

Scientists striving to put a human face on the robot generation

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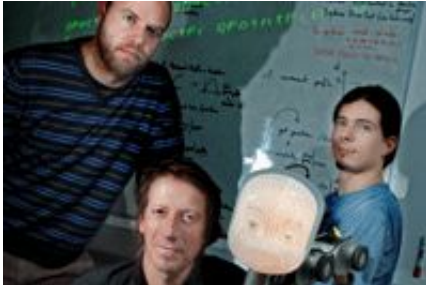
Scientists at Plymouth University are studying the social interaction between humans and a specially-designed robot, in a project that could pave the way for a generation of more life-like androids.

The CONCEPT project monitors how people engage with and react to the ‘LightFace’ [robot](#) when given the task of teaching it the meaning of words and concepts, just as they might a young child.

The robot is capable of producing a range of subtle and naturalistic expressions thanks to its computer generated responses which are projected onto its ‘face’.

The £200,000 project, funded by the Engineering and Physical Sciences Research Council, is proving so influential that a number of overseas

institutions are now using the technology – including an experiment in Qatar to create the world’s first robot receptionist.



Project lead Dr. Tony Belpaeme, from the Faculty of Science and Technology, said: “People interact with robots in a manner similar to the parent-child relationship. But faces are hugely important in this regard, and the inert nature of most robot faces means that people do not really respond to them.

“Using this computer generated technology, however, we can create a new breed of robot, one that is cheaper to produce but is capable of naturalistic expressions that lift it out of the ‘uncanny valley’ that we see with so many anthropomorphic robots.”

Students at the University are being invited to ‘teach’ the CONCEPT robot the meaning of words and demonstrate colours and shapes. Their psychological responses are then analysed, and the robot’s mannerisms are tweaked accordingly.

It is a technique that has now generated links and partnerships with institutions in Japan, Germany, and Sweden, and especially with the

Carnegie-Mellon University in Qatar, which is using it in the design of a robot receptionist.

Researcher Fred Delaunay said: “We are striving for a robot that creates the illusion of life, one that exhibits recognizable human behaviours. This has the potential to be applied to a huge range of applications, from vending machines to virtual receptionists.”

More information: CONCEPT is set to go on public display for the first time when it takes its place at the European Commission-funded Robotville event at the Science Museum in London, from December 1-4.

Provided by University of Plymouth

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