

## 5 Pen Pc Technology

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**Abstract-** The 5 pen pc technology is under developing stage which includes five functions in a single object. It consists of cpu pen, communication pen, led projector, digital camera, virtual keyboard. It was first designed by TOUR ICHIHASH and was created by Japanese company NEC and the corporation and they displayed a conceptual of 30,000 dollars prototype of p-ISM. It is connected with one and another with wireless technology and as a whole it is connect to the cellular data or internet through mobile phones.

**Keywords-** CPU pen, communication pen, led projector, digital camera, virtual keyboard.

### I. INTRODUCTION

The new world era is called as the modern era. In this world communication is increasing rapidly and where the computer has become the main communication technology for all the persons. From the time computer has been invented engineers are trying to bring or making it more compact. Nowadays no one expect much activity on installation. It would be a big upgrade for users who already have wifi connections. It can be effective and it can be used without any wire connections. It also have a frequency about 2.4GHz. For single status information a Bluetooth device is connected between two devices but these two devices do not require any communication or wire connected to them.

In today's generation computers are changing to laptops, pc, and iPods or tablets. Similarly this pen has comes into multiple use with single object. You can also say that it is a type of computer where it is broken into small pieces. It can make a clear digital copy. This has become the recent technology and a new discovery pen. It has become a portable where it can be replaced in place of laptops or mobile phones. It has become the trend for the next generation. "Pen style networking gadget" is also known as 5pen pc technology.

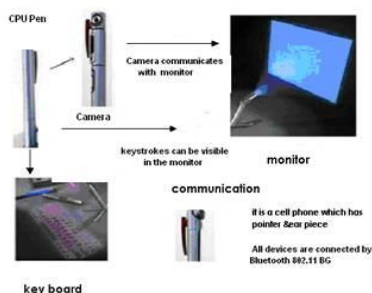


Fig. 1 Features of 5 pen.

**1. CPU Pen-** This cpu pen is also called the computing engine which uses the dual core processor and it can also work with operating systems like windows. Generally the cpu is the main primary element of the computer which performs all the tasks said by the instructions of computer programmer. It generally does the work or the function of a cpu. It performs four operations they are

- Fetch
- Decode
- Execute
- Write back

First it generally gets the information from the user and decode it and execute the result and at the last it is just used to write the result back to the system.



Fig. 2 Cpu Pen.

**2. Communication Pen-** This communication pen acts as a mobile phone, ear piece, pointer and also as a communication using Bluetooth and it also uses wifi technology for the exchange of information and news.

**3. Bluetooth-** It uses as radio technology called frequency hopping spread spectrum which chops up the data being sent and transmits data it on upto 79 bands.

**4. Led Projector-** This projector which is used to project on the screen. The screen is visualized in the A4 size. It also has the capacity of 1024\*768. It also shows the images and the videos in more clarity and good picture.



Fig. 3 LED Projector.

**5. Digital Camera-** The digital camera is also available in the 5 pen pc technology which is in the shape of pen. This pen camera is useful in capturing videos, images, and it is also able to record and it is mainly used for video conferencing, also used as a web camera. Bluetooth is used to connect with the devices.



Fig. 4 Digital Camera.

### 5.1 Advantages

- Small, portable.
- 360 degree visual communication device.

### 6.Virtual Keyboard

It is also called as virtual laser keyboard and it has become the new gadget for the users. It is used to emit the laser on the desk which looks like a keyboard which has qwerty arrangements of keys which uses laser beam to generate a full size and which is connected to the pc and even handheld devices including tablets or I pads.

- Physical keyboards with clear keys.
- They are with the areas of sensing.
- Both keyboard and projection can be done.
- It optically detect the human hand and the motion or the movement of the fingers.

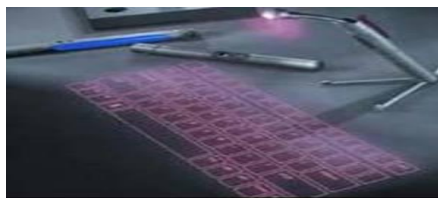


Fig. 5 Virtual Keyboard.

### 6.1 Features

- Connection
- Intensity
- Sound can be changed using keyboard.
- Timeouts

- Sensitivity
- Auto-repeat
- Compatible
- Battery saving

**6.2 Connection-** The pen is connected to the appropriate laptop or port.

**6.3 Intensity-** The pen has the intensity of the projected virtual keyboard.

**6.4 Timeouts-** It saves the battery life of the virtual keyboard when it is not in use.

**6.5 Sensitivity-** The virtual keyboard is adjustable and it is sensitivity.

**6.6 Auto-Repeat-** It allows the VKB to automatically repeat a key based on prescribed parameters.

**6.7 Battery-** Though its size is very small but the battery life works for around 6+ hours and it can be used for more than 2 weeks.

**7. Security Considerations-** It may be used in some cases to reduce the risk of keystroke logging. For eg:- it is mainly used in banks and online net banking for mainly passwords entry for opening. This makes the observer to read the data from the screen.

## III. APPLICATIONS

Many researches has been done but there is no clear result so far. There is only one application that is E-fingerprinting gadget which will be more secure which will allow only owner to activate the pc. Even though if it is lost or stolen it cannot be accessed by anyone other than the owner.

### 1. Advantages

- Portable and it can be easily carried.
- It is feasible.
- Ultimate ubiquitous
- It support wifi technology
- These pens can be used as both monitor as well as keyboard on any flat surfaces.

### 2. Disadvantages

- Positioning is more important to use it.
- The keyboard concepts are not new.
- It is unclear.

### 3. Merits

A 5 pen pc technology can have several merits. They are

- Portable
- Ubiquitous computing
- Wifi technology

### 4. Portable

The first and the most important advantage of 5 pen pc are that they are portable. The size of the pen is small so it can be carried anywhere. These pens are in the shape of normal writing pen so it can be easily carried and it can be taken in hand, pockets, bags. It does not require any heavy space to keep it safe so it does not require any large space. This is portable computer it can be carried anywhere and at any time. It can also be called as portable

workstation or portable pc's. It also works for a long time as its battery works for many hours.

**5. Ubiquitous Computing-** It is also called as ubicomp is a post desktop model of human computer interaction in which information is integrated into everyday objects and activities. It is defined as the machines that fit the human environment instead of forcing humans to enter them. So ubiquitous computing is the concept or the combination of software engineering and computer science. It can be used anywhere, anytime, any location, and even at any device. It also has many layers which all combine together to form a single system.

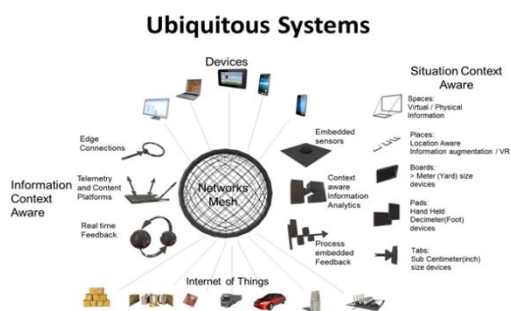


Fig. 6 Use of Ubiquitous System.

There are three layers they are:

- Task management layer
- Environment management layer
- Environment layer.

**6. Task Management Layer-** It monitors users task, context, index. it is used to manage complex dependencies.

**7. Environment Management Layer-** This layer is used to monitor the resources and its capabilities. it also use to map the service needs user level states with specific capabilities.

**8. Environment Layer-** This layer is used to monitor relevant resources. It is also manage the reliability resources.

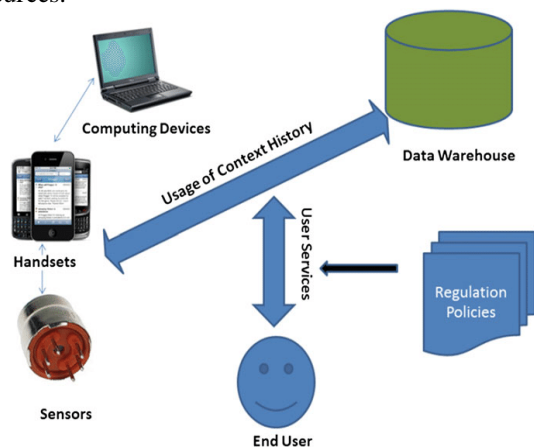


Fig. 7 Layers of the Pen.

## IV. WIFI TECHNOLOGY

This 5 pen pc technology has the major important merit is wifi technology. Where the internet is inbuilt through it where the users can easily connect to it and the user are made friendly with this environment. A device enabled with wifi technology such as personal computers, video game console, smart phone, tablet, or digital audio player, can connect to a network resources such as the internet via a wireless network access point. An access point or the hotspot has a range of about 2 meters (65 feet) indoors and a great range outdoors. This hotspot can cover a small range like inside a room with walls that block radio signal or large area. To connect to a Wi-Fi LAN, computer has to be equipped with a wireless interface controller.

### 1. Demerits

- It is an expensive device.
- The virtual keyboard is already existing one.
- It can be easily misplaced
- As it is under development stage the device is bit unclear.

### 2. Security

The greatest concern by all end users in any newly introduced gadgets is the security features how well the system or machine designed would protect confidentially. This 5 pen has a unique security features that made it one of the most secured portable devices. The E-fingerprint mechanism matches user biometric data with the database before granting authorization. The technology is not portable, efficient and user friendly.

## V. CONCLUSION

Nowadays the communication is becoming smaller and compact. This is only an start of the new technology but we can expect more in the future. It is one of the technology which has five features adapted in a single pen and it is easy to carry even in the pockets and can able to work with it anywhere and whenever we want. This is pen is a sort of instrument which can act as both monitor and keyboard and can carry out anywhere as a desktop. This also has wifi technology and Bluetooth facilities. The major advantage is that in the camera we can record the videos and it can be clear vision and quality. We can also expect more in the future with advanced technologies.



Fig. 8 Outlook of the 5 Pen pc.

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