

Roadmap to Computing Topic: Computer Hardware and Software

Our third Roadmap Topic is 'Computer Hardware and Software.' The introductory talk (~20 minutes) is at

<http://vimeo.com/15740505>

Below are suggested related topics for research reports. There are many other possible topics. Whichever topic you choose, in addition to identifying and presenting as precisely as possible the core concept of the topic, you may explore its development, social impact, and related controversies, both technical and social/political.

ALU/FPU (Arithmetic and Logic Unit/Floating Point Unit)

API (Application Programming Interface)

BIOS (Basic Input/Output System)

JIT (Just In Time) compiler

address space

assembly language/machine language

bus

device driver/controller

embedded system

fetch/decode/execute cycle

hardware/software interrupt

interpreter/compiler

kernel

memory hierarchy

microprocessor architecture

middleware

motherboard

multicore processor

operating system

peripheral devices

scheduler

server farm

virtual machine/runtime machine