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## COM 2002/3002/6222 Human Centred Systems Design

In order for it to be fair, please *do not* contact us with questions about the content – it’s up to you to interpret each question and to respond appropriately.

## Name

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Answer the following questions in your own words, in 100 words or less.

1. (HC) Using the PACT framework, describe the relationship between a user and a technology of your choice.

Answer: The Pact Framework is a method of analysis that is used to describe how people use technology to undertake activities in context. The word PACT is an abbreviation for People, Activities, Context and Technology. An example of this is a student who searches for the meaning of a word using google in the library. People, in this case, are represented by the `student` doing the search. The activity being done is `searching for the meaning of the word`. The environment in which this interaction was made is `in the library`. This is its context. Finally, the technology used was `google`.

1. (HC) Imagine the HCI for a new set of augmented reality sports glasses for elite cyclists. Explain the design choices you would make to create useful and usable interface for the cyclist thinking especially about reducing the gulf of evaluation and the gulf of execution.

Answer: The augmented reality functionality in pro cyclist glasses must be implemented in such a manner that it is not too distracting to the cyclist. This can be achieved by the use of arrows to assist with navigation which could be accompanied by an audio description of the intended route. The colours should be bright so that it is visible but not distracting, for example, white. The ability to use voice commands to turn the display on and off depending on whether the cyclists wants it on or not is necessary. Information about distance covered and speed of the cyclist can also be displayed, however this needs to be small so it does not interfere with the cyclist’s field of view.

1. (HC) You are designing a monitoring system for premature babies in the neonatal ward in hospital. Who are the primary, secondary, tertiary and facilitating stakeholders you will need to involve and why?

Answer: The primary stakeholders are those directly using the system. The stakeholders involved in the monitoring system of the premature babies include the hospital, doctors and nurses that are taking care of them. Another primary stakeholder would be the engineer who makes the system. On the other hand, secondary stakeholders are the direct beneficiaries of the system. In this case this includes the babies and their parents. This is because through the use of the monitoring system the babies can grow to maturity. A tertiary stakeholder in this case would be the government. This is because they benefit through an increase in population due to successful premature births.

1. (HC) You are designing a spelling game to be used as a fun way for children to practice pronouncing words better at home with help from their parents. There are two main user groups: the parents and the children. Write a persona description for the parent.

Answer: Phil Baker is a fifty-year-old man, who has worked at I.B.M. (Computer manufacturing company) for the past ten years. He graduated from Massachusetts Institute of Technology with a master’s degree. He is a father of three children, the youngest being a six-year-old girl. He is comfortable using computer systems. He was born in China. Because of this he is not fluent in English as it is not his first language. He has poor vision due to eye strain and aging. He is happy to assist his children with their pronunciation especially with the help of a spelling game.

1. (HC) Specify a Hierarchy Task Analysis for this task: "Measure and plot blood sugar levels of residents in a care home". Must include minimum of two subtasks and associated plans.

Answer: Plan 0: do 1-2-3 in that order

Plan 2: do 2.1-2.2-2.3 in that order