CS2051
Operating Systems

- Aims:
  - help you understand OS structure, including concurrency
  - understand OS functions, from user requirements
- Classes
  - Lectures Friday 2pm, Monday 11am
  - Labs week B, Tue 11/Thu 9/Fri 9
  - Examples week A, Mon 1pm/Tue 2pm/Fri10am

Me

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- How to study:
  - Make Your Own Notes, or
    - listen, understand, jot down, review, test
  - Buy the Book and…, or
  - ...

Course Text

Jean Bacon:

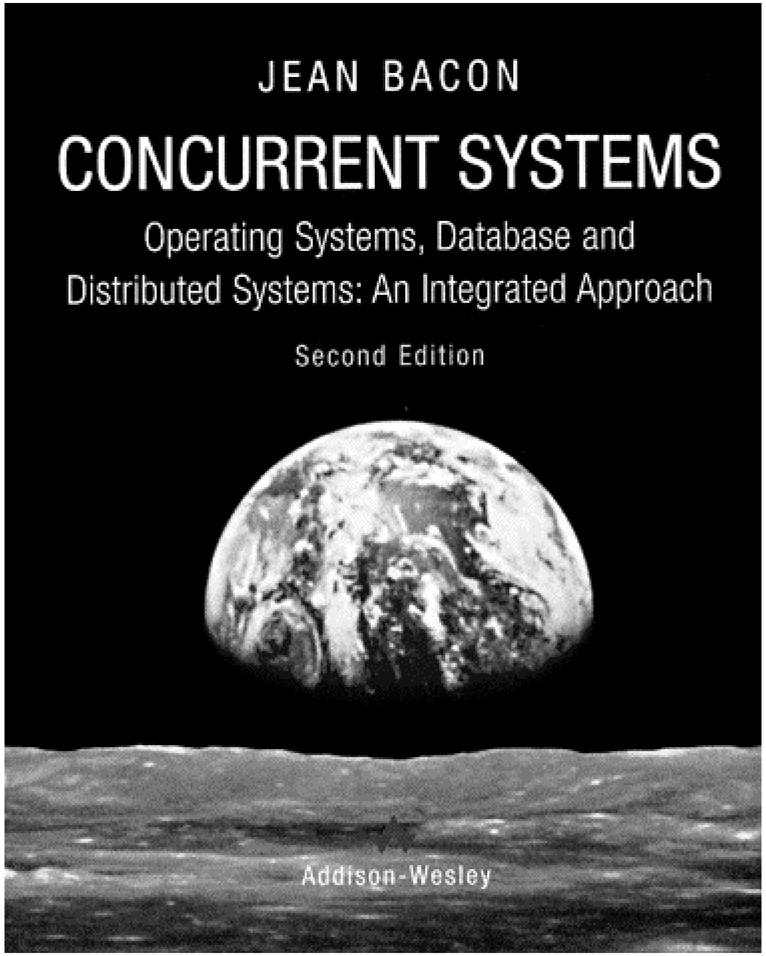
"Concurrent Systems"

2nd edition (1st OK-ish)

Addison-Wesley

£28.99 in Sep 1999

- Don't buy it yet!



Why Study Operating Systems?

- One of most dynamic area of Computer Systems research.
- Name some…
- Changing because:
  - enormous databases...
  - …
  - …

Technology

- When will you retire? 2040?

  "The entire computing needs of the UK will be satisfied by 3 Atlas computers"

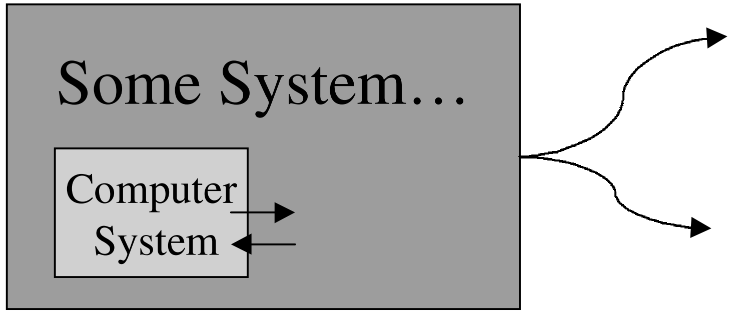
- CPU power growth rate? 35% pa
- Disk capacity/£ growth rate? 50% pa
- Memory chip capacity growth rate ? 60% pa

Changing Applications

- Back Office
  - e.g. ...
- Front Office
  - e.g. ...
- End-User
  - e.g. ...

Real Time

- Computer system must respond within deadline
- Designer must ensure response time is met under all circumstances
- Hard Real Time: …
- Soft Real Time: ...



Concurrency in all these fields:

- Independent activities, but co-ordinated
- Co-ordination across
  - distance
  - time
  - multiple computers
  - multiple users