What is a Floppy Disk?

A floppy disk is a type of storage media that reads data storage information, also known as a floppy diskette, floppy, or floppy disk that is used to store electronic data, like a computer file. It was extremely expensive as it was one of the first types of hardware storage created in 1967 by IBM, which could read/write a portable device.

When it was first invented, users were unable to write data to them, like CD-ROM, and it was 8 inches in diameter. This disk was only able to store 80KB of data, but later versions became capable of storing as much as 800KB. The floppy disks were replaced by the devices like USB and network file transfer; however, these disks are now outdated.

As the technology advanced, a floppy disk that is becoming smaller and came in three sizes, 8 inches, 5.5 inches, and 3.5 inches. As compared to previous models of floppy, the newer version can store more data than used more cutting-edge technology.

Another version of the floppy disk, 5.25 inch, was capable of holding 360KB of data and was introduced in 1978. Later, up to 1.2MB could be store by revisions of the 5.25-inch floppy disk. Early desktop PCs like the Apple IIe, were used these disk drives. The 3.5-inch HD (high density) floppy disk was able to store 1.44MB and was introduced in 1987. As compared to 5.25-inch disks, these versions were more portable and also more durable. For backing up personal data and distributing commercial software titles, the 3.5-inch floppy disk became the standard for the next decade.

Over time, floppy disks were capable of reading and write data. At that point, it contained four basic components:

- Magnetic read/write heads
- Containing all of the electronics, it includes a circuit board.
- It comprises a lever with a frame that helps to open and close the device.
- It is placed through a spindle clamping device because it is spinning 300 to 360 rotations every minute.

The read/write head was used for reading and writing, which could read both sides of a disk. For erasing data, a wider head was used and it offered surety that data was erased. Floppy discs began to replace by CD-ROMs in the late 1990s. Later, consumers also started to use recordable CDs for keeping backup their data. The first mainstream computer, Apple's original iMac, was introduced in 1998. It did not include a floppy disk drive. Eventually, various PC manufacturers followed suit because it took several years.

Now many people use recordable CDs or USB flash drives to back up their data, and most software is distributed on CDs and DVDs. Finally, floppy disks have become a good thing of the past for storing data. As it was the data storage medium and many people grew up with that; hence, the floppy disk still has an important role in the veteran computer users. In modern times, as ZIP drives, CDs and USB are har drives have been introduced.

How were floppy disks used?

In the early time of the computer, floppy disks were only the option to backup your information and install a new program onto a computer because there were no CD-ROM drives, USB, and floppy disks included on the computers. The program could be able to install from one floppy disk if the program size was less than 1.44 MB. Similarly, most programs needed multiple floppy disks if they have a larger size than 1.44 MB.

Types of Floppy Disk

There are several kinds of floppy disk drives that came on the market and gone with the times due to not use more.

8-inch Drive

In the early 1970s, 8-inch was the first floppy design that was used as a read-only format then become able for both read and write. Floppy was its physicality that gave the entire series of the floppy drive its name.

5 ¼ -Inch Drive

During the 1980s, a 5 ¼-inch floppy disk drive was produced that was widely in use on PCs. In the early 1990s, 5 ¼-inch floppy disk drives were also included on computers that could have the ability to store data between 360 kilobytes and 1.2 megabytes. Some 5 ½-floppy disks were able to write data to both sides of the disk and also allowed to modify data. After that, manufacturers of floppy disks began to develop double-sided drives.

3 ½ -Inch Drive

Another type of floppy disk, 3 ½-inch floppy drive that is encased in plastic, which can hold 1.44 megabytes on a high-density disk and 730 kilobytes on a double- density disk. In older times of the computer, multiple disks had to use to install the program, such as Windows 3.0.

Zip Drive

In the mid of 1990s, Iomega corporation introduced the zip drive. Mainly, zip drives were able to add to an existing system as they were available as a peripheral. A zip drive was limited in use as it was very costly, which prevent it from becoming a popular storage medium.

Advantages of Floppy Disks

Floppy disks do not have more storage capacity that leads them to be unappropriated for storing high-resolution photos, music, videos, etc. Although floppy disks have shortcomings, they also have some notable advantages, which are as follows:

Portability

They are relatively small and portable, which is one of the main advantages of floppy disks. As compared to CDs, 3.5-inch floppy disks are smaller in size. Also, in the case of transport, they do not require to place. The floppy disk is designed with a plastic casing that makes it stronger and protects the disk from inside. Comparing with CDs and DVDs, the chance of scratching the disk is lower as it is always enclosed by the casing.

Floppy disks also prevent data from being erased or overwritten by accident because it includes built-in write protection. Their portability provides users the benefit of moving small-size files like documents from one device to another.

Compatibility

It is also an important advantage in terms of data storage devices with older computers. As older computers may not accept other data storage devices; they are often compatible with floppy disks. For example, in the early 1990s, computers might not include a CD or DVD drive at all. Floppy disks were only the option to transfer files off the computer. Although many newer PCs have floppy drives, these drives are not included in modern PCs and being phased out. When computer manufacturers were building a custom-made PC, they may provide floppy drives as an option.

Boot Disks

In the boot order sequence, FDDs are commonly set above the main hard drives. The computer tries to boot to an operating system, which is called boot sequence. A floppy drive or CD drive, or other disk do not have a boot program if devices high up in the boot order. But in the boot list, the system will access the next device. Floppy disks also offer the benefit that they can be turned into boot disks with the help of loading, saving a convenient program to the disk. Instead of booting from the operating system, booting from a disk allows for various tasks like troubleshooting other system errors and checking memory for errors.

Disadvantages of Floppy Disks

Speed

The rate of data transferring is very slow in a floppy disk. When data is transferring to the computer from the floppy disk or computer to the floppy disk, considerably, it can take much time for transferring data.

Storage Space

Floppy disk drives contain limited space for holding information. It provides very low storage capacity as compared to modern storage mediums.

File Corruption

File corruption is one of the main disadvantages of the floppy disk. The FDDs are affected by external factors like heat and magnetic fields. Thus, the stored file could be corrupted on it. Furthermore, comparing any other storage mediums, floppy disks do not provide more security as they are more vulnerable to viruses that can be a reason for file damage.

Reliability

Over time, the use of floppy disks has decreased or stopped till the 2000s. Therefore, many computer manufacturers had been stopped, including a floppy disk with computers. After this period, it becomes an unreliable source of storage.

Physical Damages

The plastic casing was used to make the floppy disk that is very delicate and flexible. It may get easily break if anyone catches it without proper care.

History of the floppy disk and drive

8" floppy disk

In **1971**, the first disk as the 23FD, was introduced that was 8" in diameter. With the capacity of one megabyte, it was enclosed in a cardboard case. Unlike the hard drive, the heads touched the disk. For example, a cassette or video player that wears the media down over time. In 1972, the team of Alan Shugart shipped the first read-write floppy disk drive, Memorex 650. Later, Shugart Associates was founded Shugart in **1973**. The CP/M, the first microcomputer operating system, was shipped.

However, most machines of the era used cassette tape rather than floppy disk because drives were more expensive. Generally, in the early days, they cost more than the computer. The price of a floppy disk at the end of 1978 was $5 (equivalent to $20 in 2019) to $8 per piece. For starting and stopping the motor, a DC motor was used by other models with corresponding changes to the interface.

5.25" floppy disk

The 5.25" floppy diskette was widely used in many early microcomputers, first started development in 1976. It was introduced with the 34-pin interface and later became a standard in 1978. Its first price was $400, with a box of ten disks at $60, and these were first released with only 160 KB of disk space. By 1978, 5.25" drives were produced by ten different manufacturers. Around 4,000 drives were producing by Shugart in a day. In the early 1980s, the production of the company's was decreased. The increasing competition, reliable 80-track, and the loss of several lucrative contracts were the main reason for the part of this. By 1982, IBM chose Tandon as their sole supplier of disk drives for the PC, and Apple switched to use cheaper Alps drive mechanisms in their computers.

Later, Xerox purchased the Shugart by 1977, which sold the brand to a third party and closed the operations in 1985. For word processors and microcomputers, the floppy drive was the main storage device of the 1970s and 1980s because the machines did not have a hard drive to store information at that time. Usually, OS was booted from one floppy. Some machines used two disk drives that offer users the benefit of leaving the OS disk in place and copying data from one floppy to another. The quad density" 96-track-per-inch drives were introduced in the early 1980s, which came with increased storage capacity to 720 KB.

After some time, with new IBM AT machines, IBM introduced the 5.25" high-density disk format in 1984. The 5.25" drives became optional equipment on most of the modern computers.

3.5" floppy disk

With a single-sided unformatted capacity of 218.8 KB, a 3 1⁄2-inch floppy disk cartridge was introduced by Sony in 1981. Its formatted capacity was of 161.2 KB. The Sony's SMC 70 was the first computer that used this format in 1982.

Furthermore, this drive was in irregular, rectangular shape that did not allow users to insert the disk sideways by mistake, which had possible with older formats. As compared to types of older drives, 3.5" drives included multiple other benefits, such as no need for an index hole and not requiring a terminating resistor pack.

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What Does Zip Disk Mean?

A Zip disk was an advanced version of the floppy disk developed by Iomega. The disk needed a special drive called the Zip drive in order to be used. Zip disks were available in 100- and 250-MB capacities and were used to store, share and back up large amounts of data, which was not possible with ordinary floppy disks. With the introduction of new and better storage mediums such as memory sticks and DVD-RWs, along with higher capacity hard disks, the Zip disk became less favored and eventually disappeared from the market.

Zip disks looked similar to floppy disks, but were slightly larger and thicker, and had stronger plastic casing, making them easier to store and handle. Like floppy disks, Zip disks were lightweight, portable and relied on magnetic storage techniques. The magnetic coating used in Zip disks was of higher quality than that used in floppy disks, and they could store more data than floppy disks.

Zip disks were PC and Mac compatible. They were usually used as secondary storage devices. Zip disks had faster data transfer rates and faster seek times than floppy disks. At the height of their popularity, they were preferred for backing up hard disks and for transferring large files, especially image files. They were less vulnerable to damage and were much stronger and more durable.

Zip disks, however, were expensive in comparison to floppy disks and needed a Zip drive to be used. Zip disks were also vulnerable to click-of-death issues, resulting in data loss.