Vincent Mapanao

Miss Ann Warren

#11907 (English 102)

2019 July 17

“Museum of the Computer Keyboard: Our Primary Input Device”

The Typewriter and Computer Keyboard might be the most overlooked technological advancement in history and it’s only getting older and more forgotten. The typewriter goes back to 1714 when one man, Englishman Henry Mill, filed for a patent with the idea for a machine that could,” transcribe letters singly,” (Polt). Although this specific idea wasn’t the one that changed the world, people were beginning to think towards the future. Christopher Latham Sholes’ invented and patented the QWERTY keyboard that evolved into computer keyboards and eventually the virtual keyboards on smartphones that are used by 66.53% of the world, 71.50% in the United States (GSMA). The “Museum of the Computer Keyboard” explores the evolution of the typewriters, the relationship with the computer keyboard, and the many layouts and designs invented in the past and present for technology enthusiasts.

“THE COMPACT TYPEWRITER OF TODAY IS SURELY A WEAPON OF WAR AND PEACE!!” (Arthur Toye Foulke Mr. Typewriter - A Biography of Christopher Latham Sholes page 129). In 1961, Arthur Toye Foulke, wrote and published a biography for Sholes because he hopes to satisfy the need for information on the man who invented the typewriter and enabled so many people to spread knowledge (Foulke 28). The typewriter and computer keybooard have always been in the computer’s shadow and yet, it’s easy to forget how powerful the computer is at times when so many people only use it for social media or to consume news. When looking at the history of the computer and how powerful it has become, people have to remember the tools that helped pave the way.

Before the typewriter, there was the piano style typewriter called the Hughes Printing Telegraph invented in 1840 by Royal Earl House (TelegraphDude) and the almost as interesting Hansen Writing Ball invented in 1865 by Reverend Rasmus Malling-Hansen (Supercobra). As mentioned before, the first idea for a typing machine was patented in 1714, but Scholes was the first to patent the “first practical modern typewriter” (Bellis) in 1868. Later in 1873, the Sholes & Glidden Typewriter is in production and released in 1874 with limited success (Polt). Due to the lack of sales, Sholes and Glidden sold their patent to Densmore and Yost (Supercobra) and in 1878 Sholes and his new partner James Denmore patent the QWERTY keyboard layout(Bellis). Through the years, the QWERTY layout went under some revisions requested by users of the keyboard to make it more comfortable. This revised layout was mass-produced onto the famous Remington Typewriter and stayed in trend with mass production of the other modern typewriters of the time. Following the introduction of the typewriter, other inventors continued to create other typing machines, but none of them could withstand the test of time. Not until the new possibilities for keyboards on typewriters and the computer.

Briefly, before bringing the evolution from the typewriter to the computer keyboard, there was something called the teleprinter. The teleprinter was a combination of the technology of the typewriter and the telegraph and was later combined with the punchcard system being called keypunches (Bellis). The keypunch system was the first opportunity for the teleprinter to connect to early calculators as input devices (Bellis). The Teletype technology used punchcards to punch holes into and that punchcard would then be analyzed and a computer would output useful data for the user (Supercobra). In 1946, the first computer, the ENIAC computer (Supercobra)was used with a QWERTY layout and processed data using the Teletype technology. As the computer evolved, the keyboard followed. In the 1960s, computers with video display terminal’s had the keyboard for data input and as those became more widely available, by the 1980s that the keyboard was most common (Linus). The QWERTY layout was still widely used as the,” ‘Universal’ layout,” (Polt), but inventors still saw room for improvement. In 1977, the Maltron company was formed later released the first ergonomic keyboard with a split and ortholinear design (Maltron). Maltron even invented keyboards for one-handed use. Other companies like the Kinesis Corporation were founded not long after in 1991 in order to increase productivity and comfort (Kinesis-Ergo).

The QWERTY layout is still used today coming pre-printed onto almost all of the keyboards sold today and come loaded default onto computers, tablets, and smartphones in the form of virtual keyboards. Yet there are other layouts that still have a following for a variety of reasons. The main reason would be to allow for better ergonomics resulting in a smaller chance of getting Repetitive Strain Injury, or RSI when typing for long periods of time. The two famous keyboard layouts that aren’t QWERTY are DVORAK and COLEMAK. In 1889, Sholes invented the XPMCHR layout to make QWERTY better (Edwards), but typewriter manufacturers continued to make typewriters with QWERTY. The Dvorak-Dealey typewriter used the DVORAK layout that was patented in 1936 by Drs. August Dvorak and W.L. Dealey (Foulke 104) and never grew the same following that QWERTY has always had. This might have to do with the merge of the big typewriting manufacturers creating the trust, Union Typewriter Company, and producing and selling typewriters with QWERTY layouts (Edwards) or even the many years that typists who took classes learned to use the most common typewriting layout (Edwards). Although Sholes wanted a better layout for the typewriter, he believed in empowering women,“ For from typing it was a natural step to general secretarial and office work, and thence into almost every branch of business and industry. Sholes was always glad he was the one who wrought such a service to womanhood,” (Foulke 81). There are many mixed opinions for switching to other keyboard layouts, but most people don’t recommend it for the same reason as they have since the other layouts have been used: QWERTY is the most common keyboard and most people don’t use the keyboard enough to contract RSI.

Time passed and computers became more widely available in the form of personal computers. Although computers came with keyboards, they were normally dedicated to one use like data entry or programming, but they could never do both at the same time, so users would have to build/buy a keyboard or convert their typewriter into a keyboard. Apple, RadioShack, and Commodore disagreed. In the 1970s, Alps designed and built the Alps SCB1A163 that was made for the first computer in UCLA (Lekashman) and was later developed into the keyboards used the famous Apple-1 Personal computer and other iterations of Apple computers. “In 1981, IBM released its first PC,” (Supercobra) using the famous buckling spring switch that, whether people know it or not, was as the most satisfying typing experience they could ever have. The buckling spring key switches offered more feedback than the previous keyboards that came before and also came with each personal computer like Apple’s bundle. As more and more computers became available, other keyboard manufacturers began to appear and newer features were being added to every keyboard as time passed.

In 1980, the UDS Comtest CEX-17C was released and it used the first version of the German MX Cherry KeySwitch (Lekashman). MX Cherry Keyswitches are still used today in many prebuilt and custom made keyboards. Manufacturing keyboards were very expensive in the past because there were many mechanical pieces and in order to cut costs. In order to create new designs and features, Northgate cut the quality. The Northgate Omnikey Plus was the first to implement DIP switches which allowed for keyboards to be programmed to having different layouts (Lekashman). Many, many, key switches for keyboards have been designed and used in many keyboards. Some using magnets to read for input as well as ultrasonic technology that read for vibration (Linus). The years passed and in the 1990s, the first membrane and rubber-dome key switches appeared using a technology that allowed the press of plastic onto a circuit board to be read and sent to the computer. The membrane keyboard allowed companies to cut the cost of keyboards and sell them for a much cheaper price and most of those born in the 1990s remember these as their first experience with a keyboard. The quality of the membrane keyboard began to diminish as companies were trying to put more money into the computer itself rather than the price of the keyboard.

The 1990s opened the door to handheld technology and introduced the first form of mobile computing for consumers (Lekashman). Hewlett-Packard released the first handheld device to the public with the HP95LX in 1991(Lekashman). The HP95LX was small and relatively useless, but it still had a QWERTY keyboard on it for data input (Lekashman). Apple attempted to make their own version of this personal data system with the Newton project (Lekashman), but that ultimately fell through and the Palm Pilot took the crown for top PDA in 1996. Although the keyboards on the small computers weren’t very functional, they continued to evolve into smartphones of today. After the success of the iPod and various computers, Apple purchased the company Fingerworks who created the Touchstream, a touch-capacitive sensing keyboard (Lekashman). After developing this technology, Apple implemented it into their laptop’s trackpads and the more famous iPhone. Not very long after, other smartphones began to emerge, all with a QWERTY keyboard.

Today the computer keyboard can range from a $5 rubber dome keyboard with a plastic enclosure to over a $325 mechanical keyboard that is split with a wood enclosure. Key switches can be linear, tactile, or clicky and there are is a countless variety made from many manufacturers. There are pricier keyboards like the HHKB costing $240 with hybrid key switches called Topre switches that are part rubber dome and part mechanical. Some new keyboards use infrared technology and sense for a piece of the switch to pass by light to be read and others use analog technology found in video-game controllers to read how far the key is being pressed. The mechanical keyboard community is a niche community that believes in maximum comfort and productivity when inputting data. There is a lot of information about the different experiences of switches, the beauty of keycaps, and ergonomic layouts and there are many resources online. Inventors continue to make new designs for other keyboards like the Laser Keyboard (SuperCobra) using lights to sense what’s being tapped or Textblade keyboard that is made to be compact and futuristic (Waytools). "No other machine, no other invention, no other article of commerce of any kind has ever played a more commanding role in the shaping of business and social destiny," (Foulke 126). The Typewriter and the Computer will always have their place in history by being the tools that humans used to communicate with each other and computers. The machines that were used to send messages across the world faster and faster as each generation passed. These machines are the most important input device before we are able to connect our brains to a computer using something like Elon Musk’s newly announced NeuraLink.

Work Cited

Bellis, Mary. “The History of the Computer Keyboard.” *ThoughtCo.*, 24 June 2019,

www.thoughtco.com/history-of-the-computer-keyboard-1991402.

Edwards, Phil, director. *How QWERTY Conquered Keyboards*. *How QWERTY Conquered*

*Keyboards*, 27 Sept. 2017,

www.vox.com/2017/9/27/16369508/qwerty-keyboards-history.

Foulke, Arthur Toye. Mr. Typewriter: a Biography of Christopher Latham Sholes. Christopher Publishing, 1961.

“Kinesis Corporation.” *Kinesis-Ergo*, Kinesis, 2019, kinesis-ergo.com/company/about-kinesis/. About Page

Lekashman, Andrew. “History Of Mechanical Keyboards.” *Tom's HARDWARE*, 22 Oct. 2016,

10:45AM,

www.tomshardware.com/picturestory/736-history-of-mechanical-keyboards.html#s9.

“Maltron History.” *Maltron Ergonomic Keyboards*, PCD Maltron Ltd., www.maltron.com/maltron-history.html. About Page

Polt, Richard. “A Brief History of Typewriters.” *The Classic Typewriter Page*, 2015,

site.xavier.edu/polt/typewriters/about.html.

Sebastian, Linus Gabriel, director. *History of the Computer Keyboard*. *History of the Computer*

*Keyboard*, 11 May 2018, www.youtube.com/watch?v=qLAqT2U68h4.

Supercobra. “Typing Through Time: Keyboard History.” *Das Keyboard*, 22 July 2011,

www.daskeyboard.com/blog/typing-through-time-the-history-of-the-keyboard/.

“The Hughes Printing Telegraph.” Edited by TelegraphDude, *Telegraph Keys*, 19 June 2019, telegraphkeys.com/pages/hughes.html.

WayTools. “WayTools Unveils TextBlade. Touch-Typing Breakthrough.” *WayTools TextBlade - Magnetic Keyboard for IPhone, IPad, Android*, Waytools LLC, 2019, waytools.com/us/about. About Page