

user and system programs.

Window
Apple OS

DOS
UNIX.
Linux.

OS

GUI | Batch | Command line

(批处理)

User Interface (界面)

呼叫. ↓ 服務請求 ↑ 回傳結果

system call

program
execution

file
system

communication

protection

(OS 服務)
services

I/O operation

resource allocation

} Kernel!

↓
HW

Fig 2.12.