# To Understand Data Flow Diagram (DFD)

**Blood Bank Management System**

**Prepared by**

Abhishek Vasant Girkar        VU4F1718022

Mohit Khambayat        VU4F1718072

Ajay Waaghmare        VU2T4SF1718028

Rasika Mahadik        VU4F1718004

**Aim: To understand Data flow diagram**

**THEORY:**

➢ A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It can be manual, automated, or a combination of both.

➢ It shows how data enters and leaves the system, what changes the information, and where data is stored.

➢ The objective of a DFD is to show the scope and boundaries of a system as a whole. It may be used as a communication tool between a system analyst and any person who plays a part in the order that acts as a starting point for redesigning a system. The DFD is also called as a data flow graph or bubble chart.

**The following observations about DFDs are essential:**

1. All names should be unique. This makes it easier to refer to elements in the DFD.

2. Remember that DFD is not a flow chart. Arrows is a flow chart that represents the order of events; arrows in DFD represents flowing data. A DFD does not involve any order of events.

3. Suppress logical decisions. If we ever have the urge to draw a diamond-shaped box in a DFD, suppress that urge! A diamond-shaped box is used in flow charts to represents decision points with multiple exists paths of which the only one is taken. This implies an ordering of events, which makes no sense in a DFD.

4. Do not become bogged down with details. Defer error conditions and error handling until the end of the analysis.

**Rectangle:** It represent Object / Entity also known as actors, sources or sinks, and terminators, external entities produce and consume data that flows between the entity and the system being diagrammed. These data flows are the inputs and outputs of the DFD.



**Circle:** A circle (bubble) shows a process that transforms data inputs into data outputs.

**Data Flow:** A curved line shows the flow of data into or out of a process or data store.

**Data Store:** A set of parallel lines shows a place for the collection of data items. A data store indicates that the data is stored which can be used at a later stage or by the other processes in a different order. The data store can have an element or group of elements.
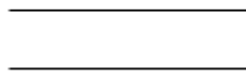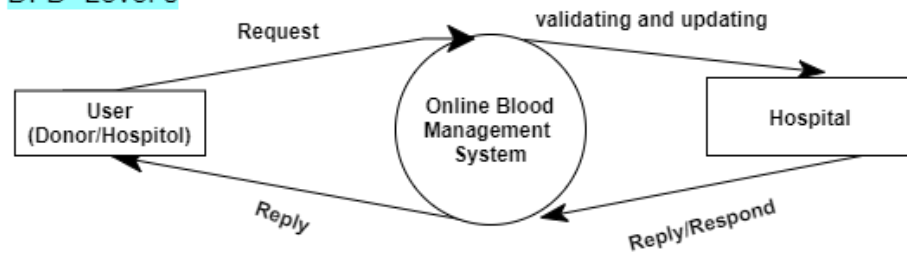
**Source or Sink:** Source or Sink is an external entity and acts as a source of system inputs or sink of system outputs.
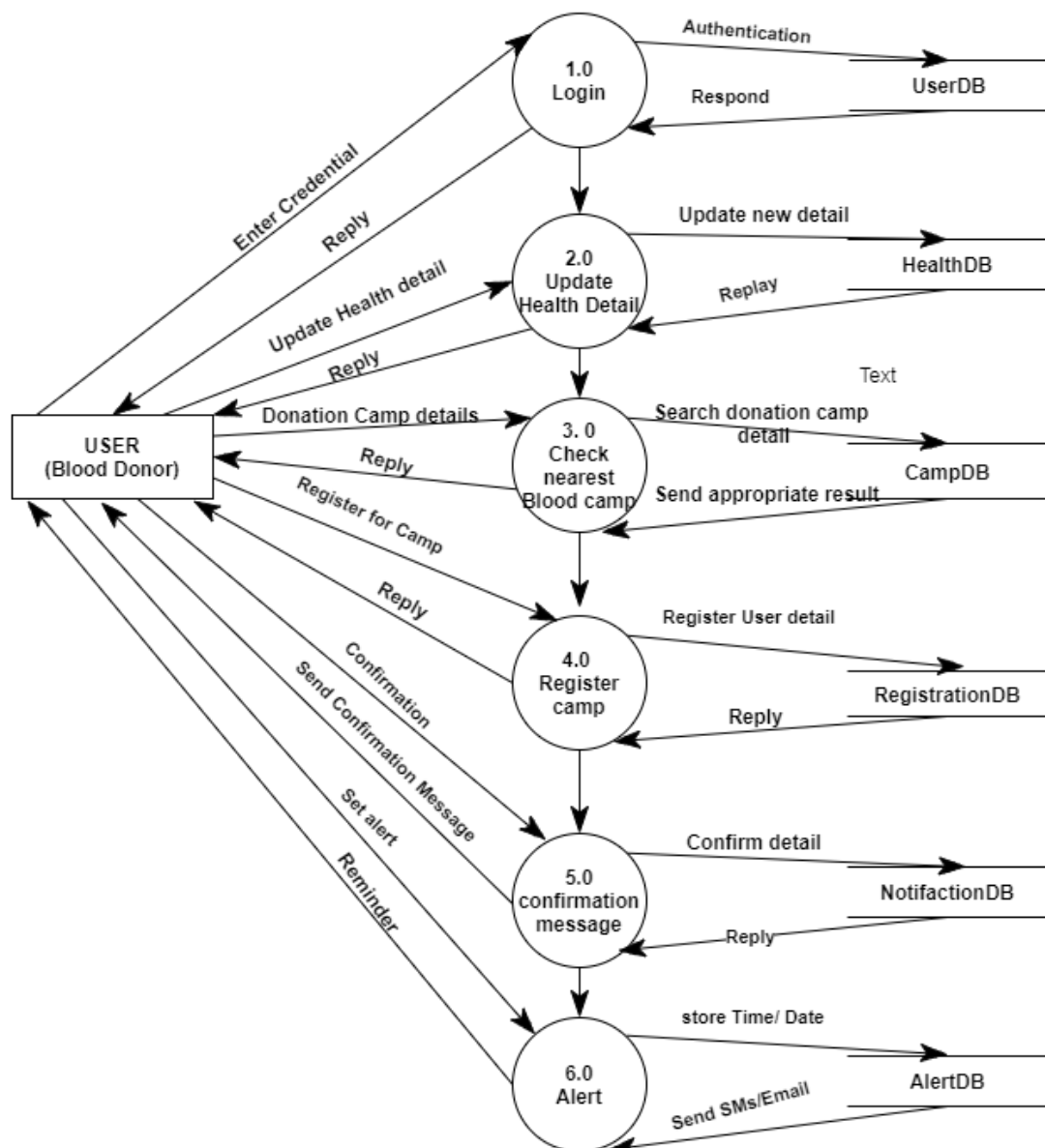
**Levels in Data Flow Diagrams (DFD)**

The DFD may be used to perform a system or software at any level of abstraction. Infact, DFDs may be partitioned into levels that represent increasing information flow and functional detail. Levels in DFD are numbered 0, 1, 2 or beyond. Here, we will see primarily three levels in the data flow diagram, which are: 0-level DFD, 1-level DFD, and 2-level DFD
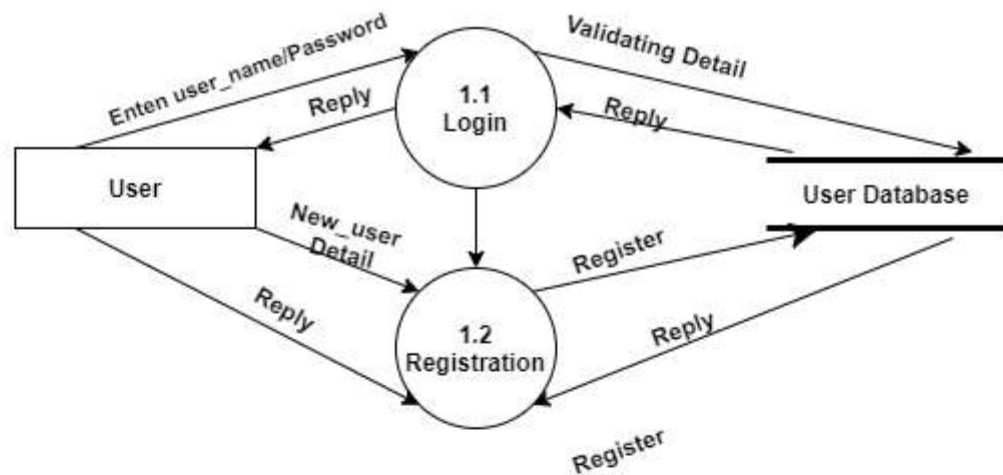
# Blood Management System

Request → Online Blood Management System → validating and updating → Hospital

User (Donor/Hospitol) ← Reply

Reply/Respond ← Hospital

DFD Level 1

**1.0 Login**
- Authentication → UserDB
- Respond ← UserDB
- Enter Credential
- Reply

**2.0 Update Health Detail**
- Update new detail → HealthDB
- Replay ← HealthDB
- Update Health detail
- Reply
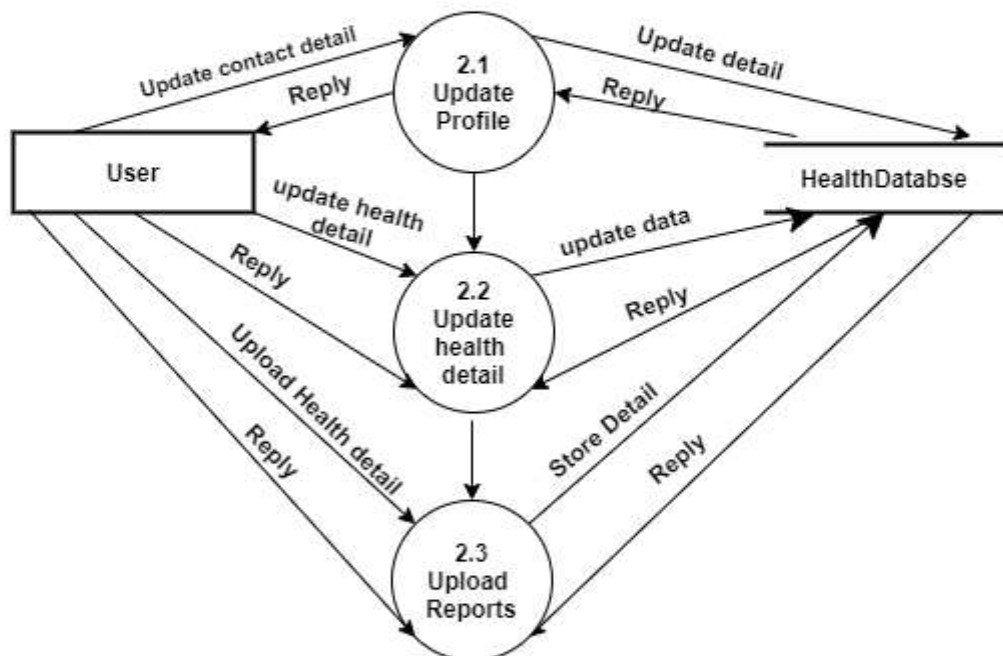
**3. 0 Check nearest Blood camp**
- Donation Camp details
- Reply
- Search donation camp detail → CampDB
- Send appropriate result ← CampDB
- Text

**4.0 Register camp**
- Register for Camp
- Reply
- Register User detail → RegistrationDB
- Reply ← RegistrationDB

**5.0 confirmation message**
- Confirmation
- Send Confirmation Message
- Confirm detail → NotifactionDB
- Reply ← NotifactionDB

**6.0 Alert**
- Set alert
- Reminder
- store Time/ Date → AlertDB
- Send SMs/Email ← AlertDB

USER (Blood Donor)

Enten user_name/Password

Validating Detail

Reply

**1.1 Login**

Reply

User

User Database

New_user Detail

Register

Reply

Reply

**1.2 Registration**

Register

Update contact detail

Update detail

Reply

**2.1 Update Profile**

Reply

User

HealthDatabse

update health detail

update data

Reply

**2.2 Update health detail**

Reply

Upload Health detail

Store Detail

Reply

Reply

**2.3 Upload Reports**

Check nearest blood bank and camp detail

Fetch Data

Reply

**3.1 Check nearest blood donation camp/bloodbank**

Reply

User

HealthDatabse

check Location and atime

Fetch detail

Reply

Reply

**2.2 Check address and time**

Reply

## Level 2 for 4.0 (Register)



Register For donation → 4.1 Register ← make registeration → User Database

User ← Reply ← 4.1 Register ← Reply ← User Database

## Level 2 for 5.0 (Confirm message)



Make confirm registration → 5.1 confirmation → Confirm Data → NotificationDB

User ← Send SMS and email ← 5.1 confirmation ← Reply ← NotificationDB

## Level 2 for 6.0 (Alert)



Set Timer → 6.1 Alert → Set Timer detail → ALert DB

User (Donor) ← Notify weekly/day before donation ← 6.1 Alert ← Reply ← ALert DB
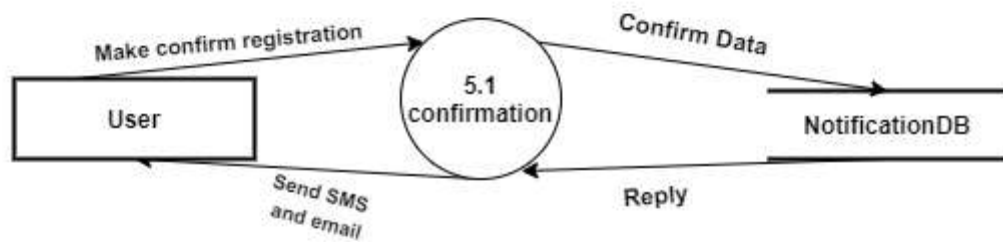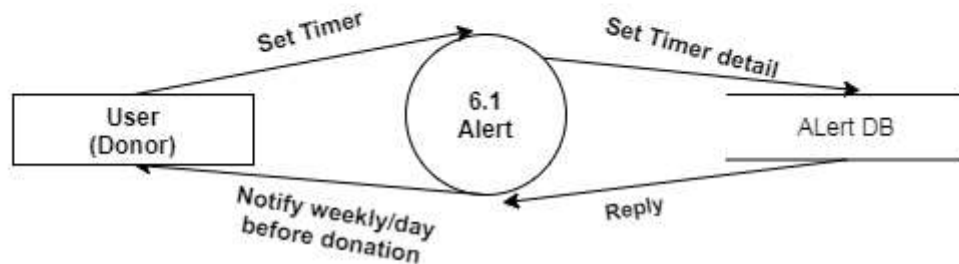
**Conclusion:** Hence ,we studied and understand DFD diagram