A Full Review on 5-Pen Pc Technology

Bhavya Munagala *, ** Dr.A. SWARUPA RANI,M.Sc.,Ph.D

*P.G. Scholar (M.C.A), Siddharth Institute of Engineering and Technology, Puttur-517583.

**Department Of MCA

Abstract:P-ISM "Pen-style Personal Networking Gadget Package" is nothing but the new innovation, which is under developing, stage by NEC Corporation it's have a five functions: a pen-style cellular phone a handwriting data input gathering, virtual keyboard, a very small projector, camera scanner, and personal ID key with cashless pass function. P-ISMs are associated with one additional through short-range wireless technology. The whole set is connected to the Internet through the cellular phone functions. This private gadget in a simple pen style enables the ultimate ubiquitous computing

Keywords:display, camera, CPU pen, Battery, Virtual Keyboard, Bluetooth, Wireless Connectivity.

I. INTRODUCTION

Late 18th and early 19th periods were the era of divided information and this was as a result of unsophisticated machines and enormous heat generated by the machineries, the non availability of network made this period stringent and complex. Numerous countries at this period operated separately and information became scarce due to systems engender, those with useful information made an empire around it and became emperor, thereby making those without subjects. Though still in existence, not commensurate to 18th and 19th century. This period also revealed that technology advancements can attain full height if humanoid become pragmatic and empirical about her society.With the exponential increase in internet users, it can be attested to that major advancements have been made by scientists and engineers in breaking the communication barriers via modern day technologies. Ironically, the more difficult the activities of humans are, the more challenged are scientists and engineers in coming up with new and sophisticated technology capable of addressing the challenges. The rise in availability of internet has mad the worldwide village and has enable sharing of knowledge by scientist on the best possible way to resolving.

Figure. 1. 5 Pen PC Technology

II. BACKGROUND

Origins: It seems to several of us these days that the pace of technological modification is so great that it outstrips our imaginations just as soon as we can conceive of the next attractive electronic gadget we'd like to have, we discovery out that somebody has previously built it. Reduced devices such as cameras and telephones are Examples of now communal technologies that just a few years ago most of us rarely encountered outside the fictional world of spy thrillers. Reduced personal computers are the next logical step, but various readers might be surprised to learn that a plan for PC components housed in devices the size and shape of ballpoint pens was showcased by a major electronics Company over two years ago. At the 2003 ITU Telecom World exhibition held in Geneva, the Tokyo-based NEC Corporation displayed a conceptual prototype of what they dubbed a "Pen style Personal Networking Gadget Package," or P-ISM. As NEC described the following component.

A) PISM

"P-ISM is a gadget package including five functions": a pen-style cellular phone with a writing data input function, virtual keyboard, a very minor projector, camera scanner, and private ID key with cashless pass function. P-ISMs are connected with one additional through short-range wireless technology. The whole set is also connected to the Internet concluded the cellular phone function. This personal gadget in a minimalistic pen style enables the ultimate omnipresent computing. The P-ISM system was based on "low-cost electronic perception technology" produced by the San Jose, California, firm of Canasta, Inc., developers of technologies such as the "virtual keyboard" though the last two movies shown above look as if to be virtual keyboard products sold by other companies such as VKB rather than components of the P-ISM model.
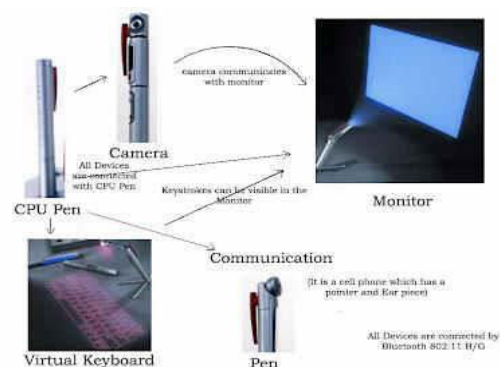

Figure 2:- Block diagram of P-ISM is shown above.

III. WORKING PRINCIPLE

A PC that works as an electronic pen is recognized as stylus as opposed to a console for input. Pen PCs for the extreme part require unique working framework that backings acknowledgment with the goal that clients can compose on the screen or on tablet as opposite to writing on a console. This 5 PEN PC are hand held strategies and they are too tiny size keyboard.

For taking involvement from the client it will utilize the camera or a virtual console that is made on level surfaces and it makes utilization of Electronic discernment innovation (EPT).

An EPT is a trifling effort chip and it will make a laser or lighting that empowers electronic parts to frame a 3D guide of their setting and see what their clients are doing.

Figure 2: Components of 5pen PC

IV. COMPONENTS NAME

Concept Component	Function	Reliability
CPU Pen	Computing Engine	Open
Communications Pen	Cell Phone, Pressure Sensitive Pointing Device, Pointer and ear piece. Communications using Bluetooth	Near Term
Display	LED Projector A4 Size Approx. 1024 X 768	Slightly Farther Out Than the Phone and Camera
Keyboard	Projected keyboard with 3D IR Sensor	Slightly Farther Out Than the Phone and Camera
Camera	Digital Camera	Near Term
Based	Battery Charger and Mass Storage	Open

i) CPU PEN

The engine room which is also the Central Processing Unit (CPU) is the part of the computer systems that carries out allprocesses, along with taking care of input and output data for onward calculation and evaluation. One of the 5Pens is responsible for this part and does all functions of computing relating to sensible process. Every instruction and program of the computer is coordinated by this pen. This session of computer is involved in the logical operations, input, output and arithmetic totalling and its movements is strictly on electrical signal, and this gives command to computer for the execution of programs and instructions. Long before the introduction of microprocessor, many computers worked on Integrated circuit (IC). Microprocessors are the integration of many IC which brought about the implicit speed in processing rate. This is as a result of the abolition in energy spent and the

discount in heat generation**.**

Figure 3:CPU pen

A.Control Unit

The control unit of the CPU contains circuitry that uses electrical signals to straight the whole computer system to transfer out, stored program orders. The control unit does not execute program instructions; rather, it directs other parts of the system to do so. The control unit must interconnect with both the arithmetic/logic unit and memory.

B.Clock Rate

The clock rate is the measure of quickness at which a chip performs orders. A computer comprises of internal clock that controls the speed at which instruction is being implemented and it synchronizes all the many computer parts.
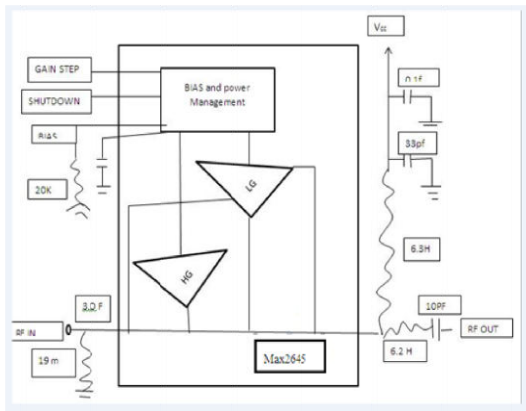
Figure 4: Diagram of Clock Rate

ii). Communication Pen

This pen is used for creating announcement between others device. It uses the wireless technology like Bluetooth or from time to time Wi-Fi for connecting purpose. This pen has mostly inbuilt cellular efficacies which is used to connect it to the internet and share info to relevant devices. It is conceptually form a True- wireless method consist of Bluetooth, 802.11 B/G and Cellular for connection.

Figure 5: Communication pen

iii) Projector pen

It is used to obtain a LED projector which is used for visual output of the computer. This projector has good resolution capacity 1024*768 approximately and nice image quality. It is necessary to project content on flat surface for better capability. Projector pen works together with Communications pen and Camera pen.

Figure 6: Projector pen Camera

iv) Virtual Keyboard Pen

This pen is used to project virtual keyboard which is also known as laser keyboard. It emits a virtual keyboard on flat surface or some desk which is appropriate for this determination. This keyboard is same as general computer's qwerty keyboard but faster and much secure than ordinary keyboard. Sensitivity of laser keyboard is adaptable, a great feature of it. it uses a laser beam to generate a full-size perfectly operating laser keyboard that smoothly connects to of PC andMost of the handheld devices. The I-Tech laser keyboard acts exactly like any other "ordinary" keyboard.

Figure 7: Diagram of Virtual keyboard Pen

Features of virtual keyboards are:

1. VKB settings can be changed by Sound:
2. Controllable Virtual Keyboard sound effects (key clicks)
3. Connection: Connection to the appropriate Laptop or PC port
4. Intensity: Intensity of the projected Virtual Keyboard
5. Timeouts: coordinated timeouts to conserve the Virtual Keyboard's battery life
6. Sensitivity: adjustable sensitivity of the Virtual Keyboard
7. Auto-repeat: Allows the VKB to automatically repeat a key based on prescribed parameters.

v) Camera pen

Its purpose is to capture image and videos. It connects to other device like communiqué pen, projector pen through wireless technology like Bluetooth and Wi-Fi. Others geographies of camera are that it can rotate complete 360 degree and used for facial recognition as well. It is highly portable as same as other components.

Figure 8: Digital Camera

Vi) Battery

The most significant part in the portable type of computer is its battery. Typically batteries must be small in size and work for longer time. It comes with a battery life of 6+. For regular use it can be used for 2 weeks. This 'pen sort of instrument' produces both the monitor as well as the keyboard on any flat surfaces from where you can carry out functions you would normally do on your desktop computer.

Vii) Bluetooth

Bluetooth uses a radio technology called frequency bounding spread spectrum, which chops up the data being sent and conveys chunks of it on up to 79 bands in the range 2,4002,483.5MHz. This assortment is in the globally unlicensed Industrial, Scientific and Medical (ISM) 2.4 GHz short range radio frequency band.

PROS OF 5PEN PC

- Portable Feasible Ubiquitous
- Makes use of Wi-Fi technology
- It uses less internal and external space.
- Touch and feel the technology
- Size of display unit can be changed rendering to requirement.

CONS OF 5PEN PC

- It is very costly.
- Projection surface for both display unit and virtual keyboard must be flat for smooth usage.
- It has limitation on range due to use of wireless technology.
- It can be misplaced easily due to small is size.

CONCLUSION

The communication gadgets are becoming tiny and minimal this is just a case for the beginning of this new innovation. We can expect all more such advancements later on it appears that information terminals are interminably getting smaller.

The 5Pens are connected to the Internet through the cellular phone function. a virtual keyboard, another projects the graphic output and thus the display and another communicator a phone. All five pens can be kept in holding square and they can be charged using batteries. Each of these pens makes use of Bluetooth as communication medium.

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(Images and information from Google.)