

NEWS RELEASE

Office of University Communication

Houston, TX 77204-5017 Fax: 713/743-8199

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Contact: Ann Holdsworth
713/743-8153 (office)
832/387-9322 (cell)
aholdsworth@uh.eduNOTE TO JOURNALISTS: A demonstration of the NEAT-o Game is available on the Web at <http://www.cpl.uh.edu/Neat-o-Games>.**WEIGHT LOSS GAME LOOKING FOR 'NEAT-O' RESULTS
UH Professor Hopes Everyday Moves Inspire a New Addiction**

HOUSTON, September 12, 2007 – Finding a way to motivate the billion people in the world who are overweight to lose excess pounds can be an overwhelming task, but a University of Houston professor is meeting that weighty challenge with a challenge of his own.

Ioannis Pavlidis, a UH computer science professor, and research assistants Yuichi Fujiki and Kostas Kazakos, have developed a computer game that translates physical activity into video games, such as races and logic puzzles. Dubbed Non-Exercise Activity Thermogenesis (NEAT-o) games, they can be played on any hand-held personal digital assistant (PDA) with users wearing a lightweight, wearable sensor that detects movement like running, walking, bending over or even foot tapping.

That data is then transmitted to the PDA via a wireless connection, and the player can see his or her game avatar move in real-time to their movements. For example, in the race game, the player's physical activity propels the avatar around the track – the more active the player is, the faster and farther the avatar goes.

"When you see the avatar move when you move, you really become connected to the game," Pavlidis said.

Capitalizing on the buddy system for working out, users can link to other gamers by cellular phone networks and compete against multiple users in the next cubicle or the next state. The game can run all day in the background as users go about their daily routines while earning points and propelling their avatars as they walk to the copy machine, take coffee breaks or walk the dog.

The lack of daily mild exercise is largely responsible for the world's obesity epidemic, according to James Levine, a Mayo Clinic physician and leading authority on obesity. Levine coined the 'NEAT' term to cover all physical activity that is not conscious exercise. Since hitting the gym for a regular workout might be too much to expect for those returning to the fitness fold, these games encourage small, everyday lifestyle changes, such as taking the stairs instead of the elevator or parking a few spaces away from a store entrance versus driving around to find the closest spot available.

"We hope the games can increase physical activity, add a dosage of everyday fun and embed NEAT in the modern lifestyle," Pavlidis said. "We expect an almost 'addictive' behavior resulting from this game, much like the habit of playing solitaire during breaks is an everyday ritual for many people. Because of the way we live today, people are sitting all the time, so moving more is always a good thing.

"The allure of computer gaming and competition with other users encourages players to make small lifestyle changes that can add up to big health benefits," Pavlidis said.

A computer science student who was one of the first to try out the devices lost 40 pounds in five months. The games also have been a hit with early test groups and received rave reviews from players at an April academic gathering of computer scientists.

Along with the straightforward racing game, Pavlidis also recently rolled out his version of Sudoku, a logic-based numbers puzzle that has become wildly popular. In this adaptation of Sudoku, the points players earn through physical activity can be used to fill in another square on the grid, providing clues to solving the rest of the puzzle. More games designed to appeal to a variety of age groups are in the works.

Levine's lab at Mayo Clinic in Rochester, Minn., is gauging the games' effectiveness in a large trial experiment that began in June. Financed by an endowed fund and a National Science Foundation grant, Pavlidis hopes the game will be available to the public before the end of 2008.

About the University of Houston

The University of Houston, Texas' premier metropolitan research and teaching institution, is home to more than 40 research centers and institutes and sponsors more than 300 partnerships with corporate, civic and governmental entities. UH, the most diverse research university in the country, stands at the forefront of education, research and service with more than 35,000 students.

About the College of Natural Sciences and Mathematics

The UH College of Natural Sciences and Mathematics, with nearly 400 faculty members and approximately 4,000 students, offers bachelor's, master's and doctoral degrees in the natural sciences, computational sciences and mathematics. Faculty members in the departments of biology and biochemistry, chemistry, computer science, geosciences, mathematics and physics have internationally recognized collaborative research programs in association with UH interdisciplinary research centers, Texas Medical Center institutions and national laboratories.

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