

WELLCOM

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Turning TV watching into a personalised interactive experience

The successful outcome of the WellCom project now makes it possible to create, deliver and manage advanced personalised and interactive multimedia applications and services in a distributed home environment and on-the-move. End-users can now have easy and seamless access to interactive and personalised TV services and TV-related applications on various terminals using their mobile phones. The project also enables new types of group involvement, making the TV experience really interactive and enabling cross-platform participation. As a result, WellCom enhances the TV experience for the user and opens up innovative revenue models for operators and for service and content providers.

Broadcast TV faces many challenges and must evolve to continue as a major medium for marketing and entertainment. The way users consume TV has changed with statistics and surveys showing that 18- to 26-year olds are spending increasing time online – leading to an inevitable decline in revenue for traditional broadcast business models that rely on advertising.

At the same time, the quantity and choice of TV content is ever increasing, making it more difficult for content providers to reach users and for users to find the content they want. Moreover, only a limited number of users can handle the complexity of the equipment and services now on offer.

The WellCom project was launched by Alcatel-Lucent with the objective of improving interactive TV technologies to simplify user choice and boost broadcast revenues. The intention was to involve all elements of the value chain: consumer groups, content providers, equipment manufacturers and communications companies with the support of research organisations.

ENCOURAGING ACTIVE INVOLVEMENT

An analysis of the needs for future TV content indicates a clear expectation from consumers for new more personalised TV experiences. These should allow consumers to be actively involved in a two-way dialogue that enables them

to request specific personalised content based on their preferences while also being able to exchange information within their local and remote communities.

Using a large diversity of equipments and technologies, WellCom has therefore developed a rich and original environment for the creation of new TV services to take full advantage of interactivity and personalisation for enriching the user's experience.

These technologies include:

- TV sets used as community equipment for displaying or sharing the same content within a defined group of users;
- User terminals in the home environment that ease interactions with TV content through the set-top box (STB) and deliver personalised services directly to the user's terminal;
- WiFi, near field communication (NFC) and Bluetooth technologies combined with 'easy-pairing' mechanisms that make it easier for users to connect to interactive programmes and social applications through their mobile phones. This also allows a clear identification of who is in front of the TV – essential for a user-centred or shared community-based TV experience; and
- Accesses to legacy networks – such as digital video broadcasting (DVBx), Internet (IPTV), 3G mobile

communications and other wireless media – for delivery of enriched contents, services and applications.

EASY USER PERSONALISATION

A major result of WellCom has been the design and development of a generic set of components allowing easy personalisation of the user experience through multiple types of TV programmes.

The personalisation layer consists of:

- A *user profiling engine* that learns from user consumption to track user preferences, while also enabling users to set their own preferences via a graphical interface;
- A *community profiling engine* that collects social and presence information related to user activities to build relevant community profiles for group recommendations;
- A *user privacy manager* that allows users to define their own privacy policies – a mandatory step for personalisation; and
- A *semantic recommender* that uses a rich ontology-based semantic model to find contents that best match individual or community preferences.

This personalisation layer is fully integrated within the underlining service delivery platform on which the



execution of end-user services relies. This approach also makes it possible to push part of the personalisation logic as close as possible to the end-user to distribute processing power, retrieve more precise traces and offer users a better control on privacy. Some components have been specially tuned for the STB. These include profiling proxies for collecting accurate user consumptions and interactions – such as zapping and identities of all connected users – and a part of the semantic recommender for pre-filtering TV contents based on user preferences.

An external application programming interface (API) federates these distributed enablers and offers a set of generic methods to TV programme/service providers for integrating personalisation easily within their business logic. API methods are published either as web services or HTTP 'get' requests. The latter is mainly used by STBs or mobile terminals that have poor hardware resources. Several ambitious TV programmes mixing interactivity and personalisation were developed within the project to demonstrate the WellCom approach. They were featured in the exhibition at the ITEA event in Madrid in October 2009. These included:

- A *game show* based on the well-known 'Who wants to be a millionaire' TV quiz show, allowing users to play along while receiving personalised information and targeted advertising;
- *Betting* on football matches, where users can play

with a live TV sports programme and bet in different future events using their mobile phones; and

- *E-learning* with a personalised quiz game based on users' and communities' preferences.
- *Shopping* at home during the advertisement video sequences the user receives personal commercial offers based on his preferences, then when he is on the move thanks to a geo-location system the offers are activated according to the surrounding shops.

These demonstrations were tightly coupled with the generic personalisation layer, clearly indicating the generic approach and interoperability with any possible TV application.

WellCom generates high social impact as it transforms traditional 'passive' TV consumption into an interactive experience. The personalised interactivity provided through the distributed infrastructure opens up the possibility of group experience of TV content. For example, users can take part themselves in a broadcast TV quiz and compete with friends – or a user can invite a friend to take part in a personalised quiz.

Such community encounters will create attractive TV experiences.

BUILDING HIGHER USER LOYALTY

The overall results ensure high business impact by in-

creasing user loyalty, allowing greater attractiveness in advertising and service offers. WellCom supports an open business model that extends the TV environment into a universal IP-service interface. Services and advertisements can be targeted thanks to the advanced personalisation layer. Targeted advertisements on mobile phones allow service providers to tap into new revenue streams, using 'pay per click' advertising revenue models.

Personalised interactivity can be exploited in many different ways as the project demonstrators indicated, and there are other examples. Users could also be invited to play a game while watching advertisements or advertisements could be supported by an interactive quiz. Users could also join in TV quiz shows by providing their answers directly through their mobile phones, and thus compete within their local STB or the global TV community. New revenue-creating interactions could also be enabled, such as offering the user a €5,000 prize by answering questions at a fee of €0.10 a question.

By providing a new dimension of interactivity with a personalised content and service environment, the results of WellCom will both enhance the TV experience for the user and open up innovative revenue models for operators and for service and content providers.

More information: www.itea-wellcom.org