



SERVICES CULTURE ÉDITIONS  
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**Base Nationale des Sujets d'Examens de l'enseignement professionnel**

**Campagne 2009**

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**Session 2009**

**BREVET DE TECHNICIEN SUPÉRIEUR**  
**OPTICIEN LUNETIER**  
**GÉNIE OPTIQUE**

**Groupe 10**  
**ÉPREUVE DE LANGUE VIVANTE ÉTRANGÈRE : U 2**

**ANGLAIS**

Durée : 2 heures

Coefficient O-L : 1

Coefficient G-O : 2

L'utilisation du dictionnaire bilingue est autorisée.

L'usage de la calculatrice est interdit.

Le sujet comporte 3 pages, numérotées de 1/3 à 3/3  
Dès que le sujet vous est remis, assurez-vous qu'il est complet.

## AND NEXT — THE CONTACT LENS FOR “AUGMENTED REALITY”

Researchers at the University of Washington have developed a contact lens with the potential to project a telephone display directly on to the retina. The technology could allow any high-resolution image to be displayed in front of the eye. Eventually, games, documents and music collections could all be displayed in a user's field of vision.

5 “We realised that we could make really tiny functional devices that can be incorporated  
into a contact lens to do a lot more than just improve vision,” Babak Parviz, Professor of  
Electrical Engineering at the University of Washington, told *The Times*. “Our goal is to  
integrate a display which can do everything that an iPhone or computer does now – but in  
10 front of your eye. A user could manipulate the document by blinking or by using his  
voice.”

By incorporating metal circuitry and light-emitting diodes into a polymer-based lens, the researchers created a functional circuit that is biologically compatible with the eye. Ultra-thin antennas, a few nanometres thick, are used to transmit information wirelessly to the outside world.

15 The lens, which is as thin and as comfortable to wear as an ordinary hard contact lens, was created with two purposes in mind, its creator said.

One is to let users live in an “augmented reality”. Computer images superimposed on to the field of vision could give soldiers and doctors real-time information about their environment, as well as allowing civilians to browse through their music collection.

20 The lenses' other purpose is more controversial. “We're looking at using the lens as a sensor to monitor chemical levels in the body,” Professor Parviz said. “The cells on the eye are in direct contact with blood serum, making [the lens] perfect as a continuous health monitoring device.” If a user's blood sugar level drops below a certain level the device could be set up to flash red and direct him to the nearest hospital. Professor  
25 Parviz said that there were valid privacy concerns. “Any data communication is susceptible to hacking.”

The system's embryonic state has not prevented big corporations, or the American military, taking the Washington project very seriously. Professor Parviz has received financial backing from both. “We're even looking at installing an infrared camera so  
30 soldiers can see in the dark,” he said.

The next step for the Washington team is to address safety concerns. “We have to be careful,” Professor Parviz said. “New technology is constantly advancing— but any new methods must be rigorously tested and assessed for their benefit to patients before use.”

Adapted from Alexi Mostrous, *The Times*, February 2, 2008

## QUESTIONS

### A) COMPRÉHENSION DU TEXTE (10 POINTS)

1- Faire un résumé du texte en français (140 mots + ou - 10%)  
Indiquer le nombre de mots utilisés.

(6 points)

2- Traduire l'avant-dernier paragraphe de «The system's embryonic... » (ligne 27) à  
« ...he said.» (ligne 30)

(4 points)

### B) EXPRESSION ÉCRITE EN ANGLAIS (10 POINTS)

Le candidat traitera la question en 150 à 180 mots en tout.  
Indiquer le nombre de mots utilisés.

Which fields could benefit from the technology of augmented reality?

Answer by giving examples and explaining how the technology might be useful or just another gadget.