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Equipping the Office of 2002

by Satoshi Yamamura

Our age branded "digital, broadband, mobile," will soon be fully fledged. The Industrial Revolution in the 19th century was the unstoppable force that changed human history thoroughly in terms of international and domestic politics, sociological aspects of daily life, and man's perception of his relationship with his natural environments. The development of electronic technology sprung from quantum physics has radically changed features of our daily life today. Though it is not a topic to discuss here, it is interesting to consider whether it is as fundamental as the Industrial Revolution to human history.

Regardless, whatever it is, it is clear that, as human beings could not escape from the aftermath of the Industrial Revolution, it is hardly imaginable that we can push this electronic wave out of our daily life. When we watch TV, use the cell phone, drive a car, use the navigation system, listen to CD music, or use electronic household appliances such as the washing machine or microwave oven, we are already manipulating the wave of this transformation of our daily life that is thrust upon us by the "digital, broadband, mobile" trend. The real question becomes how to prepare ourselves for this current, understand its bright and seamy sides, and use it for our own sakes. Offices of directors of child care centers may benefit from electronic products that are about to debut in the business market one after another.

The Development of New Mobile Technology

The first generation of cellular phones could handle voice function only. The second generation opened the new age of the cellular phone by digitizing it and adding to it the function of data communications on the Internet. It is a popular joke in Japan that Japanese college classrooms have become much less noisy because students have started using their cellular phones for e-mail communication much more frequently than voice communication. The huge user group of the digitized cellular phone has been changing the Internet business market. Today Internet service providers highly value the service for wireless access as most indispensable.

The digitized generation of cellular phone communications, the third generation, has appeared on the new horizon with multi-media functions. Its service started in Tokyo in October 2001 and will cover major cities next year. Together with voice and data communications inherited from the previous generations of cellular phone, the latest generation is proud of such multi-media functions as downloading images and music, and making possible TV/telephone communications with seamless motions at the high speed realized by the burgeoning broadband technology.

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Crisis Control and the Emerging New Mobile Technology

The killing incident of young children on the school campus in Japan sent a huge shock wave all over Japan (May 2001). The myth of safe streets in the Japanese society had been eroding for the last ten years, and this incident unfortunately pressured the Japanese people to take urgent actions for crisis control in private and public domains. The outrageous magnitude of atrocity of the terrorist acts in America on September 11 has reinforced the need for more crisis control, not only in the USA but also all over the world. Those who are responsible for overall security for an organization have been looking for better ways to secure safety for their premises. The action plans include both hardware and software viewpoints. This article talks more about the hardware aspects, but it actually leads us to understand that the hardware question is also a software question.

The incident of killing young small children has prompted schools and day care centers to make improvement plans, such as relocating teachers' offices or restructuring buildings in order to eradicate blind corners of the premises as much as possible. Many have carried out plans that include minor improvements or major reconstruction of buildings. They have also been concerned with software aspects such as more frequent patrol by staff, police, or trained security personnel. It is important that staff are trained to be ready for emergencies with substantial knowledge of the security system.

Making use of emerging digital monitoring systems that are customized to particular conditions can improve crisis control in the near future. The technology of the third generation wireless communications has made this application real and practical. Directors will control their monitoring system virtually from anywhere and any time with the mobile system. Monitoring children at child care centers by parents from anywhere and anytime is no longer a rare practice. Parents do this by accessing the homepages operated by child care centers. The new mobile communications services will give them more accessibility from their mobile terminals or portable computers with a card-style terminal. This mobile access system can be shared not only by directors, staff and parents but also police and security personnel. Information of emergent situations can reach anyone designated with seamless video images that enable people to see and understand the situations quickly.

Comprehensive Network Control of Household Equipment

Many of us have imagined that it would be wonderful if we could control our household devices from anywhere — inside and outside a house or building. Inside the building, networked by Ethernet and wireless communications, a digital TV in the living room, a PC in the study and/or a PDA in your pocket will be the information control center for all household electronic machines. This system includes the following functions: check visitors at the gate; control cooking machines; air conditioning system; lighting facilities and bathroom functions; observe activities in other sections of a house; check conditions of a sick person whose bed is equipped with electronic sensors to measure his health conditions and send a report of any emergent changes to the control center, a medical institution, or a medical doctor assigned. Toilet seats in the bathroom also provide medical information with sensors that observe weight and other health data. The third generation of cellular phone communications with multi-functional capability will enhance the ability of remote control household devices from anywhere.

This is all applicable to larger organizations — like child care centers. Directors gather the information of their centers and control it while they are in the office or from outside the office. The new wireless communications terminals collect all this information and enable directors to communicate with the data remotely. The information accumulated can also be tailored to particular preferences of individual users by technology for creating video digests that can be viewed in a relatively short time.

Comprehensive Control of Information: The Privacy Question and Human Relationships

It used to be that those who had a political and economic means to gather information could monopolize it to reinforce their political and economic power. Those in power neglected the privacy question of those who did not have the power as such. Today a wider range of social segments are gaining more technical and social power to collect information even from a wider variety of sources thanks to the development of information technology. This has produced a new situation for the question of privacy.

At the same time, the security system for screening will be more and more efficient to answer the privacy question. When we talk about accumulation of information within a closed circuit of an organization, we find again the danger of monopolization of information. The device for comprehensive control of information technically enables us to monopolize the information by controlling the access to it with the efficient security system. It will be likely that, while the development of

the information technology can also help promote democratization of a society as a whole, the same information technology makes it possible for a physically closed institution to conceal information within a closed information system.

We repeatedly dig up the old story about neutrality of technology in human history. We deal with two different dimensions of the human development, that is, technology and human relations in a society. They are related, of course, and affect each other in a general sense. But practically speaking, it is more important to understand that the nature of a society affects the nature of technology than vice versa. It is essential to build a democratic society and make human relationships democratic with or without the help of the development of IT (Information Technology).

The information on each child and staff at a child care center is confidential and should be secured to specified terminals and persons. This technology is ready today. The classified dissemination of information is also essential in terms of crisis control of an institution. Directors are responsible for this management. The question that faces them is how to classify the confidential information and share it with staff and community to establish democratic human relations. As mentioned, technology today for mobile communications environments will be able to create video digests that can be viewed in a relatively short time in response to individual demands. This technological trend will help classify confidential information and disseminate it precisely to persons specified.

Equipping the Director's Office with Cozier Electronic Devices

It seemed at first that digitized machines were too hopelessly awkward to communicate with our natural sensations, and that we would have to enslave ourselves to their non-sensual features. Digitized machines have been facing this serious question from the initial stages. How could they connect our sensory inputs with the digital processing? Computers today on our desks or laps have been put under the heavy demand to simulate the human brain, the ultimate analogue super computer. The remarkable development of software to play this role makes it possible for us to handle digitized machines with more *direct* taste of human sensory perceptions. It suggests that sensor machines will sense physiological movements aroused by man's senses, and that we will be able to regain intimate sensations toward electronic machines.

We see today that the cutting edge of digital black boxes has been fashioning it more with robotized analogue appearances. Not only finger operating, but also voice-communicating capability has become a standard platform today. Pet toys, for example, are popular tools for young and senior people to supply them with handy information control. They speak to or just touch them to control information of digitized devices within a house. Directors of child care centers will be able to equip themselves with time-free and place-free control instruments that communicate with them more in analog mode.

The third generation of cellular phone system is still a partial achievement for this analogue trend, but it already gives us a clear glimpse of what is arriving tomorrow with its capability of voice, data, and video images communications. In the near future we may see in Japan an American director of a child care center TV conferencing with his center staffs by speaking to and touching a tiny wireless *toy-looking* control gear.