new businesses by supporting award-winning professors and world-class students in transforming their research into thriving commercial enterprises.

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