A first in online gaming: Humans team up with AI software

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Hey, online gamers, artificial intelligence researchers need your help! As part of an international team of researchers, Northwestern University has officially released the first online game in which human players partner with artificial intelligence (AI) software –- in this case with the goal of solving a treasure hunt in a virtual world.

The 3D online game, called "GIVE: Generating Instructions in Virtual Environments," is designed to help computers use language more like people do.

Would-be gamers are invited to visit give-challenge.org, where they will team up with one of four AI software systems. Players have from now until January to play the game and provide feedback on how well the systems give instructions for solving the treasure hunt puzzle.

"By collecting information from everyday computer users from around the world, we will be able to improve language processing for different kinds of intelligent agents," says Justine Cassell, director of Northwestern University's Center for Technology and Social Behavior and professor of communication studies and computer science.

The feedback from gamers will be analyzed by the game developers to compare how well each of the four AI systems did in the GIVE challenge, with the goal of making computers better partners in a variety of both virtual and real world tasks.

"The information we get will help to build better pedestrian navigation systems, develop more realistic dialogue for virtual humans in immersive virtual worlds, and eventually improve interaction with mobile robots," says Northwestern's Cassell, who with researchers from the United States, United Kingdom, Australia and Germany, organized the GIVE challenge.

Although computers are getting better at some language-based tasks, such as Web search, they still have difficulty holding a conversation with a person in real time. Following in the footsteps of dialogue agents like NUMACK -- a purple virtual human that Cassell developed to give directions around the Northwestern campus -- the GIVE game will allow AI researchers to learn how computers can generate effective direction-giving commands.

GIVE is a challenge problem for AI software, and the virtual partners that are contestants in the GIVE challenge are state-of-the-art natural language generation (NLG) systems that have been created by research teams from the US and Europe.

The GIVE Challenge is the largest initiative ever designed to evaluate natural language generation systems, and marks the first time that NLG research has been made available for public evaluation. GIVE provides gamers a unique opportunity to explore and improve the current state of the art in artificial intelligence.

GIVE is the first online game in which your partner in the game is the AI software itself. The challenge adds to a growing movement among AI researchers that allows Internet users to participate in the development and assessment of intelligent software.

Some online games, including Cyc, 20 Questions and The Restaurant Game, entice online players to make the game smarter by contributing to

its store of facts or common sense. The ESP game -- in which players team up to teach the AI software how to solve a difficult problem -- aims for long-term benefits but does not allow the players to interact with any AI software directly.

As an open challenge problem, GIVE is similar in spirit to the well-known RoboCup initiative, in which researchers are challenged to build teams of soccer-playing robots.

Anyone interested can play the game at www.give-challenge.org from now until late January 2009.

Source: Northwestern University