

Pervasive games promise to spice up daily life

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(PhysOrg.com) -- In the movie *The Game*, the character is hounded by villains and left for dead in Mexico in an intense version of an alternative reality game. Minus the Hollywood bravado, games that merge the virtual with the real could be the next entertainment revolution, helped by European researchers.

Pervasive games eliminate many of the social, spatial and temporal boundaries usually associated with playing a game by intertwining game play with peoples' everyday lives. Armed with their mobile phone or another portable device, participants can take part in treasure hunts for virtual objects in the real world, find new ways to explore and experience a city, arrange blind dates, act out role-playing scenarios or wage virtual battles with opponents via SMS messages.

Over the coming years, these applications and many others are set to emerge from ongoing European research in a field that could soon break into the mainstream, piggybacking on the growth of traditional computer gaming, social networking and user-generated content.

“The movie *The Game* depicts an extreme, hard-core example of an alternative reality game, though it has helped to shape the vision of what pervasive gaming is. Few people would want to experience what occurs in the movie, but they do find less dramatic forms of pervasive gaming appealing,” notes Jussi Holopainen, a senior researcher at Nokia Research Centre in Finland.

Perhaps the most mundane and low-tech example of pervasive gaming is fantasy sports in which people create virtual teams that compete against each other based on statistics generated by the real-world performance of individual sportspeople. However, new technologies and the ubiquity of mobile devices are making more advanced and more interactive pervasive games possible.

From treasure hunts to virtual wizardry

Several have been developed and tested by a team of researchers working in the EU-funded IPerG project, one of the most comprehensive initiatives to date to advance research into pervasive gaming and create the software tools needed for new games.

“Ask the average person on the street about a pervasive game and their response will all but certainly be ‘What game?’” Holopainen, the IPerG project manager at Nokia, says.

There is, he acknowledges, a great deal of confusion about what constitutes a pervasive game, brought about in large measure by the enormous diversity of games and methods of game play.

The IPerG researchers' experimental pervasive games range, for example, from Insectopia, a kind of treasure hunt in which participants roam around a city collecting virtual insects from Bluetooth devices, to Epidemic Menace, a whodunit in which players try to stop a scientist from spreading a virtual virus in a real-world setting.

Two of the most developed are RiderSpoke and Mythical: The Mobile Awakening.

In RiderSpoke, participants are given a bike with a wifi-enabled computer attached and instructed to ride around a city at will. At different times they are prompted to visit locations – “find a window you would like to live behind”, for example – and then record their thoughts at different WiFi hotspots, so-called “hiding places” in the in-game lingo. The WiFi hotspots also serve to track the user's location and trigger in-game features. The result is a kind of urban adventure enhanced by participant-generated content.

In Mythical: The Mobile Awakening, users take on the role of modern-day high-tech wizards who perform context-aware rituals – inputting the time of day or phase of the moon, for example – in order to collect spells which they can then use in virtual battle with human and computer-controlled opponents.

Mass market for pervasive games

Such experimental games are likely to form the basis for commercial pervasive games in the future, with Holopainen seeing widespread demand for a variety of games and game-like applications that merge the virtual with the real. Test users queried by the researchers frequently said they would be willing to pay to participate.

“While some pervasive games will be [those] in the typical sense, others

may not be perceived as such. One obvious idea is to use geographic location information, personal profiles and game-like elements for an application that would help people find potential dates,” the Nokia researcher says. “Other applications will draw on the game-like elements that already exist in user-driven content sites, where people rank photos or videos, for example,” he adds.

Judging from the growth of such sites, along with the increasing use of social networking platforms and rising sales of computer games among all age groups, the market for socially interactive, pervasive, mixed-media games is potentially huge.

Holopainen expects early adopters to be followed by people already accustomed to using their mobile phones throughout the day, possibly using a pervasive game environment to play around with friends while waiting for a bus instead of sending an SMS message. Game developers, network operators and content providers are expected to make money through advertising, charging for in-game features or via a subscription model.

Within three to four years, he foresees at least one multiplayer pervasive game emerging with a couple of hundred thousand participants in what would undoubtedly mark a coming of age for the pervasive gaming industry.

The work of the IPerG project, which received funding from the EU’s Sixth Framework Programme for research, will all but certainly have played a fundamental role in that development.

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