What is the pd-net project about?

Project Summary

The PD-NET project aims to lay the scientific foundations for a new form of communications medium with the same potential impact on society as radio, television and the Internet. The goal is to explore the scientific challenges and to assess the new technologies required to enable the emergence of large scale networks of pervasive public displays and associated sensors. This display network will be designed and implemented to be open to applications and content from many sources and thus provide the foundation for work on a new global communications medium for information access and interaction.

Project Objectives

- To create enabling technologies for large-scale pervasive display networks through the design, development and evaluation of a robust, scalable,distributed and open platform for interconnecting displays and their sensors.
- To establish Europe as the international centre for work on pervasive display networks.
- To address key scientific challenges that may inhibit the widespread adoption of pervasive display network technology: Tensions between privacy and personalization, situated displays, business and legislative requirements, User Interaction.

The project will ensure that Europe is in the best possible position to benefit from this new medium and that this emerging technology will be compatible with European values and lifestyle. The project is highly innovative no such pervasive display networks exist today and their emergence will represent a radical transformation in the way we think about information dissemination in public spaces; it is high risk numerous technical and societal challenges need to be addressed before pervasive display networks are possible; and potentially high pay-off if successful, the project will pioneer a new research area and provide the foundations for a new communications medium that offers entirely new opportunities for economic activity and a means to radically change public spaces. At the heart of this transformation is the move from todays environments in which information is pushed to passers-by in the form of adverts to spaces that can utilize public displays and ambient intelligence to reflect the hopes, aspirations and interests of its occupants using content and applications created anywhere in a global network.

Unique Characteristics of PD-Net

Personalized Content

Through the use of sensing technology PD-NET offers the possibility of personalizing content for consumers. The baseline for personalized content is that available through Internet channels. There are currently no large-scale systems that support personalized content via public displays.

Support for Multi-Screen Content and Applications

A unique feature of public display systems is their ability to create experiences that span across multiple displays in a coordinated fashion. Proprietary single site display solutions exist (baseline for synchronization) but these are not open. PD-NET will represent the first attempt to create an open system that enables large-scale multi-screen experiences to be created by 3rd parties.

Context-Aware and Situated/Mobile Content

Media such as TV, radio and fixed Internet typically deliver content irrespective of the context of the user. There is an established baseline within the mobile field where there has been much interest in the development of context-aware systems that utilize context information to modify the content presented to the user. PD-NET will explore the same notions of context but in this case relate them to the context of the display itself how it is situated in physical space and the viewers of the display, essentially combining the benefits of

Scenario

A small, local fruit shop has a lot of fresh strawberries to sell and it is only a few hours until closing time. The owner knows strawberries are selling well at the supermarket and his price is certainly competitive but he needs to get the word out to the locals that they can buy strawberries for him at a good price. He easily creates a short advertisement and sends it to the new 'local shopper incentive' scheme running on public displays around the town. In this scheme shoppers who see his advert can 'clip' a voucher that entitles them to a discount; it also contains the location of his shop. He'll have to pay a small amount to the display owners who show his advert based on every new customer who 'takes' a voucher, but he's quite sure selling the strawberries will easily cover this.

context-awareness with rich media access. Thus the content viewed on different displays and by different people will reflect the diversity of the display¹s locations and the interests and requirements of the viewers. PD-NET will also investigate support for mobile displays, e.g., on cars, buses, trains, or even as wearable platforms.

Global Reach

Existing signage systems operate as isolated islands under single management domains (the baseline). PD-NET will explore the creation of very large-scale interconnected networks that have the ability to reach significant percentages of the developed world with single applications. In addition to this global perspective the interconnection and federation of display networks will enable small scale operators to increase their reach through the network effect.

Public Access (Ingestion and Consumption)

Mobile devices typically offer access to content while on the move but are heavily optimized for use by one person at a time they provide private displays. Television and radio, in contrast, provide content that is often consumed by multiple static people (usually known to each other) in front of the same receiver. PD-NET provides an interesting intersection of these models content will be displayed in public but accessible while viewers are mobile. Similarly, PD-NET will emphasize public participation in display networks, both as a content provider and display operator, by investigation of micro-economic value chains.

Interactive

Traditional signage systems do not support any form of interaction; the baseline is thus non-interactive public displays. PD-NET will include support for interaction that will greatly expand the possibilities for new forms of information access and application interaction.

Rich Media

PD-NET will support a full range of high-quality media including audio, video, animations and, uniquely, interactive applications. There are many baseline systems that offer high quality rich media delivery, but none that presently offer interactivity or are open to contributed content and applications.