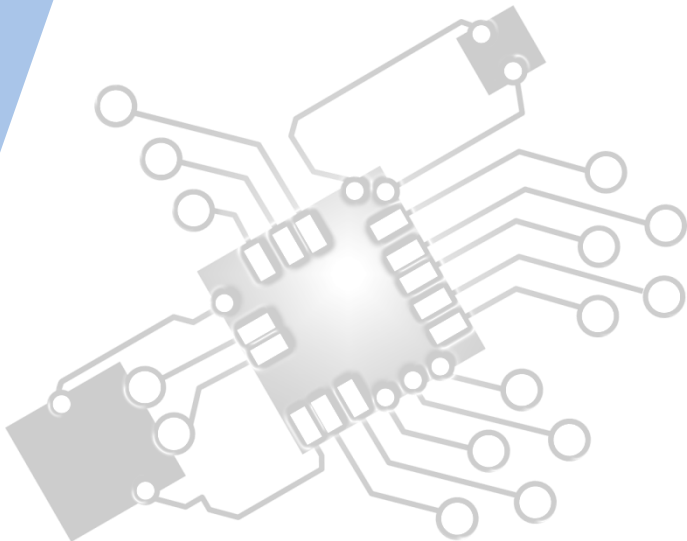




# ***Resource Management***

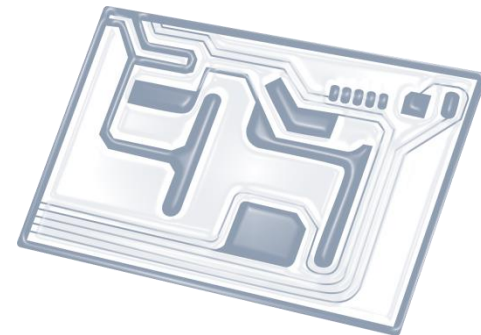
**IB Computer Science**



*Content developed by  
**Dartford Grammar School**  
Computer Science Department*



# HL Topics 1-7, D1-4



1: System design



2: Computer Organisation



3: Networks



4: Computational thinking



5: Abstract data structures



6: Resource management



7: Control



D: OOP

# HL only 6 Overview

## System resources

6.1.1 Identify the resources that need to be managed within a computer system

6.1.2 Evaluate the resources available in a variety of computer systems

6.1.3 Identify the limitations of a range of resources in a specified computer system

6.1.4 Describe the possible problems resulting from the limitations in the resources in a computer system

## Role of the operating system

6.1.5 Explain the role of the operating system in terms of managing memory, peripherals and hardware interfaces

6.1.7 Outline OS resource management techniques: scheduling, policies, multitasking, virtual memory, paging, interrupt, polling

6.1.8 Discuss the advantages of producing a dedicated operating system for a device

6.1.9 Outline how an operating system hides the complexity of the hardware from users and applications



1: System design

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6: Resource management

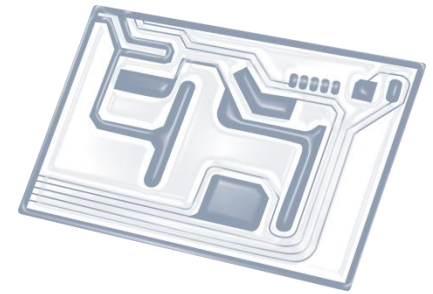


7: Control

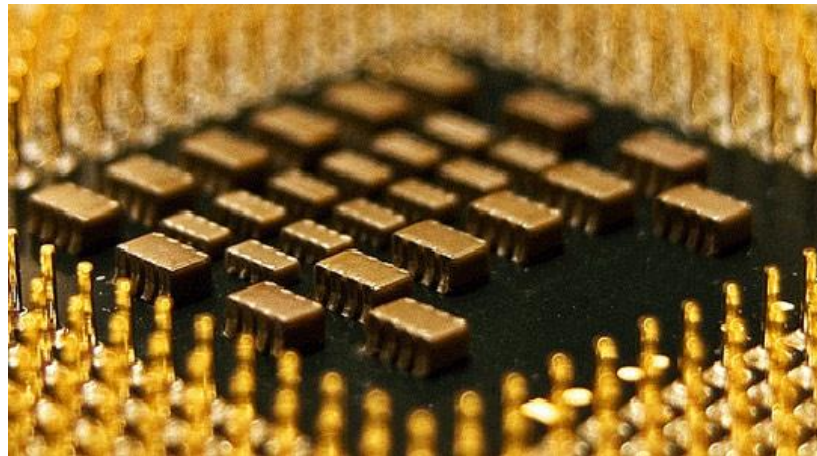
D: OOP



# Topic 6.1.3



Identify the **limitations** of a range of resources in a specified computer system



# Case study: 3D graphics rendering

- Single processor computers may not be able to render 3D graphics as effectively as multicore/systems with a GPU





# What would the consequence be if you had to limit...

- Primary memory?
- Secondary storage?
- CPU speed?
- CPU cores?
- Connectivity?



# Would this be a good gaming setup?

A promotional advertisement for the Samsung N100S 10.1" netbook. The background is a textured yellow. On the left, a netbook is shown open, displaying a game on its screen. To the right of the netbook are several icons: a green wireless signal icon, the Intel Atom Inside logo, and the MeeGo logo. Below the netbook, a list of specifications is provided in white text with black outlines. To the right of the list is a green 'Buy Now >' button and a large red price tag 'RM769'.

**Samsung N100S 10.1"**

- Intel Atom N2100 1.6GHz
- 1GB DDR3, 320GB HDD
- Intel GMA 3150
- OS: MeeGo

**Buy Now >**

**RM769**

What is limiting this system?

# Would this be a video editing setup?

**INSTANT SAVINGS**  
**\$60 OFF**

**Acer 15.6" Chromebook Bundle**  
 Intel Celeron processor, bonus Acer wireless mouse and \$20 Google Play credit.  
 Shipping and handling included.  
 Item 1020102

*Costco Concierge Services technical support and second-year warranty included.*

Online Price	\$289.99
Instant Savings	-60.00
<b>YOUR COST</b>	<b>\$229.99</b>

**COSTCO.COM ONLY**





Google Play





**4GB Memory**  
**32GB SSD**

## What is limiting this system?

# Would this be good setup for watching movies?



## What is limiting this system?