



CCS1090d

Academic English Skills

Week 3 – Session 2

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Today's agenda

- "Introduction to ICT Systems"
- Writing skills (Taking notes)
- TED Talk 1 – Discussion
- Listening skills (Locating important information)
- Speaking skills (Expressing opinion)

What is ICT?



Using technology to *input, store, process* and *produce* information, and *communicating* this information to others.



Can you give examples of ICT use...

- At home?
- At college/university?
- In shops?
- In the street?

What are the benefits of ICT in your life? Are there any disadvantages?

ICT



<div>   </div>	
Saves time	Systems breaking down
Saves money	High costs
Is convenient (24/7)	Having to deal with machines rather than people
Does boring jobs that once had to be done by people	People being put out of work

Note-taking



Why are effective note-taking skills important?

- ✓ Note-taking helps improve recall and understanding of what you are learning, as it:
- ✓ Ensures you are actively listening to what the lecturer is saying
- ✓ Requires you to think about what you are writing
- ✓ Helps you make connections between topics
- ✓ Serves as quality review material for after class

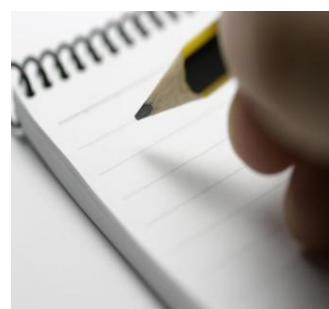
When you have to take notes



Retrieved from: <https://www.oxfordlearning.com/5-effective-note-taking-methods/>

Note-taking tips

1. Don't write down every word – decide what's important
2. Use symbols and abbreviations (“+” for “and”, “2” instead of “two”)
3. Use colours
4. Don't mind spelling and grammar mistakes
5. Review and edit your notes
6. Choose the best way to record the information



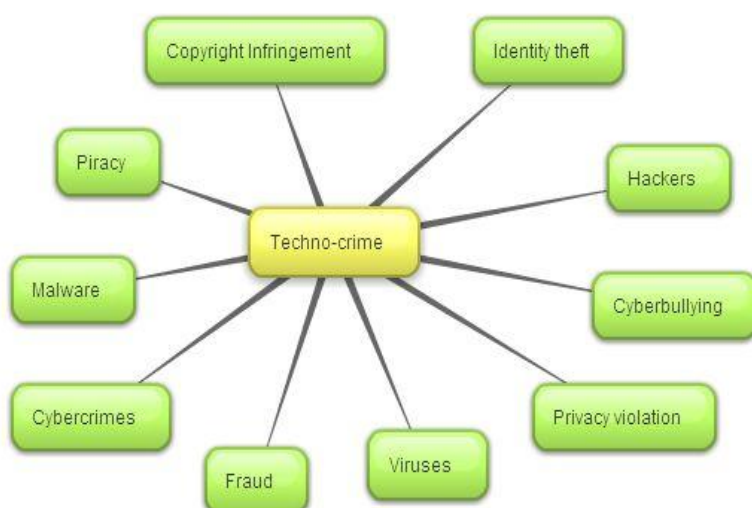
Advantages – Disadvantages table



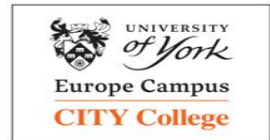
Disadvantages & Advantages of HTML

Disadvantages	Advantages
<ul style="list-style-type: none"> •It takes a lot of time to create anything that even resembles a webpage. •It isn't as flexible as other webpage developers like Dreamweaver. • It is not centralised, all the webpages must be edited separately. 	<ul style="list-style-type: none"> •Easy to create a webpage. •It's plain text so it's easy to edit. •Fast to download because the text is compressible. •Can be used to present just about anything on a webpage.

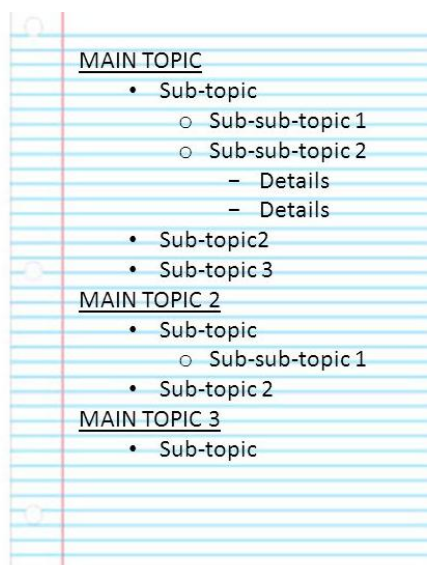
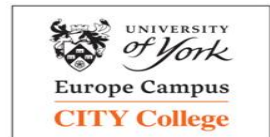
Classification Spidergram



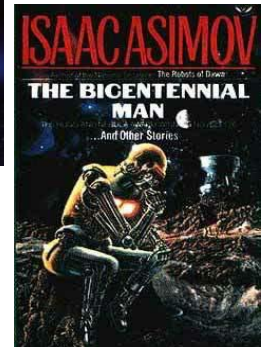
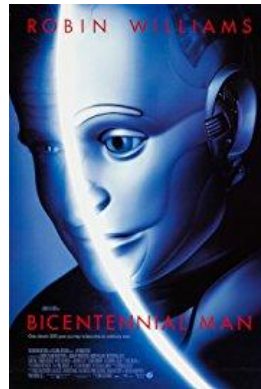
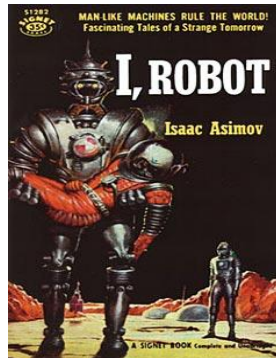
Stages of a process - Flowchart



Lists – Bullet points



What's the topic of our TED talk?



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Did you know?



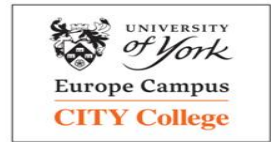
The term *robotics* was coined by Isaac Asimov (professor of biochemistry and one of the biggest science fiction writers)

The word *robot* was introduced in Karel Čapek's play *R.U.R.* (*Rossum's Universal Robots*) in 1920

robot < Czech *robota* "serf labor, drudgery, hard work"

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Asimov's Laws of robotics



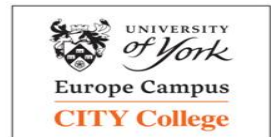
A robot may not injure a human being or, through inaction, allow a human being to come to harm.

A robot must obey the orders given to it by human beings except where such orders would conflict with the First Law.

A robot must protect its own existence as long as such protection does not conflict with the First or Second Laws.

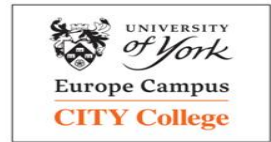
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Time for reflection!



- 1) What is a robot and how is it different from or similar to AI?
- 2) What is it that robots lack compared with humans?
- 3) In films, on television and in books, robots are often portrayed as the enemies of humans. Why do you think science fiction writers depict robots as frightening? What qualities make robots scary to humans?
- 4) Do robots deserve rights?

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“Meet Spot, the robot dog that can run, hop and open doors”

<https://www.youtube.com/watch?v=AO4ln7d6X-c>

Watch the video and take notes of all important information

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Meet Spot – Notes (1)

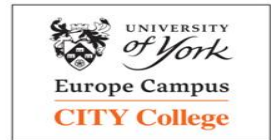


3 things we want robots to have:

- Balance and dynamic mobility – go anywhere on earth
 - Mobile manipulation – move, stabilize, coordinate body
 - Mobile perception – ability to see and perceive surroundings
-
- Dynamically stabilized robots (eg. Big Dog, Cheetah)
 - Gyroscope
 - Sensors + control computer

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Meet Spot – Notes (2)



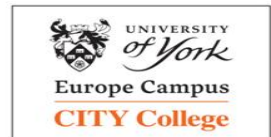
Spot – New generation robot

Drone delivery vs. legged-robot delivery

Autonomous robots – ability to deal with uncertainty of what happens in real world

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Meet Spot – Notes (3)



Atlas – Humanoid robot (3rd generation)

✓ Close to human levels of performance and speed (2/3)

➔ Dynamic stability, mobile manipulation, mobile perception

• Handle – Latest robot

✓ Half like an animal

✓ Can carry 100 pounds

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Meet Spot – Notes (4)



Robot religion: computer on one side (suggestions to robot) – physics of the world

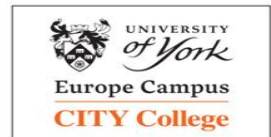
Successful robot → design software + hardware + behaviour

3-D printing → parts of robots, anatomy of animals

Data-driven hardware design → improving robots (400 → 190 → 165 pounds)

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Meet Spot – Notes (5)

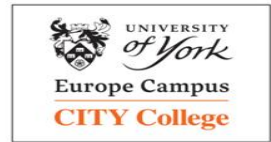


Spot

- ✓ Solid-state gyro
- ✓ IMU on board
- ✓ Battery
- ✓ Omnidirectional
- ✓ Camera – terrain planning
- ➔ Dynamic balance, mobile perception
- ✓ Robot arm
- ✓ LIDAR – props to localize itself

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Meet Spot – Notes (6)



Other apps

- Fukushima: go into dirty places + help remediate that
- Help take care of parents
- Help our children take care of us

Military – big funder of robotics

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Discuss



- How/Where can robots be used according to the speaker?
- Robots are already an integral part of manufacturing in factories. Do you believe one day that there will be little need for humans in manufacturing? How are robots better than the human workforce?
- Can you think of any other ways they could be used?
- Police and the military use robots to sweep for landmines and bombs. What are the advantages of these practices? Do you see any other uses for robots in combat and police work?

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- Robotic surgery is a method to perform surgery using very small tools attached to a robotic arm and a surgeon controls the robotic arm with a computer. How beneficial do you think this is now and for the future of medicine?

- Would you ever trust a robot to watch your children or walk your dog?

- What qualities do humans have that you think could never be replaced by robots? Why?

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Do you think that AI robots will eventually take over the planet??



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