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Ishare

Editorial

We would like to wholeheartedly thank our honorable Chairman, Secretary, Executive Director and Principal for their continuous encouragement and constant support for bringing out the magazine. We profoundly thank our Head of the Department for encouraging and motivating us to lead the magazine a successful one right from the beginning. Ishare serves as a platform for updating and enhancing upcoming technologies in Information and Communication. We are grateful to all the contributors to this magazine so far. The magazine has been sent to almost 60 Institutions in and around Tamilnadu. So far we have received feedbacks and appreciations from various Institutions.

We would be very pleased to receive your feedbacks. Please send your feedbacks to ishare@ksrcas.edu

By,

Editorial Board

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1. TOP TEN BENEFITS OF PROJECT MANAGEMENT

Mr. T. Vadivel

Assistant Professor in Computer Applications

1. Better Efficiency in Delivering Services:

Project management provides a "roadmap" that is easily followed and leads to project completion. Once you know where to avoid the bumps and potholes, it stands to reason that you're going to be working smarter and not harder and longer.

2. Improved / Increased / Enhanced Customer Satisfaction:

Whenever you get a project done on time and under budget, the client walks away happy and a happy client is one you'll see again. Smart project management provides the tools that enable this client/manager relationship to continue.

3. Enhanced Effectiveness in Delivering Services:

The same strategies that allowed you to successfully complete one project will serve you many times over.

4. **Improved Growth and Development Within your Team**:

Positive results not only command respect but more often than not inspire your team to continue to look for ways to perform more efficiently.

5. **Greater Standing and Competitive Edge**:

This is not only a good benefit of project management within the workplace but outside of it as well; word travels fast and there is nothing like superior performance to secure your place in the marketplace.

6. **Opportunities to Expand your Services**:

A by-product of greater standing, great performance leads to more opportunities to succeed.

7. **Better Flexibility**:

Perhaps one of the greatest benefits of project management is that it allows for flexibility. Sure project management allows you to map out the strategy you want to take see your project completed. But the beauty of such organization is that if you discover a smarter direction to take, you can take it. For many small-to-midsize companies, this alone is worth the price of admission.

8. **Increased Risk Assessment**:

When all the players are lined up and your strategy is in place potential risks will jump out and slap you in the face. And that's the way it should be. Project management provides a red flag at the right time: before you start working on project completion.

9. **Increase in Quality**:

Goes hand-in-hand with enhanced effectiveness.

10. **Increase in Quantity**:

An increase in quantity is often the result of better efficiency, a simple reminder regarding the benefits of project management.

2. SanDisk MicroSD Card

Ms. C. Suriya

Assistant Professor in Computer Science

SanDisk has announced the first 200GB capacity microSD card, a 56% increase on its previous record of 128GB just a year earlier.

SanDisk Corporation has introduced the 200GB SanDisk Ultra® microSDXC™ UHS-I card, Premium Edition – the world's highest capacity microSD card for use in mobile devices. Just one year after its record-breaking128GB memory card, the company has increased storage capacity by 56% within the same fingernail-sized form factor. Blazingly fast transfer speeds of 90MB/s enable consumers to move up to 1,200 photos per minute.

"Mobile devices are completely changing the game," said Christopher Chute, Vice President, Worldwide Digital Imaging Practice, IDC. "Seven out of 10 images captured by consumers are now from smartphones and tablets. Consumers view mobile-first devices as their primary means for image capture and sharing – and by 2019, smartphones and tablets will account for nine out of 10 images captured. As the needs of mobile users continue to change, SanDisk is on the forefront of delivering solutions for these demands as is clearly illustrated through their growing portfolio of innovative products, including the new 200GB SanDisk Ultra microSDXC card."

SanDisk achieved this capacity breakthrough by leveraging the proprietary technology developed last year for the 128GB version and creating a new design and production process that allows for more bits per die. Digital storage is a very good example of an exponential technology. On current trends, microSD cards with terabyte (1000GB) capacities are likely to be achieved within the next several years.

The 200GB SanDisk Ultra microSDXC UHS-I card, Premium Edition, features a ten-year limited warranty and will be available worldwide in Q2 at a suggested retail price of $399.99.

MOUSE

Ms. R. Nirmala

Assistant Professor in Computer Science

MOUSE:-

A mouse(In plural Mice) is a small object, designed to fit nearly under your palm. It has two main functions:

- You can use it to move a cursor on the screen in all directions (left, right, up, down or diagonal)
- Select the items to be displayed on the screen.

Operations of Mouse:-

Mouse is a pointing device whose shape resembles an actual mouse. This hand-held device allows you to control your computer without typing instructions form the keyboard. A mouse has a rubber ball (tracking ball) embedded at its lower side, and buttons on its upper side (top). This ball actually controls the movement of pointer on the computer screen.

Every mouse has one primary button (left button) and one secondary button (right button). The primary button is used to carry out the most tasks, whereas secondary button is used in special cases only. You can select commands and options by positioning the tip of the arrow over the desired choice and clicking the primary mouse button.

Working on a computer through a mouse is easy and faster as compared to the keyboard. The mouse is important, particularly, for Graphical User Interfaces (GUI). Because, in this case, you can simply point options and then by a click of a mouse button you can reach there. Such

applications are often called **Point-and-Click** programs. It is useful in MS Paint, CorelDraw and Photoshop.

How to use:-

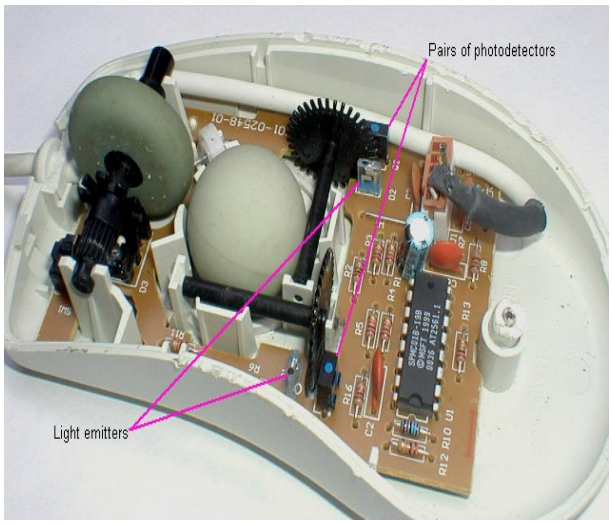
Before you use a mouse, make sure that it is placed on a flat surface so that you can move it easily. To get a firm grip over the mouse, it is better to keep it on a rectangular pad. This would also ensure its smooth movement. The rectangular pad is called **mouse-pad**.

Different Types of Mouse:-

We have seen the dramatic evolution in technological arena. Various types of mouse are available in market and the selection solely depends on your requirement. Let's take a quick look at the available options:

Mechanical mouse:-

A hard rubber ball that rolls as the mouse is moved. Sensors inside the mouse body detect the movement and translate it into information that the computer interprets.



Also called as the ball mouse, a mechanical mouse has rubber or metal ball on its underside. When the ball rolls, mechanical sensors inside the mouse detect the direction and move the pointer on the screen of the PC. This type of mouse requires a flat surface or a mouse pad to work efficiently. One of the drawbacks of the device is that it is more prone to attracting dust.

Optical-mechanical Mouse:-

It uses an LED sensor to detect tabletop movement and then sends off that information to the computer for merry munching.

Optomechanical or optical-mechanical mouse is same as the mechanical mouse except that the sensors used in it are optical and not mechanical. The device is a combination of optical and mechanical technologies, wherein, the ball is present but the mouse movement is detected optically leading to more accuracy.

Laser Mouse:-

A laser mouse is an optical mouse that uses coherent (laser) light. It is a new generation mouse with two necessary components – light emitter and light detector. A laser mouse uses laser as the light emitter and has a precise scanning of mouse movement. You will find a laser mouse ranging anywhere between 1000-5700 dots-per-inch.

3D-Mouse:-

3D mouse are devices, that allows an intuitive navigation of three-dimension models and work with both hands simultaneously. The typical interface for the keyboard and mouse 2D offers a navigation of universal applications, such as web browsers, email and others, in which the scroll is a key tool for easy navigation. The 3D CAD applications requires the possibility of rotation, move, zoom and zoom down 3D models at the same time. This condition of 6 degrees of freedom in movement is completely unavailable in the case of the mouse which uses only 2 degrees of freedom of movement. For example, the user is able to move the first model. Then they need to change the mode to zoom, and then switch the mode for the rotation. For comparison, all three elements - move, rotate and zoom - can be achieved in one, smooth movement of the 3D mouse. Probably the best known example would be

3Dconnexion/Logitech's SpaceMouse from the early 1990s. In the late 1990s Kantek introduced the 3D RingMouse. This wireless mouse was worn on a ring around a finger, which enabled the thumb to access three buttons. The mouse was tracked in three dimensions by a base station. Despite a certain appeal, it was finally discontinued because it did not provide sufficient resolution.

A recent consumer 3D pointing device is the Wii Remote. While primarily a motion-sensing device (that is, it can determine its orientation and direction of movement), Wii Remote can also detect its spatial position by comparing the distance and position of the lights from the IR emitter using its integrated IR camera (since the nunchuk accessory lacks a camera, it can only tell its current heading and orientation). The obvious drawback to this approach is that it can only produce spatial coordinates while its camera can see the sensor bar. A mouse-related controller called the SpaceBall has a ball placed above the work surface that can easily be gripped. With spring-loaded centering, it sends both translational as well as angular displacements on all six axes, in both directions for each. In November 2010, a German Company called Axsotic introduced a new concept of 3D mouse called 3D Spheric Mouse. This new concept of a true six degree-of-freedom input device uses a ball to rotate in 3 axes without any limitations.

Tactile mouse:-

In 2000, Logitech introduced the "tactile mouse", which contained a small actuator that made the mouse vibrate. Such a mouse can augment user-interfaces with haptic feedback, such as giving feedback when crossing a window boundary. To surf by touch requires the user to be able to feel depth or hardness; this ability was realized with the first electro rheological tactile mouse but never marketed.

Ergonomic mouse:-

As the name suggests, this type of mouse is intended to provide optimum comfort and avoid injuries such as carpal tunnel syndrome, arthritis and other repetitive strain injuries. It is designed to fit natural hand position and the movements, to reduce discomfort.

Gaming mouse:-

These mouse are specifically designed for use in computer games. They typically employ a wide array of controls and buttons and have designs that differ radically from traditional mouse. It is also

common for gaming mouse, especially those designed for use in real-time strategy games such as StarCraft or League of Legends, to have a relatively high sensitivity, measured in dots per inch (DPI).

Latest Mouse (in 2013):-

6400dpi 4G Laser Sensor:-

It is the most precise sensor ever outfitted in a mobile gaming mouse, the Razer Orochi's 6400dpi 4G laser sensor takes out the competition with deadly accuracy.

Wired / Wireless Bluetooth Connectivity:-

Achieve both the frenzy of wired and the freedom of wireless play with the Razer Orochi. It performs equally well both wired and through wireless Bluetooth 3.0 connectivity found in most laptops.

Extended battery life:-

The Razer Orochi is powered by two AA batteries, and optimized for extended life. Achieve up to 30 hours of continuous gameplay, or 3 months of normal usage, twice of its predecessor.

Apple Mouse

The **Apple Mouse** began as one of the first commercial mice available to consumers. Over the years Apple has maintained a distinct form and function with its mice that reflects its design philosophies.

Five different Apple mice

The **Apple Mouse** began as one of the first commercial mice available to consumers. Over the years Apple has maintained a distinct form and function with its mice that reflects its design philosophies.

Features

Perhaps the single most important feature that sets mice manufactured by Apple apart from others is the emphasis on a single button control interface. It was not until 2005 that Apple introduced a mouse featuring a scroll ball and four programmable "buttons."

All mice made by Apple contained a ball-tracking control mechanism until 2000, when Apple introduced optical LED based control mechanisms. Apple's latest mouse uses laser tracking.

History

In 1979, Apple was planning a business computer and arranged a visit with Xerox Parc research center to view some of their experimental technology. It was there they discovered the mouse, invented by Douglas Engelbart while he was working at SRI International (SRI); the mouse had

subsequently been incorporated into the graphical user interface (GUI) used on the Xerox Alto. During an interview, Engelbart said "SRI patented the mouse, but they really had no idea of its value. Some years later it was learned that they had licensed it to Apple for something like $40,000." Apple was so inspired by the mouse they scrapped their current plans and redesigned everything around the mouse and GUI.

One of the biggest problems was that the three button Xerox mouse cost over US$400 to build, which was not practical for a consumer-based personal computer. Apple commissioned Hovey-Kelley Design (which later became IDEO) to assist them with the mouse design, which not only had to be redesigned to cost US$25 instead of US$400, but also needed to be tested with real consumers outside a laboratory setting to learn how people were willing to use it. Hundreds of prototypes later, Apple settled on a single button mouse, roughly the size of a deck of cards. With the design complete, the operating system was adapted to interface with the single button design using keystrokes in combination with button clicks to recreate some of the features desired from the original Xerox three-button design.

With the single button mouse design established for almost 25 years, the history of the Apple Mouse is basically a museum of design and ergonomics. The original mouse was essentially a rectangular block of varying beige and gray color and profile for about a decade. Not much later, it was redesigned to be slightly angular along the top; this mouse is commonly called the "trapezoid mouse" for its slight trapezoid shape on

the bottom. In 1993 Apple redesigned the package to be egg-shaped, which was widely copied throughout the industry. Nevertheless it was still a tool available only in corporate gray or (rarely) black. With the release of the iMac in 1998 the mouse became available in an array of translucent colors. Apple also completed the transition to a completely circular design.

Two years later, Apple switched back to a more elliptical shape and monochromatic black and white design. The rubber ball tracking mechanism was updated with a solid-state optical system, and its single button was moved out of sight to the bottom of the mouse. Keeping up with the technological trends, Apple went wireless in 2003 and two years later, though maintaining its iconic design style, broke its most controversial implementation in the mouse concept and for the first time released a "none button" mouse with five programmable electrostatic sensors and an integrated scroll ball. Though the Macintosh aftermarket had provided these options to discerning users for decades, Apple itself only made them complementary with its offerings after the passage of much time.

Compatibility

All of Apple's Bluetooth mice have cross-compatibility with almost every Bluetooth capable computer, though they are not supported by Apple for use on PCs.

Apple's USB mice likewise are compatible with nearly all USB equipped machines.

DE-9 serial connector

Prior to USB, Apple created the Apple Desktop Bus (ADB) interface. Though some other manufacturers (NeXT, etc.) licensed Apple's technology and ADB mice were completely interchangeable between them, the mouse interface IBM introduced on the PS/2 quickly came to dominate the market and crushed all competition. ADB-to-PS/2 adapters were always extraordinarily rare, while the early years of Apple's transition to USB brought with it a raft of popular USB-to-ADB adapters.

Apple's first mice used a DE-9 connection carrying quadrature signals. As the personal computer was still in its infancy with no standards, Apple's mice could be used on any system capable of using such a quadrature mouse, in combination with a spliced cable or adapter as necessary.

Models

Lisa Mouse (A9M0050)

The mouse created for the Apple Lisa was among the first commercial mice sold in the marketplace. Included with the Lisa system in 1983, it was based on the mouse used in the 1970s on the Alto computer at Xerox PARC. Unique to this mouse was the use of a steel ball, instead of the usual

rubber found in subsequent and modern mice. It is connected to the computer by means of a standard DE-9 and unique squeeze-release connector. Though developed by Apple, it was actually designed by an outside firm, Hovey-Kelley (renamed IDEO in 1991), who built hundreds of prototypes and conducted exhaustive testing with focus groups in order to create the perfect device. Their perseverance paid off as not only did they bring the design in on time and on budget, but the resulting device remained virtually unchanged for almost 20 years. It was this mouse that established Apple's mouse as a one-button device for over 20 years. Every single aspect of the mouse was researched and developed, from how many buttons to include, to how loud the click should be. The original case design was Bill Dresselhaus's and took on an almost Art Deco flavor with its formal curving lines to coordinate with the Lisa.

Macintosh Mouse (M0100)

The Macintosh mouse was little changed from the original Lisa version and is completely interchangeable. The case was a slightly darker brown than Lisa's beige coloring and it had less formal lines, with a thick chamfer around its edges to match the Macintosh case. Mechanically, the Lisa's steel ball was replaced by a rubber covered steel ball, but otherwise connected with the same DE-9 connectors, though updated with a square-shape and standard thumb screws. When the Macintosh Plus debuted in 1986, Apple had made minor revisions to the mouse mechanism and across all product lines, unified the cable connectors and used a more rounded shape. The following year, Apple once again unified its product lines by

adopting a uniform "Platinum" gray color for all products. In 1987 this mouse had its final design change, updating both its color to Platinum with contrasting dark gray "Smoke" accents and minor mechanism changes.

Macintosh Mouse (beige & Platinum)

Apple Mouse IIc

Apple Mouse (IIc)

- **M0100**

Four months after the Macintosh debut, the Apple IIc was introduced with the addition of an optional mouse to manipulate standard 80 column text. The mouse was similar to the Macintosh mouse, though it was in a creamy-beige color that co-ordinated with the IIc's bright off-white case and had a slightly modified design which was sleeker than the Macintosh's blockier shape. It also was uniformly the same color, eliminating the Mac & Lisa's contrasting taupe accents on the mouse button and cable. Unlike the

Macintosh, the IIc Mouse shared a dual purpose port with gaming devices like joysticks. In order for the IIc to know what was plugged into it, its mouse had to send the appropriate signal. Despite these differences, it carried exactly the same model number as the Macintosh version.

- **A2M4015**

An *Apple Mouse* packaged for the IIc, it coincided with a minor change in the mouse mechanism and connector style.

- **A2M4035**

In 1988 it took on the identical physical appearance and coloring as the Platinum gray Macintosh Mouse. Unlike its predecessors, the USA manufactured versions of the Platinum Macintosh/Apple IIe mouse will work on the IIc too. All versions of the IIc Mouse will work with any Macintosh or Apple II card. As a result, Apple briefly sold the intermediate model as the *Apple Mouse* optionally for use across all platforms.

Apple Mouse II (M0100/A2M2050)

By mid-1984, Apple's commitment to bringing the mouse to its entire product line resulted in the release of the Apple II *Mouse Interface* peripheral card. Since this was a dedicated mouse port, Apple simply re-packaged the Macintosh mouse, but with the same creamy-beige cable and connector used on the IIc mouse and bundled it along with special software called *MousePaint* for use with the Apple II, II Plus, and IIe computers. Like the original IIc mouse, it used the same model number as

the Macintosh. Unlike the Mouse IIc, however, it can be interchanged with the Macintosh version, but cannot be used on the IIc. Due to the popularity of the Macintosh and shortage of mice, Apple later repackaged the original *Apple Mouse IIc* in this bundle as well since it was cross-platform compatible. The *AppleMouse II* and its successors were never included as standard equipment on any computer.

Apple Mouse (A2M4015)


ADB Mouse

Since the original Apple Mouse IIc was compatible across all platforms, Apple renamed the mouse in 1985 and offered it as an optional purchase for all computers and separate from the Apple II interface card. It featured an updated mechanism and the new uniform rounded cable connector. Apple would briefly reuse this name later for a re-badged *Apple Pro Mouse*.

Apple Mouse IIe (A2M2070)

By 1986 Apple had updated its product lines with new cable connectors. With the Apple IIe already three years old, the AppleMouse II was re-badged for the IIe alone and essentially used a repackaged Macintosh Mouse with no modifications. Later it would also use the Platinum Macintosh version. The US manufactured version of the Platinum mouse is also interchangeable with the identical looking IIc mouse.

Apple Desktop Bus Mouse (G5431/A9M0331)


The black ADB Mouse II

In September 1986 Apple continued a year of major change by converting its mice and keyboards to the Apple Desktop Bus (ADB). Newly redesigned, this mouse retained the blocky footprint of its predecessor, but had a lower, triangular profile.

The first official Snow White design language mouse (the Apple Mouse IIc was technically the first), it was a uniform Platinum gray color, including the single button, with only the cables and connectors retaining the contrasting darker gray "Smoke" color. It was introduced on the Apple IIGS computer and later became the standard included mouse with all Macintosh desktop computers for the next six years.

Apple Desktop Bus Mouse II (M2706)

In only its third major redesign in 10 years, the Apple mouse shed its blocky exterior for rounded curves. The so-called tear-drop mouse, was essentially the same as its predecessor but with a new case subsequently held as the ideal shape of mice. Indeed the basic design has persevered into current models, as well as being widely copied by other mouse manufacturers. It was included with all Macintosh desktop computers from 1993 until 1998. It was also the first mouse produced by Apple in black to match the Macintosh TV as well as the Performa 5420 sold outside the US.

Apple USB Mouse (M4848)

The Apple USB Mouse was Apple's first USB mouse. Released with the iMac in 1998 and included with all successive desktop Macs for the next two years, the round "Hockey puck" USB mouse is widely considered one of Apple's worst mistakes. Marking the switch from ADB, the colorful translucent mouse was a radical departure from its predecessors, down to a ball whose two-tone surface fluttered past the user's eyes as it spun under the mouse's translucent housing.

Apple USB Mouse

However stylish, the mouse's round shape is widely considered clumsy, due to its small size and tendency to rotate in use. This was a major cause for the success of the Griffin iMate ADB to USB adapters as they allowed for the use of the older, more comfortable ADB Mouse II to be used with those iMacs.

Later revisions included a shallow indentation on the front of the button (note the singular), but this was not enough to prevent a flood of third-party products like the *iCatch* and *UniTrap*, shells that attached to the USB mouse to give it the ADB mouse's elliptical shape.

Another flaw introduced in the Apple USB Mouse, shared across all of Apple's USB offerings, is the atypically short cord. Though intended for use through the integrated hub in Apple's keyboards (which have themselves had shorter integral cables since the USB transition, eventually prompting Apple to bundle keyboard-only extension cables with tower Macs), Apple's transition to USB coincided with the relocation of ports on their laptops from the center to the left edge. As none of Apple's USB mice have cords longer than two feet, they are impractical for most right-handed users.

Apple Pro Mouse (M5769)


Apple Pro Mouse

In a move away from the bold colors of the iMac and in a return to the styling of the traditional mouse design, in 2000 Apple discontinued the USB mouse and introduced the all-black Pro Mouse.

A similar design to the ADB II mouse, the black Apple Pro Mouse was surrounded by a clear plastic shell. After taking years of criticism for their continuation of the one-button mouse, Apple effectively flipped the design of a "normal" mouse upside-down, with the sleekly featureless appearance that resulted inspiring its jocular appellation as "the first 0-button mouse."

This was the first Apple mouse to use an LED for fully solid-state optical tracking instead of a rubber ball. It was included as the standard mouse with all shipping desktop Macs and was later made available in

white. However in 2003 it underwent a minor redesign, during which time the black version was discontinued, and *Pro* was dropped from its name.

Apple Mouse

Like many earlier products, Apple re-used the name Apple Mouse briefly after the Pro Mouse was discontinued. As for the recent *Apple Keyboard* models, Apple did continue to use the *Apple Mouse* name for its subsequent model releases: the *Apple Mighty Mouse* of 2005 has been renamed Apple Mouse circa 2012.

Apple Wireless Mouse (A1015)


Apple wireless Mighty Mouse

An optional Bluetooth-based cordless version of the Apple Mouse in white, released in 2003 alongside with a matching wireless keyboard, was Apple's first cordless mouse. Combined with internal Bluetooth interfaces in new Macs, this bypassed their wired relatives' aberrantly truncated cords to once again make Apple's mouse usable for right-handed laptop owners.

Apple Mighty Mouse

Previously included with all new Macintosh desktop models, it was a major departure from Apple's one-button philosophy integrated in its design since the Lisa.

- **A1152**

Under increasing pressure to sell a generic two button mouse with a scroll wheel, Apple surprised the industry in 2005 by instead making a mouse which eschewed buttons for touchpad-like capacitive controls, and featured a tiny integrated trackball in lieu of a scrollwheel.

- **A1197**

A year later, an optional wireless version was released with the same name as its wired counterpart.

Comparison of the Magic Mouse (lower of the two mice) and the Mighty Mouse

The Mighty Mouse also has touch sensors under the top area place around the scroll wheel. This allows the computer to know if it should do a right or left click.

Apple Magic Mouse

Apple Magic Mouse

Introduced on October 20, 2009, as a replacement to the Wireless Mighty Mouse. The Magic Mouse features multi-touch gesture controls similar to those found on the iPhone and the MacBook's trackpads, wireless Bluetooth capabilities and laser-tracking. The Magic Mouse is included with the new iMac; however, the wired Mighty

Mouse (now renamed "Apple Mouse") is still available as an option when buying.

Non-mouse controllers


PowerBook trackball

Paddles

"Apple Hand Controllers II" and "Apple Hand Controllers IIe, IIc" (A2M2001)

These paddles were the original Apple-branded game controllers.

Joysticks

"Apple Joystick IIe, IIc" (A2M2002)

Essentially a gaming device around long before the mouse, the joystick could be used for many of the same functions.

Tablets

Apple Graphics Tablet (A2M0029)

The Apple Graphics Tablet was a large flat surface covered with a grid and had an attached stylus. Released for the Apple IIPlus and later a modified version for the Apple IIe.

- **Pippin Keyboard**

An optional keyboard accessory was provided for the Pippin, which had a large graphics tablet and stylus on the top half of its notebook-like hinged body.

Trackballs

- **Macintosh Portable**

The Macintosh Portable was the first Apple machine to use a trackball, essentially a large palm-sized, upside-down ball mouse.

- **PowerBook**

The PowerBook line scaled down the trackball to be thumb-sized and included one in every portable from 1991 to 1995 when it was phased out in favor of the trackpad.

- **Pippin controller**

The Pippin, developed by Apple, had a gamepad with a built-in trackball. Versions were made which connected via the Pippin's AppleJack childproof ADB connector, infrared, and normal ADB.

Trackpads

A trackpad wheel on an iPod Nano 2G

The built-in "mouse" on all Apple portables since 1995. The trackpad has been modified to match the color of the case, traditionally black, it

turned white with the iBook and MacBook and aluminum with the PowerBook G4 and MacBook Pro. The MacBook Air introduced a multi-touch trackpad with gesture support, which has since spread to the rest of Apple's portable products.

Like Apple's single-button mice, all of their trackpads have no more than one button (though some early PowerBooks had a second physical button, it was electrically the same as the primary button;) also like Apple's new mice, their latest trackpads—beginning with the unibody MacBooks and MacBook Pros—eliminated physical buttons.

20th Anniversary Macintosh

The only desktop Macintosh not to require a mouse. The 20th Anniversary Macintosh instead had a trackpad which could lock into the palm rest of its keyboard.

iPod

Starting with the iPod 2G, the mechanical scroll wheel was replaced with a wheel-shaped trackpad. Starting from the iPod 3G, this extended to the replacement of all buttons.

Magic Trackpad

Apple's Magic Trackpad

Apple's Trackpads play a major role in Mac OS X Lion. In late July 2010, Apple released its first wireless, external Trackpad. 80% larger than the MacBook Trackpads of the time, it matches the end-on profile of the Apple Wireless keyboard and provides an alternative to the Magic Mouse that ships with Apple's desktop computers (with the exception of the Mac Mini).

Touchscreens

- **Newton/eMate**

In 1993 the Apple Newton used a precision touchscreen which required a rigid and moderately sharp object for input, such as a fingernail or its included stylus. The Newton's touchscreen interaction was equivalent to a simple graphics tablet, and was used to affect what eventually became the most widely lauded handwriting recognition system on the market. This technology eventually found its way onto the Macintosh in the form of 10.2's Inkwell feature, sparking rumors of a Newton revival.

- **iPod touch/iPhone/iPad/iPod Nano**

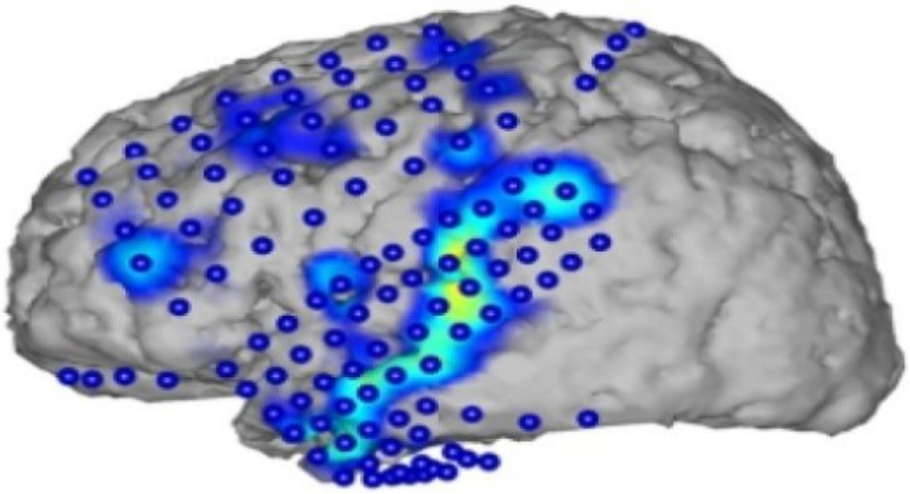
The iPad, iPhone and iPod touch incorporate multi-touch touch screens for the iOS's gesture-based interfaces.

4. SPEECH RECOGNITION FROM BRAIN ACTIVITY

R.M. BALAJI

II B.Sc CS "C"

Speech is produced in the human cerebral cortex. Brain waves associated with speech processes can be directly recorded with electrodes located on the surface of the cortex. It has now been shown for the first time that is possible to reconstruct basic units, words, and complete sentences of continuous speech from these brain waves and to generate the corresponding text. Researchers at KIT and Wadsworth Center, USA present their "Brain-to-Text" system in the scientific journal Frontiers in Neuroscience.



"It has long been speculated whether humans may communicate with machines via brain activity alone," says Tanja Schultz, who conducted the present study with her team at the Cognitive Systems Lab of KIT. "As a major step in this direction, our recent results indicate that both single units in terms of speech sounds as well as continuously spoken sentences can be recognized from brain activity."

These results were obtained by an interdisciplinary collaboration of researchers of informatics, neuroscience, and medicine. In Karlsruhe, the methods for signal processing and automatic speech recognition have been developed and applied. "In addition to the decoding of speech from brain activity, our models allow for a detailed analysis of the brain areas involved in speech processes and their interaction," outline Christian Herffund Dominic Heger, who developed the Brain-to-Text system within their doctoral studies.

The present work is the first that decodes continuously spoken speech and transforms it into a textual representation. For this purpose, cortical information is combined with linguistic knowledge and machine learning algorithms to extract the most likely word sequence. Currently, Brain-to-Text is based on audible speech. However, the results are an important first step for recognizing speech from thought alone.

The brain activity was recorded in the USA from 7 epileptic patients, who participated voluntarily in the study during their clinical treatments. An electrode array was placed on the surface of the cerebral cortex (electrocorticography (ECoG)) for their neurological treatment. While

patients read aloud sample texts, the ECoG signals were recorded with high resolution in time and space. Later on, the researchers in Karlsruhe analyzed the data to develop Brain-to-Text. In addition to basic science and a better understanding of the highly complex speech processes in the brain, Brain-to-Text might be a building block to develop a means of speech communication for locked-in patients in the future.

MAILING LIST – To Whom We Send

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- **Mr. P. Narendran, HOD of CS, Gobi Arts &Science College, Gobichettipalayam-53.**
- **Dr. M. Chandrasekharan, HOD of CS, Erode Arts College (Autonomous), Erode - 09.**
- **Mr. S. SureshBabu, HOD of CS, Thiruvalluvar Government Arts College, Rasipuram.**
- **Dr. K. Thangavel,HOD of CS,Periyar University,Salem-11.**
- **Prof S. Joseph Gabriel, HOD of CS , Mazharul Uloom College, Vellore – 02**
- **Dr.P.Venkatesan,Principal, Vysya College of arts and science, Salem – 03.**
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- **Dr. R. Balasubramaniam, Prof& HOD of CS, Manonmaniam Sundaranar University, Tirunelveli.**
- **Dr. P. Jaganathan,Director, Dept of MCA,PSNA Engineering college, Dindugal-22.**
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- **Dr.H.Faheem Ahmed,Asst Prof & HOD of CS, IslamiahCollege,Vaniyambadi – 02**
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- **Dr. K. Angamuthu,The Registrar, Periyar University,Salem-11.**
- **Prof. Dr.C. Swaminathan,Vice Chancellor, Periyar University,Salem-11.**
- **Mr.Vaithiyanathan,Project Manager, HCL Technologies ,Chennai.**
- **Dr. T. Santhanam, Reader& HOD of CA, Dwaraka Doss Goverdhan Doss Vaishnav College, Chennai –06.**
- **Dr.Sheela Ramachandran, Vice Chancellor, Avinashilingam University, Coimbatore.**
- **Dr. R. Rajesh, Asst Prof,Dept of CS & Engineering, Bharathiyar University, Coimbatore - 46**

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- **Dr. R.Ravichandran, Secretary, Dept of CS, KGISL Institute of Technology, Coimbatore-35.**
- **Dr. N.Sairam, Associate Dean, School of Computing, Sastra University, Tanjore – 01**
- **Dr. T.Senthikumar , Asst Prof, Amrita Institute of Technology,Coimbatore - 12**
- **Mr.S.TRajan, Sr. Lectr, Dept of CS, St. Josephs College, Trichy-02.**
- **Dr. R.AmalRaj,Prof, Dept Of CS,SriVasavi College, Erode – 16**

BROWSER SOFTWARE TODAY

Today's browsers are fully-functional software suites that can interpret and display HTML Web pages, applications, JavaScript, AJAX and other content hosted on Web servers. Many browsers offer plug-ins which extend the capabilities of the software so it can display multimedia information (including sound and video), or the browser can be used to perform tasks such as videoconferencing, to design web pages or add anti-phishing filters and other security features to the browser. The two most popular browsers are Microsoft Internet Explorer and Firefox. Other major browsers include Google Chrome, Apple Safari and Opera. While most commonly use to access information on the web, a browser can also be used to access information hosted on Web servers in private networks.