UNIVERSITE DES SCIENCES ET TECHNOLOGIES DE LILLE
SUP – Maison des Langues

S4 Info

Epreuve écrite d'anglais

Epreuve de rattrapage
Juin 2007

Durée : 1h30

N° de place :

BBC NEWS

Smart fabrics are back in fashion

By David Reid
Reporter, BBC Click

The Italian town of Prato has been built on cloth.

There is even a museum there dedicated to its history, so there is no better place to weave together traditional Italian know-how with digital technology and come up with the next generation of cloth, what they are calling "smart fabric".

A company called Luminex has hit on the idea of weaving fibre-optics into fabric, so the wearer can really light up a room when they enter it.

Luminex's Cristiano Peruzzi says: "It is a fabric containing, amongst other things, fibre-optics, but there is also a technical side to it.

"The system consists of cabling, and the fibre-optics are lit by high-efficiency LEDs. The system powering it varies according to the function."

> **It is easy to see how this technology could conceivably save lives in conditions where visibility is low, such as in fog or smoke**

Luminex's glimmering garments include shining shawls, as well as shirts and trousers that twinkle. But it is not just night-clubbers whose stars are coming out at night.

Cristiano Peruzzi says: "There are more immediate applications, everything from clothes for special events or occasions and accessories, and also household furnishings, cushions etc.

"But there are also a whole range of applications that are more technical, such as the security and emergency services."

It is easy to see how this technology could conceivably save lives in conditions where visibility is low, such as in fog or smoke.

Putting technology into fashion might also save the life of Prato's home-grown fabrics industry, currently meeting the challenge of new competition from Chinese companies and imports.

Interactive fabrics

The Italians are not the only ones exploring the interface between fabric and technology.

The British company Eleksen has come up with a fabric that is sensitive to touch.

Elektex consists of three layers of fabric that allow a charge to run between them when you touch them.

Eleksen's chief executive Robin Shephard says: "If it is simply touched, the software will say 'it has been touched, so make that a button. So for a keyboard, make that a Q, make that a W, make that an E, when it is touched here, here, here.'

"But equally the software can say 'if it is touched in [a particular] sort of motion, then it is a swipe gesture and I want you to put the volume up or I want you to put the volume down.'"

> **The fashion brands are just understanding now that technology can be a fundamental part of fashion**
> Robin Shephar, CEO, Eleksen

With the software rather than the fabric itself determining what it is used for, the applications are limited only by your imagination and what is likely to make money.

It can be used as a PDA pouch, especially if you go simply print a keyboard on the side and tap away.

Eleksen also hopes that one day every jacket will come equipped with wireless and washable iPod controls.

So how far are we from full blown hardware that is actually soft?

Robin Shephard says: "The fashion brands are just understanding now that technology can be a fundamental part of fashion.

"Flexible displays [will] become proper flexible displays that you can bung in the washing machine and it will wash them for thirty times and they will be fine. When that happens, then we'll see a whole new wave of technologies and information being able to be put into apparel and clothing."

It is not inconceivable that the technology and gadgets you use may not just seem to cost, but actually become, the shirt off your back.

WATCH ON TV:
WATCH ONLINE:

I- Vocabulary :

Use some of the words taken from the list below to complete the text.

computerised	biometric	PIN	store
logged	template	behavioural	key points
surveillance	personal	scan	privacy

A brief glance at the face is enough for most people to identify one another. Face recognition technology can be just as swift.

2D face recognition involves making a unique (1)............................. from measurements between (2)............................. on the face.

This can be done from a live image or from a clear photograph – a method being used with the issue of new (3)............................. passports in the UK.

Face recognition is being used by some authorities to (4)............................. crowds to identify suspects whose faces have been (5)............................. on a database.

However, some of the technology may be easy to fool through ageing or face coverings and there are (6)............................. concerns over (7)............................. uses.

II- Reading :

"SMART FABRICS ARE BACK IN FASHION"

BBC News 25.08.06

A- Word Formation :

Use the word given in capitals at the end of each line to form a word that fits in the space in the same line. (You have read those words in your text).

1- He is ever so nice. It seems .... that he might be suspected of any wrongdoing.

CONCEPTION

2- Due to bad weather conditions, motorists are advised to slow down since .... is down to 20 meters on some sections of the M1 motorway.

VISIBLE

3- You shouldn't complain, ... as you had quite a lot of time to think it over and make your own decision.

SPECIAL

4- Numerous therapeutic .... of this new genetic discovery can already be foreseen.

APPLY

5- Tiles were rather expensive so we bought 3 rolls of .... wallpaper for the bathroom, instead.

WASH

6- .... technology has opened up endless possibilities for the household appliances our future homes will be kitted out with.

WIRE

B- <u>Answer the following questions</u> : 8 points

1- What is "smart" fabric ? (1 pt)

2- What does it consist in ? (1 pt)

3- What are the possible applications ? (4 pts)
- immediate applications   -

                         -

                         -

- more technical applications

4- What problem has to be overcome for new technologies to be put into clothing ? (2 pts)

C- <u>True or False. Justify your answers</u> : 6 points

	T	F
1- ELEKSEN is an Italian company.		
2- ELEKTEX is a fabric that is sensitive to touch.		
3- ELEKTEX contains cabling, fibre-optics and LEDs.		
4- ELEKTEX can be used as a keyboard or a radio.		
5- With ELEKTEX, applications are limited because of the fabric itself.		
6- In the future, there will be iPod controls in every jacket you will buy.		

III- <u>Use of English</u> :

A- <u>Verb constructions</u> : 10 points

Choose the best answer a, b, c or d to fit in the space in the sentences below.

1- Could you remind me what .... ?
a- does this article speak about   b- speaks about this article
c- this article speaks about   d- does speak about this article

2- He asked me if .... to go to a concert with him.
a- I've liked   b- I'll like   c- I'd like   d- I'd liked

3- He had just reached the traffic lights when he .... their car.
a- had seen / driving by   b- has seen / drive by
c- saw / drive by   d- saw / to drive by

4- When we arrived, it had stopped .... a few minutes.
a- to rain since   b- raining since
c- raining for   d- to rain for

5- Theobald Edwards, ... 62, has published several articles.
a- ageing   b- aged   c- his age   d- of age

6- I can't remember where .... it.
a- I last saw   b- I have last seen   c- I was last seeing   d- I had last seen

7- The inflation rate .... new peaks last week.
a- reached   b- has reached   c- has been reaching   d- is reaching

8- Night fell and the search ....
a- should stop   b- had to be stopped   c- ought to be stopped   d- should be stopped

9- He was first elected chairman in 2001, and .... chairman ....
a- was / since   b- has been / ever since   c- had been / then   d- has been / long ago

10- I'm sorry if I hurt your feelings, I ....
a- didn't mean to   b- wasn't meaning it   c- meant to   d- had no meaning to

B- Error correction :   8 points
1- Using fingerprints is the oldest one method of identification.

2- In the digital world, the fingerprint is the electronically read by a sensor plate.

3- Some readings may to be affected by fingerprints damaged through injury.

4- Some sensors can't read of fingers that are too wet or too dry.

5- Iris scanning is measures patterns on the coloured part of the eye – the iris.

6- The tissue has a unique pattern of markings from which does not change.

7- Data is saved and be stored within a chip, on a passport or ID card.

8- There are much concerns about the storing of biometric data.

C- Structural cloze :   15 points
Read the text below and choose the word which best fits each space. There is an example at the beginning (0).

"DIGITAL DIVIDE COULD BE DEEPENING"

The number of people in the UK who *Ex. (0) do* not intend to get internet access (1)....................... , research firm Point Topic has found.

Net refuseniks (2)............................. 44 percent – or 11.2 million – of UK households, according to Point Topic.

Of those, more than 70 percent say they have (3)............................. or no intention (4)............................. connected, the research found.

Rising numbers of people (5)............................. broadband and availability of high speed net is (6)............................. universal but there is (7)............................. a significant number that refuse to step on even the first rung of the internet ladder.

"As the number of non-access households (8)............................., those that (9)............................. are increasingly resistant to its appeal. This could prove a high barrier to (10)............................. much higher levels of internet access", said Katja Mueller, chief analyst for Point Topic.

The reasons cited for not getting internet access fall (11)............................. three broad groups – lack of need or interest , cost or other material constraints ; and lack of the necessary skills.

Only 26 percent of people from non-access households believed (12)............................. they had a good understanding of (13)............................. use the internet.

Lack of skills needs (14)............................. if more people are to cross the digital divide, said Ms Mueller.

But even then, (15)............................. will still be a chunk of people who are unpersuaded by the benefits of being online.

When asked whether they would consider getting net access if the obstacles were removed, 42.8 percent of respondents to PointTopic's survey declined to answer. Only 16 percent said that it would make them more likely to get access.

0	a- is	b- are	*c- do*	d- does
1-	a- rose	b- raised	c- has risen	d- has raised
2-	a- account for	b- account	c- account to	d- on account of
3-	a- few	b- little	c- fewer	d- less
4-	a- to get	b- to getting	c- with getting	d- of getting
5-	a- would get	b- will have got	c- are getting	d- would have got
6-	a- unless	b- hardly	c- scarcely	d- almost
7-	a- too	b- still	c- nearly	d- yet
8-	a- are shrinking	b- had shrunk	c- will have shrunk	d- shrinks
9-	a- left	b- are left	c- leave	d- are leaving
10-	a- achieving	b- achieve	c- have achieved	d- be achieved
11-	a- in	b- on	c- into	d- with
12-	a- what	b- how	c- that	d- if
13-	a- how to	b- which	c- what	d- Ø
14-	a- address	b- to be addressed	c- to address	d- to have addressed
15-	a- it	b- they	c- one	d- there

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S4 Info
Epreuve Ecrite d'Anglais

Jeudi 31 mai 2007

Durée : 1h30

N° de place :

Vous composez sur la liasse photocopiée.

ePassports 'at risk' from cloning

By David Reid
Reporter, BBC Click

The ePassport is one of the many measures pursued by the United States and governments internationally after the horror of 11 September.

It will, we are promised, keep the unwanted and dangerous outside our borders, while streamlining entry for those welcome to come and visit.

But as the implementation of the scheme gets underway it is becoming clear that there could be serious problems with it.

With the old passport, we knew where we stood. If you lost it you knew you had lost it, but with the new, machine readable passports the story is very different.

When you take a digital photo the image is, in effect, a code, which means that however many prints you make they are all exactly the same.

Five-minute replica

So when Lukas Grunwald and Christian Bottger realised they could clone the new ePassport they were pretty sure it would be identical to the original, and undetectable. So how did they do it?

The chip inside the ePassport is a Radio Frequency Identification (RFID) chip of the type poised to replace the barcode in supermarkets.

The good thing about RFID chips is that they emit radio signals that can be read at a short distance by an electronic reader.

But this is also the bad thing about them because, as Lukas demonstrated to me, he can easily download the data from his passport using an RFID reader he got for 200 Euros on eBay.

Lukas is less forthcoming about where he got what is called the Golden Reader Tool, it is the software used by border police and it allows him to read the chip on his ePassport, including the photo.

Now for the clever bit. Thanks to a software he himself has developed, called RFdump, he downloads the passport's data onto his computer and then onto a blank chip.

Using a standard off-the-shelf component you can just buy at a component store you can have a cloned ePassport in less than five minutes.

Security risks

When the cloned ePassport is read and compared to the original one it behaves exactly the same.

The UK Home Office however dismissed the ability to get hold of the information on the chip.

A spokesman said: "It is hard to see why anyone would want to access the information on the chip.

"Other than the photograph, which could be obtained easily by other means, they would gain no information that they did not already have - so the whole exercise would be pointless: the only information stored on the ePassport chip is the basic information you can see on the personal details page."

The spokesman said the chip was one part of the security features of the ePassport.

He said: "Being able to copy this does not mean that the passport can be forged or imitated for illegal or unauthorised use.

"British ePassports are designed in such a way as to make chip substitution virtually impossible and the security features of the passport render the forgery of the complete document impractical."

According to Lukas Grunwald of the consulting company DN-Systems an ePassport holder is more at risk from someone trying to steal their data.

"Nearly every country issuing this passport has a few security experts who are yelling at the top of their lungs and trying to shout out: 'This is not secure. This is not a good idea to use this technology'".

DN-Systems' Christian Böttger also believes the system was set up in a hurry.

"It is much too complicated. It is in places done the wrong way round - reading data first, parsing data, interpreting data, then verifying whether it is right.

"There are lots of technical flaws in it and there are things that have just been forgotten, so it is basically not doing what it is supposed to do. It is supposed to get a higher security level. It is not," he said.

Danger

A European Union funded network of IT security experts has also come out against the ePassport scheme.

It is almost like writing your pin number on the back of your cashpoint card.

Researchers working within the Future of Identity in the Information Society (FIDIS) network say European governments have forced a document on its citizens that dramatically decreases security and increases the risk of identity theft.

RFID chips can be read at a short distance and tracked without their owner's knowledge, while the key to unlocking the passport's chip consists of details actually printed on the passport itself.

It is almost like writing your pin number on the back of your cashpoint card.

"The basic access control mechanism works based on information like the number of the passport, the name of the passport holder, the date of birth and then other data which are

simply readable by anyone who looks on the passport," said Professor Kai Rannenberg of Frankfurt University.

"If you have that information and put the respective software into the reader, the reader can overcome the basic access control of the passport."

The experts say it is not too late to roll back and rethink the ePassport.

If not, the danger is obvious - that a scheme, the declared aim of which is to increase our security, could well do the exact opposite.

I- <u>Vocabulary</u> :   7 points
Choose from the list the words that best fit in the space.

algorithms – online – closed-source – open-source – licensing – free – hardware
webpages – access – host – webserver – breakthrough

"KNOWLEDGE TO THE PEOPLE"

Paul Marks interviews Jimmy Wales, the man who founded WIKIPEDIA
New Scientist 3 February 2007

- So when was Wikipedia finally born ?

It was 15 January 2001. Our idea was very radical : that every person on the planet would have (1).............................. to an (2)............................ software that was the sum of all human knowledge. The idea was to have thousands of volunteers writing articles for an (3)............................ encyclopedia in all languages. We knew about wikis – websites where visitors add information of their own and change whatever is there. Understanding what we could do with a wiki was the big (4)..............................

- How does Wikipedia manage financially ?

It doesn't cost that much to run. Most costs go on expanding expensive physical (5)............................, the servers that (6)............................ the site.

- Why are you developing a search engine ?

Transparency is what I'm really after. We just don't know if there is any dishonesty or strange incentives in today's (7)............................ that rank searches. We need to have a public debate about it.

II- <u>Reading comprehension</u> :   20 points
'E PASSPORT AT RISK FROM CLONING'

A- Word formation :   4 points
Use the word given in capitals at the end of each line to form a word that fits in the space in the same line.
(You have read those words in your text).

1- Anyone trying to get .... access to the premises will be prosecuted.   AUTHOR

2- You would have come to a better solution .... if you had listened to my advice.   EASE

3- ...., all you have to do is show that you are interested and willing to work.   BASE

4- If you bring the 2 pieces together and seal them firmly with that special glue, the crack will be ....   DETECT

.../...

5- The .... of luxury goods accounts for considerable amounts of money being spent.   FORGE

6- The trade union .... revealed last night that their hope now rested on the workers' willingness to come to a compromise.   SPEAK

7- The number of road accidents has risen .... these last few months.   DRAMA

8- He is proficient in English and has a good working .... of Japanese. He hopes to be called to interview soon.   KNOW

B- True or False. Justify your answers :   7 points

1- If you try to forge an ePassport, although identical to the original, it'll be detectable.		
2- RFID readers are almost unobtainable on the market.		
3- RFdump is an off-the-shelf component.		
4- It takes no more than 5 minutes to clone an ePassport.		
5- The UK Home Office wants to be reassuring.		
6- In their opinion, there are always security flaws that can make the forgery of the complete document possible.		
7- In conclusion, though, experts say the ePassport will increase our security.		

C- Answer the following questions :   9 points
1- After reading the text, would you say that the journalist is in favour or against the ePassport ? Why ? (1 pt)

2- When and why was the ePassport introduced ? (1 pt)

3- What is the primary goal of RFIDs ? How do they work ? (2 pts)

4- What is the Golden Reader Tool ? (1 pt)

5- What elements are needed to clone an ePassport ? Describe.

6- According to Christian Böttger, why was the system set up the wrong way round. (1 pt)

7- How could a thief steal someone's identity ? (1 pt)

III- <u>Use of English</u> :
A- Can you manage the tenses.   10 points
Choose the best verb construction a, b, c, or d to complete the sentence.

1- Do you mind .... the window ?
a- I open   b- that I open   c- if I open   d- suppose I open

2- What .... on Saturday nights ?
a- are you doing   b- do you   c- do you do   d- you are doing

3- Economics .... a vital science.
a- are told to be   b- is told   c- is said to be   d- are said

4- "................. me ?" she asked.
a- Still love   b- Are you still loving   c- Have you still a love   d- Still loving

5- - "Can I have some more coffee ?"
    - "I'm afraid there's none ...."
a- left   b- leaving   c- been left   d- to leave

6- What .... ?
a- this expression means

b- this expression does mean

c- does this expression mean

d- does mean this expression

7- No one heard him .... for help.
a- to have called   b- to call

c- have called   d- call

8- Usually a great number of people .... abroad each summer.
a- goes   b- go

c- are going   d- is going

9- What .... when I rang you up ?
a- were you working at

b- did you work at

c- have you worked at

d- have you been working at

10- Profits went up by 3% last year, and .... this year.
a- have not decreased

b- did not decrease

c- hadn't decreased

d- did they decrease

B- Error Correction :   8 points
Cross out the extra word in **each** of the sentences below.

1- Pete looks like as his brother but his personality is very different.

2- Can you tell the difference between British and from American English ?

3- Is anyone living in that house now or did they have all move out ?

4- It was irresponsible of Mark to leave with the children on their own.

5- Florence was given for the job on the strength of her qualifications.

6- It would be more sensible better to take a taxi than to walk home.

7- We are quite different but we get on very incredibly well.

8- This new phone has a wonderful so innovative design.

C- Structural cloze :   15 points
Read the text below and choose the word which best fits each space. There is an example at the beginning (0).

"A BRIGHT FUTURE FOR E-RETAILING"

Four volunteers recently took part (0) *in* an unusual experiment. They spent five days locked in their rooms in a London youth hostel with nothing (1).......................... a credit card and access (2).......................... the Internet. They wanted to find out how long they (3).......................... survive without having to pop (4).......................... to their local supermarket or department store.

There has been an enormous increase in (5).......................... is called 'e-commerce' since the late 1990s. You can now buy almost (6).......................... via the Internet, from pizzas to leading

designer labels. What's (7)..........................., the Internet gives you great choice. If you need a new outfit, for example, you (8)........................... travel the world to see what's (9)........................... offer in clothing stores from London to Los Angeles for no more (10)........................... the cost of a phone call.

Web shops are open 24 hours a day, which (11)........................... you to choose the goods you want and pay instantly. Of course, you then (12)........................... to wait for delivery – and that's where the problems can start. Buying groceries on the Internet seems to be the perfect solution for people (13)........................... hate supermarket shopping. But (14)........................... it comes to that designer outfit you ordered for next week's party, be prepared for the fact that it (15)........................... not reach you in time. Delivery times can be up to four weeks.

Ex. : 0-	a- on	*b- in*	c- with	d- for
1-	a- no more	b- without	c- but	d- exceptional
2-	a- for	b- with	c- to	d- except
3-	a- can	b- would	c- will	d- be able to
4-	a- down	b- through	c- up	d- away
5-	a- that	b- it	c- who	d- what
6-	a- something	b- anything	c- nothing	d- things
7-	a- more	b- top	c- about	d- any more
8-	a- need	b- allow to	c- can	d- make
9-	a- at	b- on	c- for	d- to
10-	a- plus	b- of	c- from	d- than
11-	a- allows	b- gives	c- lets	d- makes
12-	a- will	b- may	c- have	d- must
13-	a- to	b- who	c- whose	d- what
14-	a- as well as	b- unless	c- whereas	d- when
15-	a- may	b- must	c- need	d- had better