IT Infrastructure and Resource Management

Problem Statement

VJTI is large institution which has a variety of laboratories. The equipments in these labs need to be maintained on a regular basis, and the old ones need to be replaced to ensure a proper working environment. This can be achieved efficiently by maintaining a database containing the information of all the equipments and their working status. Each equipment will be assigned a unique id.

Usage Modules

- Management Level

- Lab Admin Level

- Student/Teacher Level

Management Level

- Resolving the complaints approved by the lab admin and deciding which supplier to buy components from.

- Maintaining the resources by regularly replacing the older components.

- Checking the regularity of all the lab admins.

Lab Admin Level

- View and modify any data regarding the components of the Computer.

- Verify and approve the complaints lodged by students and teachers.

- Assign priorities to the approved complaints.

Student/Teacher Level

- View the components and technical specification of any computer.

- View the working status of any component.

- Lodge a complaint regarding faulty components and check the status of their lodged complaint.

Entity

- Component (Component_ID, Supplier_ID, Working Status, Warranty, Date_of_purchase, Type)

- PC (PC_ID, Lab_ID, OS)

- Supplier (Supplier_ID, Name, Total_Complaints, Total_No_Shipped)

- Lab (Lab_ID, No_of_PCs)

- LabAdmin (LabAdmin_ ID, Lab_ID , No_Of_Complaints_Handled, Last_Login)

- Complaint (Complaint_ID, Title, Complainer_ID,Status, Date_Of_Complaint)

- Complainer (Complainer_ID, Name, Departement, Designation, Email_ID)
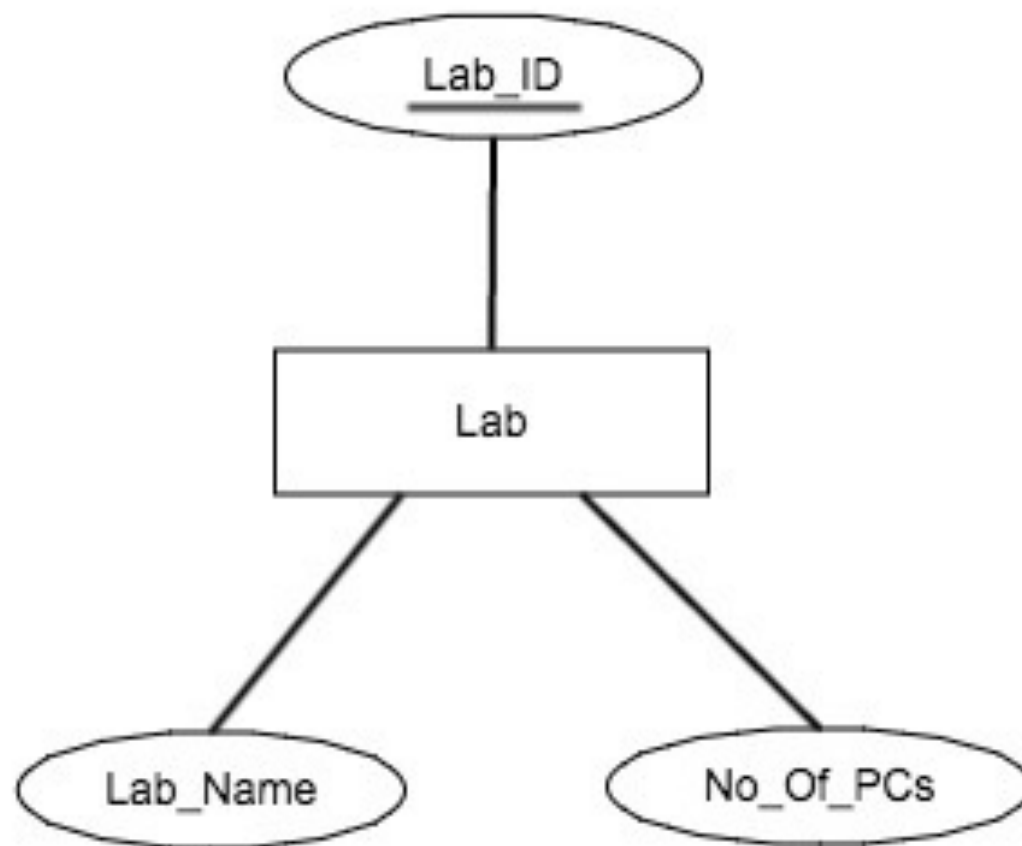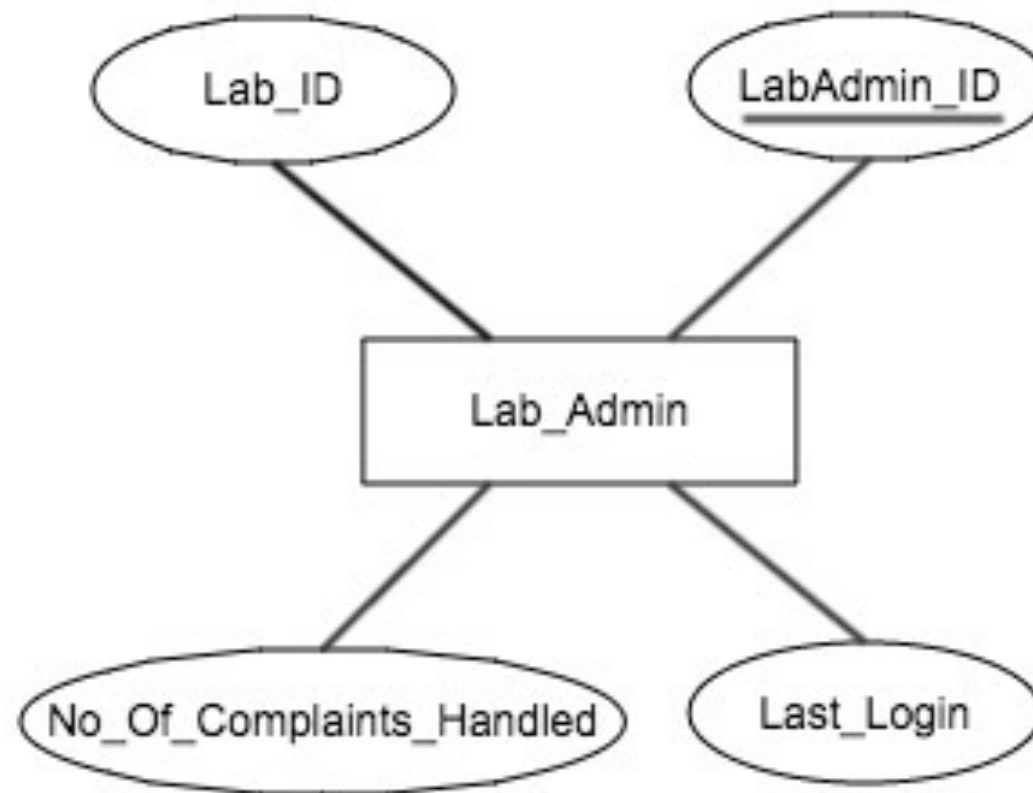
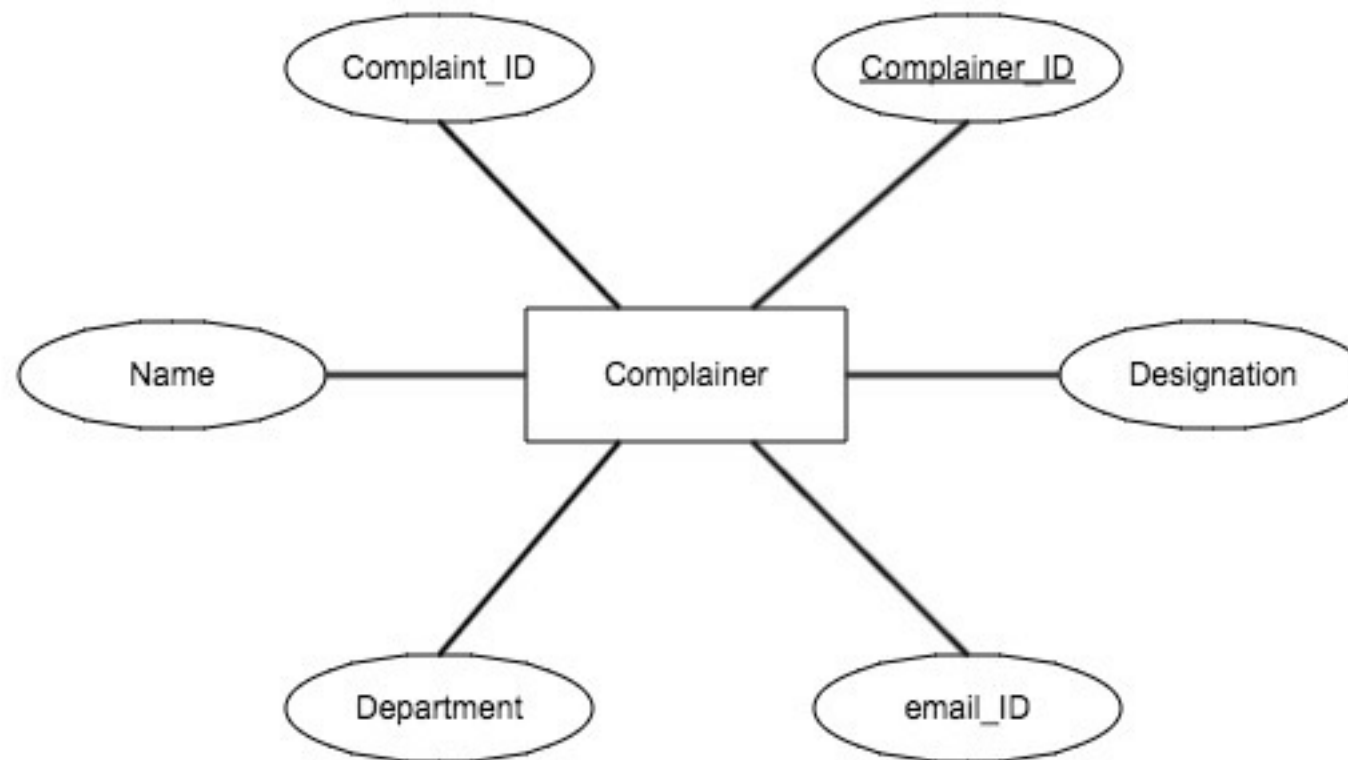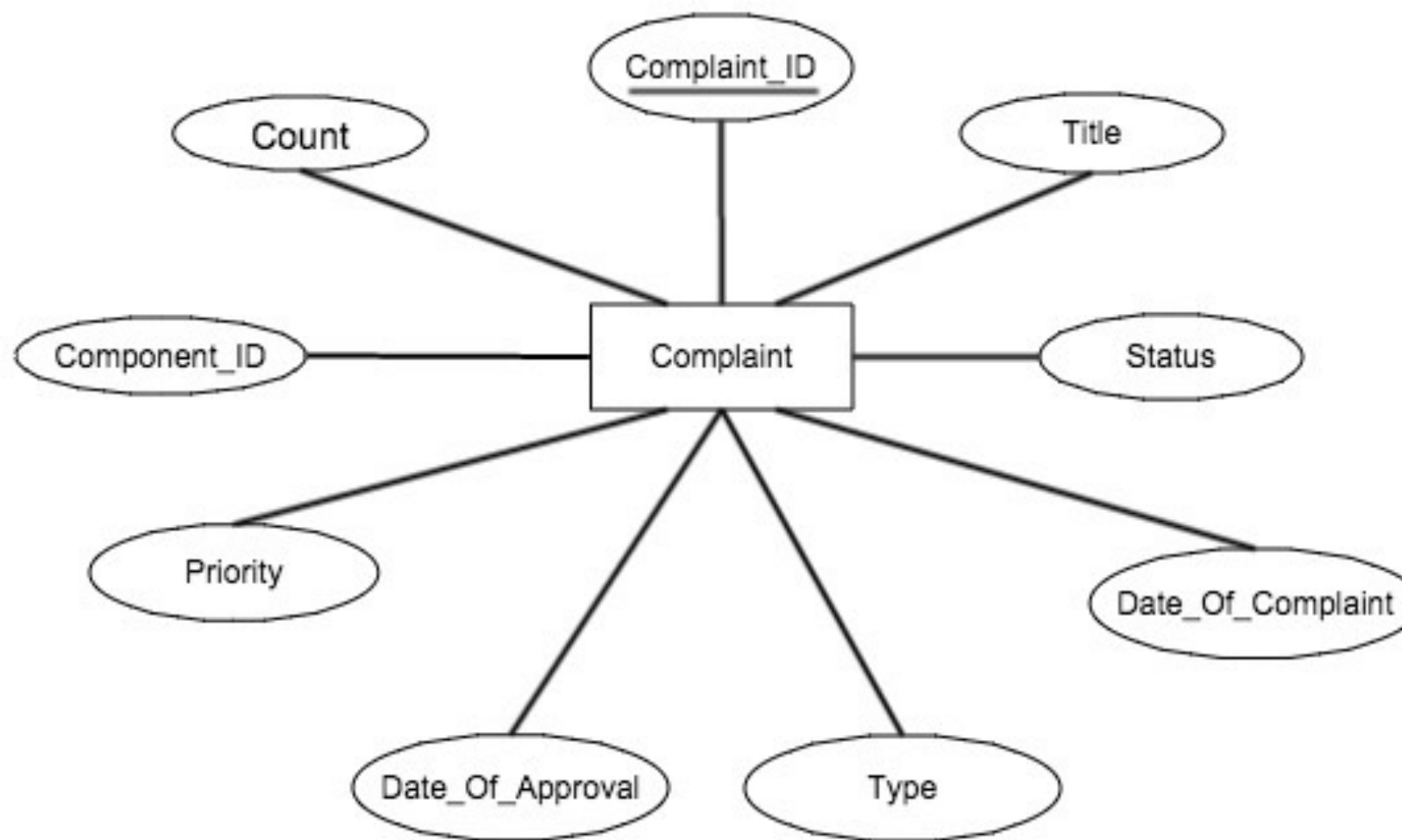# Entity Attribute Model

PC
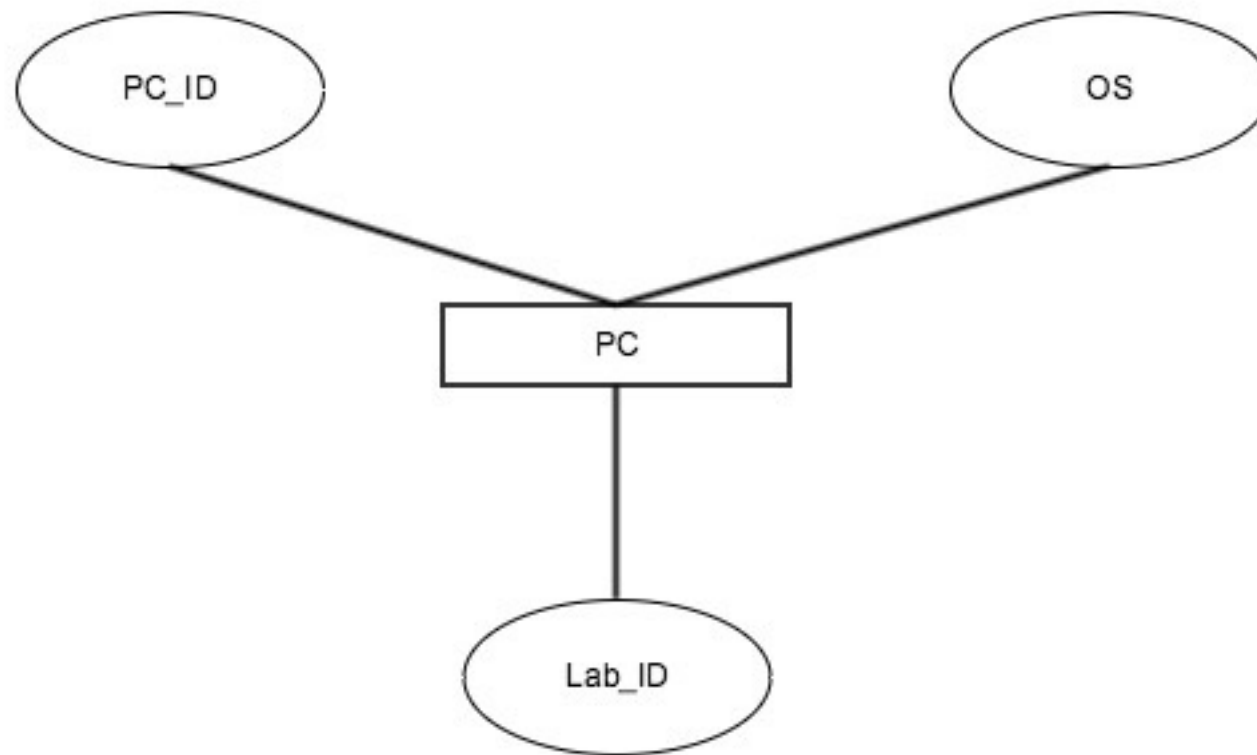
Component
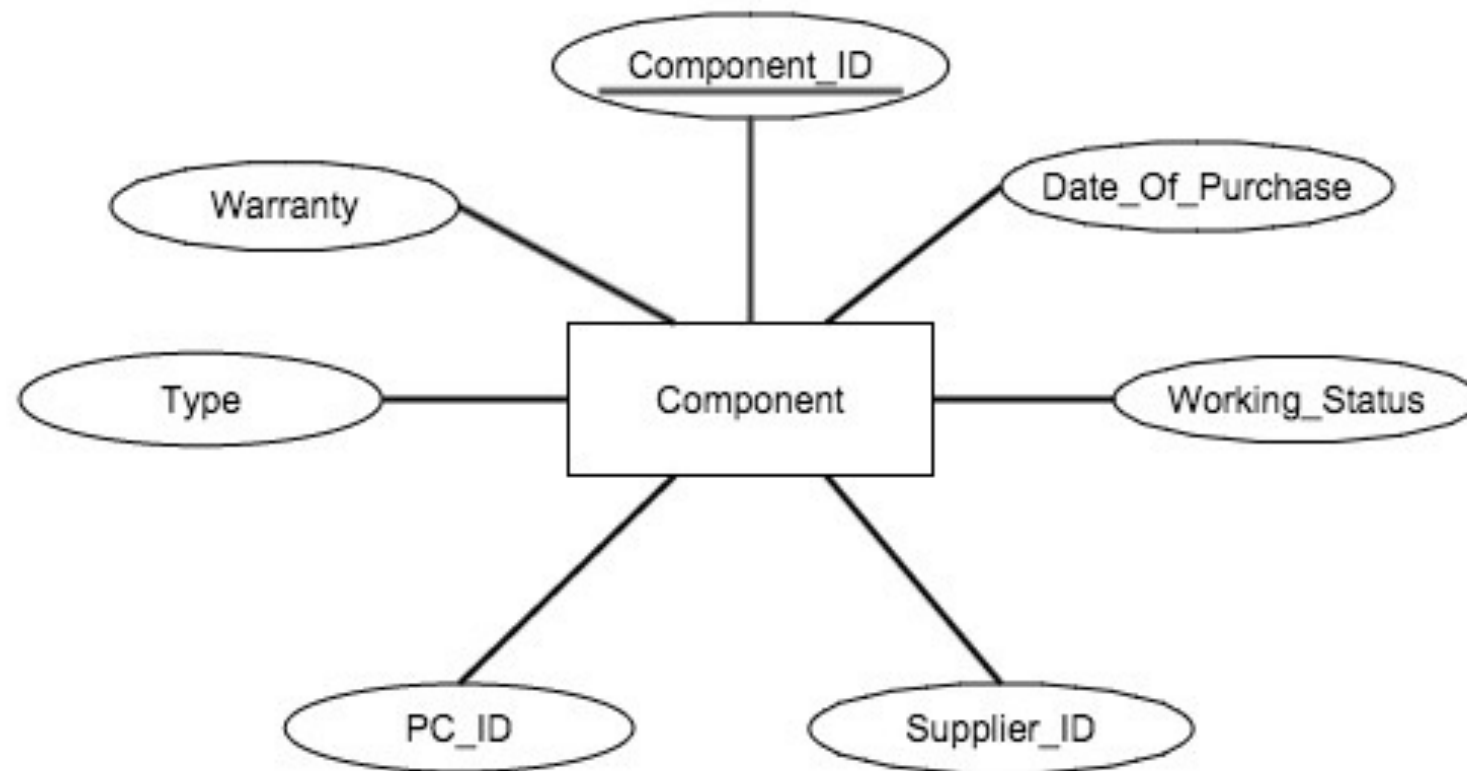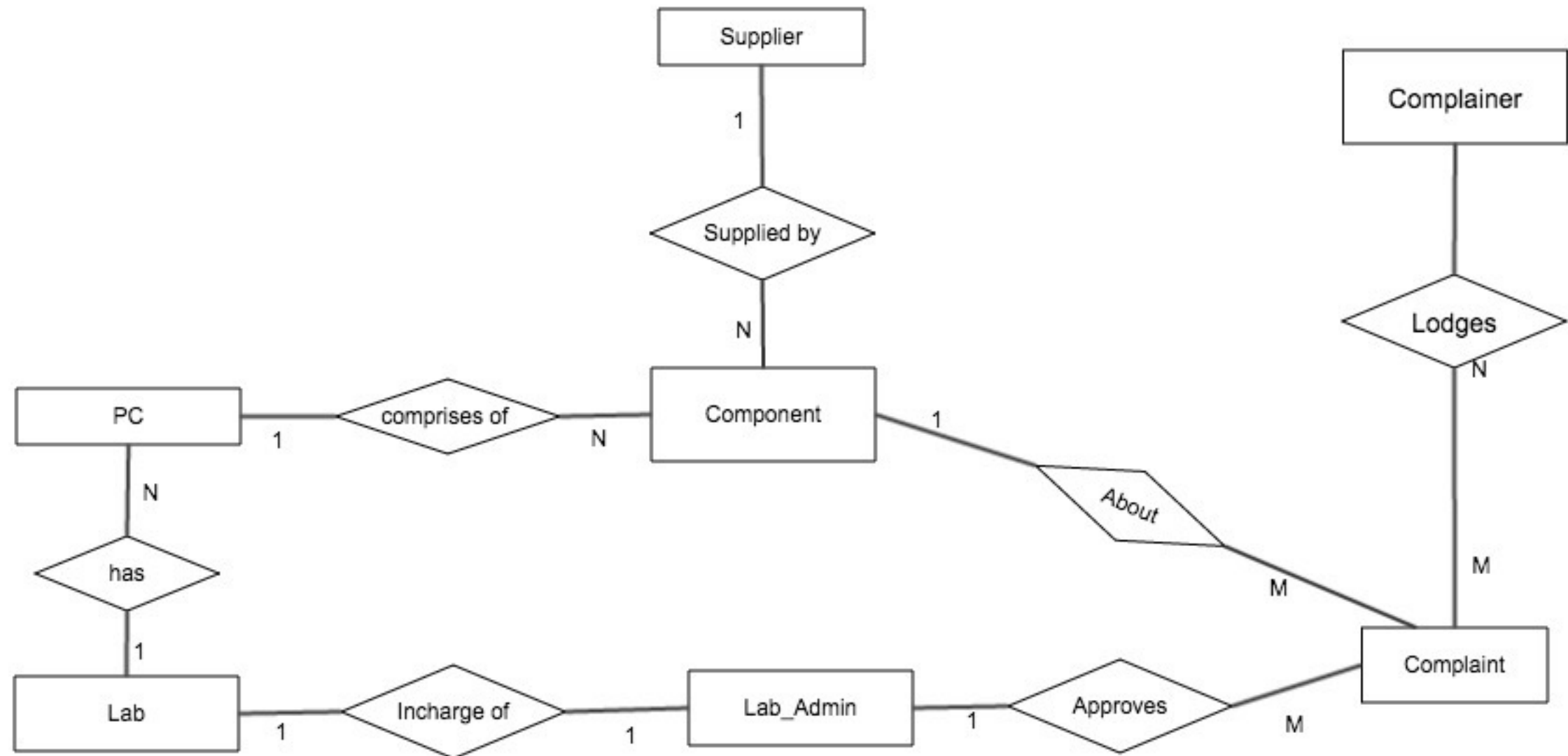
Lab

Lab Admin

Complainer

Complaint

Data Model

ER Model
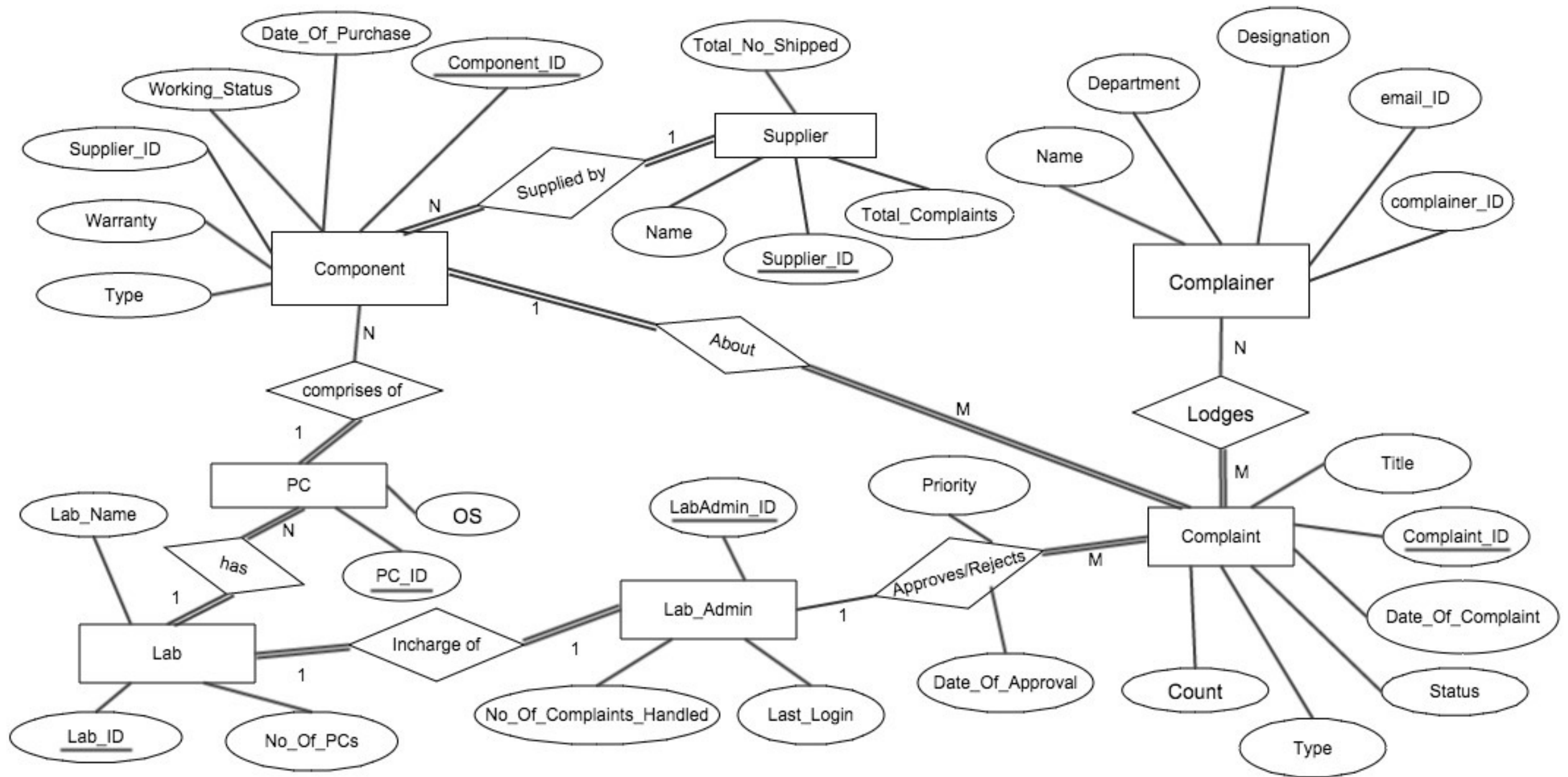
Data Dictionary

Complaints
Primary Key - Complaint_ID

Name	Data Type	Constraints	Details
Title	varchar(200)	NOT NULL	Brief description of the complaint
Complaint_ID	INT	NOT NULL UNIQUE	
Date_of_complaint	DATE	NOT NULL	Date when the complaint was lodged
Status	INT	NOT NULL	0-waiting for approval 1-approved, unresolved 2-resolved
Date_of_Approval	DATE	>= date of complaint	date of approval if the complaint was approved
Priority	INT	NOT NULL	priority of the complaint assigned by lab admin
Component_ID	INT	NOT NULL FOREIGN KEY	Component for which the complaint has been lodged
Count	INT	NOT NULL POSITIVE	No of people in favor of the complaint
Type	INT	NOT NULL	1. Hardware 2. Software 3. Network

Lab Admin
Primary Key - Lab_admin_ID

Name	Data Type	Constraints	Details
Name	varchar(40)	NOT NULL	Name of the Lab Admin
Lab_admin_ID	INT	NOT NULL UNIQUE	Uniquely identify each lab admin
Lab_ID	INT	NOT NULL FOREIGN KEY	identify the lab of which the person is admin of.
No_of_complaints _handled	INT	NON NEGATIVE	no of complaints handled after verification of complaint
Last_login	DATE		Indicates how active the admin is

Lab
Primary Key - Lab_ID

Name	Data Type	Constraints	Details
Lab_ID	INT	NOT NULL PRIMARY KEY	used to identify the location of the lab
No_of_pcs	INT	NOT NULL POSITIVE	no of computers in the labs
Lab_admin_ID	INT	NOT NULL FOREIGN KEY	id of the lab incharge

PC
Primary Key - PC_ID

Name	Data Type	Constraints	Details
PC_ID	INT	PRIMARY KEY NOT NULL	Will be used to identify any specific PC set
Lab_ID	INT	FOREIGN KEY NOT NULL	Identify the location of the PC
OS	varchar(20)	NOT NULL	Operating System installed on the computer

Component
Primary Key - Component_ID

Name	Data Type	Constraints	Details
Component_ID	INT	NOT NULL UNIQUE	Uniquely Identify each component
Date_of_purchase	DATE	NOT NULL	date of purchase of the component
Working_Status	BOOLEAN	NOT NULL	1 - working 0 - not working
Warranty	INT	POSITIVE	no of months of warrant
Supplier_ID	INT	NOT NULL	indicating the supplier of the component
Type	INT	NOT NULL	1 - CPU 2 - Monitor 3 - Keyboard 4 - Mouse

Supplier
Primary Key - Supplier_ID

Name	Data Type	Constraints	Details
Supplier_ID	INT	NOT NULL UNIQUE	Uniquely Identify each supplier
Name	varchar(100)	NOT NULL	Name of the supplier
No_of_components _supplied	INT	NOT NULL	no of components supplied by that supplier
No_of_complaints	INT	NON NEGATIVE	Total complaints from the components shipped by the supplier. This can be used to track the quality of the products shipped by the supplier.

Complainer
Primary Key - Complainer_ID

Name	Data Type	Constraints	Details
Name	INT	NOT NULL UNIQUE	Uniquely Identify each supplier
Department	varchar(100)	NOT NULL	Name of the supplier
Designation	INT	NOT NULL	no of components supplied by that supplier
No_of_complaints	INT	NON NEGATIVE	Total complaints from the components shipped by the supplier. This can be used to track the quality of the products shipped by the supplier.

Thank You

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