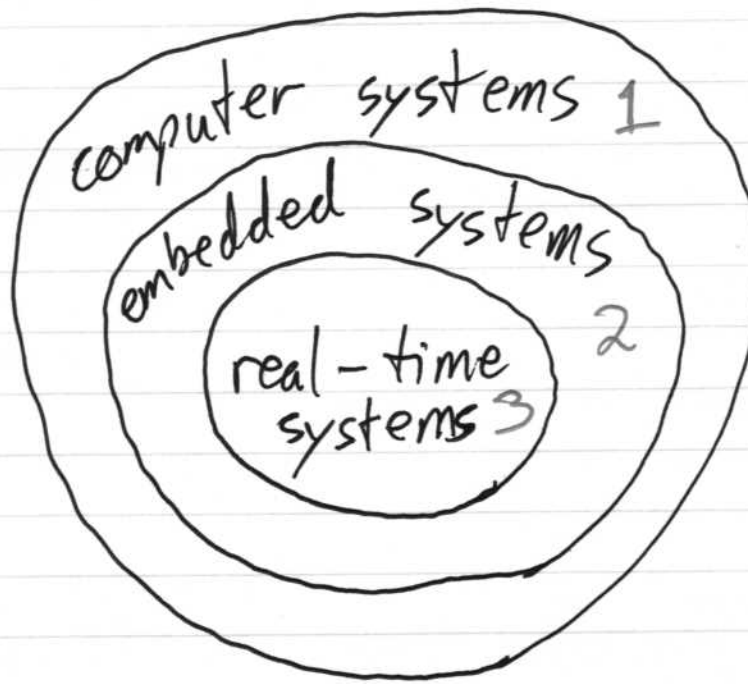


(1)

# Introduction

[1.1-1.3]

text reference ↗



- example:

point-of-sale terminal	2
ECU engine control unit	3
EC2 Amazon's elastic cloud computing	1
printer	2
pace maker	3
flight control computer "fly by wire"	3

(2)

- embedded system: a computer system with a dedicated purpose
  - purpose-built hardware and software
  - part of a larger system
- real-time system: an embedded system that must respond to events within a strictly defined time ("deadline")
  - temporal correctness and logical correctness are equally important
    - ∴ deterministic execution time is more important than speed
  - deadline types:
    - hard - missing it can cause system failure
    - soft - some deadlines can be missed but the quality of service may be degraded
      - e.g. ABS, pacemaker
      - e.g. audio streaming
- operating system: manages computer resources such as processor use, memory, peripheral devices and secondary storage (HDD or SSD)
- real-time OS: must be able to guarantee deadlines