Implementing VMMs - requirements

Fidelity
OSes and applications work the same without modification
(although we may modify the OS a bit)

Isolation
VMM protects resources and VMs from each other

Performance
VMM is another layer of software
…and therefore overhead (that needs to be minimized)

What needs to be virtualized?

Exactly what you would expect

- CPU
- Events (hardware and software interrupts)
- Memory
- I/O devices

Isn't this just duplicating OS functionality in a VMM?

- (yes) approaches will be similar to what we do with OSes
  simpler in functionality, though (VMM much smaller than OS)
- (and no) but implements a different abstraction
  hardware interface vs. OS interface