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Module Two Journal

Non-volatile memory is a type of computer memory that keeps stored data even when power is removed. In an embedded system Non-volatile memory is integrated into the CPU to store firmware for specific functions with infrequent updates, is smaller, and consumes less power. Desktop systems are used for large scale and dynamic user data storage that have more frequent read/write operations and data space.

Desktop systems are usually more powerful, not designed for power efficiency, and larger while embedded systems are power-efficient, designed to fit within other devices, and compact. Desktop systems are usually general purpose, performing a wide range of user-requested operations while embedded systems are usually dedicated to a single, specific task within a larger device. And lastly, desktop systems have feature-rich hardware to support diverse applications and complex operating systems whereas embedded systems have tightly integrated hardware and software, a reduced set of features, and often use specialized, simpler operating systems.

There are many advantages to using embedded system architecture. One of them is that their specialized nature allows for optimized lower-power components and a compact physical size, making them useful for integration into other devices. Because embedded systems are designed with specific functions in mind, they are highly efficient, cost-effective solutions to their intended purpose, and run at higher speeds in certain situations. Lastly, because they have separate memory instructions and data, this allows the CPU to fetch instructions and data at the same time, leading to higher performance and increased speed for tasks that require constant data access.