'Twitter-like' technology could make cities safer

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Instant feedback technology that allows the public to voice spontaneous opinions about their surroundings is being tested to help make cities safer.

The 'Voice Your View' (vYv) technology has been developed by scientists from the Research Councils UK Digital Economy Programme, led by EPSRC, and allows people to provide feedback about their environment, including how safe they feel.

Opinions can be expressed either through public terminals or easy-access software on mobile phones. The system then processes responses to create an instant 'wiki-display' of local issues that will help councils concentrate resources where they are needed most. For example, people might report that they feel unsafe in an area with poor lighting. Or they could express their fears about the visibility of the police in their area.

vYv allows users to track their comments, see who agrees with them and view other issues reported elsewhere in their neighbourhood.

Professor Jon Whittle of Lancaster University, who is leading the research, says: "Think of it like a socially conscious twitter, or an anytime anywhere reporting mechanism. It's a form of social activism that could be really powerful for communities."

The vYv team are concerned with crime perception because numerous studies show that although crime data is the main way of assessing an

area's safety, individuals can experience much higher levels of stress from the fear of crime than from their actual experience of it. This stress can potentially affect general wellbeing, local mobility and confidence - with the elderly, women and students particularly affected. The physical environment, such as unused and empty spaces, poorly lit areas and areas obscured by trees and shrubs all contribute to these experiences; which is where vYv comes into its own.

The novelty of vYv lies in its ability to understand any comment a user makes by using a type of artificial intelligence technique known as natural language processing (NLP), including techniques from corpus linguistics and sentiment analysis. NLP is used to filter, structure and classify the comments and turn it into meaningful data; it looks at the main theme of the comment, such as lighting, and its sentiment - the degree of positive or negative feeling.

In this context, the technology has a huge advantage over traditional types of consultation as it allows a large number of views to be accessed quickly in an extremely cost-effective way.

"Today, public consultation tends to involve only a small slice of society," says Whittle. "Yet, most people have a view about their locality and they know the space better than anyone; it's just that they are too busy to register it."

Whittle and his team have recently worked with Derry District Policing Partnership to analyse people's views about police confidence and satisfaction, using the system. The resulting perception maps were received positively at the National Crime Mapping Conference last month, where officers saw real value in being able to compare perception maps side-by-side with crime maps of the same area.

"It's immediately clear where there's a mismatch in people's experience

of crime," says Whittle. "There could be statistically safe areas where people feel unsafe, and vYv can provide the police service with insight into why this may be and where an extra police presence would be helpful."

By making it both quick and easy to provide an opinion vYv will encourage a broader range of people to express their views on local amenities. Trials of the prototype suggest that the technology could capture the views of a much younger public, whose opinions town planners rarely access. And because the views are collected in real time, they are significant in comparison to views taken using a questionnaire at a particular point in time.

"There are clear parallels between our approach and the rise in popularity of spontaneous voting for shows such as The X Factor," adds Whittle.

One potential way of using the technology is through terminals with speech recognition technologies to analyse comments and display up-to-the-minute results. Future technology developments are expected to include a low-power voice activated solution for mobile phones that would allow people to voice comments without having to physically access their phone.

Looking forward, a large-scale trial is planned on Coventry University campus in October, with a second trial in a redevelopment area near the university in early 2011.

More information: For more information visit www.voiceyourview.com

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