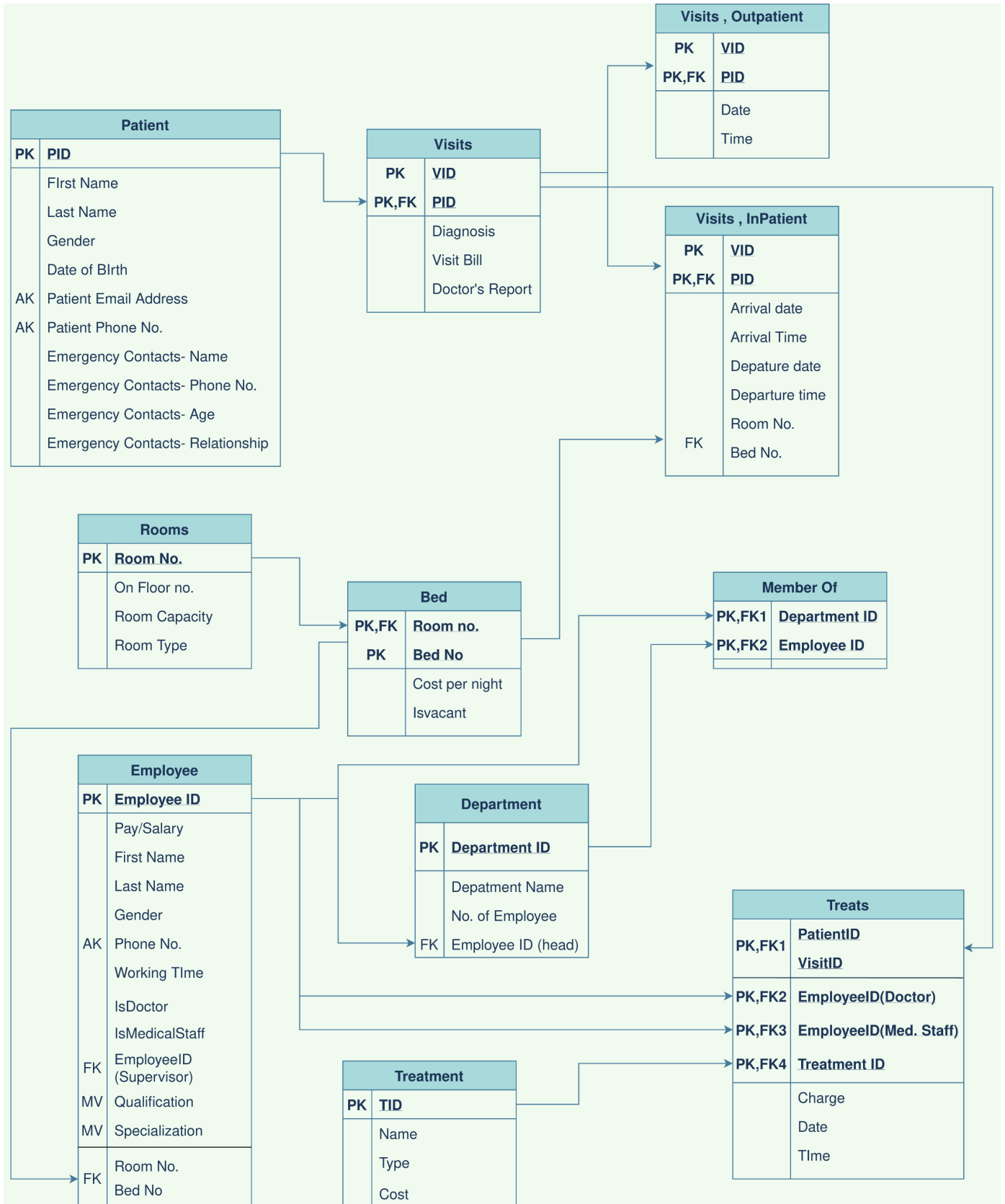# Project Phase 3

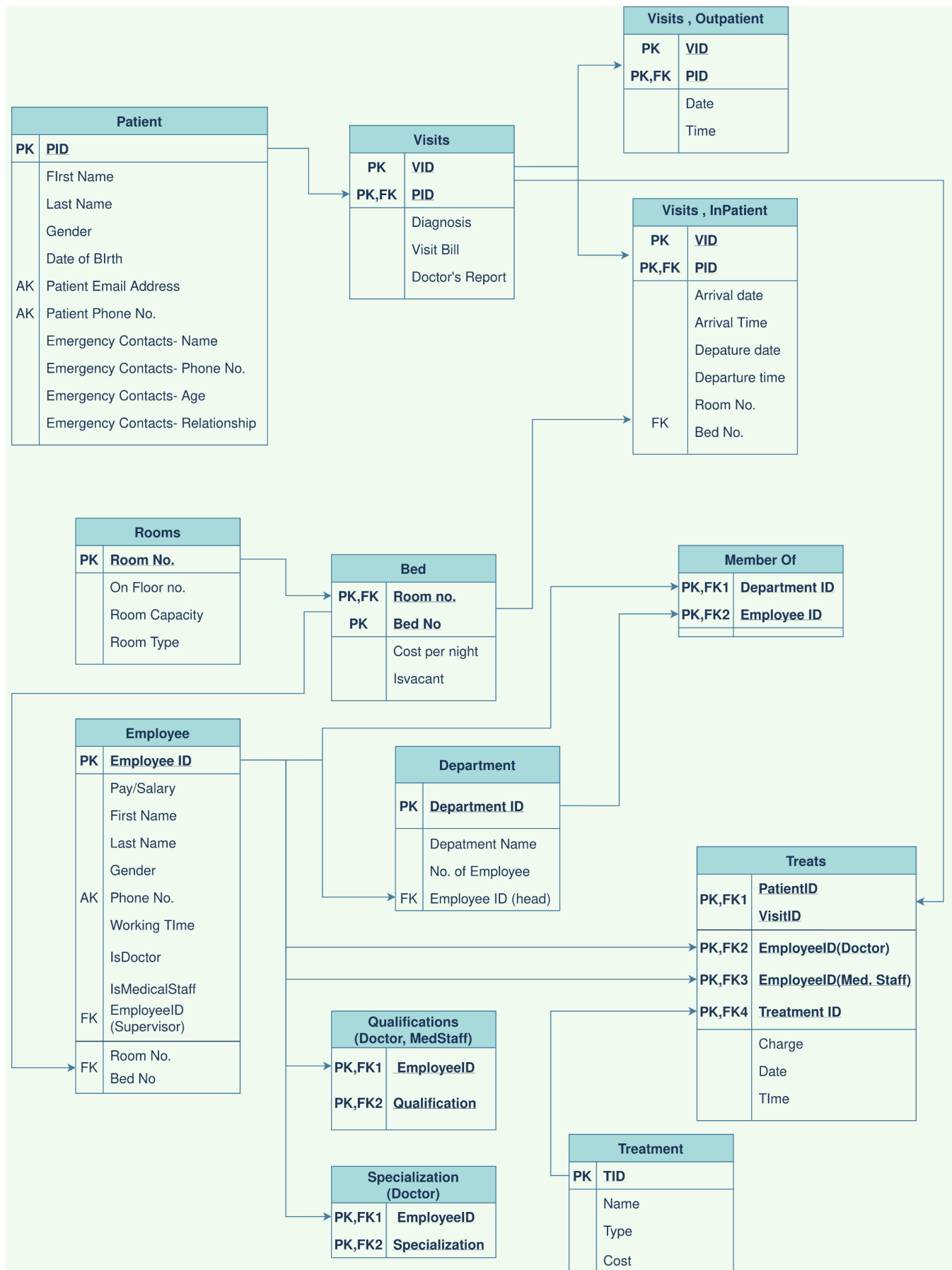Team : 5heads (TID : 66)

UML Diagram

Before Normalization

1NF

The attributes "Qualification" and "Specilization" of the Relation EMPLOYEE are multivalued. This is in violation of the 1NF confition.
To convert to 1NF, the two attributes are removed and two new relations are created :
QUALIFICATIONS(EmployeeID, Qualification)
SPECIALIZATIONS(EmployeeID, Specialization)

2NF

In the functional dependancies of every relationship of the abo
$$\forall_R \quad \forall_{(X \to Y) \in FD(R)} \quad : \quad \nexists_{A_j \in X} \quad s.t. \quad \{X - A_j\} \to Y$$
i.e. Every non-prime attribute in every relation is fully functionally dependant on a PK. This means that the all relations are in 2NF.

3NF

In the functional dependancies of every relationship of the above diagram, in every relation, there is no non-prime attribute that is transitively dependant on the PK.
$$\forall_R \quad \forall_{X,Y,Z \in R} \quad : \quad \text{if } X \to Y \text{ and } Y \to Z \text{ then, } Y \text{ is PK}$$
This means that the all relations are in 3NF.
.