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Five Pen Computer Technology

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Abstract: ***Five pen computer technology is nothing but the new exploration. Which is developing by Nippon Electric Company Corporation. Five pen computer technology is a following five functions package including: CPU pen, Virtual keyboard, Visual output, Camera, Communication pen. Five pen computer technology are connected with each other through a wireless technology. The whole set is also connected to the Internet through the mobile phone function. This personal gadget in a pen style enables the eventual omnipresent computing. In fact, no one expects much action on 802.11n installations until the middle of 2008.***

Keywords: Communication pen, Bluetooth, virtual keyboard, CPU pen

1. Introduction

Communication Technology is changing drastically in the world of latest technologies. Computer is a important device of communication used in todays world. Since the time computer has been created scientists and engineers have been trying making it more and more brief. As a result we can enjoy multiple facilities provided by the computers whether it is Personal Computer or Laptops. Nowadays, Systems are transforming from to computers to mobile devices like tablets and smartphones. It is in this context that Pen Computers come into lime light. These are computers in the size of different pens each having a function of its own and when combined together give us the consumption of a full-develop computer. It is a computer in a multiple small parts and the size is of a pen. The screen and keyboard are virtually projected to the surface.

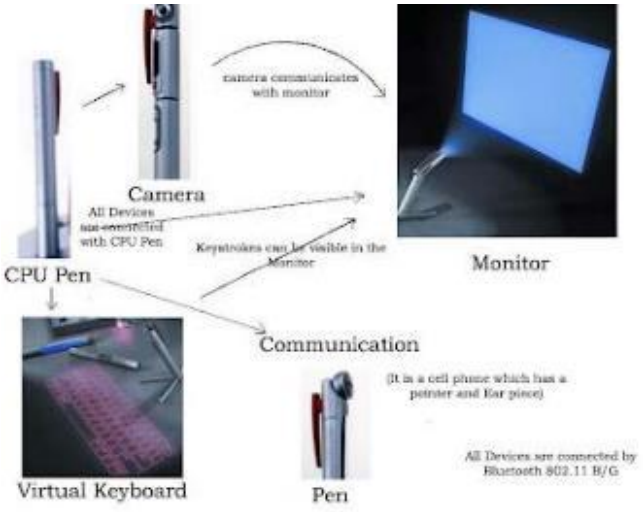

Figure 1: Five pen computer technology

2. Components

It includes 5 pens which serve following functions

1) CPU Pen
2) Communication Pen
3) Virtual keyboard
4) Projector Pen
5) Digital Camera

1. CPU Pen

CPU pen which is known as computing engine. The computing engine is embedded with a dual core processor and works on windows operating system. The central processing unit is part of a computer that processes and transfers computer instructions. The central processing unit performs basic arithmetical logical and input/output operations.There is an inbuilt windows operating system preloaded in the pen. The operating system cannot be changed.[3]

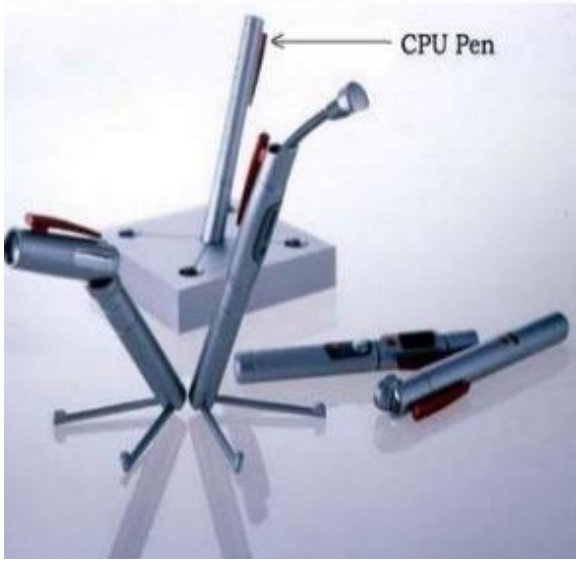

Figure 2: CPU Pen

2. Communication Pen

The operating system is connected with Cell phone, pressure sensitive, pointer and earpiece, pointing device Communication Pen. The component gives the facility to communicate with all the pens. The pen has inbuilt mobile functions which enables to connect with other devices. The pen connected through internet. The pens can be connected through Bluetooth, Wifi and Cellular which are made small and kept in a small pen like device.The user can interact with the information which is projected through projector pen.[3]

Figure 3: Communication Pen

3. Virtual Keyboard

Virtual keyboard projects the virtual QWERTY keyboard through laser beam. The virtual keyboard pen functions same as the LED projector pen. The laser is projected through laser keyboard on a surface which is a QWERTY keyboard. It generates a full size keyboard that is connected to computer. The laser projection analyses the coordinates of the the location that we are typing. Virtual keyboard is a software component which allows user to type the characters. It can be operated through multiple input devices which includes touch screen, mouse, keyboard./ Virtual Keyboard Pen.[1]

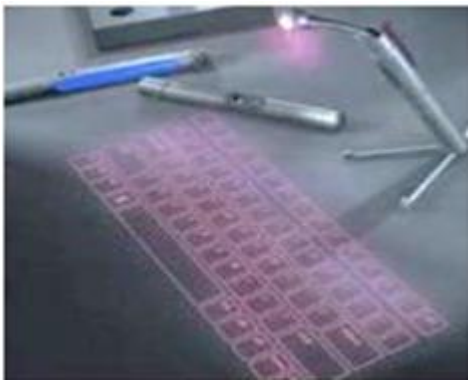

Figure 4: Virtual Keyboard Pen

Features of Virtual Keyboard

a) **Connection:** The intensity of the virtual keyboard settings can be changed according to our needs.
b) **Sound:** The optical recognination mechanism helps to project images while producing the tapping sound. VKB uses fingerprint movements to record keystrokes. The image projected is of light, it completely disappears when not in use.
c) Timeouts: The virtual keyboards coordinates gets timeout when not in use to save the battery life.
d) **Sensitivity:** The sensitivity of the keyboard can be adjusted.
e) **Auto-repeat:** The auto repeat allows the VKB to automatically repeat the key based parameters.
f) **Compatible:** It is user friendly so no practice is required to operate the VKB.

4. Projector Pen

The LED projector, projects the content to display on the screen. The size of the projection on the screen is of a A4 size paper. The screen resolution of a projection is 1024 X 768. This gives more screen clearity. A video projector is a device which accepts the video signals and projects the image on the screen with the help of lens signal. All the video projectors can correct curves and blurriness through manual settings. The projectors are used in the conferences and theaters.[2]

Figure 5: LED Projector

5. Digital Camera

Digital camera can be used as a web camera for video recording and conference. It can help to know about the surrounding atmosphere and group communication with a wide angle camera. The digital camera has to first record the image and then store it in the memory device to display on the screen. The digital camera cannot directly display the recorded images first it has to be stored in the memory.

We can crop the pictures and perform image editing. Some cameras have GPS and can click Geo Tagged photographs. Five pen computer technology is under development by NEC Coporation. We can find Bluetooth and different peripherals for interconnecting different devices.[2]

Figure 6: Digital Web Camera

3. Types of Led Display

There are two types of LED panels:

- Conventional(using discrete LEDs) and
- Surface-mounted device (SMD) panels.

The screens used for indoor purpose uses SMD Technology and the trend is extending in the outdoor market. An SMD pixel contains the RGB diodes connected in a single screen. Each diode has a pinhead and connected very close. The

viewing distance is reduced by 25% from the discrete diode with same screen resolution.

4. Battery

The battery is completely portable for the computer. The battery is small and works for longer duration. The battery life is of 6+ and the battery can stay upto 2 weeks in stand by mode. The pen can produce both display and keyboard on any flat surface and can carry out functions same as a computer can perform.

Advantages

- The device is portable
- It uses wifi.
- The battery is mobile.
- The technology can be touched and feel.
- Wireless technology is supported.

Disadvantages

- Due the use of wireless technology it has limitations with the range.
- It is costly.
- If one of the component gets misplaced the device is of no use.
- The projection surface must be plain.

5. Conclusion

Continuous advancement in technologies has brought about many changes in the field of computing and communication. The connection between the latest technology and human has been visualized in the form of a pen. The design concept here makes use of five different pens to create a computer. One pen functions as a camera, another pen as processor, one projects the output including the display, another pen creates a virtual keyboard and the fifth pen is a communicator which functions as a mobile phone The entire set of pen has a battery which is rechargeable and has a storage device and all the pens can be connected through wireless connection. Thus, P-ISM provides a good overview of what the future holds in the field of technology.

6. Future Scope

The Five pen computer technology project started in the year 2003.However, the information about its release is not yet made public. Whether it will be available for the public use is still a question, because of its excessive price of 30,000$. The five pen computer technology developed by the company proves that such a complicated technology is feasible, but due to the lack of information about its recent developments, it is unclear what the company's intentions are about this technology.

References

[1] Nirav Nayani, Shrey Bavisi and Harish Narula, "A Review Paper on Five pen pc technology", *International Journal of Current Engineering and TechnologyVol.4, No.5 (Oct 2014)*

[2] B. Saranya, S. Muruganandham, "Five Pen Pc Technology", *International Journal Of Research In Computer Applications And Robotics*Vol.3 Issue.1, Pg.: 19-25 January 2015

[3] Mrunal Shidurkar, Mohammad Usman, "5 Pen PC Technology", *International Journal of Scientific & Engineering Research*, Volume 4, Issue 12, December-2013

[4] Pen computing 2007 http://en.wikipedia.org/wiki/Pen_computing

[5] PenPCTechnology2012http://seminarprojects.com/Thread-5-pen-pc-technology-41404

[6] pen PC technologyhttps://www.mepits.com/project/256/Techno-innovations/5-pen-PC-technology

[7] Ms. Shweta A. Mohabe, "5 Pen Technology", IOSR Journal of Computer Engineering (IOSR-JCE), Volume 16, Issue 6, Ver. II (Nov – Dec. 2014)

[8] Mr.Rahul Sharad Kale, Dr.S.R.Gupta, "5 PEN PC TECHNOLOGY", International Journal Of Computer Science And Applications Vol. 6, No.2, Apr 2013