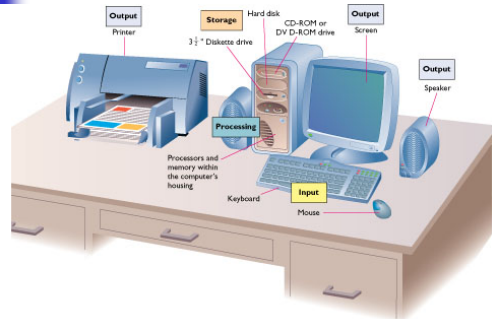


Windows or Linux:

Your PC



Notice This?

- Boot up to Windows something
 - Windows 98, Windows NT, Windows 2000, Windows ME, Windows XP, or whatever
- What would it be like without Windows?

An idiot surrounded by a bunch of hardware

Significance

- Every computer needs an operating system
- What is an operating system?

Operating System

- The **minimum** software layer that enables user and/or programs to operate the hardware parts.
 - Ex. Execute a program (processing)
 - Ex. Retrieve data from a hard disk (storage)
 - Ex. Print a file (I/O)

The problem

- Every computer needs an operating system
- But Windows are not minimum at all
 - Free browser (Internet Explorer)
- What is the problem?

IE Plot

- You need to install Windows anyway
- Since you have IE already and it is free, no need to get another one
- Other browsers going out of business

Further

- OS code is not open source
 - Pretty much everything is proprietary
- Note that Windows is always from Microsoft

The Hardware World

- Notice the hardware of the same function (ex. CPU) can be manufactured by different companies?
 - Competition is good for the buyers!

How did they do that?

- Companies sit down together and figure out certain standard interface
- Interface to other parts connected to this particular piece
- Therefore, it does not matter what is the internal circuit/logic design, it will work with other parts just fine
- Sometimes, compatibility problem

Platforms

Ref. 大前研一 看不見的新大陸
(Kenichi Ohmae, *The Invisible Continent*)

- Microsoft in operating systems
- Intel in CPUs (PC architectures)
- English in languages
- And
 - The old beta and VHS competition
 - CD/DVD format
 - ...
- “Winner takes all” is not uncommon in new economy.

Platforms

- When a platform is established, it is ,quite often, not easy to switch to others.
 - A minor difference at the beginning may result in a major difference at the end.
- Thinking –
What is the best strategy for Microsoft in dealing with the competition from Google?