

Bringing it home at IBC 2003

Finding, sharing and enjoying digital entertainment in the connected home

THE CONNECTED HOME IS A MAJOR THEME IN THE EUROPEAN UNION'S IST RESEARCH PROGRAMME. IT EMBODIES A VISION IN WHICH USERS ARE ABLE TO CREATE, ACCESS AND SHARE CONTENT WITHIN THE HOME AND WITH OTHER USERS ACROSS THE WORLD. The IST programme brings together research organizations from all over Europe. Philips as coordinator of several of these projects organized the 'IST Village' at this year's International Broadcasting Convention (IBC) in Amsterdam to show the achievements to professional audiences and the approach to realizing the connected-home vision.

The seven projects presented in the IST Village, representing some 50 European R&D organizations in the area of A/V networked services and platforms, demonstrated their latest R&D results and showed the potential of bringing connected, digital technologies to the home. They showed that cooperation and combined efforts between research projects and between participating partners is key to achieving success in the rapidly changing worlds of consumer electronics, communications and broadcasting. Philips has a major stake in four of the projects that were demonstrated in the IST Village: SPATION, Share it!, ICE-CREAM and MUFFINS.

-----Box 1-----

SPATION – Services Platforms and Applications for Transparent Information management for in-home Networks

With rapidly increasing storage capacity and processing power, the home-networking possibilities of consumer electronics equipment are enormous. Designing such networks is a challenge but an even bigger challenge is making them easy to use and accessible to consumers.

The SPATION project aims to develop a home system that gives users easy access to their stored digital content using wired and wireless Ethernet. This includes finding solutions for creating distributed storage space by interconnecting individual devices, developing methods for analysing content to support searching, and investigating how metadata (content descriptors) can be handled in a transparent way. This means as a user, it should be irrelevant where content is stored. As soon as a new item of equipment is brought into the home, it should be automatically recognized and configured into the network and its content should become immediately available.

The demonstration at IBC 2003 showed a handheld control tablet featuring a user-friendly touch-screen interface for controlling the movement, organization and retrieval of information in a home network. The demonstration included selecting and accessing content that was distributed over a network and played back on various devices.

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-----Box 2-----

Share it!

The Share it! project enables people to publish, distribute and share their own pictures and videos, and proprietary TV programmes with their family, friends, and the world at large. Although this is already a proven concept for PC users, Share it! aims to develop the key ideas for these applications to cross-over to TV-based devices. A challenge is to make content sharing as simple as watching TV and make it as transparent as possible to use.

The project builds on existing technologies of peer-to-peer networks, broadband connections and TV Anytime metadata standards. Secure connections are established for the exchange of rights information and metadata. Equally important, consumers can use the technology to ensure their own privacy. Share it! is active in the TV Anytime forum, in DVB, and in adapting MHP to extend access to stored content and metadata, and to allow transfer of content from servers and in peer-to-peer networks. Within the project, Philips cooperates with broadcasters, telecommunication companies, technology institutes and universities to realize end-to-end solutions.

The Share it! project showed a set of demonstrations at IBC 2003:

- rights-managed content sharing;
- working with broadcasters: adding off-line facilities to broadcasted programme material and enabling text-based discussions between viewers during a programme;
- viewing content stored in the 'home-to-home' network on mobile devices while away from home;
- compilation, packaging and transfer of digital photographs between devices.

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-----Box 3-----

ICE-CREAM – Interactive Consumption of Entertainment in Consumer Responsive Engaging and Active Media

Crucial for realizing the connected home vision is the creation of engaging applications that will capture the imagination of end-users. The ICE-CREAM project investigates how to make compelling experiences for end-users based on enabling technologies for interactive media such as DVB-MHP, Internet and MPEG-4 A/V streaming with 3D graphics support.

The goals are to extend the notion of interaction, to exploit domestic activities and familiar settings, and to make the user environment part of the visual experience. At IBC2003, the ICE-CREAM project demonstrated three application areas:

- live events, for example a soccer match, enhanced with real-time content: contextual information provided during the game, including highlights, video-clips and interactive 3D animations of goals and game situations;
- video events augmented with related content available from the Internet, directly connected to events in the video or accessed independently;
- video enhanced with ambient events to enable multiple users to watch different facets of the story with lights and toys used as interaction devices.

Within the project, business-modelling frameworks are also developed to specify the interchangeable roles of stakeholders (i.e. creator, producer and consumer) to the service.

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-----Box 4-----

MUFFINS - MULTImedia Framework For INTERoperability in Secure (MPEG-21) environments

Intellectual-property rights will be a key driver for generating revenues from digital home networks. It is also important that owners of these rights can ensure that licenses are packaged with their programme material in a machine-readable, secure way to restrict its use to legitimate license holders. These requirements are embodied in the new, extended MPEG-21 standard. The MUFFINS project aims at developing a software implementation of the concepts described in MPEG-21. This was demonstrated at IBC 2003 in the 'MUFFINS On-Line store' – a web-based store where consumers can browse and purchase digital content using the tools provided by MPEG-21.

Important aspects of MPEG-21 demonstrated by the MUFFINS On-Line store included:

- MPEG Rights Expression Language (REL), which has been designed to provide the functionality required by content owners to specify licenses for the usage of protected content;
- Intellectual-Property Management and Protection (IPMP) hooks defined by MPEG-21 for multiplexing control messages for IPMP with MPEG content, the MPEG-21 standard ensuring that the receiver understands the nature of the data it is receiving and where to obtain a license;

- content identification using MPEG-21's Digital Object Identifiers, which provide a mechanism to identify and exchange intellectual property in the digital environment.

X-tras online:

- More information on SPATION, Share-it!, ICE-CREAM, MUFFINS and other projects in the IST Village

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