

# Hardware and Software

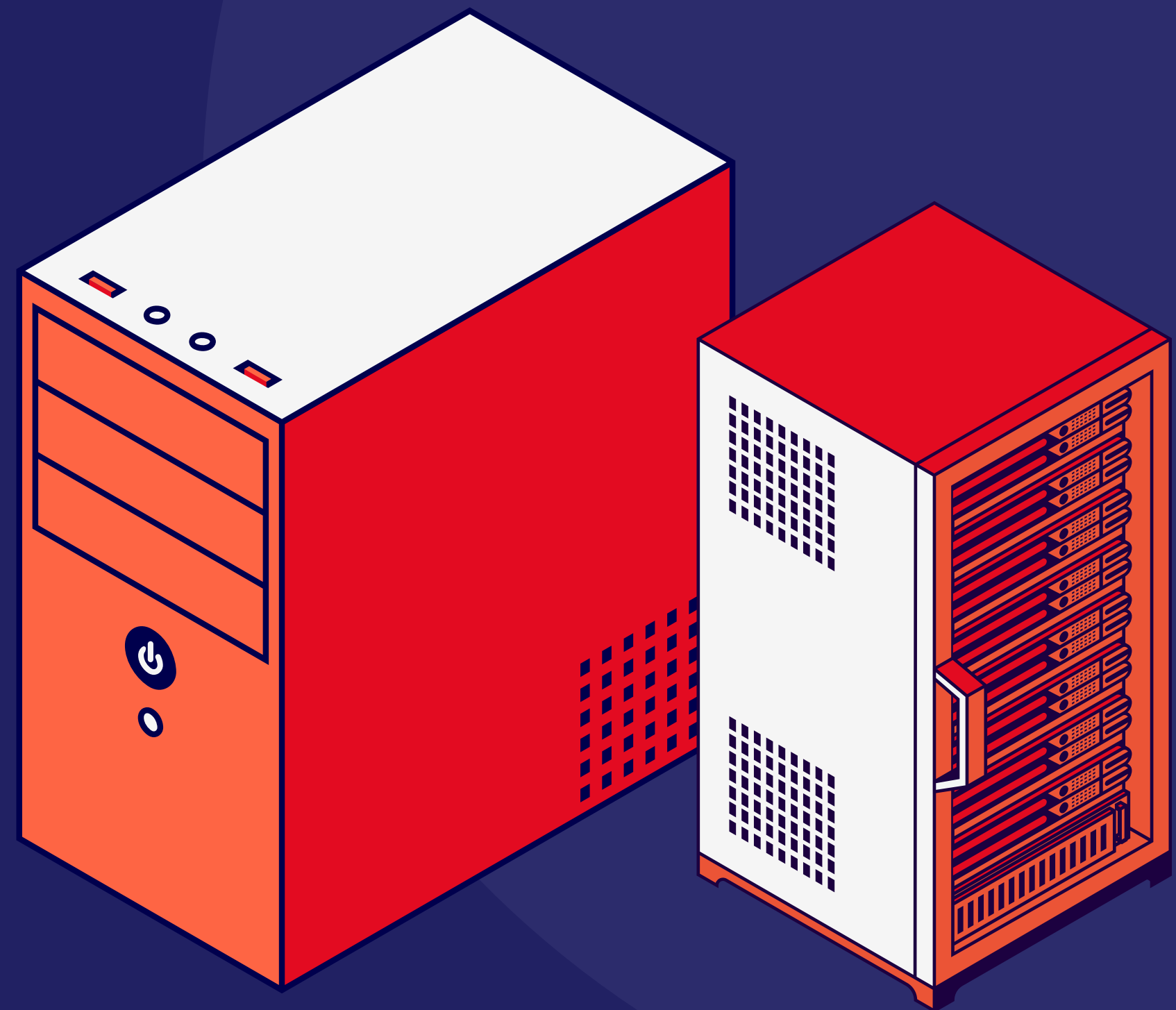
Portfolio #4 Computer Hardware and  
Software: Their Implementation in the  
different institutions in the community

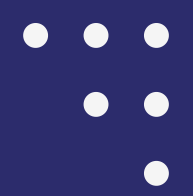


# Computer Hardware

Computer hardware consists of physical elements that make up a computer system, facilitating basic operations such as input, output, processing, and storage. (Susnjara and Smalley, n.d.)

Computer hardware is the physical backbone of all computer systems, allowing software to execute, data to be processed, and users to interact with them. (Khan, 2025).





# Computer Hardware Types

According to Susnjara & Smalley (n.d.), Computer hardware is typically divided into internal and external components.



## Internal Hardware

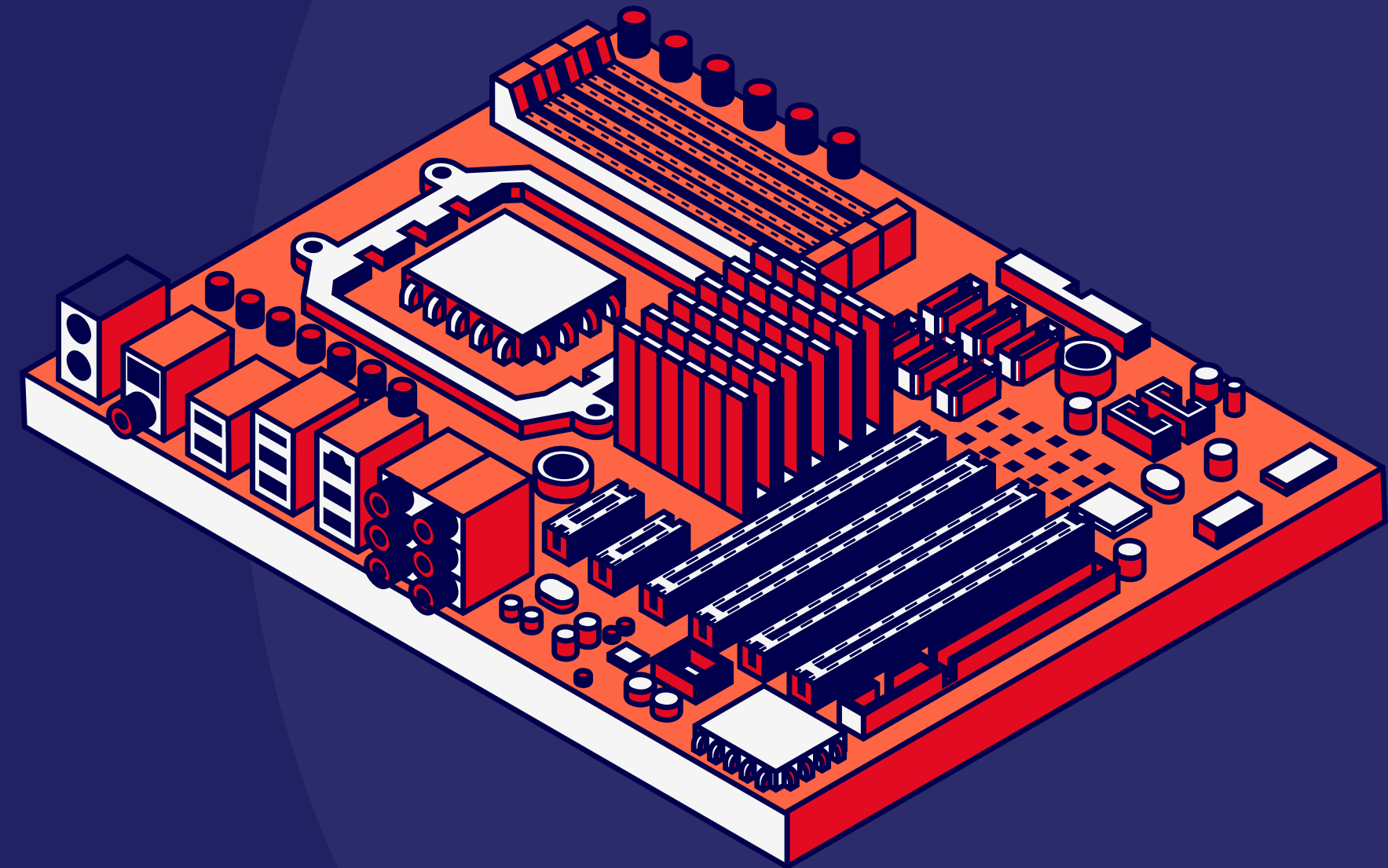
Internal hardware, such as the Central Processing Unit (CPU), Storage Drives (SSDs, HDDs), and Random Access Memory (RAM), is contained within the computer case and consists of components that manage processing power and storage capacity.



## External Hardware

External hardware, which includes keyboards, monitors, and mouse, is a collection of external devices that connect to the computer from the outside to facilitate interaction and improve performance.

These components are designed to process, store, and communicate data, forming the foundation for software to operate (Khan, 2025).



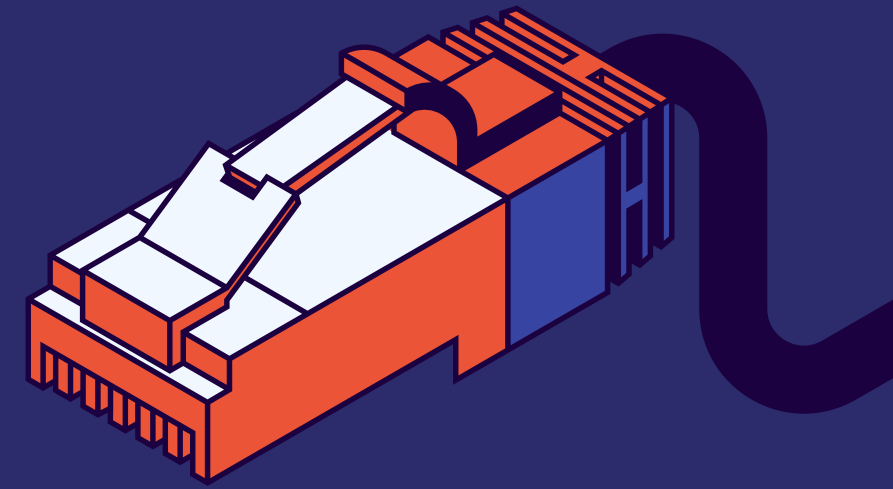


# Computer Software

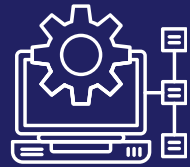
Computer software is a collection of instructions that direct a computer system through tasks. It is divided into three categories: operating system (OS) software, utility software, and application software. A computer system is useless without software, just as a car is without a driver (Ferguson & Hebels, 2014).



# Computer Software Types



According to FutureLearn (n.d.), There are different types of software that can run on a computer:



## System Software

If you think of software in layers, system software is the bottom layer, situated between the hardware and the application software. System software includes operating systems such as Windows, MacOS, Android, and iOS.



## Utility Software

Utility software is part of the system software that does specific tasks to keep the computer operating. Utility software constantly runs in the background. Utility software includes security and optimization solutions.



## Application Software

Anything other than an operating system or a utility is referred to as an application. Application software includes word processors, spreadsheets, web browsers, and graphics software, all of which may perform a variety of particular functions.



# Implementations in the different institutions

In community institutions, computer hardware like affordable and powerful PCs and servers is used along with software such as operating systems and specific applications to support daily tasks and mandates efficiently. This approach is common across public and private sectors, including electoral bodies, schools, and libraries, enabling them to connect to networks and use tailored software for their unique needs. Such implementations make institutions more effective and accessible in serving their communities (ACE Project, 2024).







# References



Computer Hardware and Software (2024). aceproject. [aceproject.org/ace-en/topics/et/eta/eta02/explore\\_topic\\_new](https://aceproject.org/ace-en/topics/et/eta/eta02/explore_topic_new)

Ferguson, S. & Hebels, R. (2014, March 27). CHAPTER 6 - Computer systems and technology. Computers for Librarians, 3, 167-196. <https://doi.org/10.1016/B978-1-876938-60-4.50012-4>

Khan, A. (2025, April). Computer Hardware - The Foundation of Modern Computing. ResearchGate. [www.researchgate.net/publication/391645940\\_Computer\\_Hardware\\_-The\\_Foundation\\_of\\_Modern\\_Computing](https://www.researchgate.net/publication/391645940_Computer_Hardware_-_The_Foundation_of_Modern_Computing)

Susnjara, S. & Smalley, I. (n.d.) What is computer hardware? IBM. [www.ibm.com/think/topics/hardware](https://www.ibm.com/think/topics/hardware)

The 3 types of computer software (n.d.). FutureLearn. <https://www.futurelearn.com/info/courses/computer-systems/0/steps/53500>