

A Review on E-Ball Technology

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Abstract—The computer was invented in 19th century. The earlier computers are huge in size. Later on computers that are smaller than the earlier ones came into exist. But they are also space consuming. To avoid and manage this problem, innovative person creates the innovative hand-held computers with the properties of existing computers and with the improvised design. This system is called as ‘e-ball’. It is a new concept of upcoming spherical shaped computers and laptops. This paper features about this new paradigm of e-ball technology which has all the features like traditional computer.

Keywords—E-Ball, Spherical Shape, Virtual, Conventional, Paper Sheet Holder.

I. INTRODUCTION

E-ball is a emerging technology which was invented by a 31 year old Macedonian product designer, Apostol Tnokovski. This is a new concept of PC which features all the traditional elements like keyboard, mouse, webcam, DVD player, projector etc., and it is the smallest type of computer ever made. It is designed to ease the portability and working without any hardware. Predominantly this concept is based on laser rays technique which dwells all the features of a computer. Principally it was designed for Microsoft Windows Operating System and it comprises of no external display units. This is the smallest model of this era.

When you close the e-ball no one can guess what is in that, that is none can find a whole computer set in that ball. But when it is opened we can see a whole computer set which contains all the conventional elements like display screen as well as the virtual keyboard and a mouse.

E-ball is designed to be placed on two stands and can be opened by simultaneously pressing the two buttons which is located on the either side of the sphere. It is provided for the projection through LCD projector and navigation keys are given for adjustment purpose. Because of its unique way, e-ball computer has taken the computer technology to the peak.



Figure 1: E-Ball model

II. COMPONENTS OF E-BALL

The following are the attributes of E-ball computer:



Figure 2: Components in E-ball model

A. Size Of Eball

It is a spherical shaped ball of 6 inch in diameter and contains a motherboard of size 120x120mm.

B. Holographic Display

Holography is the best way of displaying the true 3-Dimensional displays. It is a type of diffraction based display technology which reconstructs the light field of 3D in space with the coherent light.

C. Processor

It has enhanced with dual core processor with two disassociated cores on the same die, providing its own cache.

D. Ram

RAM (Random Access Memory) is the dominant type of memory in the computer. This computer uses 5 Gigabytes of RAM. It gets the name because we can randomly access the memory without considering the sequence.

E. Hard Disk Drive

It is a secondary storage device and non volatile in nature. It is made up of metal plate coated with oxide that is magnetized to store the digital information. Data can be directly accessed from the hard disk. This computer has the storage capacity in the range of 250-500 Gigabytes.

F. Speakers

Prominently known as multimedia speakers. It has two inbuilt 50W speakers.

G. HD DVD Recorder

High definition DVD recorder is an independent unit which dwells the functions of Video Cassette Recorder. It records into a DVD disc or in the internal disc.

H. Graphic Card And Sound Card

The graphic card is a hardware installed in the computer which is capable of generating output images on the screen. Almost all the modern motherboard consists of ports so that the graphic card can be embedded. The sound card is an integrated circuit which generates the sound which can be heard through the speakers.

I. Power Port And Modem Port

The power port is used to plug-in any electronic devices such as DVD player. The modem port is used to connect the internet to the computer. The computer uses the ISP (Internet Service Provider) to deliver the information.

J. Webcam

Webcam is extensively used by all the computers. It can be connected to e-ball through USB cable or fire wire cable.

K. Lan And Wan Cards

LAN card is used to connect the users to Local Area Network through wireless connection. WAN card is a Network Interface Card which connects the user to a Wide Area Network.

III. WORKING OF E-BALL

E-ball concept of pc is a spherical shaped pc that grabs everyone's attention. It is a modern system which doesn't require any conventional keyboard and mouse. Here we discuss about the working of e-ball.

A. Lcd Projector

E-ball uses LCD (Liquid Crystal Display) Projectors to display or project the information on a flat surface. It consists of three LCD panels and each comprises of two glass panels with a layer of liquid crystals associated with them. It uses metal halide lamp to emit the light and a series of Di-chloric filters to separate the lights. Here the video signals are comprised of three colors: red, green and blue. These primary colors are making the images. LCD is generally more light efficient than DLP projectors. LCD projects the bright, vivid and sharper image with accurate color. This is the prominent advantage of LCD projector.

B. Dlp Projectors

DLP stands for Digital Light Processing. DLP technology is based on DMD (Digital Micromirror Device) chips. Each DMD chips is comprised of two million tiny mirrors. Each tiny mirror is capable of producing pixels. Color is fed to the DMD by a beam of light that passes through a spinning color wheels. Basic color wheels supports red, green and blue. After color reaches the DMD, the image is fed through the lens and onto the projection screen. The advantages of DLP projector are higher contrast and less door screen effect.

C. Optical Mouse

E-ball consists of optical wireless mouse which uses the concept of LED (Light emitting diode) and a light detector to detect the movements relative to a surface.

D. Virtual Keyboard

It is a wireless laser projection keyboard which uses the principle of sensor technology. It is not a physical keyboard and it is interpreted through lasers. When the keyboard button is pressed, the keyboard is projected in the flat surface. Users have to touch the image of the key by moving the fingers through the air. Two technologies are used to transfer to the computer. In

one technology, the Infrared sensor detects the stroke and sends it to the computer. In other technology, the selected keys are transmitted through wireless signals through the short-range Bluetooth technology. The keyboard layout can be changed through the software. This is more portable and takes less space rather than the conventional keyboards. It is a way to eliminate finger cramping. The advantages of virtual keyboard are speed text entry, portability, flexibility, accuracy and the ability to minimize the risk of strain injuries.

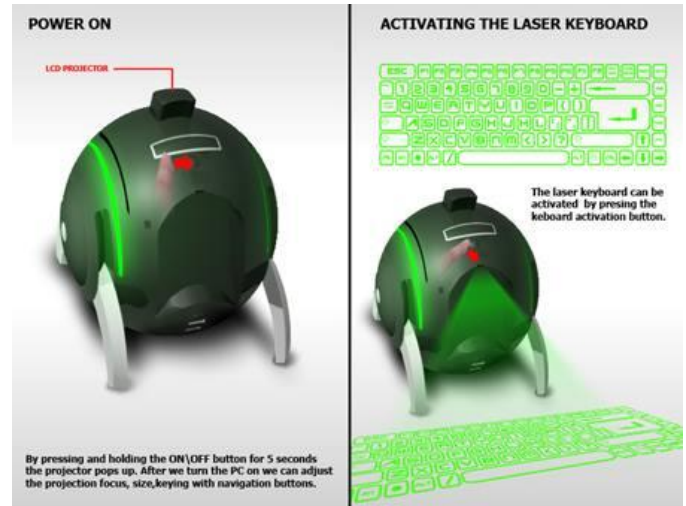


Figure 3: Virtual Keyboard

E. Paper Sheet Holder

Paper sheet holder can be used in the absence of walls. It is at the back of the pc. The lower part has to be pressed to open the paper sheet holder. The projector will recur by pressing the paper sheet holder button for five seconds. It is used to potrays the presentation.

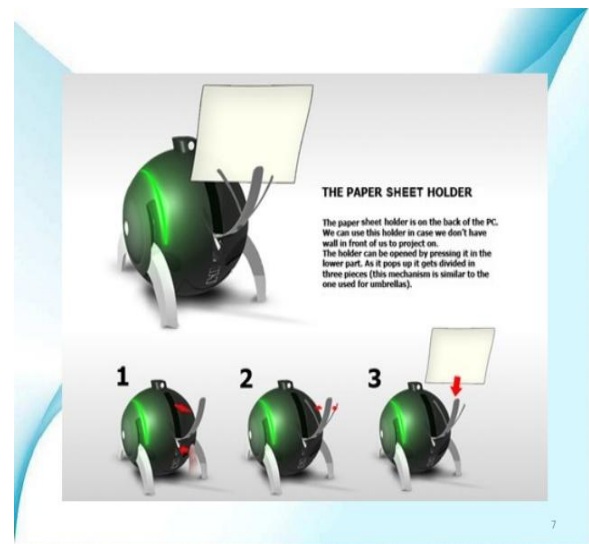


Figure 4: Paper-Sheet holder

IV. NEEDS OF E-BALL

The drawback of the earlier computers with heavy size and shape makes the use of the smallest e-ball computer. The spherical shape of this computer is the best ever and can be carried to anywhere. It doesn't need any space for physical monitor and other devices. As it is space consuming, it is the most preferable device to use.

Scenarios of use

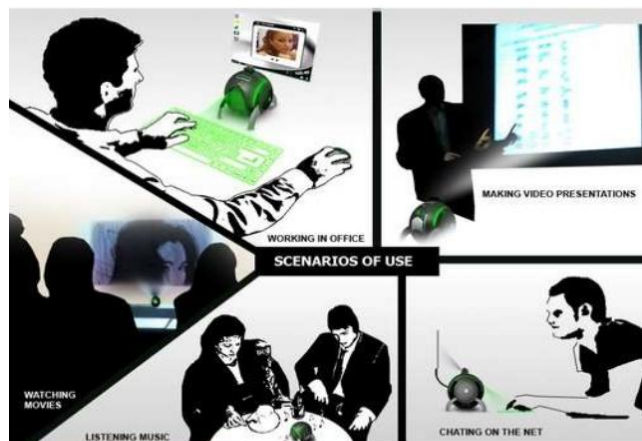


Figure 5: Scenarios of using E-ball

Advantages of E-Ball

- It is portable and it is hand free to use.
- It is efficient.
- It is more secured due to its shape.
- It has a larger storing capacity.
- It is easy to understand.
- It acquires high speed of execution.
- It is convenient for making presentations.

Disadvantages of E-Ball

- Cost of e-ball is higher.
- It is not easy to understand if there is any error in the hardware resource.

CONCLUSION

As the technology develops, the size of the computer is dwindling. Our imaginations are now coming true. The world has come to our pocket because of this device. The popularity of e-ball emphasizes the importance of technology. This e-ball concept of pc will move the world to the horizons.

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