Expert Q&A

Question

Read the following scenarios and choose a suitable combination of input and output devices to best support the intended interaction. It may help to identify typical users or classes of user and identify how the devices chosen to support these people in their tasks. Explain the major problems that the input and output devices solve.

1. Environmental database A computer database is under development that will hold environmental information. This ranges from meteorological measurements through fish catches to descriptions of pollution and will include topographical details and sketches and photographs. The data has to be accessed only by experts, but they want to be able to describe and retrieve any piece of data within a few seconds.
2. Word processor for blind people A word processor for blind users is needed, which can also be operated by sighted people. It has to support the standard set of word-processing tasks.

Expert Answer

Answer:

a.

- The environmental database would be managed and controlled by professional professionals. It is possible that they would want regional displays of knowledge, so leveraging off of operations on a chart seems likely to be intuitive.
- According to people interested in this, different criteria and state options will be overlayed on the screen. These options would be described by a customized keyboard with a function key marked "P" that would open a pop-up dialog with numerous parameters (or other options) accessible for selection.

- It is necessary to examine existing trends as exposed to the reality that how these "experts" give knowledge is revealed and how they produce products in order to exploit what they give.
- It seems like an interface that promotes explorations of data, which can show patterns, will be helpful, such as a multi-touch touch-screen, but how this discovery can be rendered realistic would affect the design guidelines for input devices.

b.

- It's necessary to be able to convert between blind and sighted modes of use in a word processor, but because it's ultra-challenging to do so, you'll want to make sure you're happy with this choice. The blind had little opportunity to utilize the sensory realm.
- Take an existing word processor built for visually disabled people and change it to be available for non-sighted users. It is certainly obvious that any amount of audio input will be particularly helpful. It could aid if a screen reader assisted in interpreting the contents of the text pane.
- The way that the sound shifts could mean that the text has been formatted (for bold, italics, headings). It may be simpler for a blind person to provide feedback using a chorded keyboard as opposed to a conventional keyboard because of the complicated measurement of the locations used to input into a traditional keyboard.
- Two-handed input methods might also be helpful, whereby one side may be used for typing/working with the hardware and the other for executing activities. A verbal input system will be beneficial, but the specifics of this system (i.e., loudness, length, etc.) would have to be experimented with.

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