Diploma Programme
Programme du diplôme
Programa del Diploma

Information technology in a global society
Higher level
Paper 3

Friday 4 May 2018 (morning)

Candidate session number

1 hour 15 minutes

Instructions to candidates

- Write your session number in the boxes above.
- Do not open this examination paper until instructed to do so.
- Read the case study carefully.
- Answer all questions.
- Answers must be written within the answer boxes provided.
- The maximum mark for this examination paper is **[30 marks]**.

2218 – 5515

8 pages

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Answer **all** questions. Answers must be written within the answer boxes provided.

Refer to the *A Doll Called Alicia* case study **and** to your own related research in responding to the following questions.

1. (a) Alicia will have sensors that use voice recognition.

Identify **two** additional sensors that may be added to provide for a more sophisticated product. [2]

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(b) When Alicia is initially activated after purchase, it will ask a number of questions to configure the most appropriate profile for the child.

Identify **two** questions that could be asked. [2]

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2. (a) Alicia records data about the child's behaviour.

Explain **one** way that this data could be made compatible for use with other systems. [2]

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(b) Explain the sequence of steps that take place when Alicia responds to what the child is saying. [4]

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3. A number of organizations are interested in obtaining the data that is collected and stored by *MAGS* from the interactions between Alicia and each child. *MAGS* is responsible for this data, and the problems that could arise if this data was sold to third parties (lines 153–166).

To what extent could data privacy and protection principles be applied to how this data is stored, accessed and used? [8]

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Your response to question 4 **must** include evidence of independent research linked to the *A Doll Called Alicia* case study.

4. There have already been concerns raised by parents about the deep-learning AI version of the doll. As a result Margaret is considering whether to develop a version of Alicia that is based on the original generic profile and does not share any data with the cloud-based services.

Discuss whether *MAGS* should continue to develop the cloud-based deep learning AI version of Alicia or introduce a simpler version that only uses the original generic profile. [12]

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