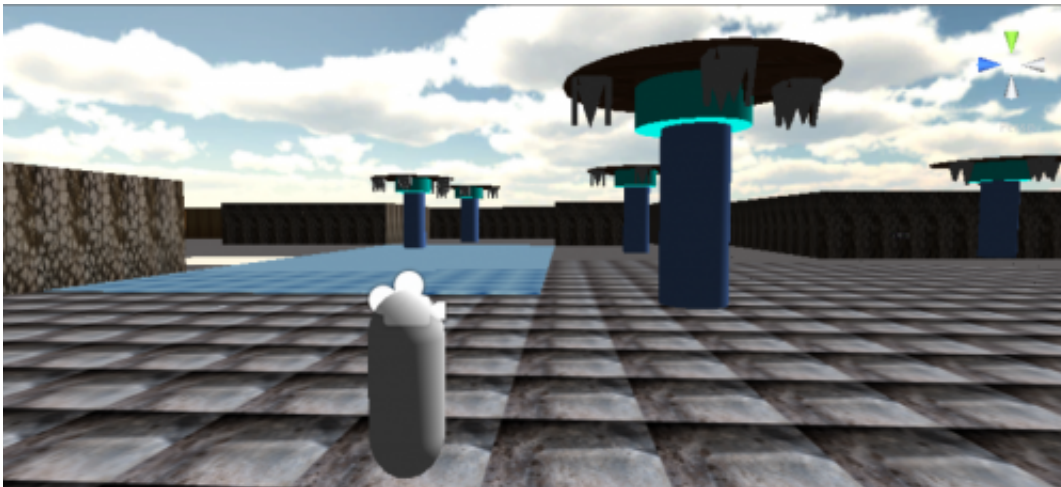# ANGELINA AI game enters Ludum Dare jam

January 6 2014, by Nancy Owano

(Phys.org) —Can we automatically design video games? Put more boldly, what if a machine carrying AI, not humans, could step up to the role of creating a game? And can AI even create a better game than a human can? These questions are under investigation by Mike Cook, who is a PhD student at Imperial College in London and also a research associate at Goldsmiths College, University of London. At Goldsmith, he is part of the Computational Creativity Group. Computational creativity is defined as a subfield of AI research which looks at whether software can be made to do things that would be considered creative if done by a human. Honing in on video game creation poses a fitting challenge.

"Games are the killer app for creativity," said Cook, in a 2013 [talk](#). "They integrate so many creative domains," he said, into a single output: music, art, narrative, linguistics, rules (the mechanics of the games).

"Can we start with literally nothing at all, except a few basic ideas about what a game contains, and ask a computer to design levels, populate them with characters, and wrap it all up in a ruleset that is both challenging and fun?" His own answer has been "I don't know!" but, he said, he was determined to find out through a software program called ANGELINA (A Novel Game Evolving Labrat I've Named ANGELINA).

Last year, Cook and Simon Colton of the Computational Creativity Group at Goldsmiths College authored a paper, "From Mechanics to Meaning and Back Again: Exploring Techniques for the Contextualisation of Code," They presented the paper at the AI and Game Aesthetics workshop. Topics covered in the talk included: How can software come up with its own theme and context?

In December, Cook entered a game made by ANGELINA into the Ludum Dare website, which holds an event several times throughout the year that challenges game designers to make a game in a single weekend. The games are posted online and everyone who took part is asked to vote for their favorite. Ludum Dare is described as a "game jam" which has become popular with those who like its challenge to create games from scratch under tight deadlines. The games are posted online and participants are asked to vote for their favorite.

Commenting on ANGELINA's entry, Cook said, "While most people think of the time limit as the biggest challenge for game jams, for a computer system the time limit is almost inconsequential – ANGELINA won't be needing sleep or food during the jam. What's difficult for ANGELINA is expanding a single word into an idea for a game."

This entry is significant as an AI game competing against humans. "I can't think of a better closing note for the thesis, a nicer way to end, than to report on ANGELINA's first attempt to compete and work alongside humans in a game jam," he said.

Angelina's game is called "To That Sect." According to the description, "This is a game about a disgruntled child. A Founder. The game only has one level, and the objective is to reach the exit (the yellow cylinder). Along the way, you must avoid the Tomb as they kill you, and collect the Ship."

Ludum Dare's description also informs site visitors that "This game was made by ANGELINA, a piece of software developed by me, Mike Cook. I designed ANGELINA as part of my PhD research into computational creativity." He also asked participants: Please rate this game as you would any other Ludum Dare game."

Reactions so far have recurring thoughts, expressed as "creepy," "unsettling" and also as "interesting" and "innovative."

 More information: www.gamesbyangelina.org/papers/aiga13.pdf www.gamesbyangelina.org/2013/12/ludum-dare-28/ www.ludumdare.com/

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