

Phone app providing real-time statistics on physical activity around the world

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An iPhone application created by UH researchers is providing first-of-its-kind real-time statistics of physical activity around the world. Those annual rankings of America's fattest and fittest cities that use government statistics and a host of indirect indicators may soon have a little more muscle. The information being collected at the University of Houston provides objective data.

The Walk n' Play [iPhone](#) application, available free from Apple's "App Store," allows users to keep track of their [physical activity](#) and compete with other users. The latest version lets players compare themselves to various profiles that represent a region or a skill level. It helps individuals and groups to connect around the concept of daily physical motion- similar to a real-time [Twitter](#) where your feet do the tweeting.

According to Ioannis Pavlidis, Eckhard Pfeiffer Professor of Computer Science and lead investigator in the Walk n' Play project, anonymous data from Walk n' Play users is sent to a server at UH's Computational Physiology Lab. The data includes physical activity, the intensity of activity and the geographic region of the player. Using the information, researchers are able to objectively measure physical activity and break down the data by location. Pavlidis believes the applications for the technology are far reaching and will result in real-world data that has previously been difficult to collect.

"The implications of the technology are far reaching, not only for developing a healthier lifestyle, but also for doing science using novel

data gathering techniques - I dare to say it is a [paradigm shift](#)," he said.

"We have a real-time sense of how active people are around the country and the world throughout the day. People in New York appear to walk a lot, but people in Houston are not as bad as we thought. These are not all the people, of course, only those who use the Walk n' Play app. Still, there are thousands of users, representing a good statistical sample one can work with," said Pradeep Buddharaju, one of the team researchers.

"Since the original version of the application launched in March 2009, we have 11,000 users, and we are seeing more downloads by the day," said Yuichi Fujiki, a UH Ph.D. student involved in the project.

The Walk n' Play app tallies a user's every movement over the course of a day, including walking and climbing stairs, and translates it into calories burned. The game gives an accurate calorie count thanks to a biomedical calibration process applied on the iPhone's accelerometer that senses motion and can be made to measure metabolic activity. The method was developed in the UH Computational Physiology Lab and lauded in peer-reviewed publications.

In addition to the data collected, the Walk n' Play application brings a health benefit to gamers, creating an element of competition. It allows users to employ the buddy system, whether that buddy is a real-life friend or an avatar representative of a certain population.

Rolando Garcia, a University of Houston staff member, has been using Walk n' Play since the application launched. It helps him keep track of his regular daily walking and motivates him to do more walking during the day.

"Being able to quantify the exercise you're doing is a huge motivator," said Garcia. "I now know I burn 30 to 40 calories walking from the

parking lot to my office. Little activities, like picking a lunch location that's further away from my office, or taking the stairs instead of the elevator, might seem pointless until you actually see the calories add up."

In the past Garcia has competed against other users, but most recently he has been playing against the "Best Walkers" avatar, a profile created by developers that uses statistical information from the most competitive walkers. Garcia tries to take a brisk stroll around campus every afternoon and sets goals for how many calories he'd like to burn. "I shoot for at least 400 calories a day," said Garcia.

The application features imaginative cartoon characters specially crafted for the app by Professor Ergun Akleman of Texas A&M University.

More information: For more information about Walk n' Play and to view live stats, visit www.cpl.uh.edu/projects/walk-n-play/ .

Provided by University of Houston

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