

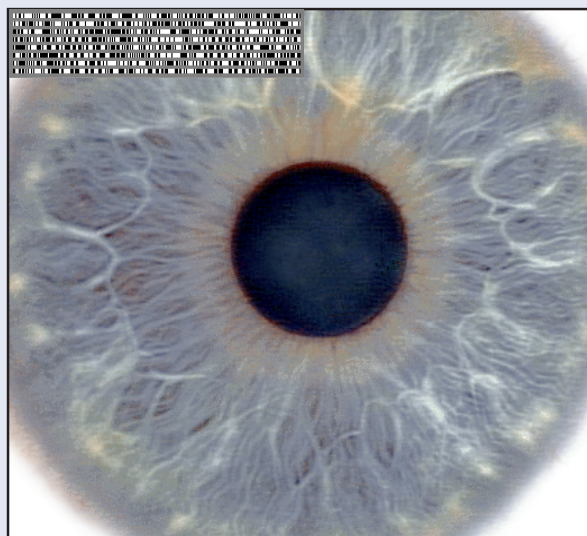


Eye-identifying Yourself

Iris recognition may allow us to live in a world without PIN numbers—identifying ourselves just by looking at the ATM. Identification by iris recognition is based on pattern recognition, wavelets and statistics. The first two fields are used to translate the patterns in your iris into a string of 0's and 1's, while statistics establishes that the scanned iris is yours.

The iris is a good physical feature to use for identification because of the tremendous variability in iris patterns, even between twins. This variability guarantees that a correct identification is made when the code for a scanned iris matches a stored code in at least two-thirds of the bits. Furthermore, the eye and iris are easy for a scanner to find, due to their shape and placement. Once the iris is located, wavelets are used to translate the pattern of the sampled portion of the iris into two bits. These bits reflect the agreement between that portion of the iris and specific wavelets. The entire iris is encoded in about 2000 bits. Finding a relative match between this bit pattern and one of the thousands of iris codes in the database completes the identification. This comparison is done in parallel, so that the whole process takes place in about the blink of an eye.

For more information: “Iris Recognition,” *American Scientist*, John Daugman



Photograph courtesy of John Daugman.



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