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WASTE MANAGEMENT SYSTEM

- A waste management system or waste disposal is a streamlined process that organizations/companies use to dispose of, reduce, reuse, and prevent waste. Each organization/company has a unique name (org_name), and is located in a particular address.

- There are different waste disposal methods like recycling, composting, incineration, landfills, bioremediation, waste to energy, and waste minimization. These all methods need some place for their use.

- Each waste can be categorized into recyclable and non-recyclable, organic and inorganic, or can be used for Waste to Energy. Waste can be liquid, solid, or gas with each having its disposal method and way of managing the waste.

- Each organization will have a set of people to work for them for physical collection, sorting, and weighing of a sample of the organization's waste.

- They will work in some departments where they will have DEPARTMENT HEAD

- These people will have name, address, id, Aadhar number managed by a MANAGER.

- These managers and department heads will have their HEAD.

- They will do the following tasks:
  - **Examine** the current waste management system by providing details on current waste operations and recycling efforts.
  - **Learn** the actual cost of not recycling by analyzing waste collection bills.
  - **Sort** waste by categories such paper, plastics, aluminum, and steel.
  - **Record** the subcategories' estimated percentage of the waste stream.

Entities/Relation/Table

- EMPLOYEE : with attribute(Ename,Eid,doj,dob,email,street,city,state)
- STAFF : with attribute(Sname,Sid,doj,dob,email,street,city,state)
- Department : with attribute(Dname,job,timing)
- Waste : with attribute(waste_id, Quantity, Process, Time,Recyclable/non-recyclable, liquid/gas/solid,Bill)
- WTP: with attribute(W_id,Name,State, City, Street,Quantity, Amount)
- Automobile: with attribute(Vehicle_No., Vehicle_type, Engine_no., Driver , Shift, Availability, Time, Color)
- Landfill: with attribute(location, quantity, time)

The relationship sets in our design are listed below:

- Emp dept: relating employee with department
- staff dept: relating staff with department
- WTP dept: relating WTP with department
- Automobile staff: relating staff with automobile
- waste staff: relating staff with waste

- waste landfill: relating landfill with waste

1. Employee and Department: This is a one-to-many (1-M) relationship, where one department can have many employees, but each employee belongs to only one department.
2. Staff and Department: This is also a one-to-many (1-M) relationship, where one department can have many staff members, but each staff member belongs to only one department.
3. WTP and Department: This is a one-to-many (1-M) relationship, where one department can have many WTPs, but each WTP belongs to only one department.
4. Automobile and Staff: This is a one-to-many (1-M) relationship, where one staff member can have one or more automobiles assigned to them, but each automobile is associated with only one staff member.
5. Staff and Waste: This is a one-to-many (1-M) relationship, where one staff member can be responsible for managing one or more types of waste, but each type of waste is managed by only one staff member.
6. Waste and Landfill: This is a one-to-one (1-1) relationship where each type of waste is associated with one landfill. Landfill is a weak entity dependent on the Waste entity.

Waste Treatment plant