

Five Pen

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INTRODUCTION

- Five pen pc shortly called as P-ISM (“Pen-style Personal Networking Gadget Package”), is nothing but the new discovery, which is under developing stage by NEC Corporation. P-ISM is a gadget package including five functions: a CPU pen, communication pen with a cellular phone function, virtual keyboard, a very small projector, and a camera. P-ISM’s are connected with one another through short-range wireless technology. The whole set is also connected to the Internet through the cellular phone function. This personal gadget in a minimalist pen style enables the ultimate ubiquitous computing.

HISTORY

- The conceptual prototype of the "pen" computer was built in 2003. The prototype device, dubbed the "P-ISM", was a "Pen-style Personal Networking Gadget" created in 2003 by Japanese technology company NEC. The P-ISM was featured at the 2003 ITU Telecom World held in Geneva, Switzerland.
- The designer of the 5 Pen Technologies, "Toru Ichihashi", said that "In developing this concept he asked himself – "What is the future of IT when it is small?" The pen was a logical choice. He also wanted a product that you could touch and feel. Further, the intent is to allow for an office anywhere."
- However, although a conceptual prototype of the "pen" computer was built in 2003; such devices are not yet available to consumers.
- "The design concept uses five different pens to make a computer. One pen is a CPU, another camera, one creates a virtual keyboard, another projects the visual output and thus the display and another communicator (a phone). All five pens can rest in a holding block which recharges the batteries and holds the mass storage. Each pen communicates wireless, possibly Bluetooth."

CPU PEN

- The functionality of the CPU is done by one of the pen. It is also known as computing engine. It consists of dual core processor embedded in it and it works with WINDOWS operation system. The central processing unit (CPU) is the portion of a computer system that carries out the instructions of a computer program, and is the primary element carrying out the computer's functions. The central processing unit carries out each instruction of the program in sequence, to perform the basic arithmetical, logical, and input/output operations of the system.

It includes:

- Control unit
- Clock rate
- Operation microprocessor
- Performance

COMMUNICATION PEN

• P-ISM's are connected with one another through short-range wireless technology. The whole set is also connected to the Internet through the cellular phone function. They are connected through Tri-wireless modes (Blue tooth, 802.11B/G, and terabytes of data, exceeding the capacity of today's hard disks. This is very effective because we can able to connect whenever we need without having wires. They are used at the frequency band of 2.4 GHz ISM (although they use different access mechanisms). Blue tooth mechanism is used for exchanging signal status information between transceivers and telephones anywhere in the network, via base stations, even if some of the transceivers are moving through more than one cell during transmission.

Cellular networks offer a number of advantages over alternative solutions:

Ø Increased capacity reduced power use larger coverage area.

Ø Reduced interference from other signals.

• An example of a simple non-telephone cellular system is an old taxi driver's radio system where the taxi company has several transmitters based around a city that can communicate directly with each taxi.

A simple view of the cellular mobile-radio network consists of the following:

Ø A network of Radio base stations forming the base station subsystem.

Ø The core circuit switched network for handling voice calls and text.

Ø A Packet switched network for handling mobile data.

Ø The Public switched telephone network to connect subscribers to the wider telephony network.

It includes:

- Bluetooth
- IEEE 802.11
- Cellular network

VIRTUAL KEYBOARD

• The Virtual Laser Keyboard (VKB) is the ULTIMATE new gadget for PC users. The VKB emits laser on to the desk where it looks like the keyboard having QWERTY arrangement of keys i.e., it uses a laser beam to generate a full-size perfectly operating laser keyboard that smoothly connects to of PC and most of the handheld devices. As we type on the laser projection, it analyses what we are typing according to the co-ordinates of the location.

- A virtual keyboard is a software component that allows a user to enter characters. A virtual keyboard can usually be operated with multiple input devices, which may include a touch screen, an actual keyboard, a computer mouse, a head mouse and an eye mouse where there is no room for one, such as a pocket computer, personal digital assistant (PDA), tablet computer or touch screen equipped mobile phone. It is common for the user to input text by tapping a virtual keyboard built into the operating system of the device.
- Virtual keyboards are also used as features of emulation software for systems that have fewer buttons than a computer keyboard would have.

Virtual keyboards can be categorized by the following aspects:

Ø Physical keyboards with distinct keys comprising electronically changeable displays integrated in the keypads.

Ø Virtual keyboards with touch screen keyboard layouts or sensing areas.

Ø Optically projected keyboard layouts or similar arrangements of "keys" or sensing areas.

Ø Optically detected human hand and finger motions.

It includes:

- Types
- Security consideration

DIGITAL CAMERA

- The digital camera is in the shape of pen .It is useful in video recording, video conferencing, simply it is called as web cam. It is also connected with other devices through Blue tooth. It is a 360 degrees visual communication device. This terminal will enable us to know about the surrounding atmosphere and group to group communication with a round display and a central super wide angle camera.

LED PROJECTOR

- The role of monitor is taken by LED Projector which projects on the screen. The size of the projector is of A4 size. It has the approximate resolution capacity of 1024 X 768. Thus it is gives more clarity and good picture.the largest screen size for a given cost.
- This also covers three tube home models, which, while bulky, can be moved (but then usually require complex picture adjustments to get the three images to line up correctly).LCD projector using LCD light gates. This is the simplest system, making it one of the most common and affordable for home theaters and business use. Its most common problem is a visible “screen door” or pixelation effect, although recent advances have minimized this.

ADVANTAGES

Ø Portable Feasible Ubiquitous

Ø Makes use of Wi-Fi technology

Ø Mobility

Ø Touch and feel the technology

CONCLUSION

The communication devices are becoming smaller and compact. This is only a example for the start of this new technology. P-ISM is a gadget package including five functions: a pen-style cellular phone with a handwriting data input function, virtual keyboard, a very small projector, camera scanner, and personal ID key with cashless pass function. P-ISMs are connected with one another through short-range wireless technology. The whole set is also connected to the Internet through the cellular phone function. This personal gadget in a minimalistic pen style enables the ultimate ubiquitous computing. “The design concept uses five different pens to make a computer. One pen is a CPU, another camera, one createsavirtual keyboard, another projects the visual output and thus the display and another communicator (a phone). All five pens can rest in a holding block which recharges the batteries and holds the mass storage. Each pen communicates wireless, possibly Bluetooth.”