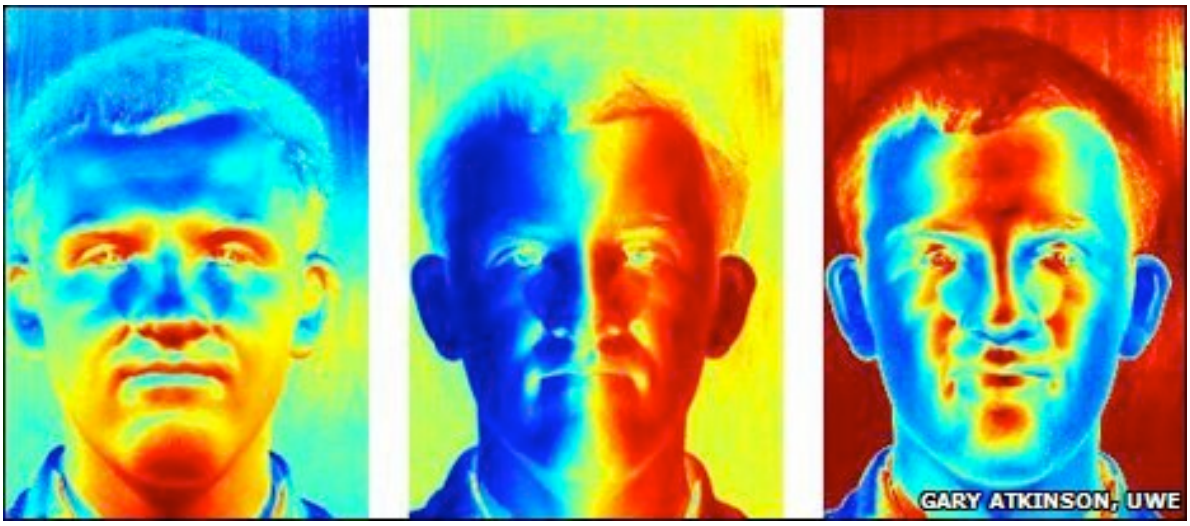
Page last updated at 00:22 GMT, Tuesday, 2 March 2010

Nose scanning techniques could sniff out criminals

By Doreen Walton
Science reporter, BBC News



Faces were analysed and mapped with a computer programme

We already have iris and fingerprint scanning but noses could be an even better method of identification, says a study from the University of Bath, UK.

The researchers scanned noses in 3D and characterised them by tip, ridge profile and the nasion, or area between the eyes.

They found 6 main nose types: Roman, Greek, Nubian, hawk, snub and turn-up.

Since they are hard to conceal, the study says, noses would work well for identification in covert surveillance.

The researchers say noses have been overlooked in the growing field of biometrics, studies into ways of identifying distinguishing traits in people.

"Noses are prominent facial features and yet their use as a biometric has been largely unexplored," said the University of Bath's Dr Adrian Evans.

"Ears have been looked at in detail, eyes have been looked at in terms of iris recognition but the nose has been neglected."

The researchers used a system called PhotoFace, developed by researchers at the University of the West of England, Bristol and Imperial College, London, for the 3D scans.

The face is modelled by computer so the nose can be analysed in detail

Several measurements by which noses can be recognised were identified and the team developed recognition software based on these parameters.

"This initial work is nowhere as good as iris identification but the nose has pros and cons," said Dr Evans.

"There's no magic biometric that solves all your problems. Irises are a powerful biometric but can be difficult to capture accurately and can be easily obscured by eyelids or glasses. People can easily cover up their ears, with their hair for example.

"Of course you can have a broken nose or wear a false nose or have plastic surgery but to have nose surgery to change your identity is fairly drastic.

"Irises are very good for recognition but you can put in dilation drops which change the iris completely. No technique is infallible," he said.

The research is based on a study of 40 noses and the data base has now been expanded to 160 for further tests to see if the software can pick out people from a larger group and distinguish between relatives.

Dr Evans hopes the method can be proven to be effective on this larger sample. "The technique certainly shows potential, perhaps to be used in combination with other identification methods," he said.

Photos of people's faces and noses were lit by flash from different angles