Homework – 10
(10 points)

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Chapter 10

1. If you had to rank the items in the architecture checklist, from most important to least important, what would your list look like?
   -Corporate Organization and Culture
   -Initial and Total Cost of Ownership (TCO)
   -Security Issues
   -Scalability
   -Enterprise Resource Planning (ERP)
   -Web Integration
   -Corporate Portals
   -Processing Options
   -Legacy System Interface Requirements

2. What are the three functions that every business information system must carry out, irrespective of system architecture?
   -Manage Applications that perform the processing logic
   -Handle data storage and access
   -Provide an interface that allows users to interact with the system

3. What is client/server architecture?
   Client/Server Architecture refers to systems that divide processing between one or more networked clients and a central server. Clients handle the user interface including data entry, query, and screen logic. Servers store data and provide access and management functions.

4. What has been the impact of the Internet on system architecture?
   The Internet has transformed system architecture and established itself as a fundamentally different environment for system development. The Internet combines client/server architecture into one environment which shifts the responsibilities for client to server transmissions and has resulted in lower hardware costs and complexity.

5. What are the differences between in-house e-commerce development with packaged solutions and service providers?
   Packaged solutions provide companies or individuals with e-business solutions packed together and distributed as a single access point or program that can meet their needs. Packaged solutions will be good for systems wanting to get running quickly but will not provide as much compatibility. Service providers will offer solutions to businesses by charging usage or subscription fees. Services can be full-scale Internet solutions and will most likely be more compatible.

6. What are the advantages of online and batch processing, respectively?
   Online system processing handles transaction when and where they occur and will provide output directly to the user. Batch processing groups transactions and information into batches and then transfers them to the user instead of real-time updates.

7. Explain the five main network models.
   Hierarchical network – one or more powerful servers will control the entire network. Successive lower-level servers will control lower levels of processing.
   Bus Network – A single communication path connects the central server, departmental servers, workstations, and peripheral devices.
   Ring Network – a circle where data flows in only one direction from device to the next.
   Star Network – consists of a departmental server connected to a switch, which then distributes communications among devices connected to it. Also called a hub, star networks provide much better performance and works like a power strip.
   Mesh Network – each node connects to every other node in the network. Messages can travel more than path and can provide redundancy in case of problems. Is more expensive and complex to install and maintain.

8. What functions do routers, gateways, and proxy servers serve in a network?
   Routers connect network segments, determine the most efficient path for data, and then guides the flow of that data to the next device.
   Gateways are the intermediary connectors of one device to a network or another device.
   Proxy servers can provide Internet access and connectivity for internal LAN users.

9. What role do standards play in wireless networking?
   Wireless networking standards provide specifications that are intended to improve bandwidth, range, and security. Standards create different ways of developing and manufacturing networks and hardware to double or triple bandwidth speeds and increase connectivity.

10. List the sections of a system design specification and describe the contents.
    1. **Management Summary – brief overview of the project, outlines the development efforts, offers status reports, summarizes costs, reviews benefits, presents a schedule, and highlights issues**
    2. **System components – contains the complete design for the system including user interface, outputs, inputs, files, databases, and network specifications. Documentation is all included and any interface information**
    3. **System environment – Describes the constraints, conditions and requirements that involve operations, hardware, software, and security.**
    4. **Implementation Requirements – start-up processing, initial data entry or acquisition, user training requirements, and software test plans specified**
    5. **Time and cost estimates – provide detailed schedules, cost estimates, and staffing requirements for the systems development phase and revised projections**
    6. **Additional material – other, extra material provided at the end of the specification. Documents from earlier phases can be inserted**