Television control for the remote

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(PhysOrg.com) -- A cheap way to deliver interactive communications to remote communities has been successfully tested in Brazil and Italy.

Over half of the population of Brazil lives in remote towns and villages. Many have no telephone connection. But the Brazilian power line network covers almost 95% of populated areas. And wherever there is power, there are usually television sets.

Digital television signals with java applications embedded within them were broadcast by the SAMBA project into the small Brazilian town of Barreirinhas which is 300km from the nearest major city. Some 30 Barreirinhas households, in the vicinity of a 3km power line, were equipped with special set-top boxes that enabled them to access the broadcast data. The technology was designed for use by non-experts, and developed for delivery at minimum cost to maximise access for people with low incomes.

The EU-funded SAMBA researchers developed a Content Management System for creating interactive applications that are cross-compatible between DVB-T MHP (terrestrial television) and DVB-H (handheld).

The set-top boxes were connected to both the television and the house's mains electricity supply, because the power line was used as the return channel for the TV viewer to send online instructions over the system.

"The broadcast was over the normal television broadcasting system with an antenna and repeater in the town," explains Oscar Mayora Ibarra,

project coordinator of SAMBA from the Italian research company Create-Net. The power line limited the return channel to web speeds of around 2mb per second - certainly good enough for the interactive channel. It can support the transmission of text files, xml files and photos in seconds.

SAMBA also ran a pilot in the small town of Natz in the Italian Tyrol. Natz is in an extremely mountainous area. The small town has power lines but limited internet connection because of the difficulty and cost of reaching it.

With the support of a local television company in Bolzano, SAMBA established a system broadcasting TV signals with embedded java, once again using the power supply lines as a return channel.

Filling a communications niche

This was the first time that interactive television was piloted in Brazil. But the focus on local communities was what made it especially novel, according to Mayora Ibarra. During the pilot, information from local agencies was broadcast over the system.

“Interactive digital television is not a sensible competitor for computers with an internet connection. Imagine trying to interact with a television set and remote control compared to a computer and keyboard. There are a limited number of buttons on the remote control for a start and there is a delay before your television screen changes. You would not go and search the internet using it.

“But at a very local level the internet is no longer the killer tool. Here, digital television can play a very interesting role. The internet is so powerful it puts the whole world in your room. But that may not necessarily include what is going on downstairs. And there are a lot of

people who are not familiar with the internet, but are very familiar with television.

“There is content which you won’t go and search for but you might access it on a TV. For instance, circles of elderly people can use the television to share information. Sports clubs and societies can broadcast their information on a very local basis - in one village or one valley.”

The SAMBA solution, designed to meet the specifications of the new global GEM standard, can be adapted for delivery over any broadcast standard.

The SAMBA consortium plans to transfer knowledge gained from the project into other developing countries that adopted or are in the phase of adopting the European iDTV standards. Components of the project were developed in a modular way to optimise future evolutionary change.

Now much of northern Italy is moving from analogue to digital signal and Create-Net and Digilab, the Italian partners in the consortium, plan to develop interactive local communications services to exploit what has been learnt in SAMBA.

The SAMBA project received funding from the ICT strand of the EU’s Sixth Framework Programme for research.

More information: SAMBA project

Provided by ICT Results (news : web)

https://phys.org/news/2009-12-television-remote.html