.

E_WASTE MANAGEMENT SYSTEM

SOFTWARE ENGINEERING

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INTRODUCTION:-

An e-waste management system is a software system that helps to manage the process of collecting, classifying, and disposing of e-waste in an efficient and environmentally responsible manner. The system can be used to track the flow of e-waste, monitor the disposal process, and generate reports.

The customer can define a details about which type of waste is having .The customer can get the money by giving the waste material.E-waste management system is for developers and recycling it in the company

USES:-

The main purpose of online e-waste system is to provide another way for the customer to giving the e-waste material. The E-waste system is an Internet based application that can be accessed throughout the Net and can be accessed by anyone who has a net connection. It is an automatic system, where we will automate the selling the waste material and enquiries about which waste equipment are collection. After inserting the data to database, staff need not to worry about the orders received through the system and hence reduces the manual labor. One of the best features of the system is to deploy or recycling the electrical and electronic equipment from the customer house and the city.

The goals of the system are:

To provide anytime anyplace service for the customer.

To reuse electronic waste material by recycling or deploy.

To decrease the electronic waste material from household.

To obtain statistic information about the problems effect by the e-waste material.

To provide awareness about electrical and electronic material using for household.

Task 1:

CLASS DIAGRAM:-

The class diagram for E-Waste Management System shows the structure of information or data that will handeled in the system.These data or information will be represented by classes.Each class will have their attributes and methods .

So the UML Class diagram was illustrated by a box with 3 partitions and the upper part was the name of the class, the middles are the attributes and the bottom is for the methods. The arrows on them represents their relationships in each other.
So the classes that are included in an E-Waste Management would be : =
Person , E-WasteDisposal, Recycling , E-Waste ,Collection ,Waste Collection Agency , Recycling Company , Disposal Facility

Classes:-

Person:-
The class Person is generalised into 2 other classes Customer and Employee. The class Person includes attributes i.e-ID , Name , Address , Phone. And methods used are Report E-waste() , assignEwaste().

E-Waste Disposal:- Attributes used here are Disposal ID , Type , Condition ,Weight , CompanyID and Location.

Disposal Facility:- FacilityID , Name , Address, Phone and disposeEwaste() method.
Waste Collection Agency :- Includes Attributes Agency ID , Name , Contact info , and methods like collect Ewaste(),dispose Ewaste(),track Ewaste().

Collection :- Includes Attributes Collection ID , Date , Time , location , Agency Id.

E-Waste :- Includes Attributes E-waste ID , Type , weight , collectionID,RecyclingID , DisposalID and method dispose().

Recycling :- Includes Attributes Recycling ID , Type,Date,Location.CompanyId.

Recycling Company:- CompanyID,Name,Contactinfo.

Class diagram has relationship between these classes such as:-

Customer reports E-Waste (1:M)

Collection Agency collects E-Waste (1:M)

E-Waste is recycled (1:1)

Recycling Company recycles E-Waste (1:1)

E-Waste is disposed (1:1)

Disposal Company disposes E-Waste (1:1)

Collection Agency is managed by Waste Collection Agency (1:1)

Recycling Company is registered under Recycling (1:1)

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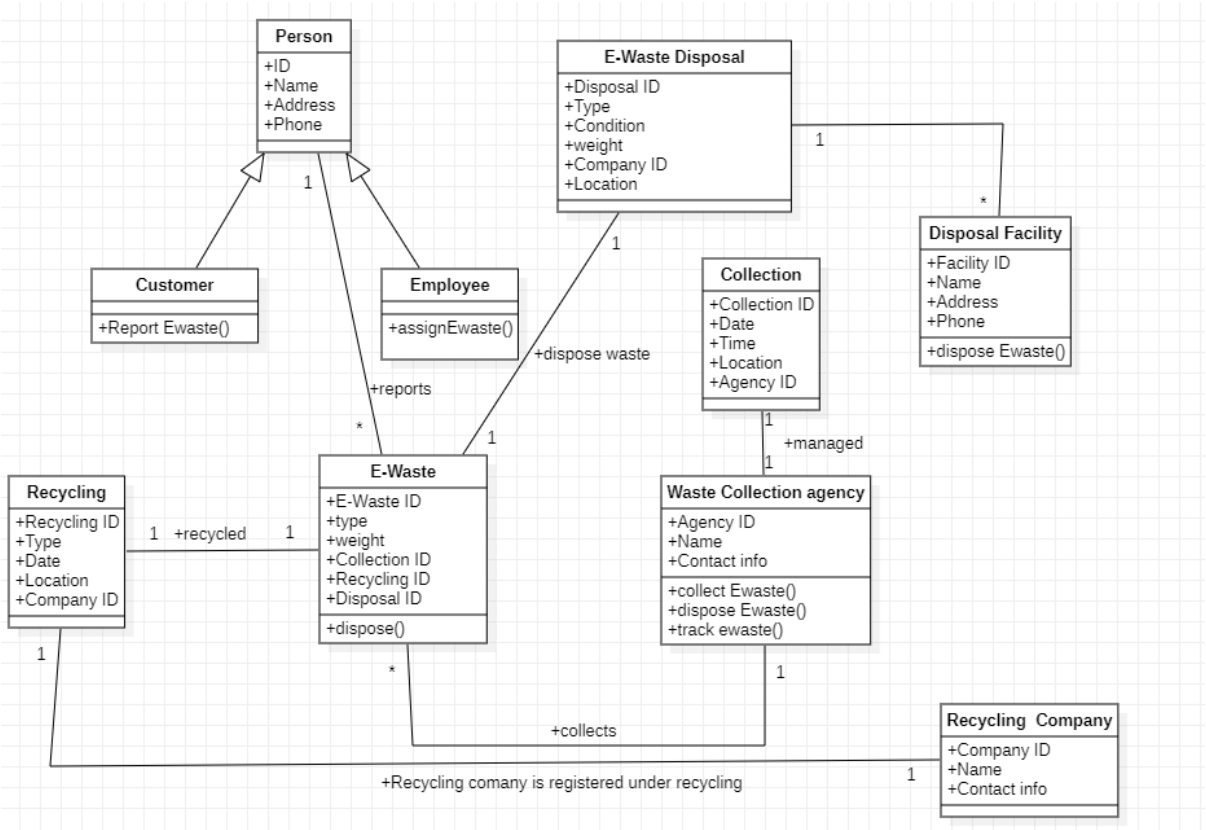
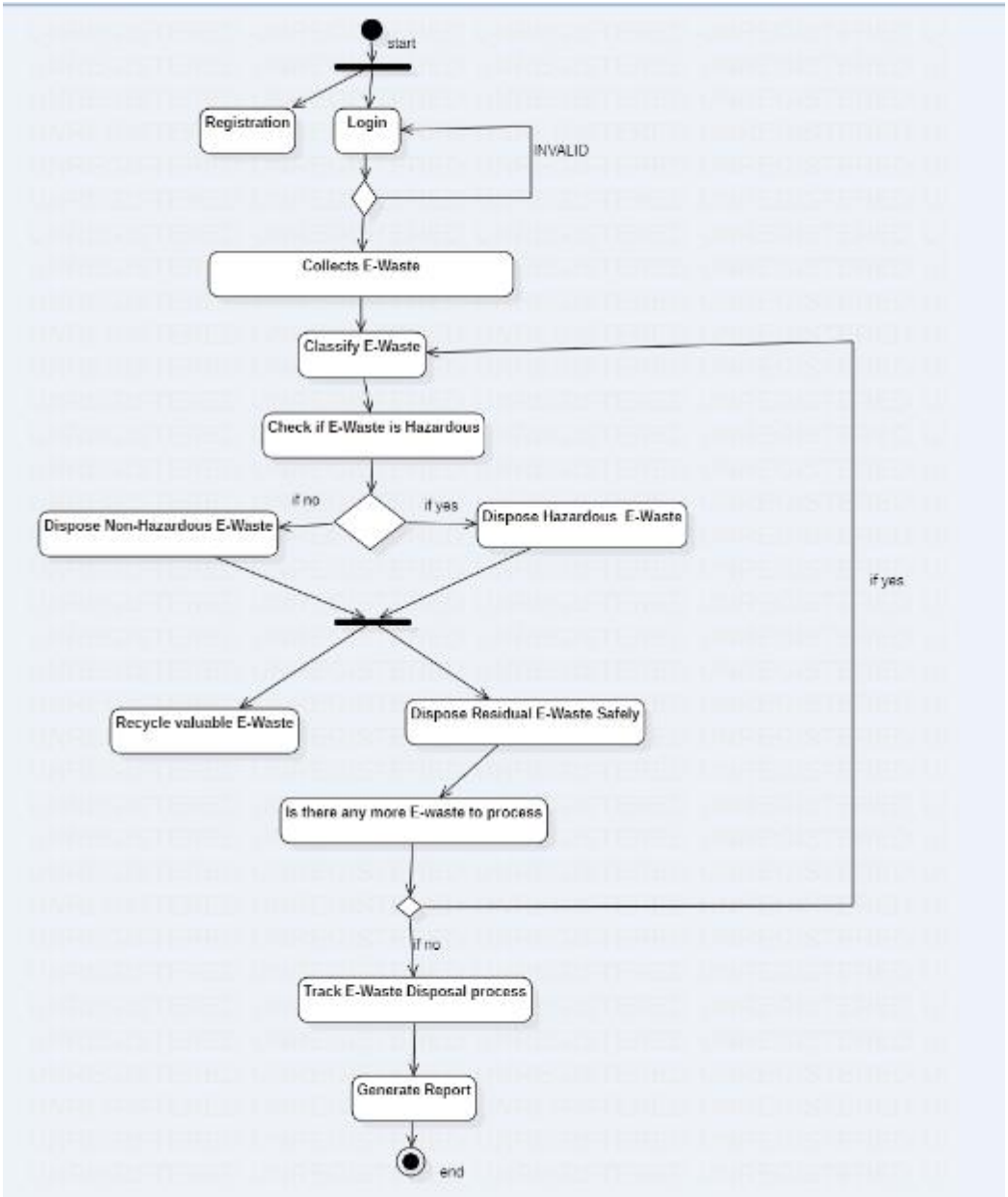


Task 2

• Activity diagram:

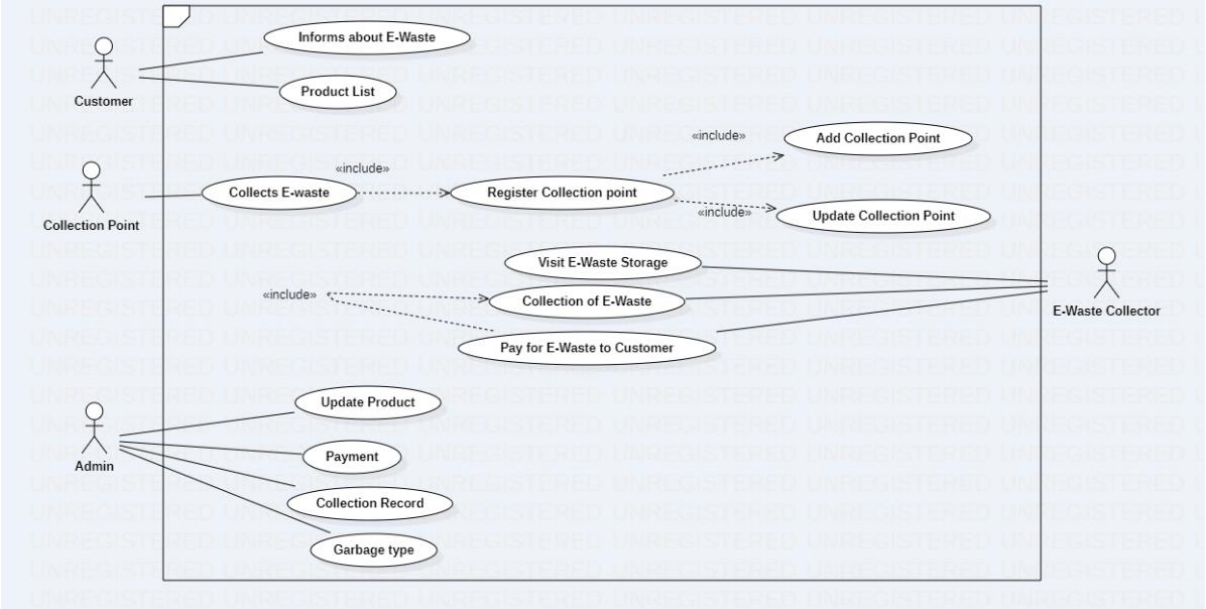


1. Start point of diagram representation of starting E-waste management System.
2. Login if register then proceed otherwise registered to the account.
3. Collection of e waste from customer
4. Classification of ewaste
5. We have to check if the waste is hazardous or not
6. Dispose the waste
7. Recycle
8. Is there anymore ewaste to process
9. If yes again start from step 4
10. If no then track ewaste disposal process.

11. Generate report
12. End

Task 3

Use case Diagram:-

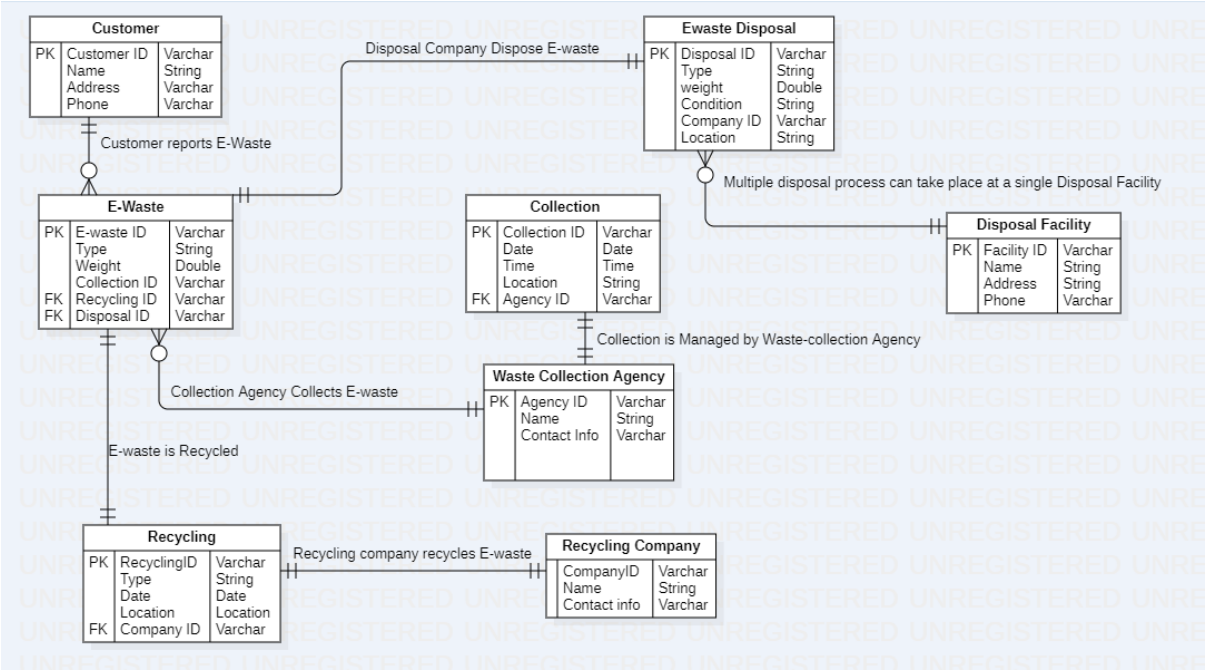


In the usecase diagram of E-Waste Management the actors use are Customer , Collection point , Admin and E-waste Collector .
The customer informs about the E-waste and gives the product list .
After that the user initiates the collect E-waste action.Then the user checks if the collection point is registered by the system anf if it is the user transport the e-waste directly to the collection point.
If the collection point is not registered the user must first register it by adding the collection point details to the system.Then the user transports the E-waste to the collection point.

Another actor use is E-Waste collector the use cases are visit E-waste storage ,the collect e waste from collection point and the it pays for the ewaste to the customer.
Last actor use is admin the use cases are Update product ,Payment , Collection Record and garbage Type.

TASK 4:-

Entity relationship diagram:



Entity:-

Customer:- Attributes are CustomerID , Name,Address , Phone.

E-Waste Disposal:- Attributes used here are Disposal ID , Type , Condition ,Weight , CompanyID and Location.

Disposal Facility:- FacilityID , Name , Address, Phone and disposeEwaste() method.

Waste Collection Agency :- Includes Attributes Agency ID , Name , Contact info , and methods like collect Ewaste(),dispose Ewaste(),track Ewaste().

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Recycling :- Includes Attributes Recycling ID , Type,Date,Location.CompanyId.

Recycling Company:- CompanyID,Name,Contactinfo.

Relationships :-

Customer-One customer can reports about many E-waste .

E-waste and E-waste Disposal :- here it has one to one relation here disposal company dispose ewaste. And the ewaste –disposal has many to one relation with disposal facility as multiple disposal process can take place at a single Disposal facility.

The Waste collection agency collects e-waste has one to many relation as one waste collection agency can collect may types of e-waste

The ewaste is recycled so has one to one relationship.

And the recycling company recycles the waste so has one to one relation .

And the collection is managed by waste collection agency has one to one relation.