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System Analysis

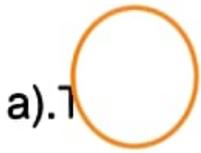## System Analysis

1).Analysis is a detail study of the various operation performed by the system and their relationship within the outside of the system.

2).System analysis is a study of processes of the system.

3).A key question-→What should be done to solve the problem.

4).It is the planning of s/w i.e. to be develop.

5).During Analysis , data are collected on the available files , decision making , decision points , and transaction handled by the present system.

6).System analysis is based on structure analysis there are several tools and techniques used in the system analysis.

DFD(Data Flow Diagram)

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1).It is an imp. tool used by an analyst.

2).DFD is 1st time developed by Larry Constaine.

3).It is a way of expressing system requirement in Graphical order.

4).It is based on structure analyst of the system.

5).It is also known as Bubble chart.

6).A DFD consist of series of Bubble joint by line.

7).Bubble represent the data transformation of process and line represent the data flow in the system.

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8).Symbol used in DFD.

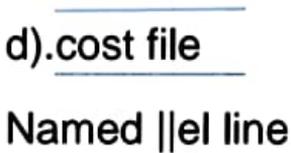a).T⃝   ➡   To represent the process.

Named circle

b).Unit price   ➡   To represent the data flow.
⎯⎯⎯⎯⎯→
Labelled Line
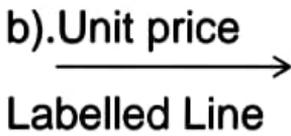
c). | Customer | ➡   To represent the entity or external
. Named Rectangle   entity(such as:-
Vendor,Employee,Student).

d).cost file   ➡   To represent the data store or file.
⎯⎯⎯⎯
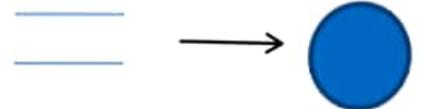Named ‖el line

A data flow can take place:-

*Between Process
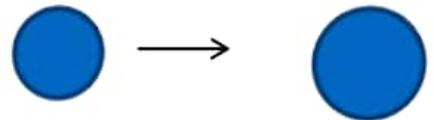
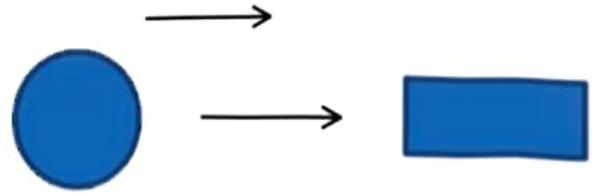*File to Process

*Process to File

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*External entity to process

*Process to External Entity

*Processes:-

Processes show that what system do. Each process has one or more inputs and produces one or more outputs. Each process has unique name and number.

*File or Data Store

A file or data store is a repository of data. They contain data i.e. retained. Process can enter data into a data store or retrieve data from data store.

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There are two(2) types of DFD sketches:-

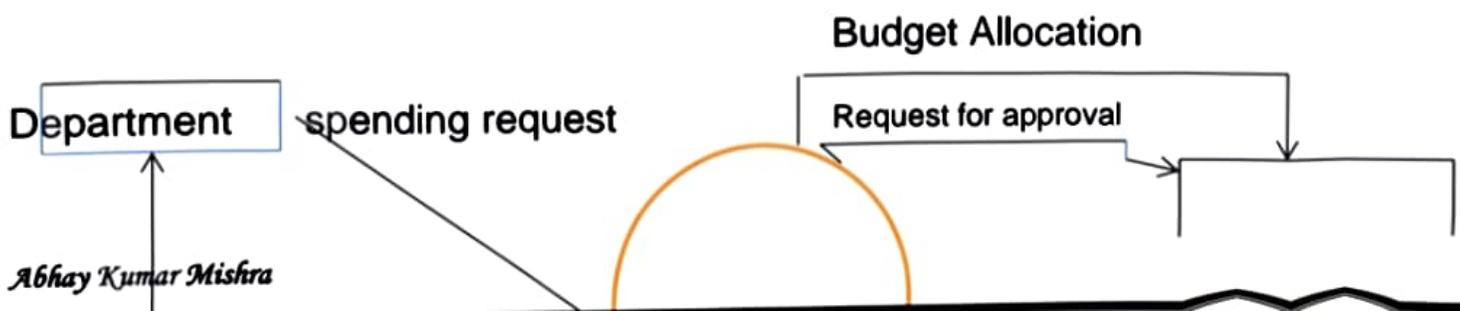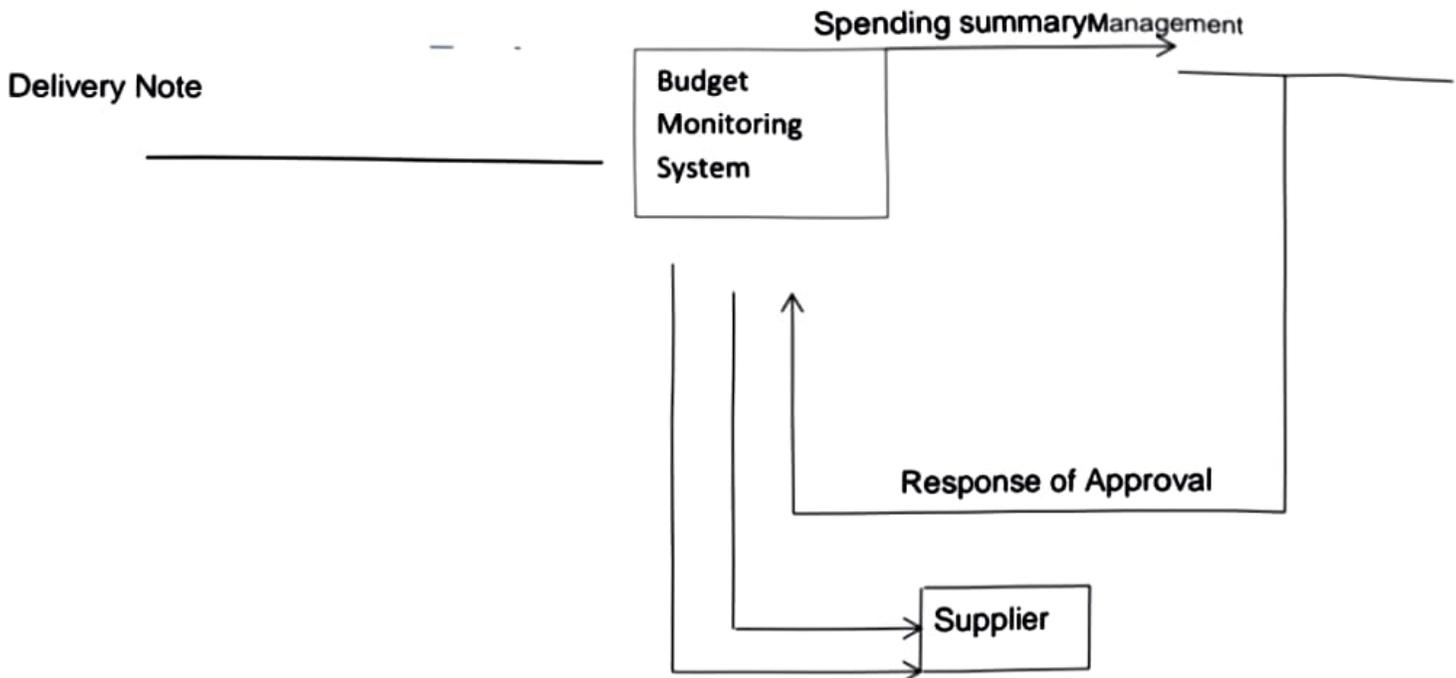### 1).Context Diagram   2).Top-level Diagram

1).Context Diagram

a).On entire system is depicted by one DFD, which gives a system overview. It is called context diagram.

b).Context diagram treats entire system as a single process will all it'sinputs , outputs , links and sources are identified.

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Budget Allocation

Department   spending request   Request for approval

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Delivery Note — Budget Monitoring System — Spending summaryManagement — Response of Approval — Supplier

The overview of an Budget Monitoring System contain 3 external entities and 1 process.

1).This interact with 3(three) external entity Department , Management and Supplier.

2).The main data flows from Department are "Spending Request" in response department get "Reject Request" or "Request for Approval"

3).Management also send "Budget Allocation" data flow to the system and get the "Spending Smmaries".

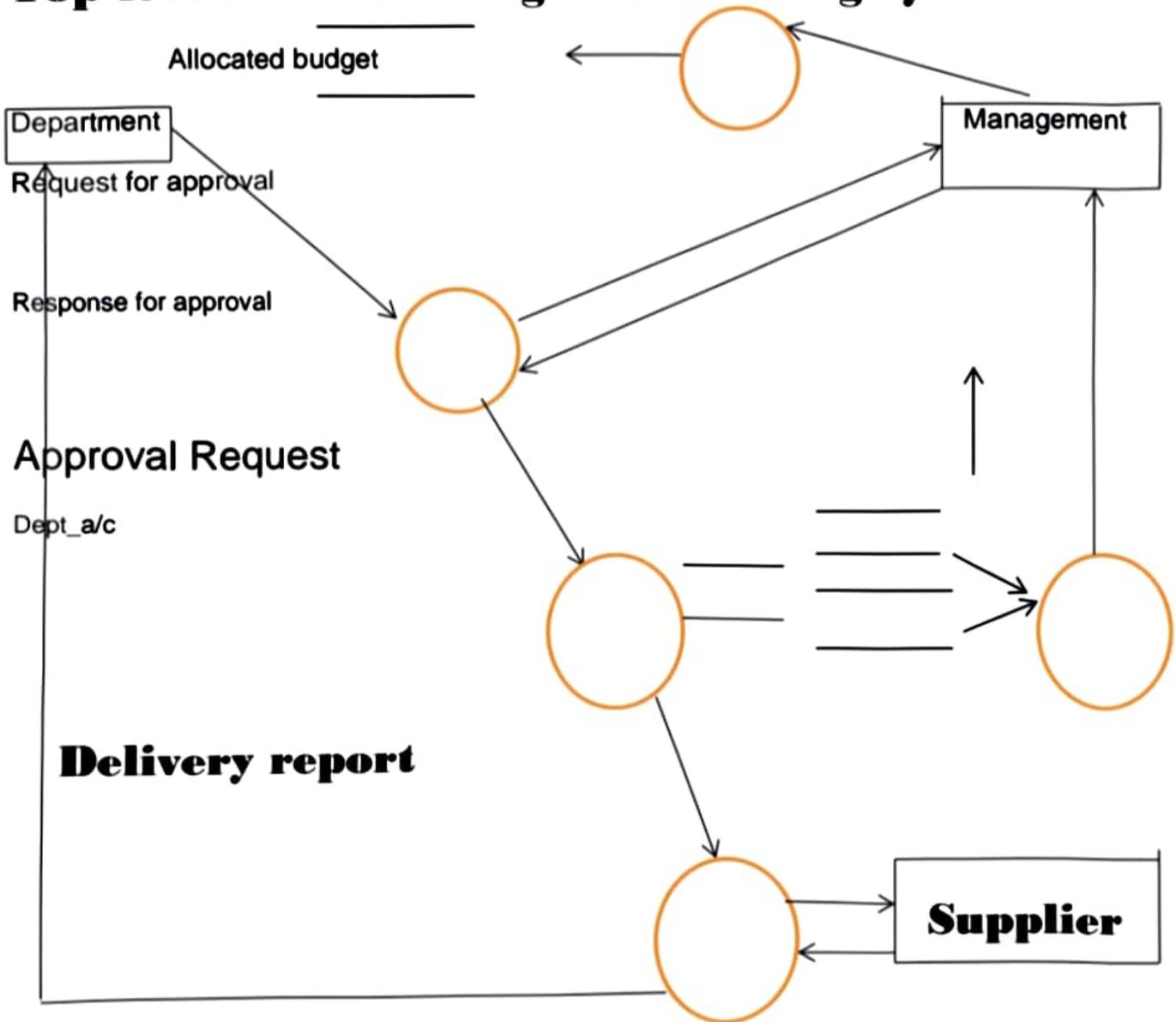4).Supplier receive "Order" and "Return Delivery Note".

2).Top-level Diagram

The context diagram does not describe the system in detail. For more detail, it is necessary to identify major system processes

and draw a DFD showing these processes and data flow between them.

The DFD can shows major processes is called Top-level DFD.

Top-level DFD of Budget Monitoring System:-

Allocated budget

Department

Request for approval

Response for approval

Approval Request

Dept_a/c

Delivery report

Management

Supplier

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1).We see that spending request from department goes to check funding process. This process checks whether a special request for approval is required or not.

2).It is a special approval request is need, it places the request for approval.

Abhay Kumar Mishra

3).Classify expenditure received approval requestand they are entered into data store.

Finally, it required on order placed with the supplier. It is the details of Budget Monitoring System.

E-R Diagram (Entity-Relation Diagram)

A Model that represent system data by entity and relationships sets is called E-R Model.

The overall logical structure of a database can be expressed graphically by an E-R Diagram.It is introduced by P.P Chen.

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Components of E-R Model:-

1).Entity

2).Attributes.

3).Relationships.

4).Key.

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1).Entity:-

A entity is a class of person, places,object, event or concepts about which we need to collect and store data.

Categories of diff.Entity:-

Person:-Employee,Customers,Students, Suppliers.

Places:- Branch office,Building, Room etc.

Object:- Book, Machine,Vechile etc.

Event:-Sale,Reservation,Registration,Order etc.

Concept:- A/C,Course,Stocks etc.

The instance of an entity is a single occurrence of that entity.

For Example:-

The entity employee may have multiple instance such as:-

Raj , Mohan , Ravi , Shiva etc.

2).Attributes:-

Each entity can have a number of characteristics. The characteristics of an entity is called Attributes.

For Example:-

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An entity student have no. of characteristics such as:-

Roll , Name , Address , Ph-no.

3).Relationship:-

An entity is a thing which can easily identified. It may be an object , place , person , concept or activity for which data need to be recorded.

In diagramming technique, entities are named and represented inside a box.