[](https://www.knowitallninja.com/)Introduction to User Interfaces

# Task 1

(a) Define below what we mean by the term “user interface”.

The user interface is the software that allows humans to interact with a computer system.

(b) What is the name of the type of user interface you use on your home desktop/laptop computer?

A Graphical User Interface (GUI)

(c) Look at the image of a smart speaker below. Label it to identify the different ways that we can input instructions into this type of device.



**Microphone for voice commands.**

**Buttons to change volume, turn on/off, etc.**

# Task 2

(a) Text -based and speech/natural language interfaces have very different features. In the space provided below define how you input commands into text-based and menu-based interfaces.

Text-based interfaces allow users to input commands by typing key command words using a keyboard and pressing

the enter key. The computer then performs the command and then displays a text-based output.

Speech/Natural language interfaces allow users to input commands be speaking intro a microphone, typically starting with a command word like “Alexa” or “Ok, Google”. Then device then performs the command and provides an audio output.

(b) Text-based and speech/natural language interfaces also have some very different uses. Complete the table below identifying the types of devices and uses that would use these types of interfaces.

|  |  |  |
| --- | --- | --- |
|  | Types of Devices | Common Uses |
| **Text-Based** | Desktop/Laptop PCs.  Servers. | Performing technical tasks like network administration. |
| **Speech/Natural Language** | Embedded systems  Domestic appliances  Entertainment systems | In-car satnav systems for planning routes without using hands. |

# Task 3

A charity provides donated computer systems to schools in the developing world. These devices are typically very old. What would be the advantages and disadvantages of using a text-based interface on these computer systems?

Text-based interfaces typically require less processing power than other types of interfaces as they are simple text on plain background with no graphics. This would mean the interface will work on these old computers that might struggle with a more modern type of interface.

An additional benefit is that the students will need to learn the commands which provides technical skills which will support them in gaining technical IT job roles in the future.

However, learning these commands is difficult and a text-based interface is not intuitive. This could be a barrier for the students in their learning and using the computers. In addition to this, as text-based interfaces are not common anymore, these skills will be out of date for most of the students.