

國立成功大學  
110學年度碩士班招生考試試題

編 號：221

系 所：工業設計學系

科 目：工業設計(專班)

日 期：0202

節 次：第 3 節

備 註：不可使用計算機

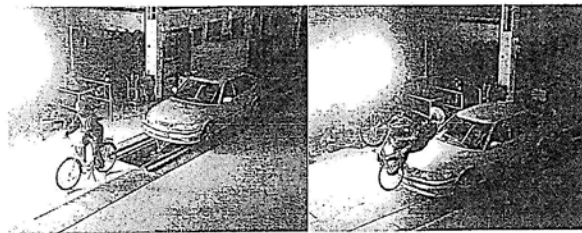
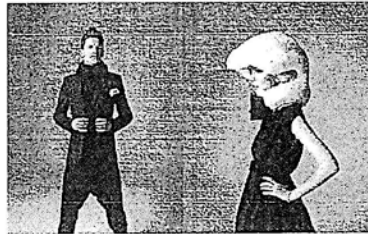
※ 考生請注意：本試題不可使用計算機。請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

一、閱讀以下產品評論：

1. 用至少150個字摘要這篇文章的內容 (20%)。
2. 你認為這個產品的主要缺點是什麼 (15%)，應該如何重新設計 (15%)？
3. 你將需要執行那些研究來提升你的設計？試著提出3個研究主題，逐一解釋每個主題的想法 (20%)。
4. 承上題，試著從你的回答中挑選一個最需要優先研究的主題，解釋為什麼？詳細描述這個研究主題的提案內容 (30%)。

### Cyclists' Airbag Helmets Bursts Forth from Stylish Collar

The **Hövding** is an airbag for your head. Mounted in a bulky collar, which can be disguised as a stylish scarf, the bag explodes on when you crash and surrounds your delicate melon with an inflated hood. I know there are some drivers out there who hate cyclists, so here's a picture of the **Hövding**



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**Hövding** means "chieftain" in Swedish, and the air-helmet was designed by Swedes Anna Haupt and Terese Alstin as a university thesis project. The collar contains the bag itself, helium to inflate the airbag and sensors which tell the **Hövding** when to fire. The sensor unit consists of gyroscopes and accelerometers which

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constantly monitor movement and deploy to bag when you're in danger. The Chieftain is charged by USB (firmware can also be updated via the same port) and you switch it on by zipping the collar shut around your neck.

With a car airbag, the time to fire is obvious - when impact is detected. There are many ways a cyclist can fall that look similar to normal, safe activities in other contexts: going over the bars and falling forward is a lot like bending down to lock a wheel, for instance. To eliminate false positives, Haupt and Alstin carried out extensive testing with both dummies and - amazingly - stunt men and women.

So why wear this instead of a helmet? Style is the first thing that comes to mind. You can change the covers of the collar to match your outfit, and you won't muss your hair while you ride. I'd probably feel less safe in this active scarf than I would in a passive, always-on helmet, but the **Hövdning** seems to be reliable, and I don't wear a helmet anyway.

Source : <https://www.wired.com/2010/10/cyclists-airbag-helmets-bursts-forth-from-stylish-collar/>