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CSE 5

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**Lab 1 04: Review for Exam 1**

1. What is digital?
   1. Data such as text, numbers, graphics, converted into discrete digits such as 0s and 1s
2. What is data processing?
   1. The process of inputting data into a computer and then outputting results
3. What is personal computing?
   1. The use of small, standalones computers powered by local software for personal use
4. How long was the second phase of the digital revolution?
   1. 20 years, 1975 – 1995
5. What was computing like during the third phase?
   1. Computers became networked and the Internet became open to use by the public
6. What did cloud computing change?
   1. Cloud computing allowed for online servers to store information and process information through the internet, remotely
7. What is convergence
   1. Technologies evolving to form a single product
8. What role do social media play?
   1. Allows for information sharing, communication, and interaction online
9. What is the future of the digital revolution?
   1. Globalization
10. Is there a difference between data and information?
    1. Information is the processed form of data and is structured and presented in a context to make it meaningful and useful
11. What is data representation?
    1. The form in which data is stored, processed, and transmitted
12. What is the difference between analog and digital?
    1. Analog is continuous signals, while digital is signals expressed as values
13. How does digital data work?
    1. Stored in binary digits, 0s and 1s
14. How is digital data stored?
    1. Stored in digital files as a storage medium
15. How do digital devices represent numbers?
    1. Binary number system
16. How do digital devices represent text?
    1. Letters, symbols, and numbers not used in calculations
17. Why are there ASCII codes for numbers
    1. Allows for representation of letters and characters easily converted to binary
18. What is plain text?
    1. Text with no formatting
19. What is the difference between bits and bytes?
    1. A byte consists of 8 bits, each bit is either a 0 or 1
20. What is the difference between lossless and lossy compression?
    1. Lossless compression compresses data without losing data, while lossy compression can lead to a bit of data being lost during compression
21. How is sound digitized?
    1. Sound is digitized through recording sound waves and then storing that information digitally
22. Does sampling affect sound quality?
    1. Quality gets better with higher sampling
23. What is MIDI music?
    1. A type of music format where a special MIDI keyboard is used so that notes are easily stored digitally
24. What is the difference between speech synthesis and speech recognition?
    1. Speech synthesis is used to produce artificial human speech, while speech recognition is for machines to understand spoken words
25. How does speech synthesis work?
    1. Machines produce sounds that resemble spoken words
26. How does speech recognition work?
    1. Words are converted into groups of phonemes
27. What is a bitmap graphic?
    1. A grid of tiny rectangular cells
28. How does each pixel get a color number?
    1. Each pixel is assigned a color represented by binary numbers
29. How are colors specified?
    1. 8 bits are used to represent each color
30. How does resolution relate to image quality?
    1. High resolution contains more data than low resolution
31. Can you shrink and enlarge bitmaps?
    1. Yes
32. What is image compression?
    1. Recording data into an image file to reduce file size through bits used
33. How does lossless compression shrink a file without throwing away data?
    1. RLE – Run Length Encoding
34. What is a vector graphic?
    1. Set of instructions for creating a picture
35. How do vector graphics compare to bitmap images?
    1. Vector graphics resize better, require storage space, and make editing objects easier
36. Where are vector graphics used?
    1. Adobe Illustrator, and LibreOffice
37. Is it possible to convert a vector graphic into a bitmap?
    1. Yes it is possible
38. How do vector graphics relate to 3D graphics?
    1. Stored as a set of instructions for describing coordinates of lines and shapes in 3D
39. What is digital video?
    1. Video frames broken down into bits that represent color and brightness
40. What are the key properties of digital video?
    1. Digital video is core technology for digital messaging, television, and conferencing systems
41. What should you know about frame rates?
    1. Represents number of frames displayed per second
42. How does color depth affect video quality?
43. How does video compression work?
    1. Used for image compression and interframe compression
44. What is an information system?
    1. Used for collecting, storing, and processing data
45. What is the official definition of organization?
    1. Structure of system
46. What kinds of enterprises can an information system serve?
    1. Businesses and nonprofits
47. Who uses information systems?
    1. Businesses and companies
48. How do information systems help the people in an organization?
    1. Allows for more efficient operational planning and strategic planning
49. What is a transaction processing system?
    1. A system that processes the exchanges between two parties for business
50. How are transactions processed?
    1. Batch processing and online processing are used for transactions online
51. How does OLTP work?
    1. Uses commits and rollbacks
52. What is a management information system?
    1. Computer system that processes data and provides info within a business setting
53. What kinds of reports can an MIS produce?
    1. Summary and exceptions, along with ad hoc reports
54. What is a decision support system?
    1. Used to gather data from sources and generate projections
55. What are the components of a DSS?
    1. Executive information system, users make decisions
56. What is an expert system?
    1. Computer system designed to analyze data produced through diagnoses
57. Where do the rules come from?
    1. Knowledge bases
58. How are expert systems built?
59. Can an expert system deal with uncertainty?
    1. Through fuzzy logic
60. How does an expert system work?
    1. Produces recommendation and diagnoses through data analysis
61. What is the scope of ecommerce?
    1. Business transactions conducted electronically through servers
62. How does an online shopping cart work?
    1. Items are stored through server side databases
63. What is a supply chain?
    1. The structure of sequences used to move product or provide services
64. What is the role of an information system in the supply chain?
    1. Maximizes efficiency and profitably through improved supply chain management
65. What is CRM?
    1. Customer relationship management
66. How does CRM fit into an enterprise information system?
    1. Loyalty programs uses CRM
67. What is ERP?
    1. Enterprise resource planning
68. What is an SDLC?
    1. Developing information systems through different phases
69. What does the planning phase entail?
    1. Assigning project team roles, choosing development type
70. Who participates in projects?
    1. Team members
71. How can an information system help an enterprise respond to threats and opportunities?
    1. Helps classify problems in a structured information system
72. How is the project schedule developed?
    1. Uses project management software for planning
73. How does the project team determine what the new system should do?
    1. Determines system requirements criteria
74. How does the project team determine what the new system should do?
    1. System requirements criteria for solving problems
75. What are structured documentation tools?
    1. Data flow diagrams
76. What happens in the design phase?
    1. Project team must figure out how the new system will fulfill the requirements in a system requirement report
77. What kinds of hardware solutions are available?
    1. Programming tools
78. What kinds of software solutions are available?
    1. Turnkey systems
79. How does the team choose the best solution?
    1. Through decision support worksheets
80. What happens after the project team selects a solution?
    1. Obtain approval/funding for the project
81. What is the importance of application specifications?
    1. Describes the way that information system software should interact with users
82. What happens during the implementation phase?
    1. Core features and functionality are implemented according to previous planning
83. How can the team ensure that a new information system works?
    1. Application testing
84. What kinds of documentation are required?
    1. User documentation
85. How do employees learn how to use the new information system?
    1. Through training and procedure guides
86. What are the “go live” options?
    1. System conversion
87. What happens during the maintenance phase?
    1. Debugging for issues and correcting issues
88. How important is user support?
    1. Affects the quality of service and longevity of software/products
89. How long does the maintenance phase last?
    1. Weeks to months