Digital system

A digital system is a system that processes, stores, and transmits information using digital signals, typically based on binary code (0s and 1s). It is made up of hardware and/or software components that work together to perform specific functions in a precise, programmable, and often automated way.

Key Characteristics

Uses discrete values (usually binary) rather than continuous signals.

It is reliable and less prone to noise than analog systems.

Can be easily programmed and reconfigured.

Processes data logically through operations like arithmetic, comparison, or control.

Examples

A computer or smartphone (hardware + operating system).

A medical imaging machine that converts and processes brain scans.

A digital control system in robotics or aerospace.

A neuroinformatics platform analyzing brain activity from MRI data.

In Context

(Neuroscience Example):

“The Neuropathological Function Estimations software is part of a broader digital system for modeling brain function in neurological disorders.”

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