Speedy scanner re-writes book on publishing technology

(Reuters Life!) - Simply flipping through a book may not seem like the best to way to scan it, but a Japanese research group at Tokyo University has created new software that allows hundreds of pages to be scanned within minutes.

Scanning paper is normally a tedious process with each page having to be inserted into a flat-bed scanner, but the team led by professor Masatoshi Ishikawa use a high speed camera that takes 500 pictures a second to scan pages as they are flipped.

Normal scanners can only scan the information that is actually before them on the page. The new scanner being developed is able to deal with the fact that pages that are being flipped are normally deformed in some fashion.

"It takes a shot of the shape, then it calculates the shape and uses those calculations to film the scanning," Ishikawa said, explaining the system used to reconstruct the original page.

"As it can film while understanding the underlying shape, it's very easy to then take the pages that are being scanned and save them as a normal flat copy."

The current system is able to scan an average 200-250 page book in a little over 60 seconds using basic computer hardware that is available off-the-shelf.

While it now requires extra time to process the scanned images, the researchers hope to eventually make the technology both faster and much smaller.

"In the more the distant future, once it becomes possible to put all of this processing on one chip and then put that in a iPad or iPod, one could scan just using that chip. At that point, it becomes possible to scan something quickly to save for later reading," Ishikawa told Reuters.

Being able to scan books with an iPhone may be further off, but Ishikawa says that a commercial version of the large-scale computer based scanning system could be available in two to three years.

While the technology has the potential to take paper books into the digital age, it remains to be how publishers will react to people scanning their books while just flipping through them.

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