

### **AO1b**

The hardware my system will use is a keyboard and mouse for input and it will use a monitor and a printer for output. The actual computer tower itself is obviously required hardware, and includes a hard drive, RAM for process storage, the CPU to run all the processes in the computer and there are other things too.

The wage slip is my output product (as well as the leaflet), as it is what I want to get out of my system. The input is the data in the spreadsheet, and the spreadsheet is obviously the store of this data. The process itself is getting the input to the output, and the way we do that is by using mail merge. Mail merge automatically moves the data from where we input it into our wage slip which will be printed, which is our output. Each part of my system needs hardware. The input which is the data requires a keyboard. Storage requires a hard drive, obviously. The process requires a CPU and RAM to function and the output (wage slip) requires a printer & monitor.

My system can be described as a number of subsystems. The wage slip is a system in itself, having the spreadsheet as input data and storage, the actual mail merge being the process then the wage slip being your output. But deeper down, the spreadsheet alone is a system, with data entered in as input, the cells storing the data. Then the processes are the formulas manipulating the data, finally giving us wage figures as our outputs from the spreadsheet sub-system.

The problem with the hardware I am using is that with a keyboard and mouse, lots of errors can be made, even with validation rules. Someone may type a 7 in hours instead of 8 and then that employee would get underpaid. A better system would be to use a card scanner, fingerprint scanner or barcode scanner with recognition of each employee's card/fingerprint. A person could scan in when they enter the work place and then rescan back out and then the data of how many hours they had worked could automatically enter into the spreadsheet, therefore making error almost impossible. The problem with this is that there is a larger initial cost for the technology needed over a mouse and keyboard input.

There are also completely different systems like using pen and paper... The upside of this is that it's extremely cheap as no expensive hardware or software is needed. There are many downsides to this system though. First of all, it is very slow, as each wage slip must be written out individually and all calculations have to be done by hand and then written down. Furthermore, lots of errors can be made using pen and paper because the calculations aren't as consistent as using some kind of computer. Hand writing may be misread on the calculations and then it could make catastrophic mistakes when copying out the calculation results onto the wage slip. Writing each wage slip out would take so much time that it probably wouldn't even be feasible in this day and age. Automated wage slips overcome this problem

Commercial systems are normally very accurate but they're made for very

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large scale operations, and so cost a lot of money. Also, our system uses very basic hardware that any computer will have, and can be adapted to the user's needs.