

Facial recognition app assesses patient pain

August 7 2015, by Tony Malkovic



He says the aim is to focus on the app for dementia patients and then refine the second app for pre-verbal children. Credit: Johann Ebend

An app developed by Curtin University researchers is using facial recognition technology to detect pain in patients who cannot speak.

Two versions of the [app](#) are being developed: one for elderly people with

dementia who find it difficult to communicate with medical staff, and the second for young children who have not yet learnt to speak.

The app is called the Electronic Pain Assessment Tool, or ePAT.

"What we're trying to do is provide an objective measure for assessing [pain](#) for patients who cannot communicate verbally," Professor Jeff Hughes says, who is the former head of Curtin's School of Pharmacy and a member of the research team.

"What it does is combine the objective facial features of pain which can be used with pain cues and combines that with other non-facial features in order to determine the presence of pain and the severity of the pain."

The app utilises 3D [facial recognition software](#) licensed from a Swiss company and takes a 10-second video which maps features such as the eyes, nose and mouth, which are then analysed in [real time](#).

Prof Hughes says there is a lot of research around the world involving the detection of pain in dementia patients.

"But up until now we're the first people who have been able to analyse the presence of facial cues for pain using a smart device and undertaking that analysis in real time," he says.

"Potentially it's a game changer. What we know is that anywhere between 50 and 80 per cent of dementia patients suffer pain; 50 per cent of them have ongoing [chronic pain](#) and we know that's undertreated."

ePAT backed by local investors

The ePAT app was a finalist earlier this year in the OzAPP awards for start-ups in the Asia-Pacific region.

"We have a start-up company called ePAT Pty Ltd and local WA investors here in WA supporting it," Prof Hughes says.

He says the ePAT team is undertaking validation trials with dementia patients to support its registration with regulatory bodies such as Australia's Therapeutic Goods Administration, the US Food and Drug Administration and EU bodies, a process likely to take up to 18 months.

He says the aim is to focus on the app for [dementia patients](#) and then refine the second app for pre-verbal children.

"We've already developed the specifications for that app but we will delay its development until we are further along with the ePAT for dementia," he says.

Provided by Science Network WA

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