Report Task 3

~ Further Data Entry and Output Considerations ~

Inputting Data

Changing information

Having well organised data will always lead to a higher level accuracy when being used by a human operator. When it is easy to see what data values are stored under there corresponding fields there is a much reduced risk of a human user accidentally entering incorrect data, or data into the wrong field.

For example in my staff database there are clear data fields that identify what data should be entered under them, for instance the field name 'Phone Number' doesn't leave the user in any doubt as to if they are to enter there post code into it!

Data is also easy to change: if you wanted to change the address for Fabio you could simply search for his name (using a query) then move along to the 'address' field and update the data.

Accuracy of Information

Accuracy of Information is extremely important to a company. Hypothetically the slightest slip of the hand when entering data could earn Xian ten times the amount she was! If this was spotted in time it may not be a problem, however if the transaction was processed and the Top Toggs account was left with £3,000 and a large order was put into a retailer they could become overdrawn and have to pay large penalty charges for exceeding the arranged overdraft. Additionally if details such as opening times were published incorrectly they may potentially loose out on sales.

Validation

Validation is the process of checking data to be reasonable, though not necessarily accurate. For instance a phone number that was intended to be entered as 0781692406 but was entered as 07816492408 would not be highlighted by data validation, however if the number was entered as 1565 then upon checking the length or other attributes data validation processed could draw attention to the data in question.

In my information system there are various examples of data validation. In my employee database there are several: field restrictions for number, use of multiple choice (drop down) menus and dual option fields i.e. the sex column can only be M or F and salaried can either be 0 or 1 (checked or not checked).

Verification

Verification is checking the actual data to see if it is accurate as apposed to reasonable. In the previous example 07816492408 would have been accepted however after data verification processes had been applied only the correct value (07816492406) would be accepted. Verification can only be effectively done by humans as a computer system has no way to determine if data is correct. An example of verification is where two people enter exactly the same data and a computer system compares the two inputs and highlights any errors.

Data verification exists in a primitive form, in that of Spell Checkers. Spell Checkers can scan documents and find any data that is not found in its dictionary. This is limited in several ways: The data we enter are not always found in the dictionary, for instance names or addresses. Furthermore data can also be incorrect even though it is spelt correctly. For instance 'there', 'they're' and 'their' are three correct spellings however each are pounced the same yet refer to three different things.

System Outputs

Hardware is another important consideration when producing any information system. I explore below options regarding printers and VDU's (Visual Display Units, sometimes known as monitors)

Printers are available in four different 'types': Laser, Dot Matrix, Inkjet and Bubble Jet. For the purposes of this report we will consider inkjet and bubble jet as one type as there are only tiny differences in the way they work.

Laser printers have a considerable advantage as they are the quickest, quietest and most accurate type of printer. However they are expensive to run (with an average priced toner retailing at £50) and are usually limited to black ink. Typically they would be used for producing mainly text based documents. In the Top Toggs system they would be ideal for producing almost all documents as there is no colour used.

Dot Matrix are the cheapest printers to run, however they are the most noisy, least accurate and slowest printer available. They are limited to one colour and a small selection of fonts. Typically they would be used for producing documents (such as receipts) that don't have to be used more that once and don't have to be particularly neat. In the Top Toggs system they are of no use.

Inkjet printers seem to rank in the middle – they are cheaper than laser yet more expensive than dot matrix, louder than laser yet quieter than dot matrix, slower than laser yet quicker than dot matrix. There one advantage being they are able to produce colour. Typically they are the ideal printer for the home user who would require colour printing but not the precision and clarity of laser. In the Top Toggs system there would not be utilised.

Monitors are available in two ‘types’: CRT and TFT. CRT monitors are considerably cheaper than TFT, however they have depths usually exceeding 50cm, where as a TFT monitor will rarely exceed 2cm.TFT’s also have some other clear advantages: they give of a negligible amount of hear and radiation and as they are crystal lit as apposed to filament lit they are a lot safer to users eyes during prolonged use.

Both CRT and TFT monitors have several other impo rtant attributes that are not necessarily the same on all monitors, these are explored below:

Refresh Rate: a number usually between 56 and 160 and measured and Hertz (Hz) this number determines the number of times per second the screen is redrawn – the higher the better performance can be expected.

Maximum Resolution: This refers to the maximum number of pixel’s then can be utilised on a monitor at any one time. This number is given in terms of the number of pixels vertically times the number horizontall y. For example 1024x768.

Dot Pitch: Possibly the least important, this number refers to the space in - between each pixel, usually 0.28 -0.30 of a mm.