Human Computer Interface (IT359)

<u>Tutorial 6 Answer</u>

1. Identify and explain three features of the working environment in the following photograph that might have an impact upon the users' ability to operate a new application program. [10 marks]

(I asked this user to turn away and so these comments relate to the position they are shown in, in the photograph and should not be interpreted as criticisms of their normal working practices).

Many different features could be chosen. The main point is that this picture reflects the realities that many users are faced with when they interact with computer systems.
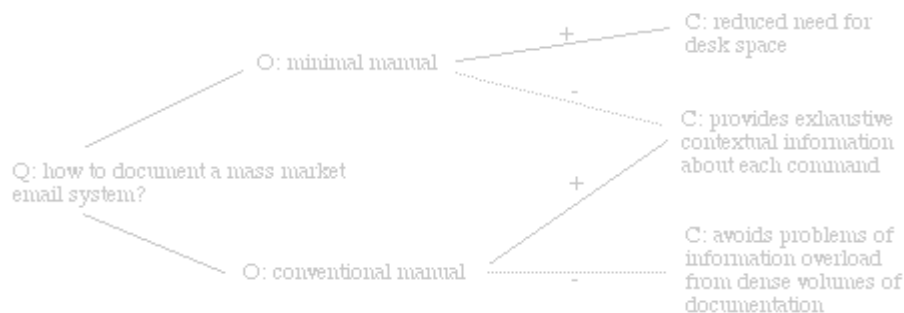
There is very little room in this setting to place written documentation. The user has created desk space away from the terminal. This would mean a painful neck contortion if they had to cross-reference a command in a manual. On the other hand, the space around the display is optimised by notices being stuck to the board. This would provide a good opportunity for using minimal manuals/prompts (see below).

There is very little room for the keyboard and mouse. This might cause problems if the user had to perform sustained, delicate operations with a graphics package.

The display is well placed below head height but the arrangement of the chair etc and the general lack of space might raise some concerns about long-term physiological problems.

2. The Johnson-Dunlop Corporation have been hired to design a new manual for a mass market e-mail system. One of the options that they have considered is what is known as a 'minimal manual'. This restricts documentation to brief summaries of the information that is provided in more complete manuals. Compare and contrast the strengths and weakness of these different design options. (Hint: use Rank Xerox's QOC technique) [12 marks]

   The following QOC diagram is considerably simpler than many students might develop. In particular, it shows how criteria and options need not be completely inter-connected. This is important because they have been warned that this can adversely affect the readability of the resulting structures. In terms of the content, I would expect them to address the volume of the material but also the differences in the support that each format might provide for different user tasks. Minimal manuals help to get you started but conventional approaches are necessary for long-term use by experts. This argument might also be balanced against the point that this is a mass-market product and so both would be appropriate (this would lead to an additional option in the diagram indicating a mixture of minimal and conventional documentation).

   O: minimal manual

   C: reduced need for desk space +

   C: provides exhaustive contextual information about each command −

   Q: how to document a mass market email system?

   O: conventional manual +

   C: avoids problems of information overload from dense volumes of documentation −

3. Briefly explain why user interface designers are now looking beyond the display, mice and keyboards to look at the users' working environment when developing systems for particular organizations. [8 marks]

   Interface designers are looking beyond the keyboard, mice and display to analyze the interaction between the users' working environment and their task. This interaction can have a profound impact. For example, if users are subject to constant interruption by a telephone then it is no good expecting them to construct long and elaborate commands; they are likely to be interrupted during this construction process. Similarly, it is no good expecting users to exploit written documentation to support on-line help systems if most users cannot find space for this documentation on their desks given the area required by existing documents.

4. Using your answer to Question 3, briefly sketch the page layout for an entry in this manual. You should indicate the overall size of the page. You should indicate what font you would use for both titles and the running text. Explain how your design would enable users to rapidly find brief explanations of frequent topics but also find more detailed information after a more prolonged search. [20 marks]

As with Question 3, there is considerable scope in this question. Some things are fixed, however. Sans-serif fonts should be used for the titles because Geneva, Helvetica etc stand out as discrete units. The serif font families, such as Times, Bookman et al, would be better for the running prose because the serifs lead the reader's eyes along the lines.

Two different search tasks are identified. The first concerns the rapid location of frequently accessed topics. This might be supported by thumb-tabs on conventional documentation. Alternatively, these frequent topics form an ideal focus for a minimal manual. The second searh task is to find more detailed information after a more prolonged search. The minimal manuals might be used as an index into standard manuals. However, minimal documentation tends to focus on how to do routine tasks whereas more extensive documentation tends to be needed for exceptional tasks and error conditions. It, therefore, follows that this simplistic indexing may not be a complete solution. This is a key area for user testing and manual revision in the light of users comments - or alternatively the publication of additional documentation through user support groups.

5. Marcos Express Pizza Service wishes to provide on-line pizza booking on the World Wide Web. They will employ a web-authoring expert to develop the pages but wish you to design them.

a) Design three separate forms:

- A delivery address specification form;
- A pizza specification form (covering size and toppings);
- A charging details form (customers can pay on the web using credit cards or on delivery with cash only).

The forms will be linked to from the following central page:

The "Done" boxes are completed by the system once that stage is completed successfully.

Your answer should describe the main components of your forms, why you chose certain input methods and give a state transition diagram showing how the pages link together. You should ignore security issues in your answer. [36 marks]

Context information

Marcos Pizza Delivery
Delivery Address

1 Fill in all fields below then click "submit" to return to complete your order...

Name

Address

Field Panel

Postcode

Phone

Submit

Control

Pop up menu chosen for Size since only a limited number of choice. Check boxes for toppings to allow many combinations from set of toppings (defaults of cheese and tomato preselected, rest unset to start). Sample expiry date given but no pre filled elements.

Marcos Pizza Delivery — Single pizza spec

2 Select a pizza size and your topings then click "submit" to return to complete your order...

Size [12" ▼]

Toppings

☒ 〰 ☐ 〰 ☐ 〰
☐ 〰 ☒ 〰 ☐ 〰
☐ 〰 ☐ 〰 ☐ 〰
☐ 〰 ☒ 〰 ☒ 〰
☐ 〰 ☐ 〰 ☐ 〰
☒ 〰 ☒ 〰 ☐ 〰
☒ 〰 ☐ 〰 ☐ 〰

(Submit)

Marcos Pizza Delivery — Payment choice

3 Select cash or tell us your credit card details...

☐ Cash

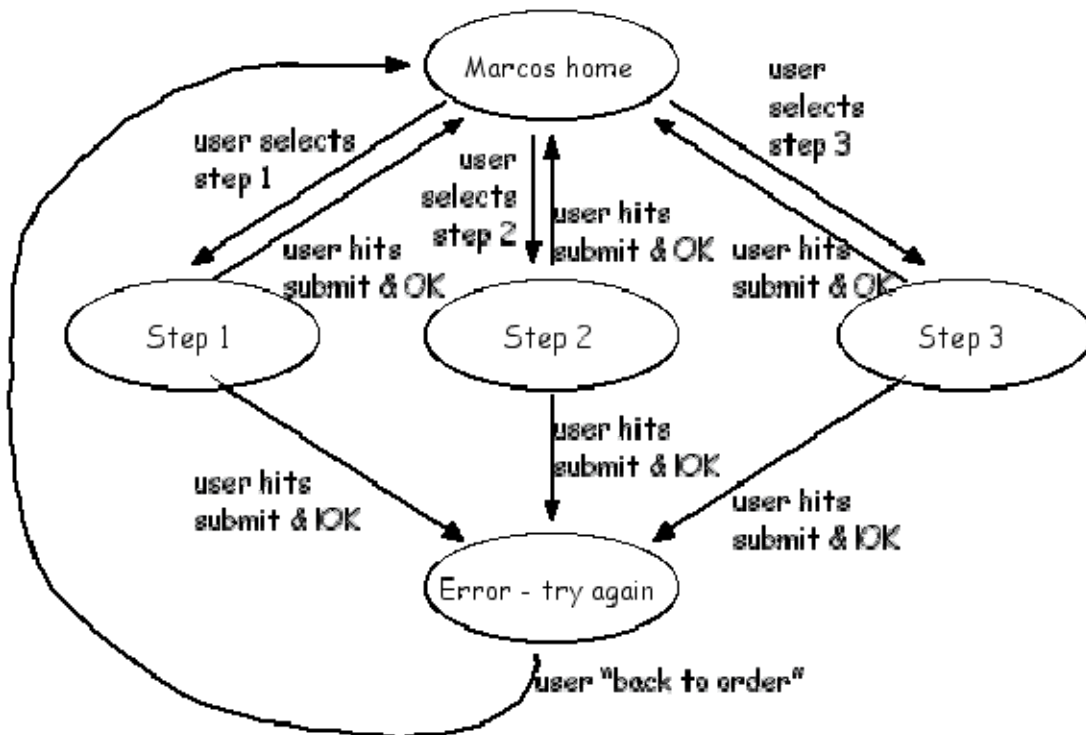Name [   ]

No [   ]

Expires [   ] e.g. 07/99

legal waffle agh akjshjfkh skjdfhkjasd hkjsadh fkjsadhf kjsadjkfhas dk fhsadkj fkjsdhf kjds hflkjashf kjashkfj hasdlkjf askjd fjksdhfkjshfkj hsdkfjhsdkjfhasdkjlf haskjfh k

(Submit)

Marcos home

user selects step 1

user selects step 2

user selects step 3

user hits submit & OK

user hits submit & OK

user hits submit & OK

Step 1

Step 2

Step 3

user hits submit & !OK

user hits submit & !OK

user hits submit & !OK

Error - try again

user "back to order"

Action on all arrows is to go to that page with the current user's cookie - user hitting submit with OK implies their record is updated

b) Describe in detail the method you would use to assure the company that the forms can be used by customers without training and with acceptable error rates. [10 marks]

c) Suggest two improvements to the above design for a central page. [4 marks]