

9 Further Human–Computer Interaction (afb21)

This question compares the approaches that might be taken to two different interaction design projects. The first project is the redesign of the dashboard user interface for a new generation of electric family car that includes self-driving features in addition to conventional manual controls. The second project is the redesign of the cockpit user interface for a new generation of passenger plane that includes autopilot features in addition to conventional manual controls.

Each section of this question should be answered in two parts, contrasting the two design problems. The first part of your answer should relate to the car design, and the second part should relate to the plane design.

- (a) Which aspects of the three waves of HCI research and development are most relevant? Justify your answers. [4 marks]
- (b) What kind of specialist researcher would you recruit to carry out formative (as opposed to summative) research? Include information about what kind of academic discipline they would be trained in, and what kind of methods they would use. [4 marks]
- (c) What early prototyping methods would you use to collect information about potential alternative design approaches? What kinds of comparative analysis might be appropriate in order to inform design choices? [4 marks]
- (d) What data might be collected after product launch to evaluate the success of the design and rectify any usability problems? [4 marks]
- (e) Some issues might be missed if the HCI investigations focus only on the specific aspects that you highlighted as most relevant in Part (a). For each project, discuss the most serious issue missed. Is there a secondary investigation, using an approach from a different wave, that you could have done instead? Justify your answer. [4 marks]