

Operating Systems: Introduction

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If the end-user sees it, it's not part of this course!

Resources

So what are resources?

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- Hardware: cpu, memory, disk, network, sound, video, keyboard, mouse, printer, camera, . . .
- Software: anything that controls the above, though use of the cpu is a primary focus

Resources

Why do they need managing?

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1. They are limited with not enough to go round

Resources

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My laptop is currently running about 370 programs

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- Ensuring certain resources are only available to those programs that are allowed: authorisation
- Ensuring that a given program has the authorisation it claims to have: authentication
- Protecting you from your own stupid mistakes (Did you really want to delete that?)

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1. They are limited with not enough to go round
2. They need protection
3. They need to meet certain criteria

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- Real Time: certain events *must* be dealt with in a (small) fixed amount of time, e.g., the controlling flaps on an airplane's wing, video streaming
- Security: prevention of accidental or malicious access or modification

