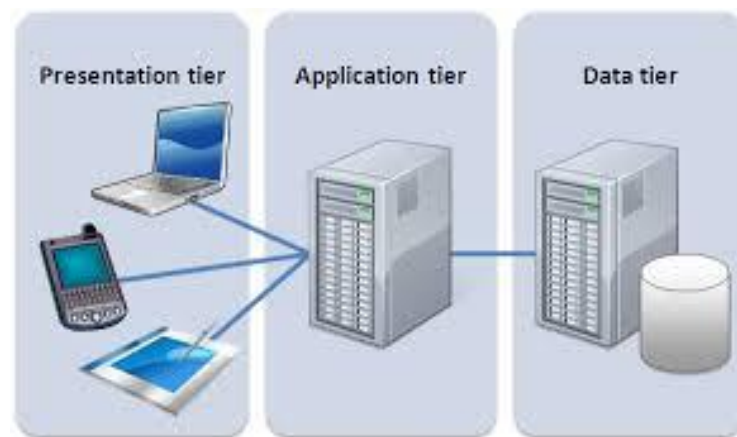


Case Study (9)

(1) Security Concern for the product team

1. Weak Authentication and Session Management
2. Sensitive Data Exposure
3. Using Components with Known Vulnerabilities
4. Broken access control
5. System interdependence and software dependence have software as the weakest link

(2) Three-Tier Architecture



1. A three-tier architecture is a client-server architecture in which the functional process logic, data access, computer data storage and user interface are developed and maintained as independent modules on separate platforms.
2. Three-tier architecture is a software design pattern and a well-established software architecture.
3. Client components running on local workstations (tier one)
4. Processes running on remote servers (tier two)
5. A discrete collection of databases, resource managers, and mainframe applications (tier three)

(3) Why should product team use application architecture pattern(tier/layer)?

1. Great understanding of user needs
2. Better design
3. Avoiding design errors
4. Creative solution
5. Increases quality of the platform.
6. Reduces development time

(4) Advantages & Disadvantages of using Three – Tier Architecture

Advantages

1. Managing data is independent from the physical storage.
2. Migration to new graphical environments is faster.
3. It is possible to make changes on the presentation level without affecting the other two (business or data access layer).
4. As each tier is independent it is possible to use different sets of developers.
5. Since the client doesn't have direct access to the database business logic is more secure.
6. When one tier fails there is no data loss, because you are always secure by accessing the other tier.

Disadvantages

1. Complexity of Communication: Usually more effort should be enforced when creating 3-tier applications as the communication points are increased.
2. Fewer Tools: Additional effort is required due to increase of performance whereas the 2-tier model can handle the particular function using an automated tool.

