

IS 381 TEST TWO SOLUTION

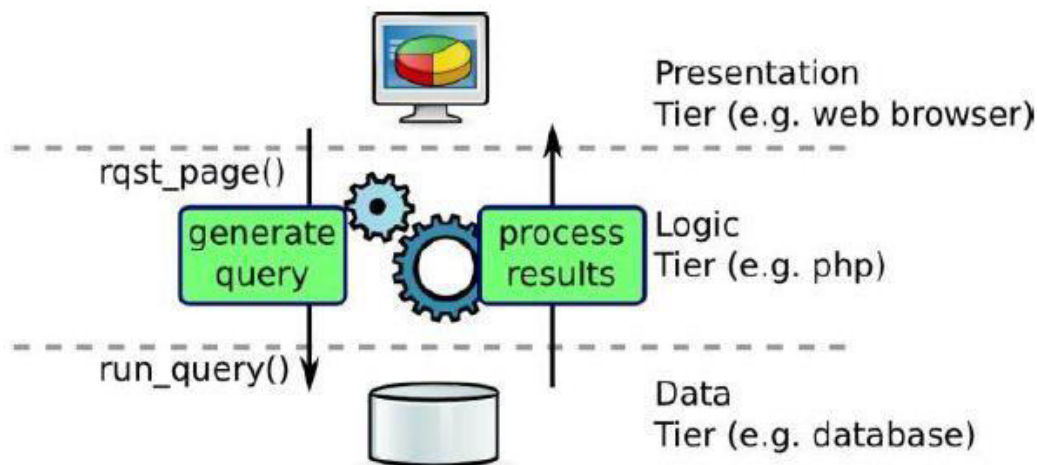
1: The user must be able to acquire the address of locally relevant information as automatically as possible. One method is for the local wireless network to provide the URL of web pages about the locality over a local wireless network.

For this to work:

(1) The user must run a program on her device that listens for these URLs, and which gives the user sufficient control that she is not swamped by unwanted URLs of the places she passes through; and

(2) The means of propagating the URL (e.g. infrared or an 802.11 wireless LAN) should have a reach that corresponds to the physical spread of the place itself.

2:



Advantages:

- It makes the logical separation between business layer and presentation layer and database layer.
- Migration to new graphical environments is faster.
- As each tier is independent it is possible to enable parallel development of each tier by using different sets of developers.
- Easy to maintain and understand large project and complex project.
- Since application layer is between the database layer and presentation layer so the database layer will be more secured and client will not have direct access to the database.
- Posted data from presentation layer can be verified or validated at application layer before updating it to the database.
- Database Security can be provided at application layer.

- Application layer or middle layer or business layer can be a protection shield to the database.
- New rules or new validation rules can be defined any time and changes made to middle layer will not effect presentation layer.
- Define any logic once within the business layer and that logic can be shared among any number of components in the presentation layer.
- We can display only necessary methods from business layer in the presentation layer.
- We can hide unnecessary methods from business layer in the presentation layer.
- Easy to apply object oriented concept
- Easy to update data provider queries.

3:

- Central metadata server to manage file name space. Therefore decoupling metadata and data improve the file namespace and relief the synchronization problem.
- Metadata distributed in all nodes resulting in all nodes understanding the disk structure.

4:

	Main memory cache	Disk cache
Definition	It is a memory unit that directly interacts with the central processing unit (CPU)	Disk Cache memory is used to store frequently accessed data in order to quickly access the data whenever it is required
Proximity with CPU	Comparatively far	Comparatively closer
Speed	Comparatively slow	Comparatively fast
Capacity	Larger	Comparatively less
component	It is a part of the hard drive (secondary storage)	Located on the processor itself

5: Cooperative work (groupware) applications that provide a peer process near to each user. Applications that need to present all users with identical state - shared whiteboard, shared view of a textual discussion
Less consistency: where a group of users are working on a shared document, but different users access different parts or perhaps one user locks part of the document and the others are shown the new version when it is ready. Some services are effectively groups of peer processes to provide availability or fault tolerance. If they partition data then they don't need to keep consistent at all. If they replicate then they do.

6: Redundancy makes faults less likely to occur. e.g. if the probability of failure in a single component is p then the probability of a single independent failure in k replicas is p^k .

7: Service A can have: arbitrary failures: – as checksums do not apply to message bodies, message bodies can be corrupted. – Duplicated messages, omission failures (lost messages). Because the distributed system

in which it is used is asynchronous, it cannot suffer from timing failures. Validity - is denied by lost messages Integrity - is denied by corrupted messages and duplicated messages. Service B can have: omission failures (lost messages, dropped messages). Because the distributed system in which it is used is asynchronous, it cannot suffer from timing failures. It passes the integrity test, but not the validity test, therefore it cannot be called reliable.