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$22m boost for interactive digital media projects

14 projects by 3 institutions receive funding

BY LEUNG WAI-LENG

SOCIAL robots that can laugh and talk with humans. And computer games that can sense a player's mood.

Also, software that can automatically draw animation sequences, slashing production time by up to 60 per cent.

All these could be a made-in-Singapore reality in three to four years' time.

They are just three of the 14 interactive digital media (IDM) research projects by the National University of Singapore, Nanyang Technological University and Nanyang Polytechnic, which have received a total of $22 million in funding from the National Research Fund (NRF). The sum is part of the $500 million the NRF has set aside to aid research in IDM.

The 14 projects were selected from 50 proposals after an open grant call by the IDM R&D Programme Office. It is hosted by the Media Development Authority (MDA).

Coming under an initiative called i.Rock (IDM Research Oriented Centres of Knowledge), it is the first public call for digital media research projects to be funded by the NRF.

The research is expected to involve about 400 students and over 100 faculty members of the three tertiary institutions, thus increasing Singapore's research and development capability in the digital media sector, said MDA's deputy chief executive officer Michael Yap.

He added: "These projects will form the bedrock in key areas of R&D in digital media."

The projects include studies on IDM's comprehensive scope, in order to help shape policies governing such emerging media.

Other exciting areas include the use of cameras to create a 3-D virtual world based on the real one.

Said Professor Shuzhi Sam Ge, who is leading the project to create social robots: "We are trying to chart unknown territory...There will be a need for these technologies in the future."

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» A SAMPLING OF CUTTING-EDGE RESEARCH

SOCIAL ROBOTS: BREATHING LIFE INTO MACHINES

What it is: A project to develop intelligent and socially aware robots able to interact and communicate with humans, and even live among humans.

Who is involved: Seven collaborators, led by Professor Shuzhi Sam Ge, director of the Social Robotics Lab in the Interactive & Digital Media Institute at NUS.

Funding received: $1.5 million over four years.

Impact of research: Robots will no longer just be industrial machines but companions too. Possible duties include stay-at-home companions for the elderly and medical robots.

AUTOMATED STORY-PLANNING FOR GAMES

What it is: A software that will allow storylines in games to change and develop according to a player's actions.

Who is involved: Assistant Professor Alexander Nareyek, director of the Games Lab in NUS, is putting together a team of six, which will include one artist and four PhD students.

Plans are also in place to fly in writers and script analysts who have worked on major movies in the United States to help develop the software's story-telling capabilities.

Funding received: "Slightly over" $1 million over three years.

Impact of research: The software, if successful, will change the way games are made and played.

Currently, story plots in games are linear and unchangeable.

Game developers will no longer need to programme different story branches into the game but will provide general rules to adapt the game's plot, with the potential to ensure the player gets a different experience each time he replays the game.

M-EDGE: MUSIC-EMOTION-DRIVEN GAME ENGINE

What it is: A software that allows a game to adapt to a player's emotions.

The player's mood will be detected from the way he or she plays a musical instrument. The game will then change, such as giving the player's virtual character different tasks.

Who is involved: Leading the team of six are Dr Roberto Dillon and Mr Ng Kian Bee from Nanyang Polytechnic's School of Interactive Digital Media.

Professional musicians are helping to identify the emotions associated with different types of music.

Funding received: $1.4 million over three years.

Impact of research: The software could provide a new, intuitive way to play games using musical instruments rather than the standard controllers.