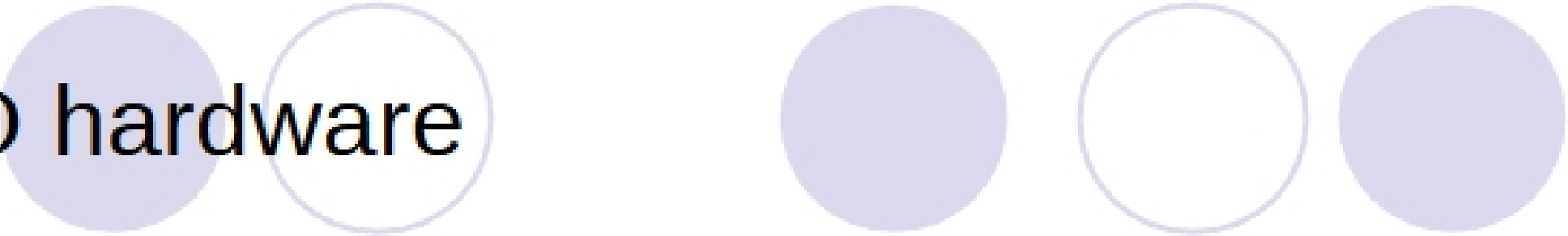


# Device Management

So far...

- We have covered CPU and memory management
- Computing is not interesting without I/Os
- ***Device management:*** the OS component that manages hardware devices
  - Provides a uniform interface to access devices with different physical characteristics
  - Optimize the performance of individual devices

# I/O hardware



- I/O device hardware

- Many varieties

- Device controller

- Conversion a block of bytes and I/O operations
- Performs error correction if necessary
- Expose hardware registers to control the device
- Typically have four registers:
  - Data-in register to be read to get input
  - Data-out register to be written to send output
  - Status register (allows the status of the device to be checked)
  - Control register (controls the command the device performs)