

Fingernails may someday store information

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Japanese scientists are working to place microscopic information on fingernails with the goal of one day replacing credit cards, Nature.com reported.

The team has only managed the feat on nail clippings so far, but they hope the process could one day be used to securely carry information on fingertips.

Yoshio Hayasaki of the University of Tokushima and his colleagues said a single fingernail could accommodate approximately 800 kilobytes of data. That would not provide room for a high-resolution photo, but would be enough to store basic identification information.

Hayasaki and his team achieve the feat by using a laser that delivers very short pulses of infrared light onto a finely focused spot, they report in Optics Express¹. When the nail is illuminated with blue laser light to excite fluorescence, recorded dots appear brighter than the material surrounding them, allowing the information to be read under a microscope.

Because it is possible to adjust the depth of the writing, they say several layers of information can be superimposed within a single slab.

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