

Two Fusions for One Harmony

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Computers, content, and the Internet. These are the key words that symbolize information technology (IT). We are surrounded by IT devices that use micro-processors and various daily-life information services based on IT tools are coming to market. Although these services look different, the evolution of IT technology content allows us to handle them in the same way. The platforms on which they are offered differ only in whether they use fixed or mobile communication: computers are connected to the Internet by either cable or wireless links. Communication and broadcasting services now share a common service platform as a result of more and more distributed content being digital. NTT Cyber Solutions Laboratories is researching and developing technology with the goal of producing two kinds of service fusion: the fusion of fixed and mobile communication and the fusion of communication and broadcasting.

The fusion of fixed and mobile services is quite old. It was 25 years ago, with the development of portable players, that people began to listen to their own music collections outside the home. On the other hand, these days, with the popularity of cellular phones, which were originally used on the move, people are using them everywhere including in the home. The key to this service fusion is using the IP (Internet protocol) network as the infrastructure.

The fusion of communication and broadcasting services is being accelerated by the penetration of the broadband optical network. In the near future, broadcasts over the airwaves will be replaced by digital content flowing from the IP network. The content suppliers will not be just major broadcasting stations. Community services are likely to broadcast emergency information to stations and public transport in the event of a disaster as well as regular social information. Tools for the production, cooperation, and circulation of multimedia content are the keys to achieving these services.

Service fusion requires the harmonious integration of the net world and the real world. Life in the real world can be made more comfortable and enjoyable

by utilizing information from the net world. Unfortunately, the net world is overflowing with information, and a lot of the information is either unreliable or dangerous.

Search engines that offer efficient access to Web information are a basic demand. For instance, the interfaces should be able to find information related to a user's writing and categorize news articles automatically. They should also block harmful content such as pornography and violence.

The net world will be connected to the real world by more than just personal computers and television. Various advanced tools will appear. These can be classified into three groups: visual, virtual, and inconspicuous ones. The emergence of sophisticated robots will not only permit the display of information and sounds from the net world, but will also provide a sense of touch. Users will want to avoid the trouble of having to use various tools to access desired information and to this end, net world agents will be useful. In addition, remote sensing of the user's context will provide a pleasant and safe environment.

The key to service acceptance is user satisfaction. In all advanced countries, especially Japan, the average age of users is steadily increasing. In such societies, it is important to design net world services and tools that everyone finds easy to use. The basis for the two fusion processes that will lead to the creation of one harmonious environment is universal IT design.

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