

# 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.

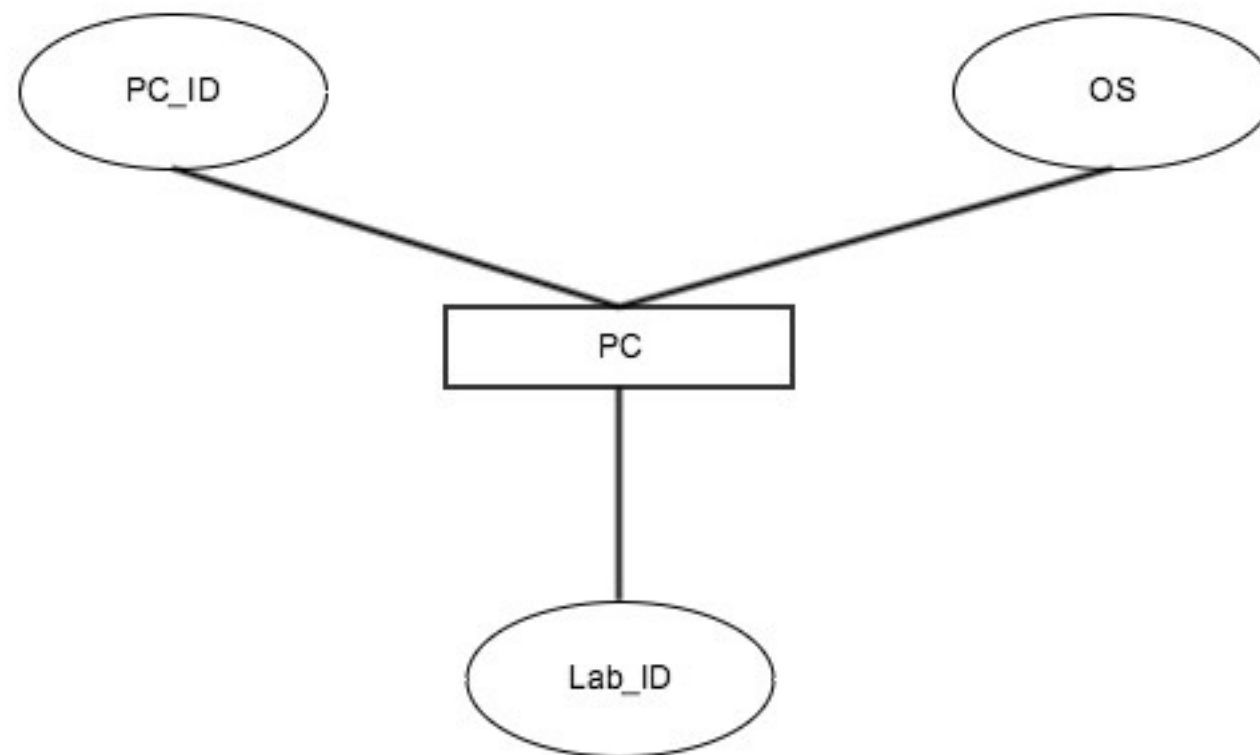
# Entity

- 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)

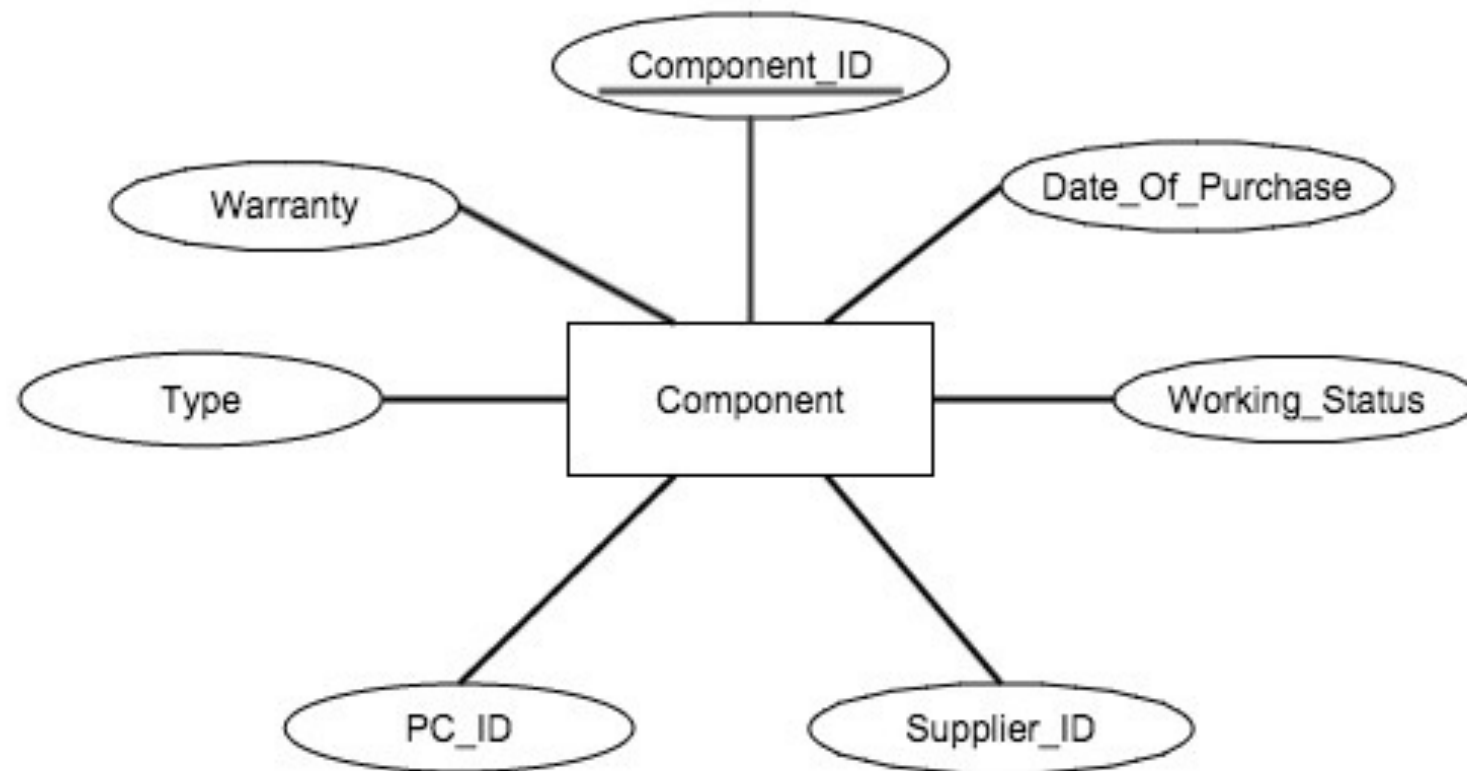
# Entity Attribute Model



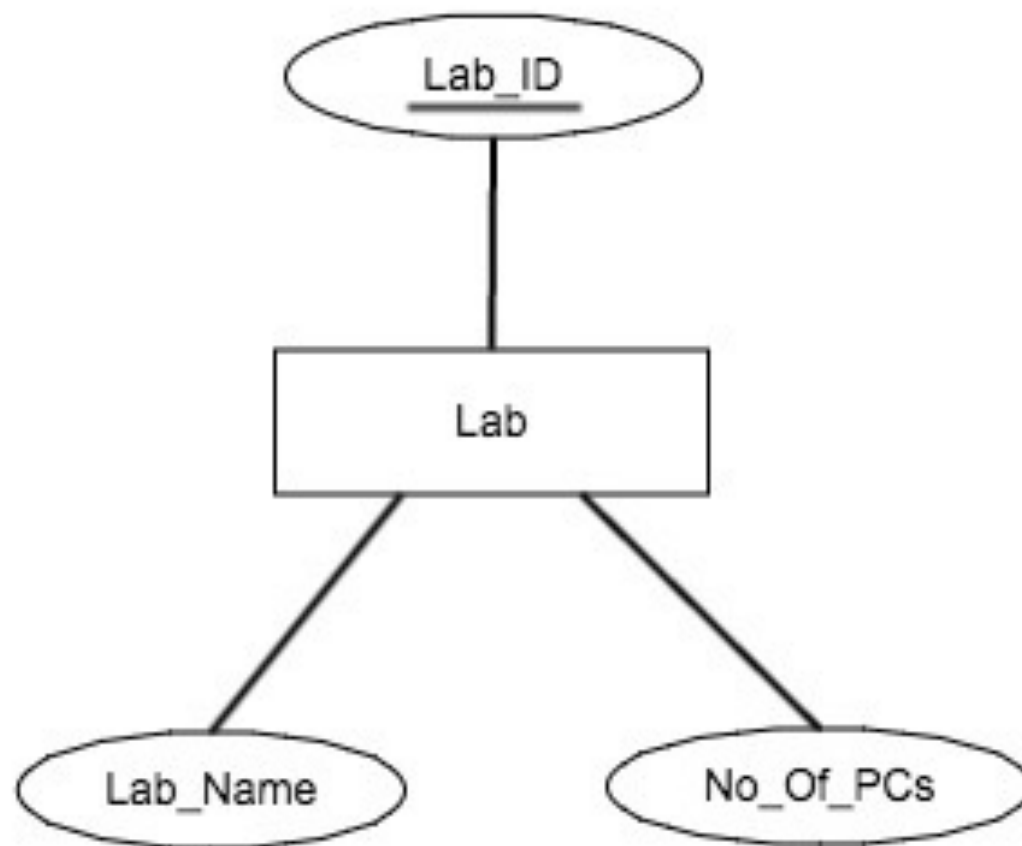
# PC



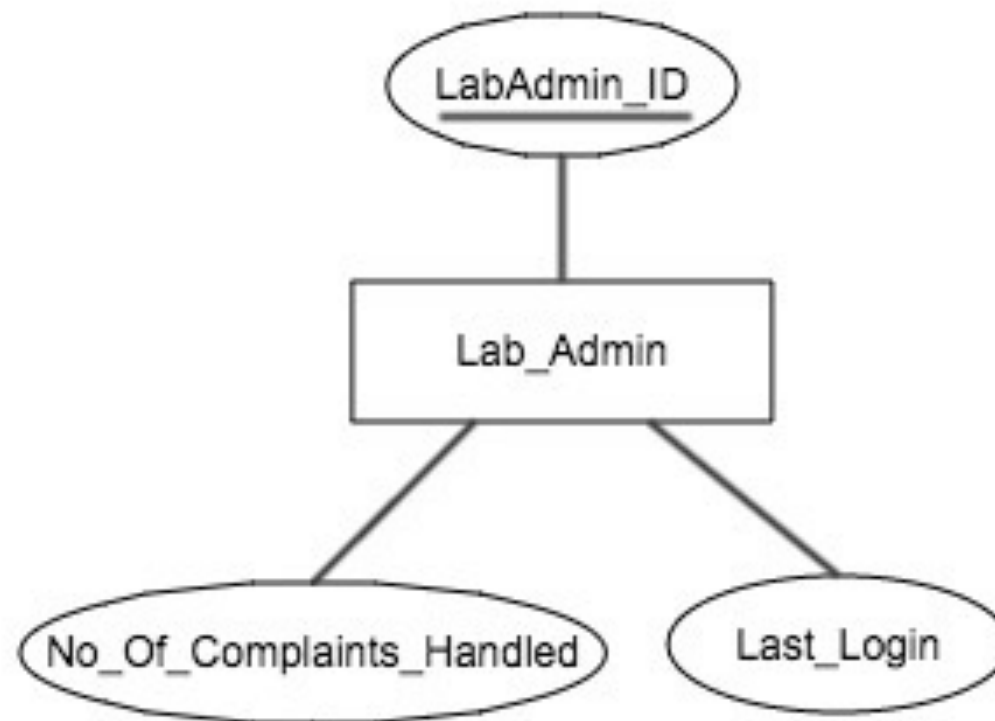
# Component



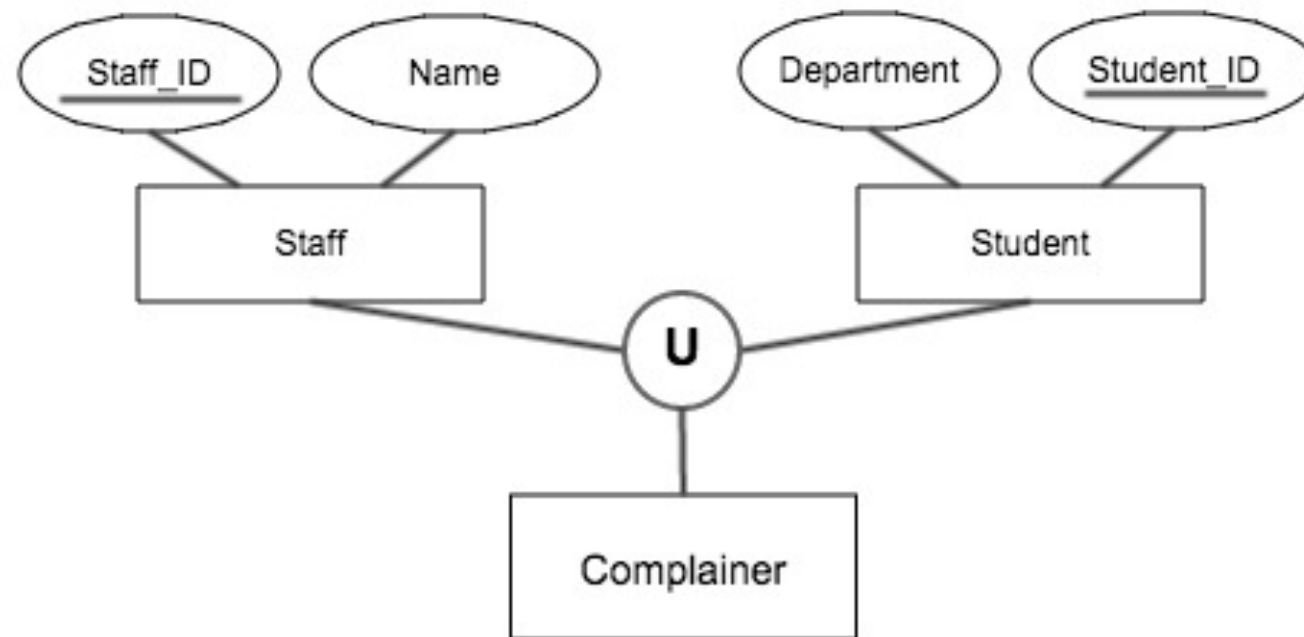
# Lab



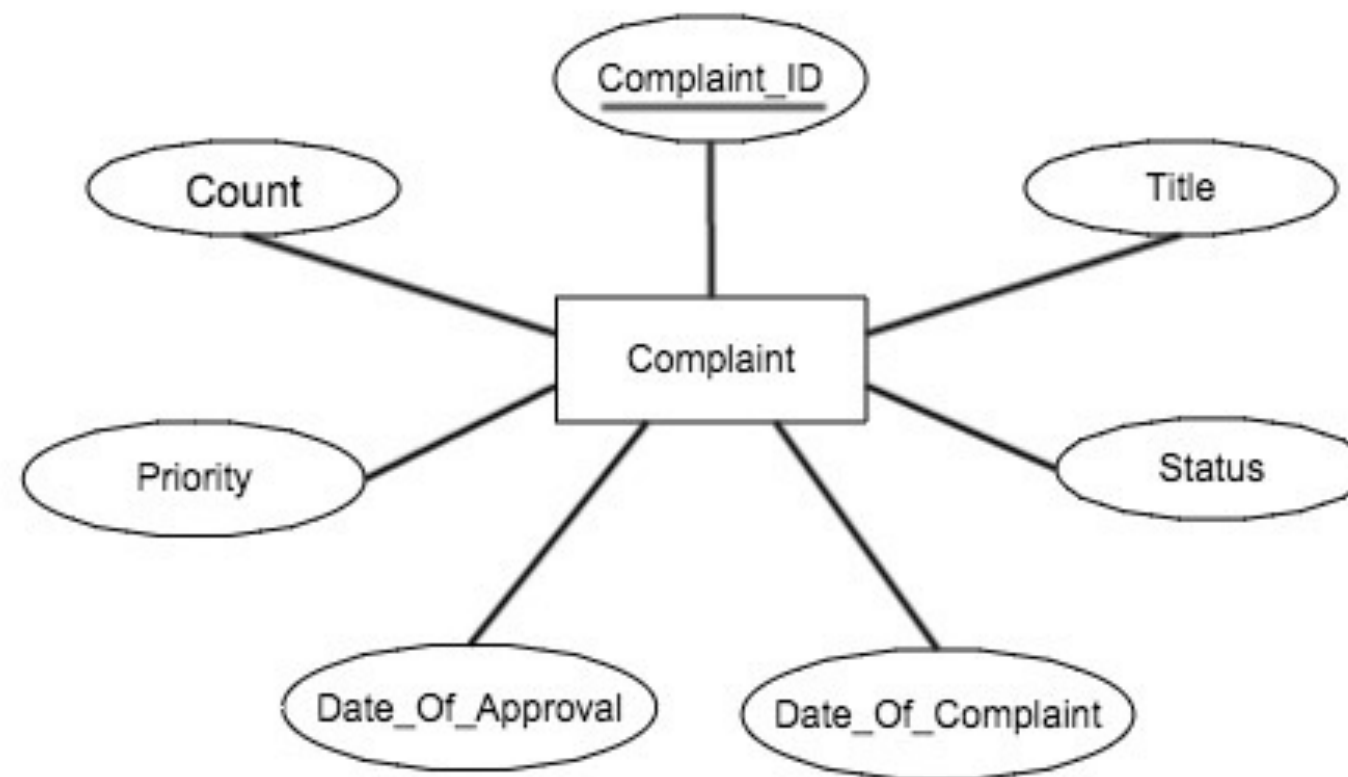
# Lab Admin



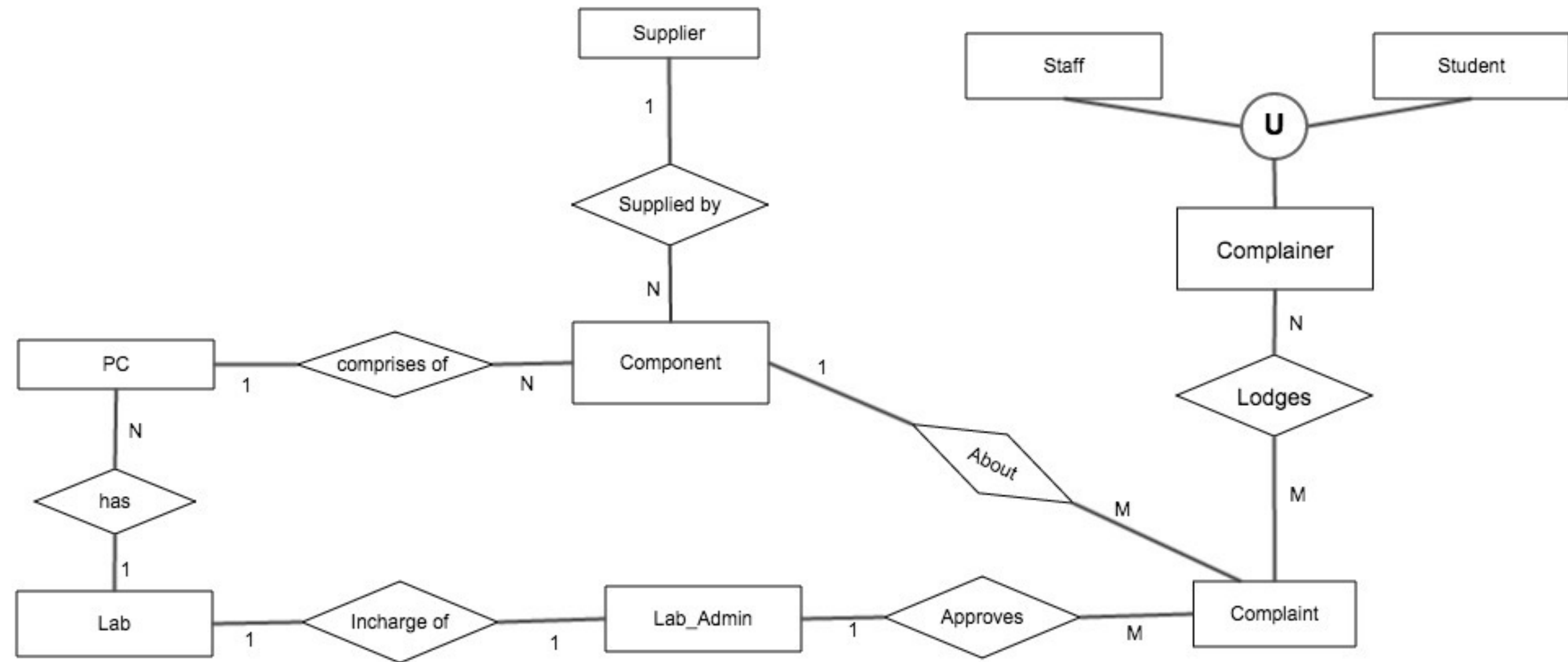
# Complainer



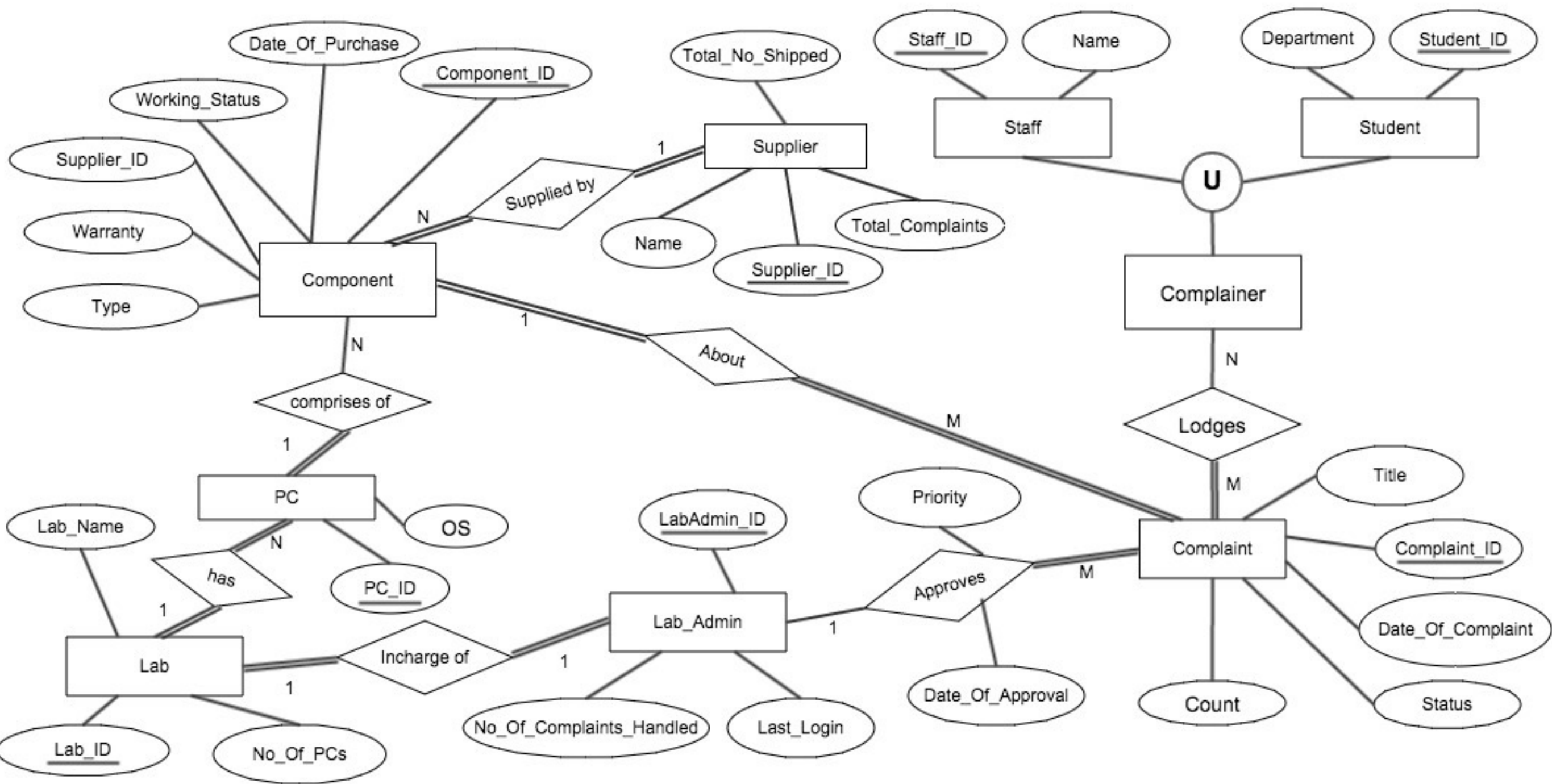
# Complaint



# 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

# 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.

# Thank You

## Group Members

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