Distributed Datawarehouse

A distributed datawarehouse is just like the name it implies. The data are shared across multiple data repositories for the purpose of OLAP where each data warehouse may belong to one or more organization. It consist of many local data warehouse with one centralized global data warehouse. These data stores are connected physically over a n/w to provide user access to the relevant reports without affecting performance.

Distributed datawarehouse can be categorized in three types:

1) Local and Global Datawarehouse

In this type, there is a local data warehouse which represents the data unique to the local operating site and global dw which represents that part of data which is integrated across the business. (psit.ac.in)

2) Technologically distributed data warehouse
In this type, logically there is single DW but physically there are many DWs which are all related and distributed over multiple processors.

3) Independtly Evolving distributed data warehouse
In this type, the DW environment builds in an un co-ordinated manner i.e. first one DW appears, then second & so on.

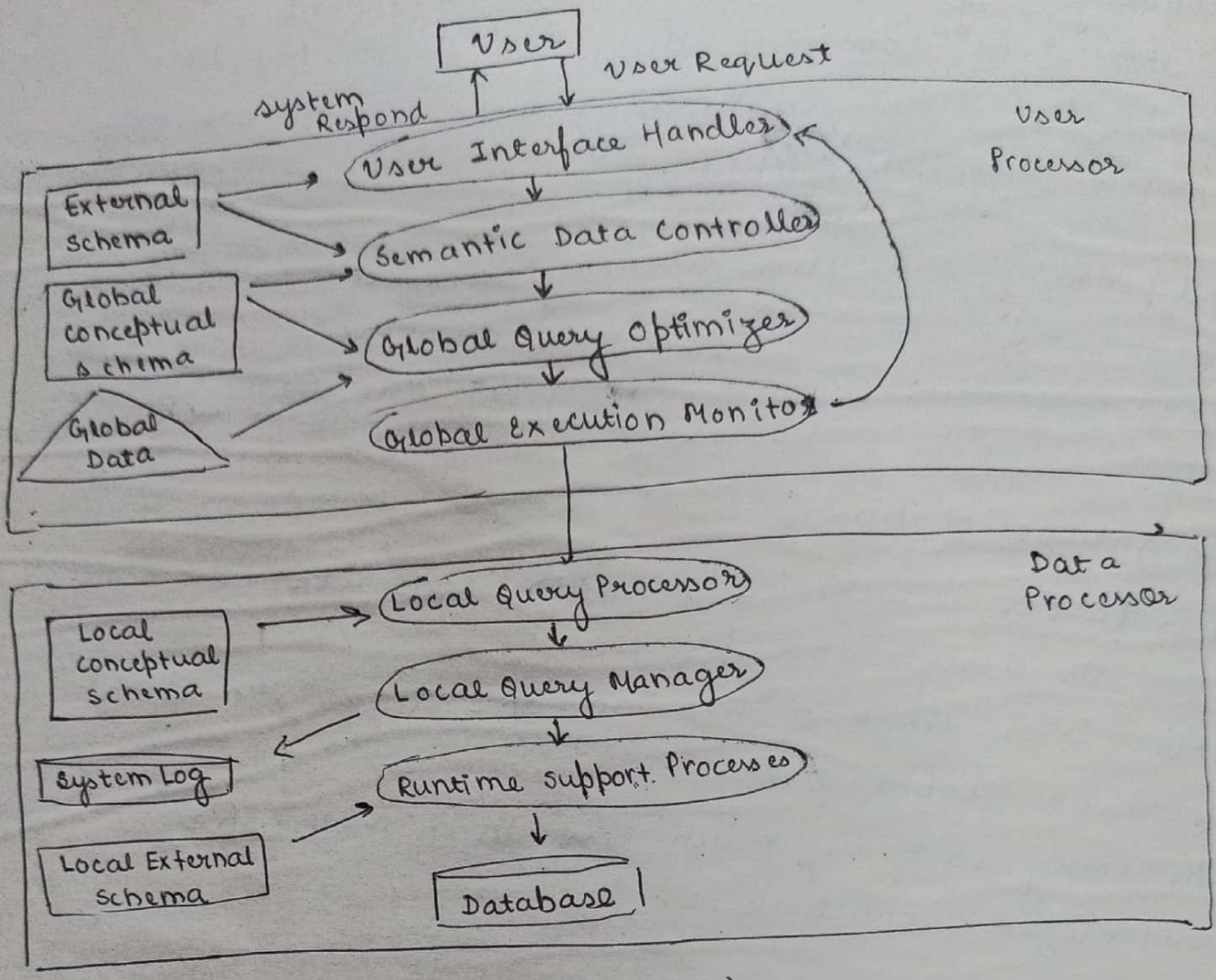
Advantages of DDWs uses

1) It is faster to achieve as each local site can control over its design and resource.
2) There is no limit of placing the data into each local or global DW.
3) The entry cost is much less than ~~with~~ the centralized structure.

Disadvantages

1) Issues like metadata, data transfer makes the environment complex.
2) Managing the roles and responsibilities becomes difficult
3) When DW is distributed over multiple servers excessive n/w traffic starts to flow.
4) Co-ordinating development across the distributed location becomes complex.

Components of Distributed DBMS



Issuses in distributed DW(DBMS).

1) Distributed DB design
   How to distribute database

2) Query Procesing
   Optimization Problem

3) Concurrency control
   Synchronization & concurrent accers
   Deadlock management.

4) Reliability
   How to make system resilient to facilitate failure
   Atomicity and Durability