**IT Speicalits**

**Software Developers**

Software developers plan and create two types of software: systems, which allow computer hardware to function, and applications, which perform user tasks such as word processing, database management and three-dimensional design. Though they often give their designs to programmers for actual coding, developers must also know software languages in case they must code on their own. They also test and document their creations to ensure usability. Systems software developers earned a mean $48.28 per hour or $100,420 per year.

**Administrators**

Administrators manage computer systems, databases and networks. They are responsible for keeping systems running, ensuring that all hardware and software components communicate with one another, performing maintenance so systems function efficiently and solving problems that users discover. They often manage teams of technical specialists who actually carry out planned installations, maintenance and repair. Network and computer systems administrators averaged $35.71 per hour or $74,270 per year in 2011. Database administrators earned a mean $37.19 per hour or $77,350 per year in the same BLS review.

**Technical Writers**

Technical writers, sometimes called documentation specialists, document software, hardware and processes so users have resources to consult for installation, operations and repair. Writers can produce stand-alone software manuals, product specifications, web guides and multimedia presentations or help text and tutorials that are integrated with software. They deal not only in text but can integrate photographs, diagrams, charts and drawings. They work closely with software developers, administrators and end users to ensure that their creations are accurate and useful. They made a mean $32.35 per hour or $67,280 per year in 2011.

**Support Specialist**

Computer support specialists help individuals use hardware and software on the phone, through email, in writing or face to face. They listen carefully to any problems, propose and implement solutions and perform maintenance and testing to ensure that systems function correctly. They can set up new hardware and software and train users to use them. They may compile data on problems and repairs, which they then submit to management for analysis. Computer support specialists made a mean $24.91 per hour or $51,820 per year.

**Computer architecture**

Computer architecture is a specification detailing how a set of software and hardware technology standards interact to form a computer system or platform. In short, computer architecture refers to how a computer system is designed and what technologies it is compatible with.

As with other contexts and meanings of the word architecture, computer architecture is likened to the art of determining the needs of the user/system/technology, and creating a logical design and standards based on those requirements.

A very good example of computer architecture is von Neumann architecture, which is still used by most types of computers today. This was proposed by the mathematician John von Neumann in 1945. It describes the design of an electronic computer with its CPU(Central processing unit), which includes the arithmetic and logic units, control unit, registers, memory for data and instructions, an input/output interface and external storage functions.

There are three categories of computer architecture:

* System Design: This includes all hardware components in the system, including data processors aside from the CPU, such as the graphics processing unit and direct memory access. It also includes memory controllers, data paths and miscellaneous things like multiprocessing and virtualization.
* Instruction Set Architecture (ISA): This is the embedded programming language of the central processing unit. It defines the CPU's functions and capabilities based on what programming it can perform or process. This includes the word size, processor register types, memory addressing modes, data formats and the instruction set that programmers use.
* Microarchitecture: Otherwise known as computer organization, this type of architecture defines the data paths, data processing and storage elements, as well as how they should be implemented in the ISA.

A **peripheral** device is a device used to put information into and get information out of the [computer](https://en.wikipedia.org/wiki/Computer).[[1]](https://en.wikipedia.org/wiki/Peripheral#cite_note-1)

Three categories of peripheral devices exist based on their relationship with the computer:

1. an *[input device](https://en.wikipedia.org/wiki/Input_device)* sends data or instructions to the computer, such as a [mouse](https://en.wikipedia.org/wiki/Computer_mouse), [keyboard](https://en.wikipedia.org/wiki/Computer_keyboard), [graphics tablet](https://en.wikipedia.org/wiki/Graphics_tablet), [image scanner](https://en.wikipedia.org/wiki/Image_scanner), [barcode reader](https://en.wikipedia.org/wiki/Barcode_reader), [game controller](https://en.wikipedia.org/wiki/Game_controller), [light pen](https://en.wikipedia.org/wiki/Light_pen), [light gun](https://en.wikipedia.org/wiki/Light_gun), [microphone](https://en.wikipedia.org/wiki/Microphone), [digital camera](https://en.wikipedia.org/wiki/Digital_camera), [webcam](https://en.wikipedia.org/wiki/Webcam), [dance pad](https://en.wikipedia.org/wiki/Dance_pad), and [read-only memory](https://en.wikipedia.org/wiki/Read-only_memory));
2. an *[output device](https://en.wikipedia.org/wiki/Output_device)* provides output from the computer, such as a [computer monitor](https://en.wikipedia.org/wiki/Computer_monitor), [projector](https://en.wikipedia.org/wiki/Projector), [printer](https://en.wikipedia.org/wiki/Printer_(computing)), and [computer speaker](https://en.wikipedia.org/wiki/Computer_speakers)); and
3. an *input/output device* performs both input and output functions, such as a [computer data storage](https://en.wikipedia.org/wiki/Computer_data_storage) device (including a [disk drive](https://en.wikipedia.org/wiki/Disk_storage), [USB flash drive](https://en.wikipedia.org/wiki/USB_flash_drive), [memory card](https://en.wikipedia.org/wiki/Memory_card), and [tape drive](https://en.wikipedia.org/wiki/Tape_drive)) and a [touchscreen](https://en.wikipedia.org/wiki/Touchscreen).

Many modern electronic devices, such as [digital watches](https://en.wikipedia.org/wiki/Digital_watch), [smartphones](https://en.wikipedia.org/wiki/Smartphone), and [tablet computers](https://en.wikipedia.org/wiki/Tablet_computer), have interfaces that allow them to be used as computer peripheral devices.