Researchers design humorous 'bot'

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University of Cincinnati researchers Julia Taylor and Larry Mazlack recently unveiled a "bot" — more accurately a software program — that recognizes jokes. They reported the development at the American Association for Artificial Intelligence conference in Vancouver, Canada. All bad jokes aside, their research represents a step forward in computers reaching the capability of a human mind.

Taylor, a doctoral student under UC Professor Mazlack, is studying data mining — the science of deriving meaning from large amounts of data. Mazlack is the coordinator of the Applied Artificial Intelligence Laboratory and coordinator of the Data and Knowledge Management research group. Taylor specifically researches humor in robots.

"This work has a relationship to 'Sociable Computing,'" says Mazlack. "Currently, computers are often difficult to communicate with, to use and to apply to solving problems that are informally stated."

This area has been researched for decades and has also been the subject of many Star Trek episodes. Developments such as these offer sophisticated improvements in robots that are used as companions or to otherwise interact directly with humans.

"The 'robot' is just a software program that still needs a lot of work," says researcher Taylor. "The idea is to be able to recognize jokes that are based on phonological similarity of words."

The program can in fact recognize jokes, but ONLY when the necessary

background and world knowledge are provided, she says. "The ontology that provides this knowledge is a work-in-progress at this stage. So, the software is far from being finished, but does produce some results."

Taylor had the distinct task of "training" the computer by providing it with information relative to American English at a child's level. They developed an extensive list of knock-knock jokes that turn on people's names, particularly.

Then they gave the "bot" several examples of words that can have different meanings and homonyms, as in puns. The program then checks to see if the message is consistent with what would make sense. If it doesn't, the bot searches to see if the word sounds similar to a word that would fit. If this is the case, the bot flags it as humor.

Knock, Knock
Who is there?
Dismay
Dismay who?
Dismay not be a funny joke

"Even leaden puns are very difficult to understand as well," says Taylor. "With the knowledge that is in the ontology right now, there are very, very few jokes (or puns) that the program can understand."

"The ability to appreciate humor is an enormous increment in subtlety," says a fellow researcher in UC's College of Engineering. "You need to know a lot to 'get' humor — a computer does not find it easy."

"Part of the difficulty lies with the formality that computers and people need to use to interact with each other," says Mazlack. "A critical aspect in achieving sociable computing is being able to informally communicate in a human language with computers. Computationally handling humor is

critical to being able to conduct an informal dialogue with a computer; Julia Taylor is making good progress in advancing knowledge in this area — other people in my lab are working on different aspects of less formal ways of using computers."

Knock, Knock
Who is there?
Police
Police who?
Police tell me some Knock Knock jokes

Here's an example of one of the robot's favorite jokes:

Mother to boy: "Johnny, you've been working in the garden a lot this summer.
Boy: "I know. My teacher told me to weed a lot."

"Notice that the boy says the teacher told him to WEED. Since 'weed' sounds similar to 'read,' the program can find this wordplay," Taylor says.

If not "where no one has gone before," this research does represent a tremendous step toward approaching the capability of the human mind.

Knock, Knock
Who is there?
Noah
Noah who?
Noah good place to find more jokes?

Source: University of Cincinnati