

EXPERIMENT NO:4

DATA FLOW DIAGRAM(DFD)

THEORY:

What are data flow diagrams?

Also known as DFD, Data flow diagrams are used to graphically represent the flow of data in a business information system. DFD describes the processes that are involved in a system to transfer data from the input to the file storage and reports generation. Data flow diagrams can be divided into logical and physical. The logical data flow diagram describes flow of data through a system to perform certain functionality of a business. The physical data flow diagram describes the implementation of the logical data flow.

Purpose of Data Flow Diagram

DFD graphically represents the functions, or processes, which capture, manipulate, store, and distribute data between a system and its environment and between components of a system. The visual representation makes it a good communication tool between User and System designer. Structure of DFD allows starting from a broad overview and expanding it to a hierarchy of detailed diagrams. DFD has often been used due to the following reasons:

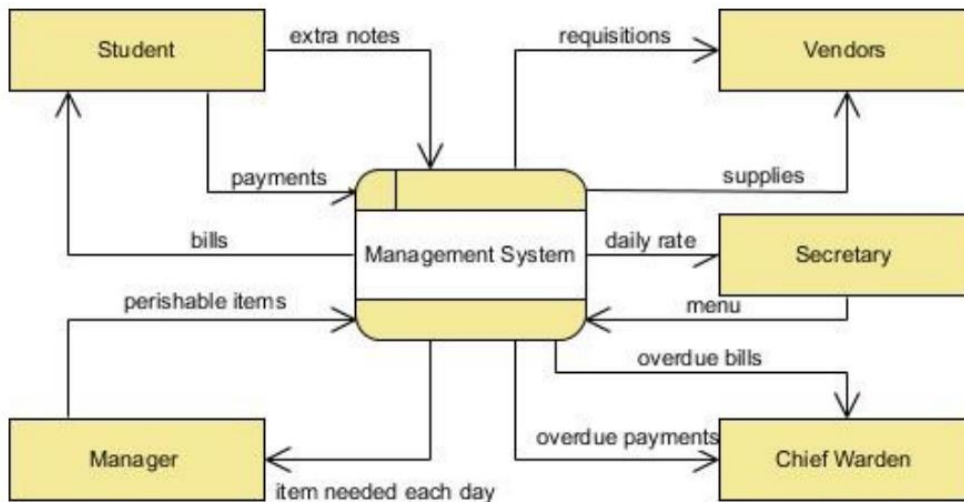
- Logical information flow of the system
- Determination of physical system construction requirements
- Simplicity of notation
- Establishment of manual and automated systems requirements

Context-Level Diagram

A context diagram gives an overview and it is the highest level in a data flow diagram, containing only one process representing the entire system. It should be split into major processes which give greater detail and each major process may further split to give more detail.

- All external entities are shown on the context diagram as well as major data flow to and from them.
- The diagram does not contain any data storage.

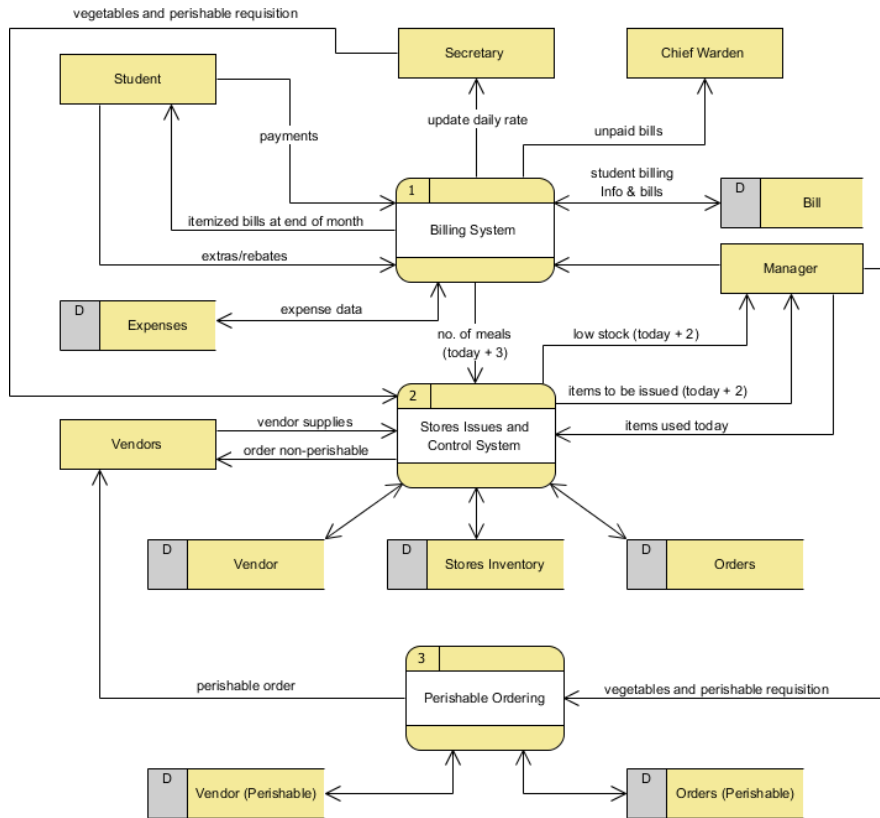
- The single process in the context-level diagram, representing the entire system, can be exploded to include the major processes of the system in the next level diagram, which is termed as diagram 0.



Level 1 DFD

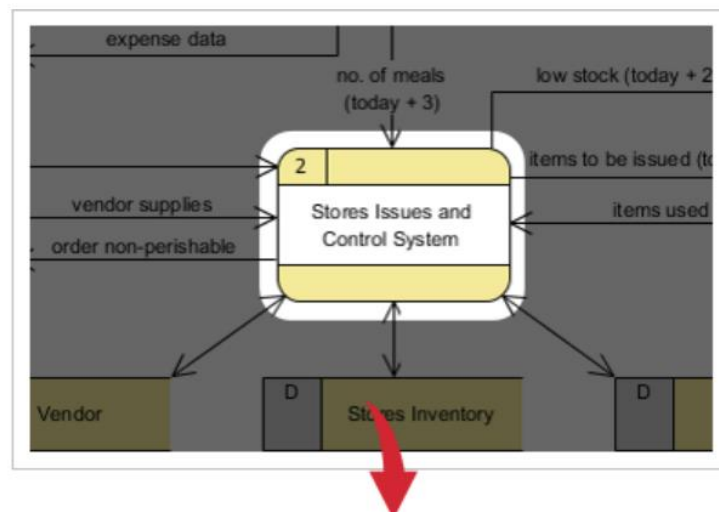
Processes in diagram 0 (with a whole number) can be exploded further to represent details of the processing activities. Example below shows the next level ((Diagram 1) of process explosion.

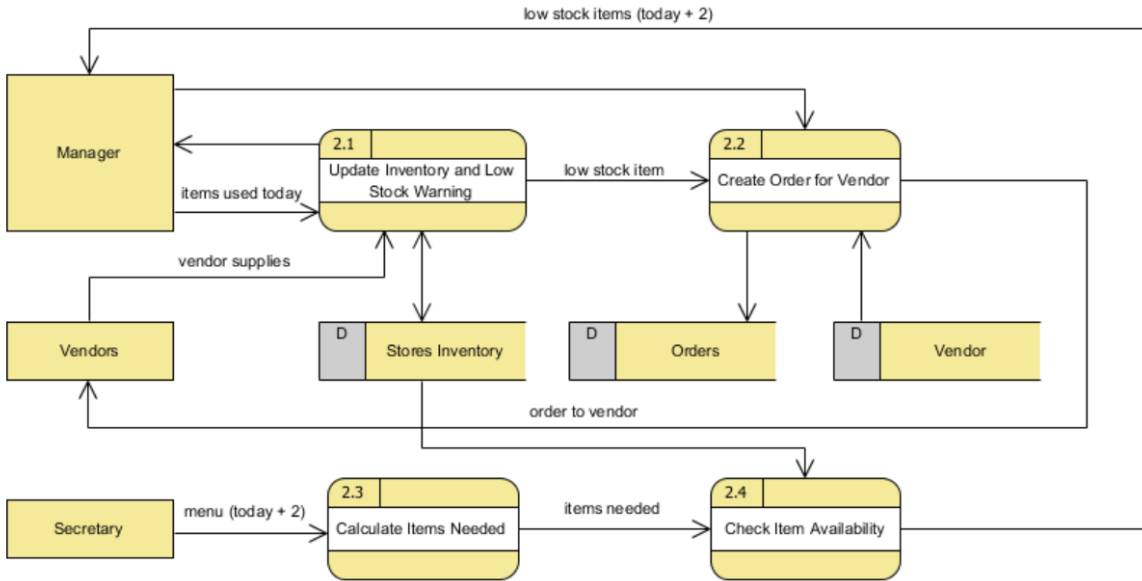
Note that: Although the following level 1 DFD only has three processes, there are quite a few input and output from the processes to the external entities and that could end up to be a few cross lines among them in the diagram; to avoid this problem, we could use (master and auxiliary view) multiple views of the same external entity in the DFD.



Level 2 DFD

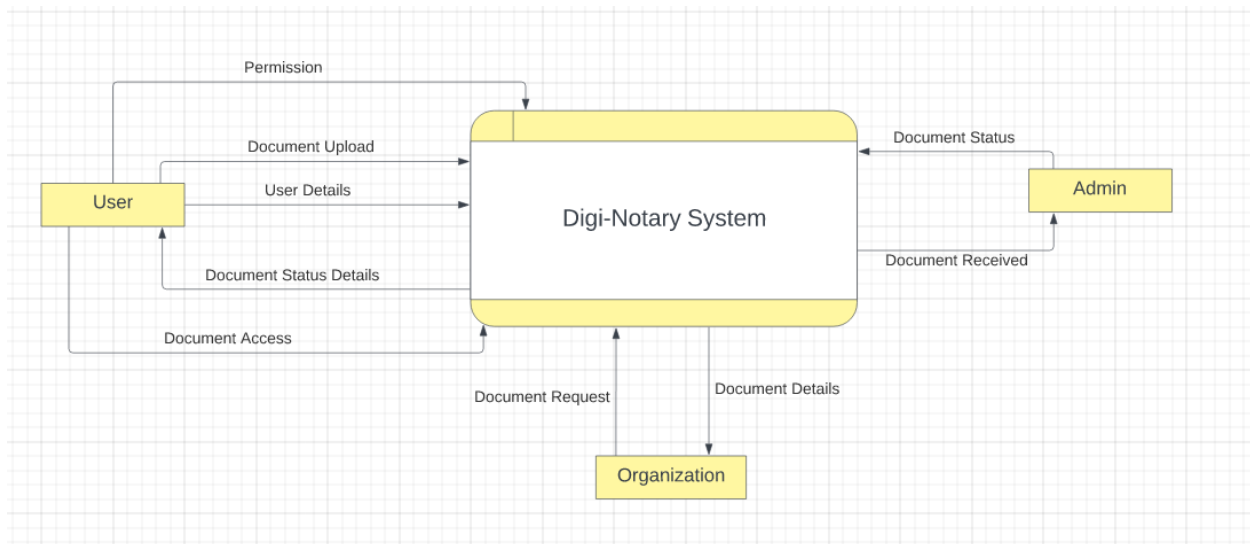
If a process with a lot of data flow linking between a few external entities, we could first extract that particular process and the associated external entities into a separate diagram similar to a context diagram, before you refine the process into a separate level of DFD; and by this way you can ensure the consistency between them much easier.



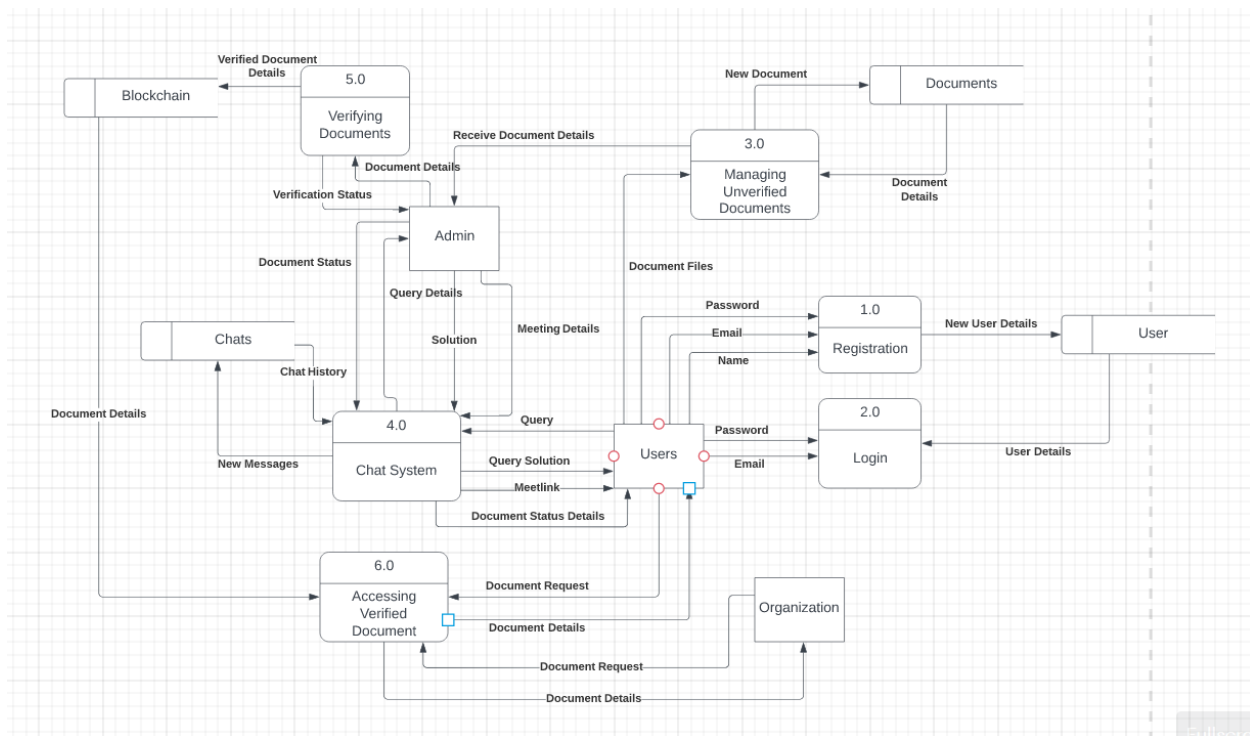


IMPLEMENTATION:

LEVEL 0 DIAGRAM:



LEVEL 1 DIAGRAM:



LEVEL 2 DIAGRAM:

