

Appendix B

Process Modeling using the Data Flow Diagram

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Data Flow Diagrams (DFDs)

- Graphic representation of a system that uses a small number of symbol shapes to illustrate how data flows through interconnected processes
 - Most natural way to document processes
 - Emphasis on processes rather than data

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DFD Symbols

- DFDs consist of four symbols
 - Environmental elements are *Terminators*
 - Person
 - Organization
 - Another system
 - Processes* transform inputs to outputs
 - Labeled with verb and object
 - Also labeled with system or computer program name

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DFD Symbols [cont.]

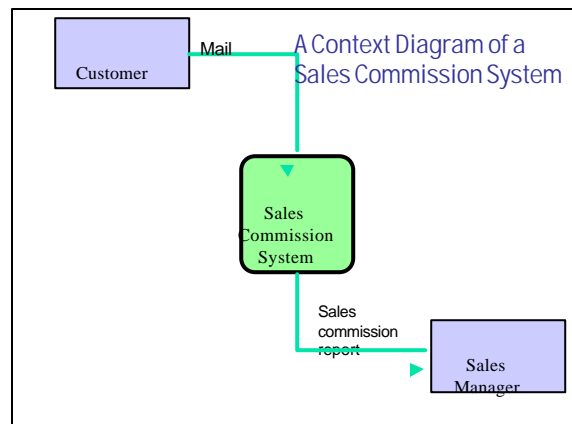
- Data flows* are logically relate data elements symbolizing data in motion. Labeled with noun.
 - Structures
 - Diverge
 - Converge
- Data stores* are data repositories. In other words, data at rest.

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Drawing a Context Diagram

- The most top level diagram. Shows where system exists in an environmental context.
- Use only a single process symbol
- Label the process symbol to represent the entire system
- Do not number the single process symbol
- Include all terminators for the system
- Show all the data flows between the terminators and the system

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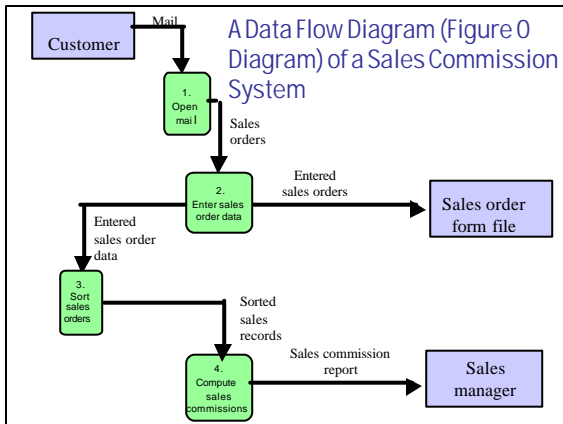
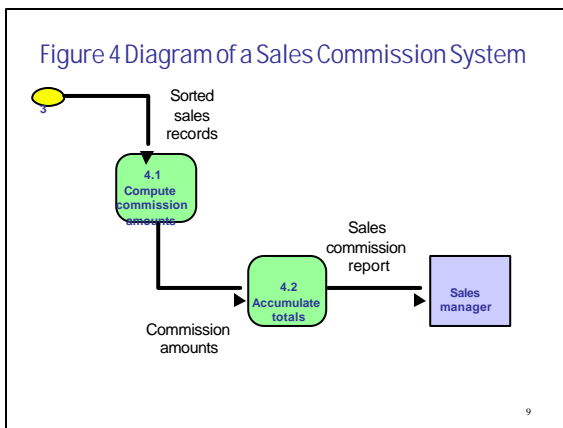


Figure *n* Diagrams

- Documents a single process of a DFD in a greater amount of detail
- n* represents the number of the process on the next higher level that is being documented
- The term “leveled DFDs” describe the hierarchy of diagrams ranging from context to the lowest-level figure *n* diagram

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How Many Levels to Use?

- Restrict a single DFD to no more than six to eight processes
- Use another tool to document the lowest level of detail but use no more than a single page.

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