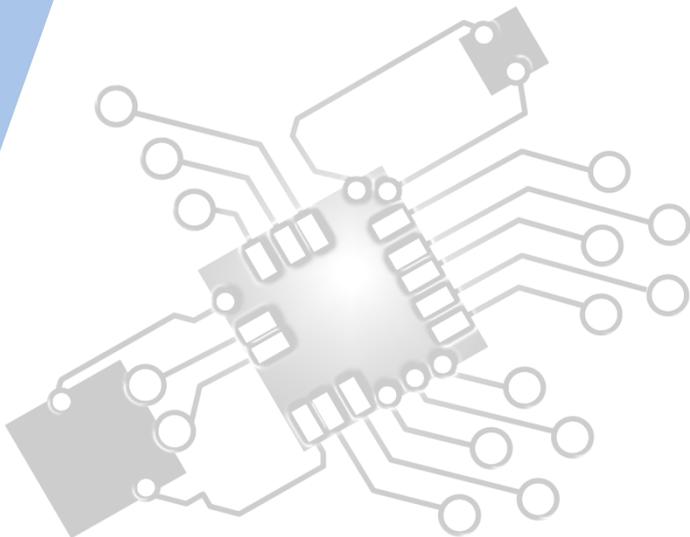




Control Systems

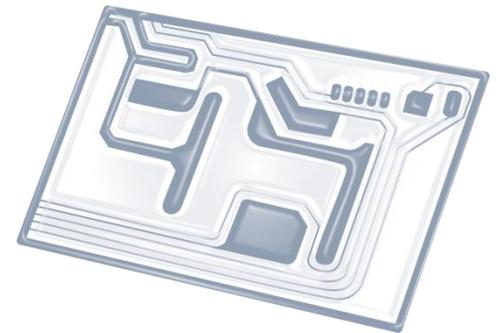
IB Computer Science



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



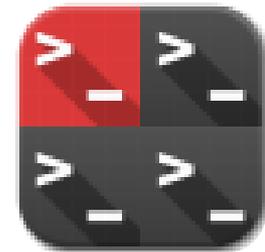
5: Abstract data structures



6: Resource management



7: Control



D: OOP

HL only 7 Overview

Centralized control systems

7.1.1 Discuss a range of control systems

7.1.2 Outline the uses of microprocessors and sensor input in control systems

7.1.3 Evaluate different input devices for the collection of data in specified situations

7.1.4 Explain the relationship between a sensor, the processor and an output transducer

7.1.5 Describe the role of feedback in a control system

7.1.6 Discuss the social impacts and ethical considerations associated with the use of embedded systems

Distributed systems

7.1.7 Compare a centrally controlled system with a distributed system

7.1.8 Outline the role of autonomous agents acting within a larger system



1: System design

2: Computer Organisation



3: Networks

4: Computational thinking



5: Abstract data structures

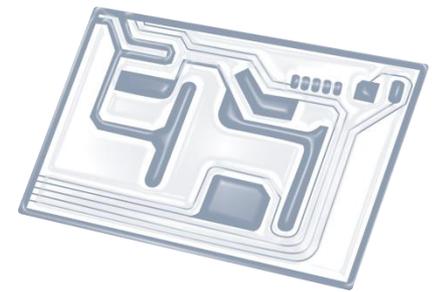
6: Resource management



7: Control

D: OOP





Topic 7.1.3

Evaluate different **input devices** for the collection of data in specified situations

 Keyboard	 Mouse	 Game Controller	 Joystick
 Microphone	 Camera	 Touchscreen	 Accelerometer
 Gyroscope	 GPS	 Stylus	 Motion Controller

When to use what input device

Will depend on scenario – below the most common types

Mouse



Keyboard



Joystick



Light Pen



Touch Pad



Microphone



Track Ball



Scanner



Digital Camera



Accessibility input devices (disabled)



- A wide range of input devices can be used to allow people with a range of disabilities operating computer hardware and software.
- joystick and switch
 - ❏ combinations enable an individual lacking sufficient mobility to use a full keyboard to access a computer through an on-screen keyboard or other "virtual" substitute
- keyboard alternatives
 - ❏ allow individuals unable to use a standard keyboard to input keystrokes with a mouse, headmount, or other specialized device.



Medical sensors

