Data Flow Diagram

Shree Swami Narayan College Of Computer Science Project Name: My Garage Service Station

The DFD takes an input-process-output view of a system i.e. data objects flow into the software, are transformed by processing elements, and resultant data objects flow out of the software.

Data objects represented by labeled arrows and transformation are represented by circles also called as bubbles. DFD is presented in a hierarchical fashion i.e. the first data flow model represents the system as a whole. Subsequent DFD refine the context diagram (level 0 DFD), providing increasing details with each subsequent level.

The DFD enables the software engineer to develop models of the information domain & functional domain at the same time. As the DFD is refined into greater levels of details, the analyst performs an implicit functional decomposition of the system. At the same time, the DFD refinement results in a corresponding refinement of the data as it moves through the processes that embody the applications.

A context-level DFD for the system the primary external entities produce information for use by the system and consume information generated by the system. The labeled arrow represents data objects or object hierarchy.

Rules For DFD:

- ✓ Fix the scope of the system by means of context diagrams.
- ✓ Organize the DFD so that the main sequence of the actions
- ✓ Reads left to right and top to bottom.
- ✓ Identify all inputs and outputs.
- ✓ Identify and label each process internal to the system with Rounded circles.
- ✓ A process is required for all the data transformation and Transfers. Therefore, never connect a data store to a data Source or the destinations or another data store with just a Data flow arrow.
- ✓ Do not indicate hardware and ignore control information.
- ✓ Make sure the names of the processes accurately convey everything the process is done.
- ✓ There must not be unnamed process.
- ✓ Indicate external sources and destinations of the data, with Squares.
- ✓ Number each occurrence of repeated external entities.
- ✓ Identify all data flows for each process step, except simple Record retrievals.
- ✓ Label data flow on each arrow.
- ✓ Use details flow on each arrow.

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✓ Use the details flow arrow to indicate data movements.
♣ Notations:
(1)Process: People, Procedure or Devices that use or produce data. The physical component is not defined.
(2)External Entity:
An external entity such as an employee, team leader, and HR person are essentially physical entities external to the software system which interact with the system by inputting data to the system or by consuming the data produced by the system.
(3)Data Flow:
A data flow symbol represents the data flow occurring between two processes or between, an external entity and a process in the direction of the data flow arrow.
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(4)Data Store:
A data store represents a logical file. The direction of data flow arrow shows whether data is being read from or written into a data store.

4 Context Level DFD:



