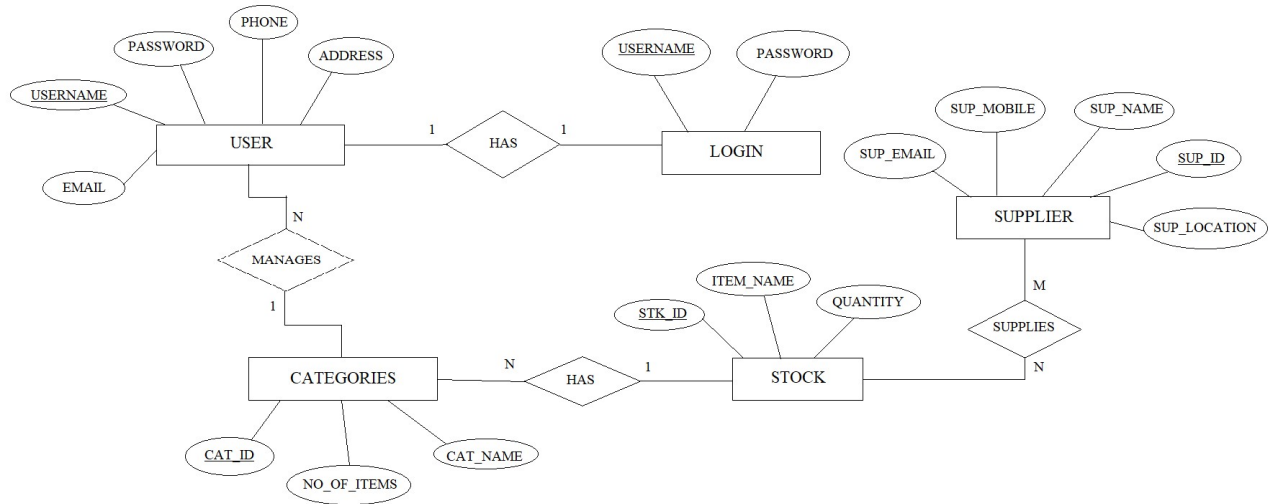# Chapter 3

SYSTEM DESIGN

3.1 ER DIAGRAM

Figure 3.1: ER Diagram

Platform used for designing the ER diagram: Paint

3.2 ER TO RELATIONAL MAPPING

Step 1: For each regular entity type E in the ER schema, create a relation R that includes all the simple attributes of E. Here the strong entities are User, Categories, Supplier and Stock.

Step 2: For weak entity type LOGIN in the ER schema with owner entity type USER, create a relation R, and include all simple attributes of LOGIN as attributes. In addition, include as foreign key attributes of R the primary key attribute of the relation that correspond to the owner entity type.

Step 3: For binary 1:1 relationship type R in the ER schema, identify the relations USER and LOGIN that correspond to the entity types participating in R. Choose the relation LOGIN, and include the primary key of USER as a foreign key in LOGIN.

Step 4: For regular binary 1:N relationship type R identify the relation (N) relation S. the primary key of T as a foreign key of S. Simple attributes of R map to attributes of S.

Step 5: For each binary M:N relationship type supplies, create a relation SUPPLIES. Include the primary keys of SUPPLIER and STOCK relations as foreign keys in SUPPLIES. Their