Arvutiriistvara

Alo Peets
Types of Components in Hardware.

- model dynamics
- interaction
- rendering pipeline

- input devices
  - mouse
  - keyboard
  - data tablet
  - haptic glove
  - tracker
  - joystick

- CPU

- memory
  - model
  - display list
  - viewing parameters
  - stores array of pixels
  - VRAM / DRAM (high-end)
  - standard memory (low-end)
  - depth = nr of bits per pixel
  - resolution = nr of pixels

- frame buffer

- display devices
  - CRT (monitor)
  - film recorder
  - video
  - plotter
  - printer
INPUT

Data is input into the computer.

There are different ways to input data into a computer as shown below:

- Keyboard
- Mouse
- Microphone
- Webcam

Processing

The CPU/central processing unit or microprocessor completes the following steps:

1. Fetch: gets the instructions or data
2. Decodes or translates the data and instructions into binary code, which is the language of the computer made up of 1s and 0s
3. Executes: sends the information to the part of the computer that has to complete the task; the CPU decodes.

Storage

Information is stored in a few different ways:

- USB drive: Portable memory that can be moved from computer to computer
- ROM: Read-only memory: Permanent storage that comes programmed with the computer, where instructions for how the computer should boot up and how to do the basic functions
- RAM: Random access memory: Temporary and will be erased when computer is shut off
- Hard disk: Places where data is saved like your home folder or your folder on the shared drive

Output

- Data is output from the computer to complete the task and output the information:
  - Printer
  - Monitor
  - Speakers
View basic information about your computer

Windows edition

Windows 10 Enterprise
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System

Processor: Intel(R) Core(TM) i5-4200U CPU @ 1.60GHz 2.30 GHz
Installed memory (RAM): 12.0 GB (11.9 GB usable)
System type: 64-bit Operating System, x64-based processor
Pen and Touch: No Pen or Touch Input is available for this Display

Computer name, domain, and workgroup settings

Computer name: DESKTOP-9KTFPUL
Full computer name: DESKTOP-9KTFPUL
Computer description: 
Workgroup: WORKGROUP

Windows activation

Windows is activated Read the Microsoft Software License Terms
Product ID: 00328-90000-00000-AAOEM
Protsessori numeratsioon

Protsessori ajalugu

- https://www.youtube.com/watch?v=Qu2njWY3Hjk
; Program to initialize port B and set its pins to logic one (1)

; Version: 1.0  Date: 03.05.2007  MCU: 16F887  Programmer: John Smith

; Configuring microcontroller

PROCESSOR 16f887
#include "pic16f887inc"

.CONFIG_CP_OFF&_WDT_OFF&_PWRT_ON&_XT_OSC

; Start of program

ORG 0x00 ; Reset vector
goto Main

ORG 0x04 ; Interrupt vector
goto Main ; No interrupt routine

Main
banksel TRISB ; Select bank containing TRISB
clrF TRISB ; Port B is configured as output
banksel PORTB ; Select bank containing PORTB
movlw 0xff ; w=1111 1111
movwf PORTB ; PORTB=1111 1111
L1
goto L1 ; Go to label L1 or remain here

End ; End of program
Kuidas protsessoorid valmistatakse

- Sand
- Purified silicon ingot
- Wafer sliced from ingot and polished
- Processed wafer
- Completed die from finished wafer

• [https://www.youtube.com/watch?v=47OYKxctXpc](https://www.youtube.com/watch?v=47OYKxctXpc)
The memory pyramid

- CPU Register
- Cache
  - Level 1
  - Level 2
- RAM
  - Physical RAM
  - Virtual Memory
- Storage Device Types
  - ROM/BIOS
  - Removable Drives
  - Network/Internet Storage
  - Hard Drive
- Input Sources
  - Keyboard
  - Mouse
  - Removable Media
  - Scanner/Camera/Mic/Video
  - Remote Source
  - Other Sources
Arvuti jõudlus

- https://www.passmark.com/
- http://cpubenchmark.net/
Küsimused & vastused

• Ning kõik muu mida slaididele ei saanud