System Design

Components of a Computer System

1.2.1 Define the terms: hardware, software, peripheral, network, human resources

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1.2.2 Describe the roles that a computer can take in a networked world

2. Describe three roles that a computer can take in a networked world.

1.2.3 Discuss the social and ethical issues associated with a networked world

3. Security, privacy, and censorship are three areas that have been impacted by a networked world. Give an example from each area that illustrates this impact.

4. Describe another social or ethical issue that has arisen because of the networking of computers.

System Design and Analysis

1.2.4 Identify the relevant stakeholders when planning a new system

5. List several people who might be affected by a new system?

1.2.5 Describe methods of obtaining requirements from stakeholders

6. Describe each of the four methods used to obtain information from stakeholders.

1.2.6 Describe appropriate techniques for gathering the information needed to arrive at a workable solution

7. Describe three of the techniques used for gathering information.

1.2.7 Construct suitable representations to illustrate system requirements

8. List three methods used to illustrate system requirements.

9. Construct a system flow chart that represents the ice machine system in a refrigerator.

10. List 5 inputs and 5 outputs in a computer system.

11. Construct a data flow diagram that represents the flow of data when ordering a hamburger at a fast food restaurant.

12. Construct a structure chart for a computer program that manages the purchase of fireworks at a fireworks stand.

1.2.8 Describe the purpose of prototypes to demonstrate the proposed system to the client.

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1.2.9 Discuss the importance of iteration during the design process.

14. List the six stages in the SDLC.

15. Why is the iterative approach to the SDLC better than a linear approach?

16. Discuss the importance of iteration during the design process.

17. Explain the possible consequences of failing to involve the end-user in the design process.

18. Give an example of three social or ethical issues that have arisen because of introduction a new IT system.

19. Define the term usability.

20. Give an example of usability problem that can occur from using any two of the devices listed.

21. Define assistive technology.

22. Identify methods that can be used to improve the accessibility of systems.

23. Choose a system and identify a range of usability problems that can occur in that system.

24. Discuss moral implications of the interaction between humans and machines.

25. Discuss ethical implications of the interaction between humans and machines.

26. Discuss social implications of the interaction between humans and machines.

27. Discuss economic implications of the interaction between humans and machines.

28. Discuss environmental implications of the interaction between humans and machines.