Link 15.3 Answers to Exercise 15.1

1. What is the difference between the data element and the information element of a multimedia object?

   o The data element of a multimedia object refers to the physical representation of the object, such as the file type.

   o The information element of a multimedia object relates to the content of the object.

2. What is meant by the provenance of a multimedia object?

   o The provenance of a multimedia object refers to the data about the source of the object, such as when and where a photograph was taken.

3. Explain the relationship between indexing and retrieval.

   o Indexing identifies key aspects of an object that may be used to recognize and locate the object. Retrieval is the process of specifying the desired characteristics of the object, and matching them with the index to find relevant objects that match the search criteria.

4. List three challenges that need to be addressed in managing multimedia information.

   o The terms used to index and retrieve the information.

   o The hardware and software needed to store and use the information.

   o The size of the file to be stored and transmitted.

   o The legality of using and protecting the information.

5. Give an example of how Bright Spark may use digital rights management methods to prevent photographs of its stores being used by other retailers.

   o Bright Spark could add a watermark to the photograph.

6. What is meant by semantic richness?

   o Semantic richness is the amount of semantic information in a concept; the degree of meaning embedded in the concept.

7. Name two ways in which semantic richness can be measured.

   o Number of descriptive features of a concept.

   o Number of associations that can be made from the concept.

   o Number of semantic neighbours.

8. What is a homonym?

   o Homonyms are words that are either spelt, or pronounced the same but have different meanings.

9. What is OWL?

   o OWL refers to the Web Ontology Language.

10. How does the semantic web differ from the Internet?

    o The Internet is a network of documents.

    o The semantic web is a network of data.

11. What is an ontology?

    o An ontology is a classification of concepts in a specific field and the relationships between them.

12. Using the open world assumption, if a statement is not proven to be true, is the statement assumed to be false?

    o No, the open world assumption states that a statement is only known to be false if it can be proven that the statement is false. This means that if a statement is not proven to be true, it is not assumed to be false.

13. What is the difference between personalization and customization?

    o Personalization is a continuous activity adapting to information collected about the individual over time. It is initiated by the organization.

    o Customization is a discrete activity enabling an individual to select from a static set of variables. It is initiated by the customer.

14. List three risks associated with personalizing information.

    o The information presented may not be perceived as relevant by the individual requesting the information.

    o Information presented to an individual that is perceived as being irrelevant will adversely affect the individual's trust in the organization that their information is being used appropriately.

    o Personalization impacts on privacy.

15. What are the three stages of personalizing information?

- o Create the individual profile by collecting the characteristics of the individual and their specific information requirements.

- o Create the information profile by describing data using characteristics that may be needed to search and filter related information.

- o Match the individual profile and the information profile, with the device profile.

16. What is the aim of context-specific information?

- o Context-specific information aims to provide an individual with access to information that is relevant to their specific context at a point in time.

17. What is meant by location-based information systems?

- o Location-based systems respond to changes in an individual's location and adapt the information that can be pushed or pulled to the individual based on the geographic location.

18. If a context-based system is too simplistic, what may be the result?

- o If a context-based system is too simplistic information may be presented to the individual that is not of value to them.

19. How does context differ to a situation?

- o A situation is a snapshot of a context at a point in time. Context emerges from *interaction* between the objects and actors defined in the context box.

20. Explain how the primary context is used to define the secondary context?

- o The primary context identifies the person or object. This identifier can be used to search for further information about the person or object, forming a secondary context.