

The Telegraph

Ears provide new way of identifying people in airports

The shape of a person's ears could provide a new way of identifying people in airports following new research.



Who owns ears like these. From the left, Tony Blair, David Cameron and Prince Charles Photo: REX

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Forget fingerprints or the colour of your eyes, airport security could soon be looking at the shape of your ears when deciding whether to allow you into the country

Researchers have discovered that each person's ears have a unique shape and have created a system that is able to scan them. The scans can then be compared with a database of ear shapes to identify whose they are.

They hope that the system can be used to take pictures of a person's ear as they walk through passport control.

Professor Mark Nixon, who led the team from the school of electronics and computer science at the University of Southampton, said: "There are a whole load of structures in the ear that you can use to get a set of measurements that are unique to an individual.

"With biometrics, a lot of the problems is what happens when people get old. With facial recognition, the systems are often confused by crows feet and other signs of ageing. Your ears, however, age very gracefully. They grow proportionally larger and your lobe gets a bit more elongated, but otherwise your ears are fully formed from birth."

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Many other biometric approaches used to identify people can be easily confused or are difficult to use.

Facial recognition software, for example, is often confused by changes in expression so people need to maintain a neutral expression and in some cases even avoid wearing make up.

The UK Passport Service has been trialing facial recognition at Stansted Airport since 2008.

Retina scanning trials have also been used, but these require subjects to look directly at a scanner at close range.

The ear scanning technique uses a technology called image ray transform that highlights all the tubular structures of the ear and measures them.

Professor Nixon believes ear scanning could take place as passengers walk through security gates, for example, by placing cameras on either side to capture an image of their ears.

All British passports now carry chips that can hold biometric information on them and pictures of a person's ears could be added to that.

Professor Nixon and his team tested 252 images of different ears and found the system was able to match each ear to a separate image held in its database with 99 per cent accuracy.

They recently presented their results at the Fourth International Conference on Biometrics.

"Fingerprints are one of the best ways we have of identifying an individual at the moment," said Professor Nixon. "But on some people, even they are not so effective. Bakers and brick layers tend not to have obvious fingerprints as the distinctive whorls rub off.

"It is harder to do that with your ears, but there is one thing that can get in the way of the ears and that is hair. In reality, I expect there won't be a single approach, but in fact a combination of different biometrics that can be taken simultaneously to identify an individual."

A spokesman for the Home Office said they were aware of the ear identification technology but were not considering introducing it for use with British passports.

He said: "We welcome new and innovative technology but this is not an approach we are considering at the moment."

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