



# GROUP 24

Phase 1

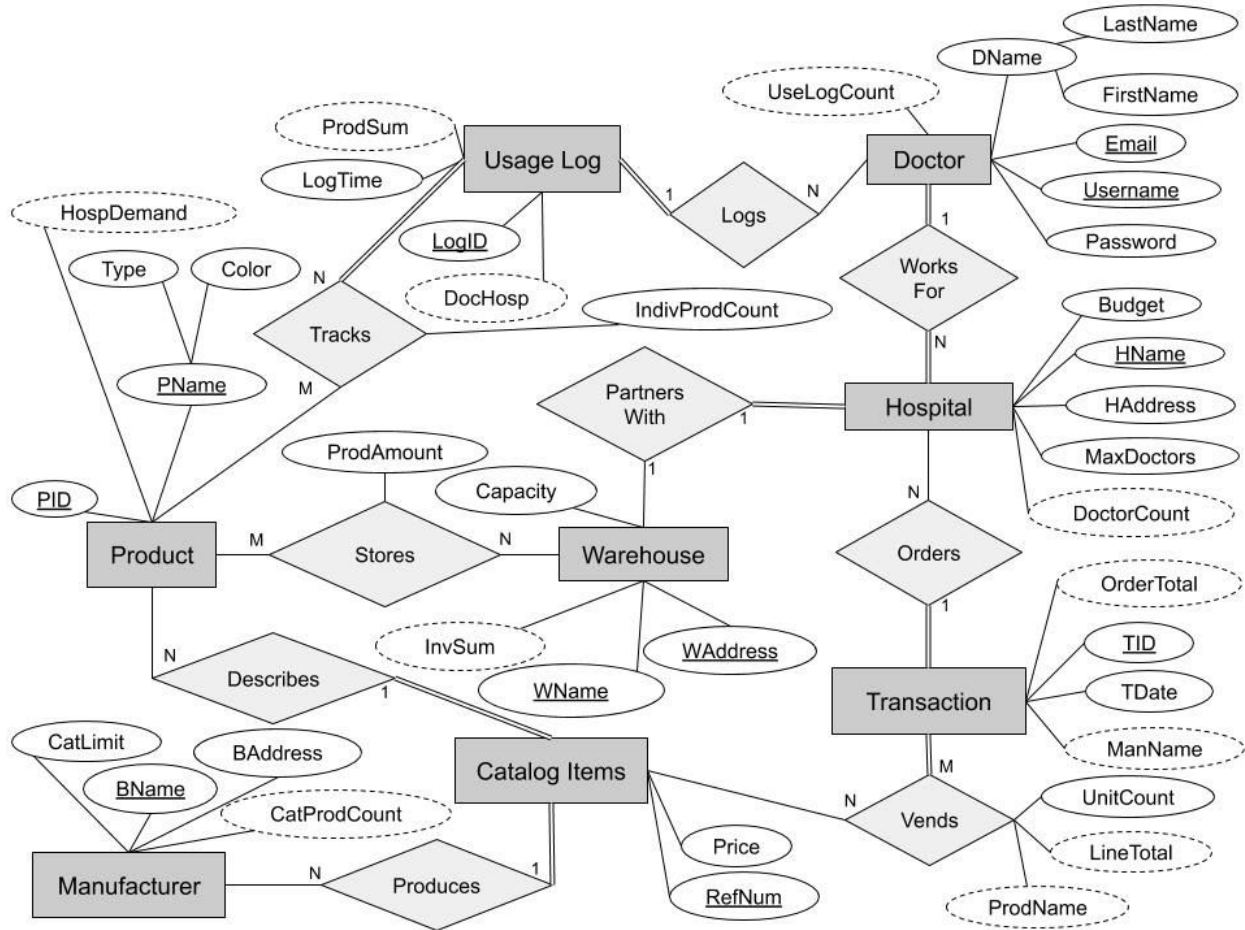
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## Entity Relationship Diagram



## Logical Constraints

- A Transaction can only be created if the corresponding Hospital's budget is greater than or equal to the Transaction's order total. After a Transaction is filed, the order total is subtracted from the budget.
- The number of Catalog Items for a given Manufacturer must not go above that Manufacturer's catalog limit
- The Warehouse must have enough space in its remaining capacity (capacity - inventory sum) for the products of a given Transaction with its partner Hospital for it to go through.
- Doctors cannot use more than what is in the inventory warehouse
- Whenever Usage Logs are submitted, the amounts of each product listed is accordingly deducted from the partner Warehouse.
- The number of doctors working at a given hospital must not go above the maximum number of doctors able to work there.
- A Warehouse's inventory must be empty if it's not currently partnering with a hospital, and the Warehouse's inventory must be emptied before ending a partnership with a Hospital.
- A Transaction only contains Catalog Items whose reference numbers represent a single Manufacturer.

## Assumptions

- Doctors do not get fired or switch jobs from one hospital to another. [This prevents Usage Log from deriving the wrong Hospital Name]
- Doctors are not required to file a usage log as soon as they get hired. [Allows doctors to partially participate in the Logs relationship]
- Even though hospitals keep track of Usage Logs, the entity is tied to the corresponding Doctor. [Allows Usage Log to derive the Hospital Name instead of having a relationship with Hospital]
- A warehouse's inventory will be empty if it's not currently partnering with a hospital, and the warehouse's inventory must be emptied before ending a partnership with a hospital.
- There is a known relationship between a Manufacturer's name and their corresponding reference number prefix (ex: using the name acronym as a reference number prefix, as shown in the Phase I documentation).
- To retrieve a manufacturer's catalog, we query Catalog Items where the prefix of the Reference Number corresponds to that Manufacturer and return the filtered table.
- Addresses can be represented as a simple attribute.

## Clarifications

- LineTotal is calculated using the price of the Catalog Item and the count of the item.
- ProdName is the Product Name looked up using the RefNum.
- CatProdCount is the count of all Products offered by a Manufacturer.
- DocHops is the Hospital name looked up using the Doctor Username.
- HospDemand is the number of Hospitals using a given Product.
- ManName is the Manufacturer name derived using the Catalog Item RefNum.
- InvSum is the sum of all Product counts stored in a Warehouse.
- ProdSum is the sum of all Product counts listed in a Usage Log.
- IndivProdCount is the count of a specific Product in the relationship with Usage Log.