

2 A computer game is being designed that users will be able to play using a virtual reality (VR) headset.

(a) Complete the description of the principal operation of a VR headset.

A headset can have one or two that output the image to the user. The headset has speakers that output surround sound to give a realistic experience. The user's head movements are detected using a sensor.

This sensor is a The data is transmitted to a microprocessor that analyses the data to identify the of movement. Some headsets use that record the user's eye movements for analysis.

[4]

(b) The computer uses a buffer when transmitting data to the VR headset.

Explain how a buffer is used when data is transmitted between the computer and the VR headset.

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..... [3]

(c) The VR headset has Electrically Erasable Programmable Read Only Memory (EEPROM).

Explain the benefits of using EEPROM instead of other types of Read Only Memory (ROM) in the VR headset.

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(d) The computer can transmit a video made from bitmap images and vector graphic animations to the VR headset.

(i) Describe how the data for a bitmapped image is encoded.

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(ii) Describe the contents of a vector graphic drawing list.

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(iii) The bitmap video is **not** compressed before transmission to the VR headset.

Give **two** reasons why the video does **not** need to be compressed.

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[2]