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01-01 Personal Computers and Peripherals

| Information Device Types

We are surrounded by various information devices including personal computers. In this section, we will learn the features of various information devices focusing on the personal computer.

Personal Computers

The Computer referred to here is an electronic computer and it was developed for automation and acceleration of caluculation. The computer can handle various processes by rearranging *software*^{*1}. *Personal computer*^{*2} is the computer for individuals that we often touch directly. In the past, mainly desktop type personal computers fixed on the desk were used. However, notepad personal computers, which are convenient to carry around, are widely used now. Recently, tablet type personal computers (1^{*3}), which are not equipped with keyboards and can be operated by touching the screen, are also widely used.

Personal computers can be used for various purposes depending on the software. For example, a personal computer can be used for Internet connection, generation of documents, statistical work, creation of graphics and music, reproduction of various *contents*^{*4} and development of programs. Functions including print can be added by connecting peripherals including a printer. Major features of the personal computer are high versatility and scalability.

2 Cellular Phones and PHS

We are surrounded by information devices other than a personal computer that can perform information processing. For example, a cellular phone and PHS are typical devices (1^{*5}). Although these devices were used exclusively for voice communications, an Internet connection function and function for adding and executing software were gradually included; therefore these devices can be used similarly to a personal computer.

However, for cellular phones and PHS, limiting the size of device and low consumption power are prioritized to protect

Terminology *1

Software

Software is the program consisting of instructions and data used for making the personal computer execute a process. This is the antonym of the term of "hardware" indicating physical device.

Terminology *2

Personal Computer Personal Computer is generally abbreviated to "Computer" or "PC".

i Note *3

Details of types of personal computer are described in "1-1-2. Structure of the Personal Computer and Peripherals".

Terminology *4

Contents

Contents indicate the type of information. In many cases, contents indicate document, image, music, video and web page.

i Note *5

Details of cellular phones and PHS are described in "1-4-1. Smartphones/Tablet Type Information Devices". portability. Therefore, performance and scalability are not generally high compared to a personal computer. Restrictions on *inter-face*^{*6}, including a small screen size and low number of equipped keys, exist; therefore applications are limited compared to personal computer. Due to restrictions on the screen, applications are restricted compared to personal computer.

3 Smartphones

A smartphone is that item in which a cellular phone and PHS are brought closer to personal computer. (Picture 1.1) Generally, smartphones have the following features compared to cellular phones and PHS.

- A smartphone has high performance and has ability to play back the same contents as a personal computer.
- A smartphone can handle various processes by adding software that is referred to as an application (\mathbf{I}^{*7}) .
- A smartphone can connect to the Internet through a wireless LAN (*Wi-Fi*^{*8}) in addition to lines for cellular phone and PHS.
 A smartphone can be operated by touching it.

As of 2013, Android and iOS are the OS for smartphones having high share. Some tablet type personal computer and notepad personal computer are equipped with OS the same as for a smartphone.

Picture 1:1 Smartphone (NTT Docomo)



🔍 Terminology *6

Interface Interface is the term indicating the joint part where different elements are joined. Screen and keyboard are interfaces where people can utilize a personal computer.

Software that is added to a smartphone, etc. is normally referred to as an "application".

Terminology *8

Wi-Fi

Wi-Fi stands for Wireless Fidelity. This term indicates that "Wi-Fi Alliance", which is the organization for generalizing wireless LAN device, certifies that a certain standard is met. Certified devices are authorized to have the logo of Wi-Fi. Conventional cellular phones and PHS are sometimes referred to as "feature phones" compared to "smartphones".

4 Tablet Type Information Devices

Tablet type information devices indicate the information device is in the shape of a tablet, only the LCD screen is installed and a physical keyboard is not available. Generally, a tablet type information device is operated by using a touch panel.

Tablet type information devices include tablet type personal computers in which the OS for a personal computer including Windows 8 is adopted and information devices in which the OS for smartphone is adopted. Typical information devices in which the OS for smartphone is adopted include "iPad", "iPad mini" (Picture 1.2) provided by Apple in which iOS is adopted and "Nexus 7" provided by Google in which Android is adopted. Although differences between these devices and smartphones are not clear cut, the following are general differences:

Having a large-sized screen compared to smartphones
Some devices may not be equipped with the communication line function

Easy to view audio and web contents is a significant advantage

Picture 1.2: iPad mini (Apple)



because of the large screen.

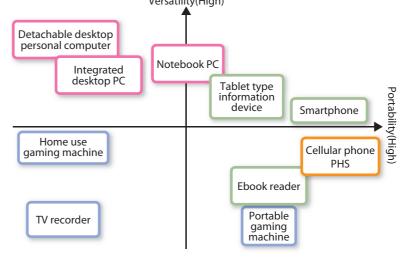
5 Other Information Devices

Most information appliances (1^{*9}) including TV, Blue-ray recorder, gaming machine, car navigation system can connect to the Internet.

The Internet connection function of information appliance is often prepared for enhancing the features of each device including acquisition of the TV program and provision of the online matching game function; therefore the function is not generally suitable for viewing general information or making communications. However, some information appliances enable users to view websites freely by providing the web browser function. In addition, some readers used for viewing Ebooks are equipped with the function for viewing websites.

In our time, various information devices can be used. It is necessary to correctly understand the features of each information device in order to effectively use and process information (Figure 1.3).

Figure 1.3: Positioning of Information Devices according to Versatility and Portability Versatility(High)



01 02 03 04 Chapter 01 Utilization of Information Dev

Note *9

Detailed information on the information appliance is described in

"1-5-1 Other Information Devices".