

**ERD Attributes description**

Accounts Table:  
Account\_id: Primary Key for every new account

Firstname; First name of user

Last\_name: Last Name of user

Email; Email id of user

Pass: password of user

Houses Table: Since one user can have multiple houses he owns

House\_id: Primary key for every house

Account\_id: Foreign key from accounts table

House\_name: Name of the house

Owner\_name: Owner name who owns the house

Rooms: Number of rooms in the house

Rooms table: For every room in the house

Room\_id: Primary key id of each room

House\_id: Foreign key from house tables

Sensor count: Number of sensors in the room

Room\_name: Name of the room

Appliance sensor table:

Sensor\_id: Primary key ID of every sensor int he room

Room\_id: Foreign Key from rooms table

Appliance\_name: The name of the appliance added to the sensor

Rating: The power rating of the appliance which as been added

Status: The current status of appliance. Is it on or Off

Add\_time: The time when appliance was added.

Activity Table: Table to store the device turn off and turn on time

Acitivity\_id: Primary key of each activity

Appliance\_id: Foreign key from appliance Table

turnOn\_time: Time when device is turned on

turnOff\_time: Time when device was turned off

current\_State: Current status of device

Electricity Table: Electricity consumption table

Id: Primary key for each consumption

Sensor\_id: Foreign key from appliance sensor table

Current\_consumption: Consumption till now from the day device was added. Can be monthly yearly and daily. Will reset every day to create analysis.

Previous\_consumption: consumption of previous day.

Wastage: Electricity wasted every day.

**Relationship In Database:**

Accounts and House: Both have one to many relationship, as 1 user can have multiples house

House and Room: They both have a one to many relationship as 1 room in a house can have multiple rooms

Rooms and Appliance Sensor: They both have a one to many relationship as 1 room in the house can have many sensor on the appliance and each appliance sensor should have a separate row for itself

Appliance Sensors and Activity: Both have a one to many relationship as 1 sensor in a room can produce multiple activities around a timestamp

Appliance Sensor and Electricity: Both have a one to many relationship