

AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH
(AIUB)



Department of Computer Science
Faculty of Science & Technology (FST)

Spring 2020-2021

CSC 2210 Object Oriented Analysis and Design (OOAD)

Section: "G"

Group: "8"

Project title:

"Waste Management System" Version 2.0

Submitted to

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Section 1: Abstract

The Waste management System is a way to recycle daily waste to our highest benefits, ensuring a healthy environment and a friendly eco-system. Through this system the public has to first login which requires verification. The objective is to buy and sell waste (inorganic or organic) which can be used to produce eco-friendly products. By logging in, public can sell waste and buy eco-friendly products and can check the product details and buyer can buy waste and sell eco-friendly products which are recycled from waste. If the desired product is available public and buyer can buy products through preferred multiple transaction policy like mobile banking, cash on delivery, credit or debit. Buyer delivers the cart to the precise location or collects waste and receives the money if cash on delivery. Also, people can review and write social awareness blog. This presentation is about the analysis of waste management system. Diagram's purpose is to present system clearly and completely as possible

Section 2: Problem statement

Waste is a significant global issue. Increasing volumes of waste are being generated as the global population and living standards rise. Waste is generally defined as disposed or unwanted materials or by-products. Current waste generation in Bangladesh is around 22.4 million tons per year or 150 kg/cap/year. There is an increasing rate of waste generation in Bangladesh and it is projected to reach 47, 064 tons per day by 2025. The rate of waste generation is expected to increase to 220 kg/cap/year in 2025. So now is the right time to think about waste and how it can manage and turn it into useful products. From the above discussion, we can say that the problem of waste management system is important to consider.

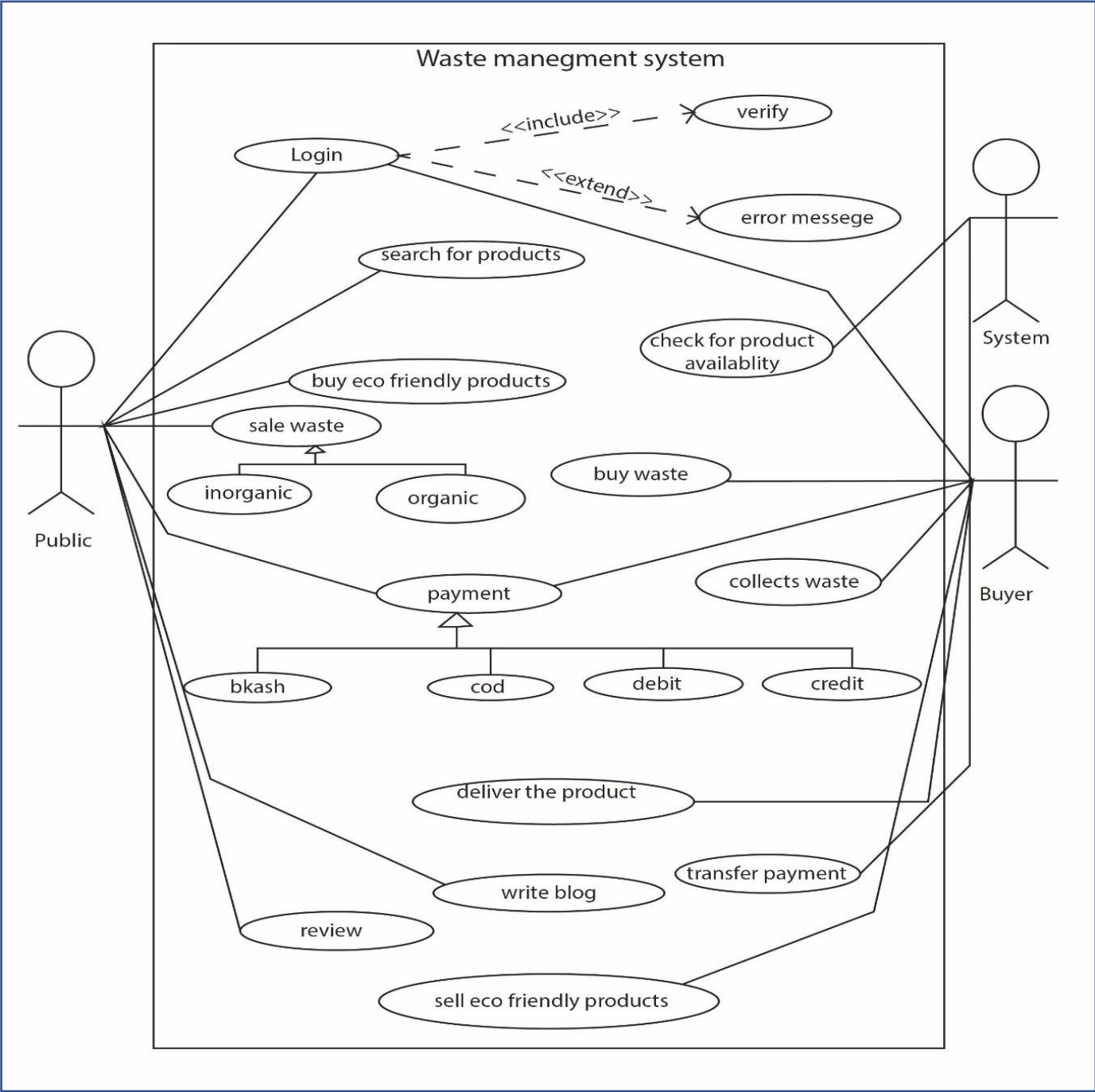
Section 3: Objective and Scope

Production of waste in our time is more than ever & slowing it's leading to global environmental change creating imbalances. There can be multiple solutions to deal with waste management. We © MMH can replace plastic bags with tissue bags, bury the organic waste in the ground, avoid hazardous waste etc. But nothing is as convenient as recycling the waste make them into usable products. This process will not only reduce waste but also make sure it's not harming the environment. It will also open a new income source for a lot of people. Even from the business perspective it's feasible for the new growing e-commerce market.

Section 4: Proposed Solution

The general idea is to recycle waste & make them into new usable products. People can buy eco-friendly products from the online store. They can write blogs to raise social awareness addressing the problem. Also, they can even sell waste if they want to. However, waste is recyclable based on its' category. Chemical, medical waste are hazardous therefore they must be destroyed properly

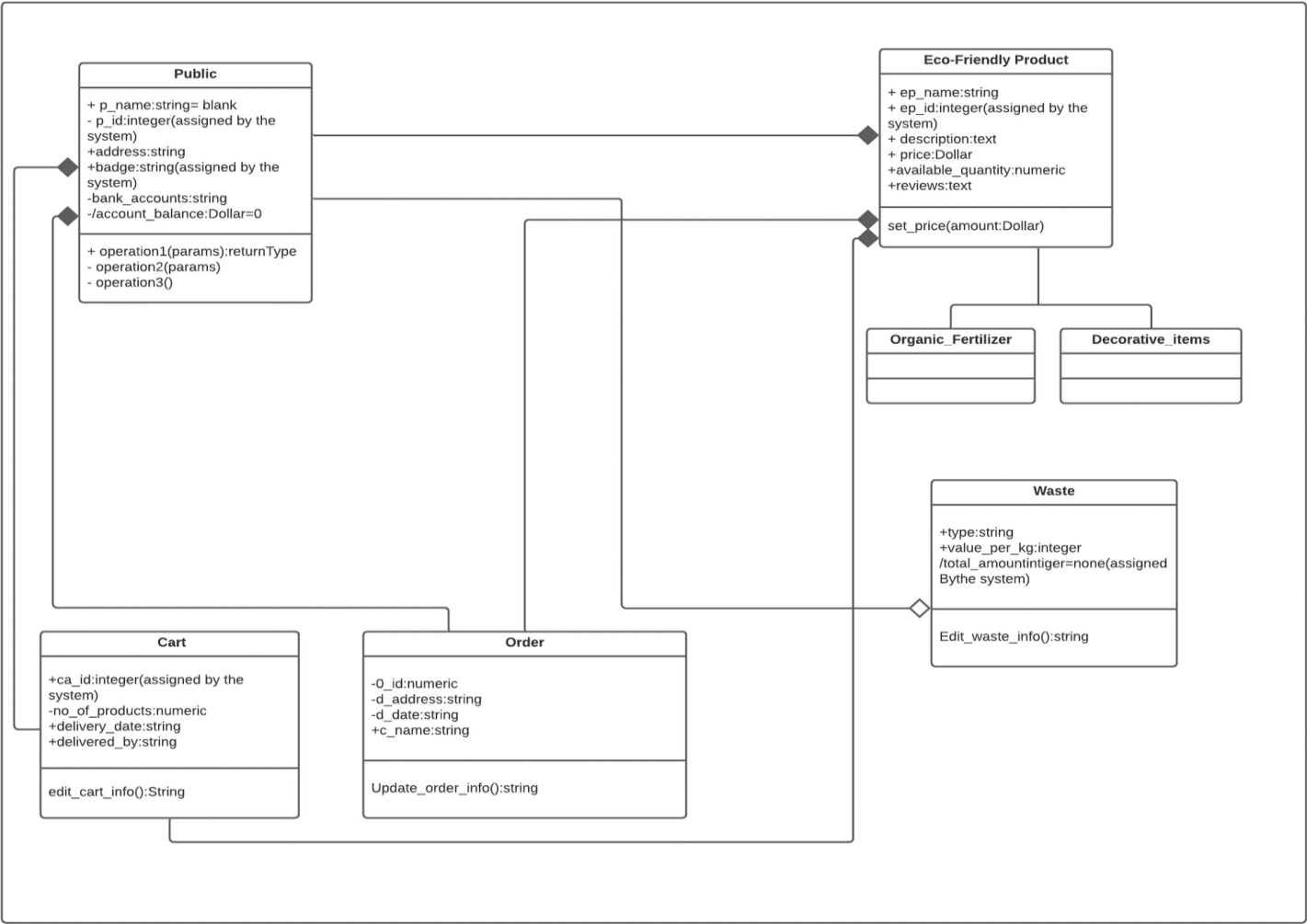
Section 5: Use Case Diagram



Specification:

The Waste management System is a way to recycle daily waste to our highest benefits, ensuring a healthy environment and a friendly ecosystem. There are three actors in Waste Management System. Public and buyer login to their accounts and verify, if fail then shows an error message. The public can search for items and system check product availability and can add waste for sale. Public can buy eco-friendly products. Buyer can buy waste and collect waste and sell eco-friendly products. They buy and sell products through preferred multiple transaction policy like mobile banking System, cash on delivery, credit or debit card. Also, public can review products and write blogs for social awareness.

Section 6: Class diagram



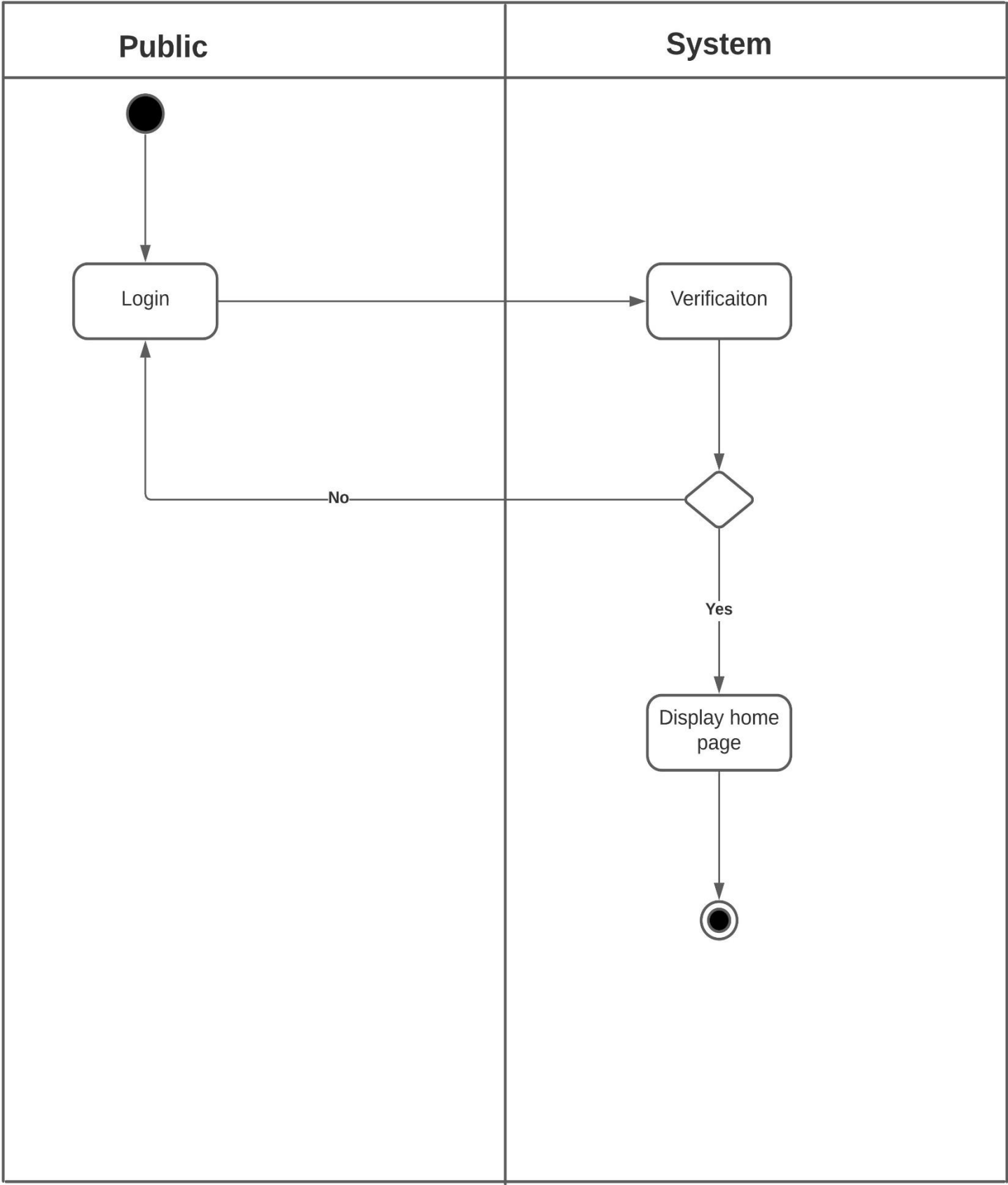
Specification:

In class diagram there are class, attributes, methods. The public class is parent object for cart and order object. They are in composition relationships. 'Eco friendly product' class is also parent object for public, cart, order they are also in composition relationship. Organic fertilizer and decorative items are sub-classes of ecofriendly product class. Public and waste class are in aggregation relationship

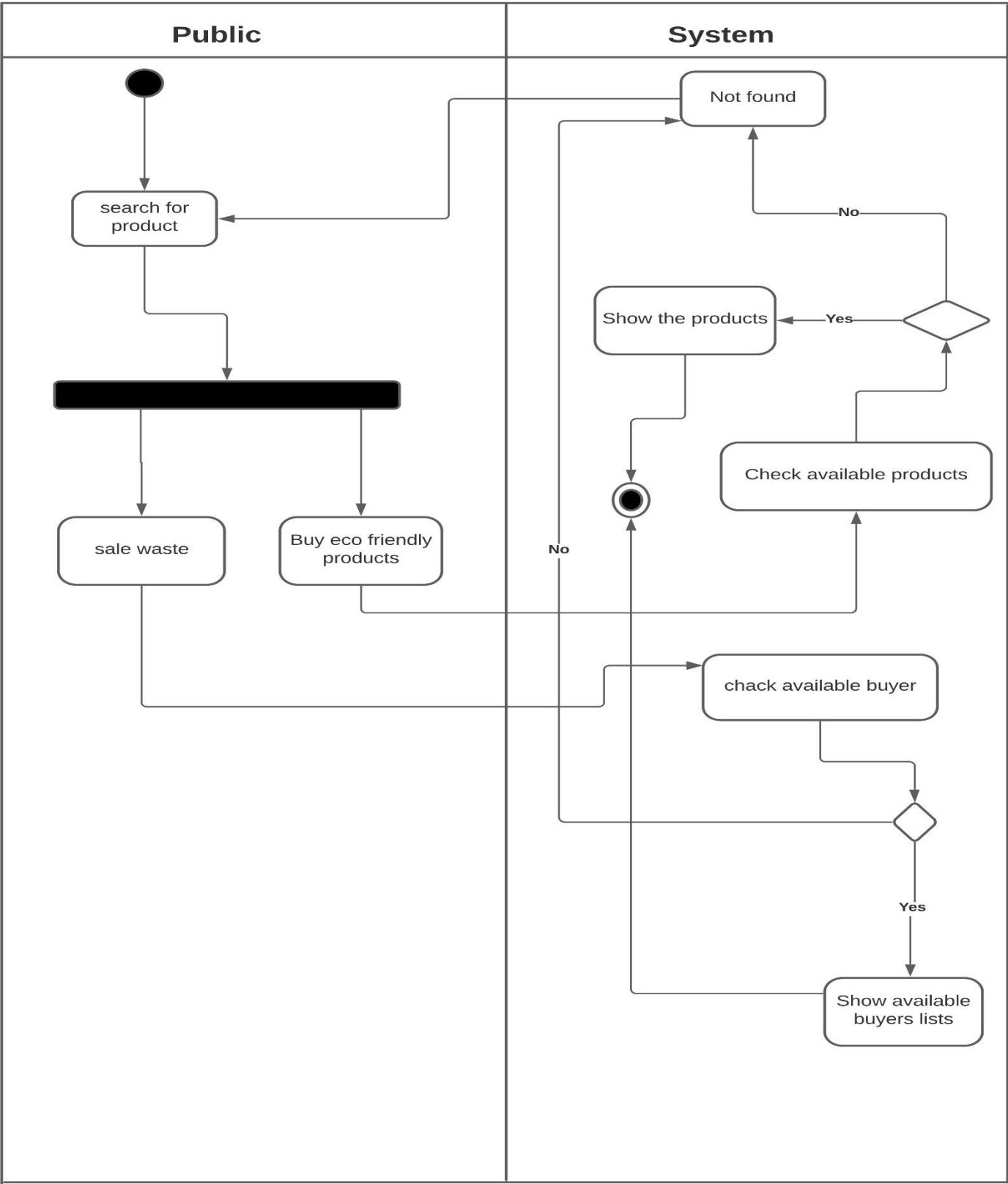
Section 7: Activity diagram

Public access the System :

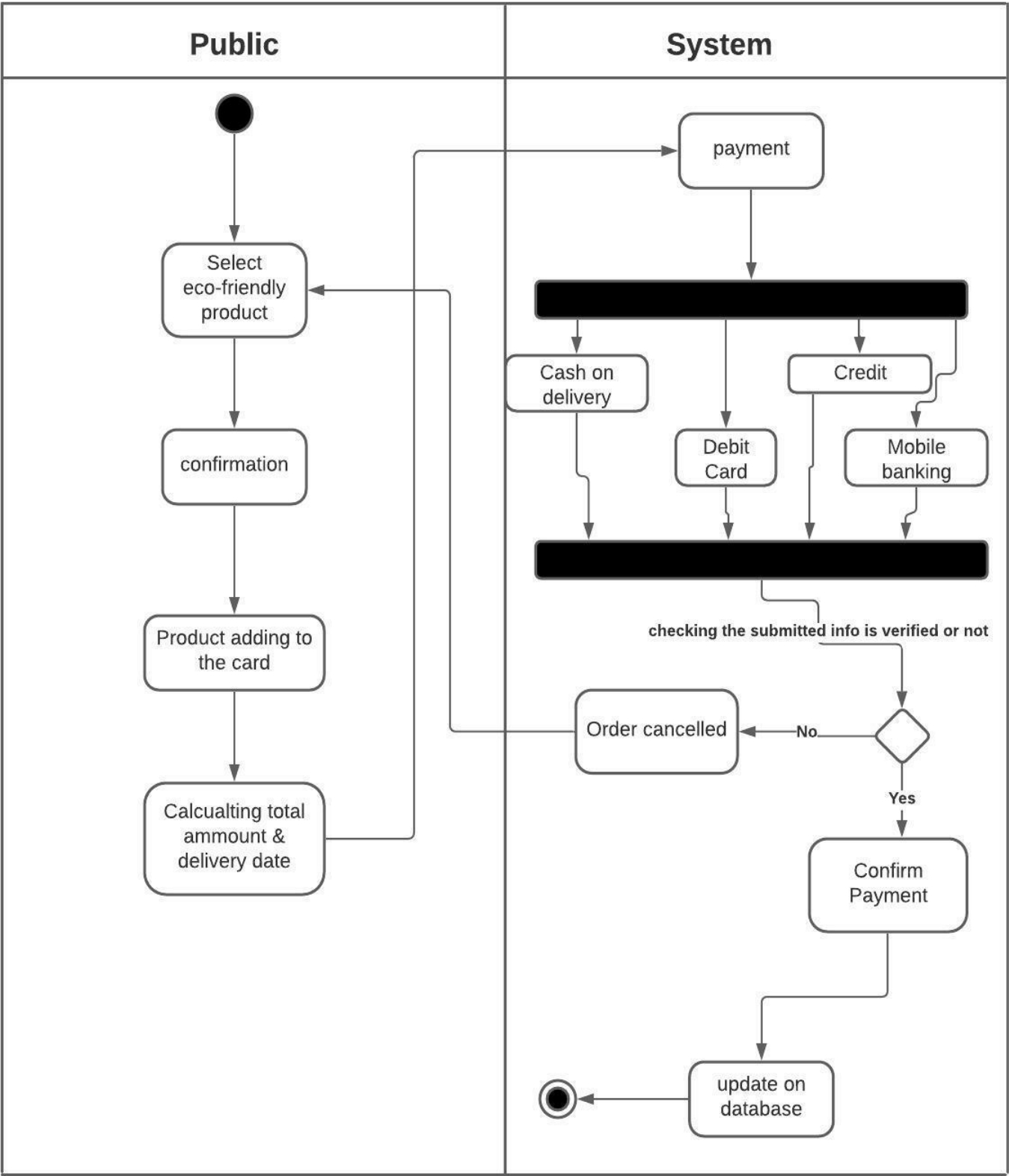
In this activity diagram shows how public access the system. After login the system will verify, if the verification is okay then the public will be able to see the home page otherwise he will be brought back to the login again by the system.



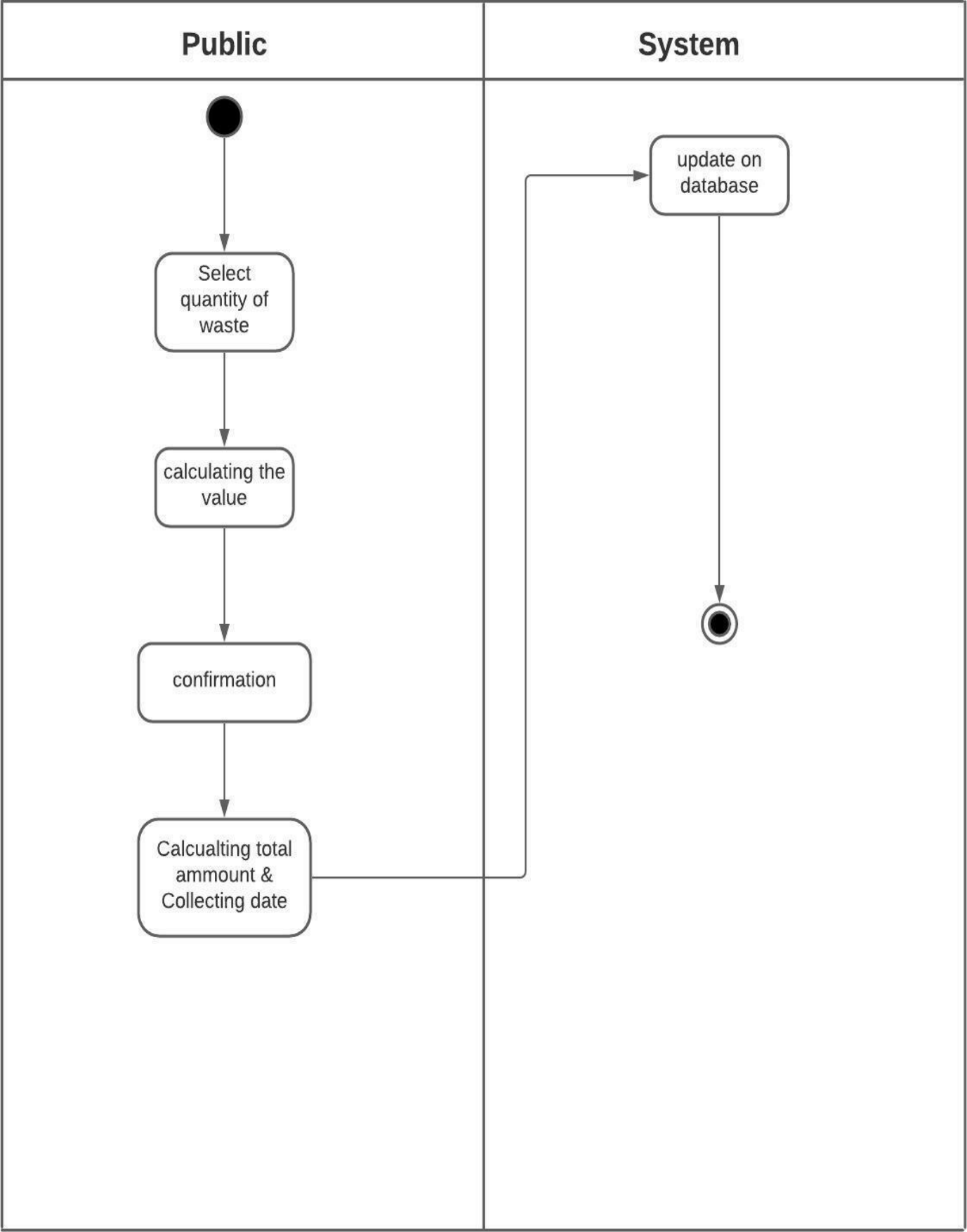
After login public will have two options where he/she can sale waste or buy ecofriendly products. If he/she go for sale waste then the system will check available buyer. If buyer available then it will show the lists of buyers if not then it will say not found and bring back to the search option. Another option is ecofriendly if he/she wants to buy. He/she have to select the products and then system will show the available products if it would available otherwise it will show not found and bring to the search product option



Here is payment procedure where public wants to buy eco friendly products. After confirmation the product will be add to the card and calculate the total amount with a delivery date. Then in the payment option public can choose COD, Debit Card, Credit Card and mobile banking method. After payment the system will check the submitted documents are verified or not. If verified the confirm the payment and update the database otherwise it will cancel the order and bring back to the select product option

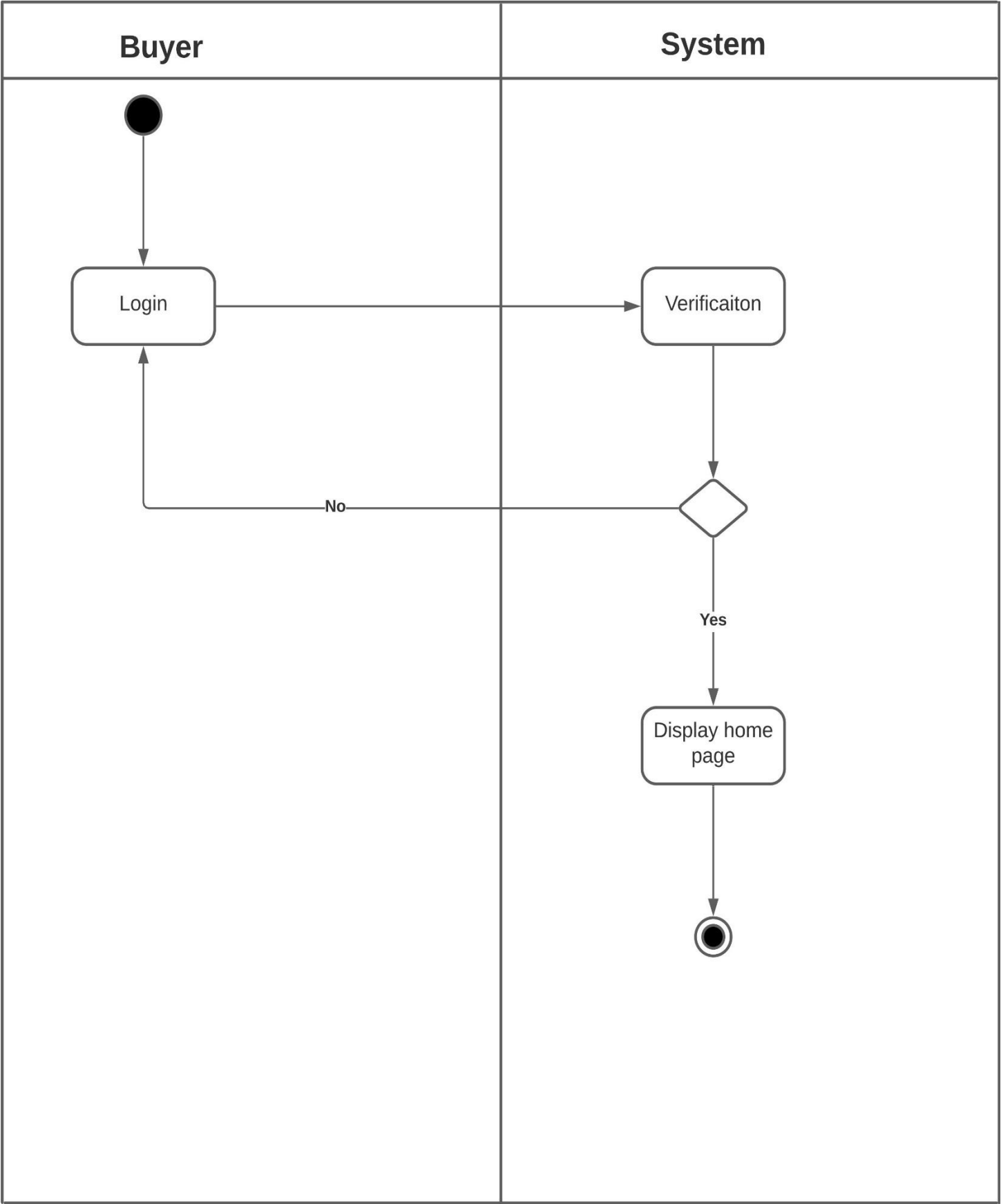


In this diagram is explain how public sell the waste. First they have to select the quantity then calculating the value . After the confirmation it will update in the database

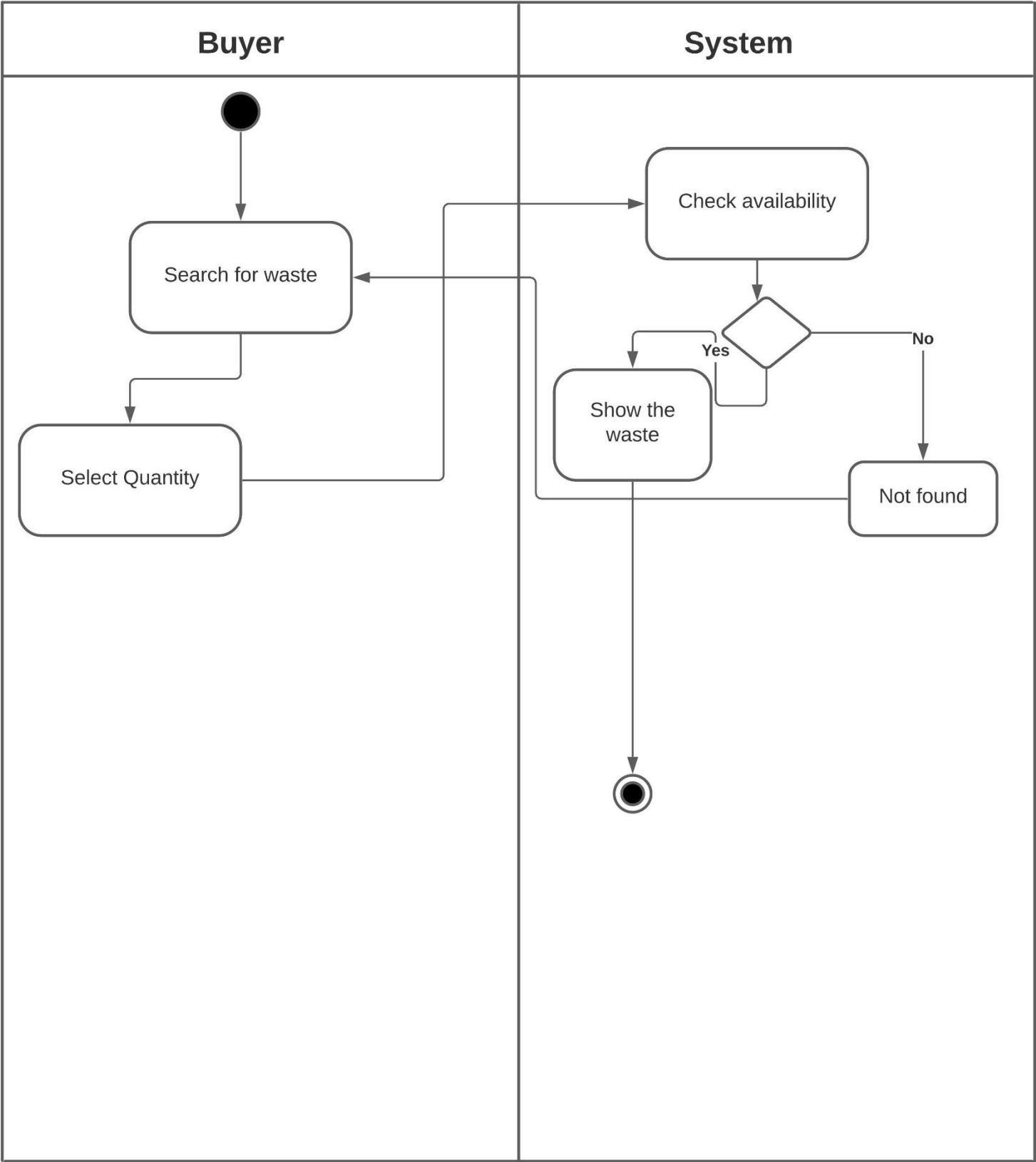


Buyer access to the System :

In this activity diagram shows how buyer access the system. After login the system will verify, if the verification is okay then the buyer will be able to see the home page otherwise he will be brought back to the login again by the system.

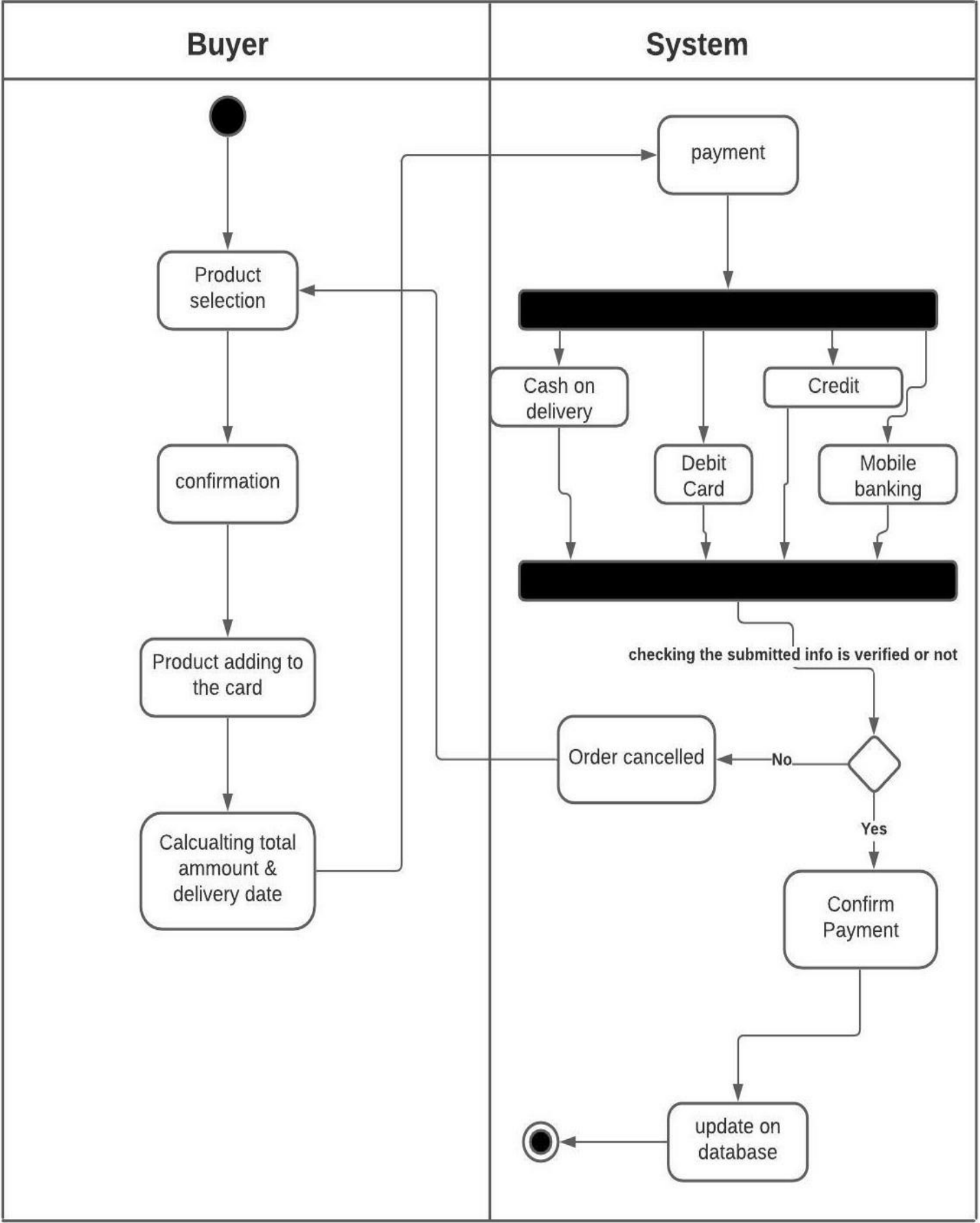


here buyer will search for the waste. After selecting quantity, the system will check arability. If available then it will s otherwise it shows not found

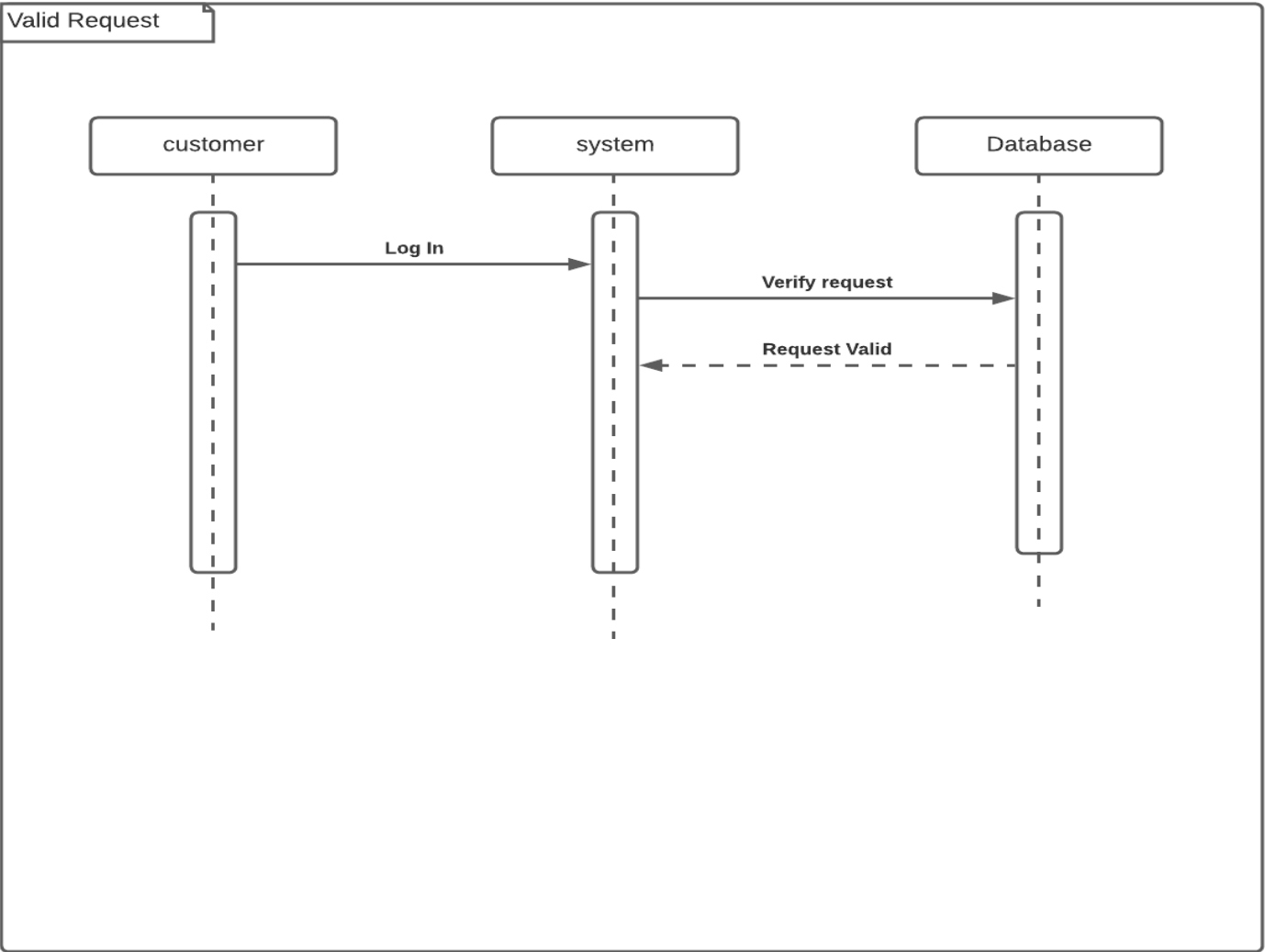


here is the payment procedure between buyer and the system. After selecting buyer will confirm for further. Then the system will make arrangement for payment where buyer can pay with 4 different payment option. Then system will verify the buyer info, if all verified

then it confirms the payment and update on the database if not it will cancel the order and will bring back the buyer to the product selection

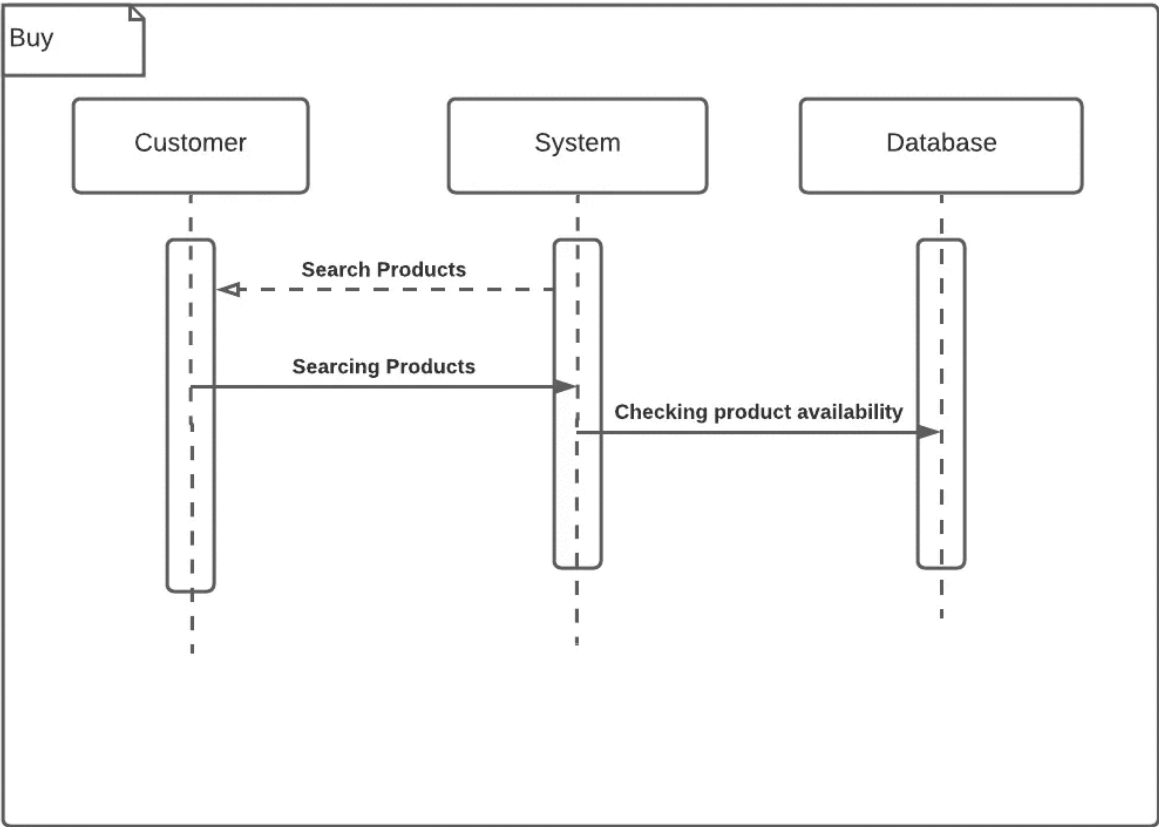


Section 8: Sequence diagram



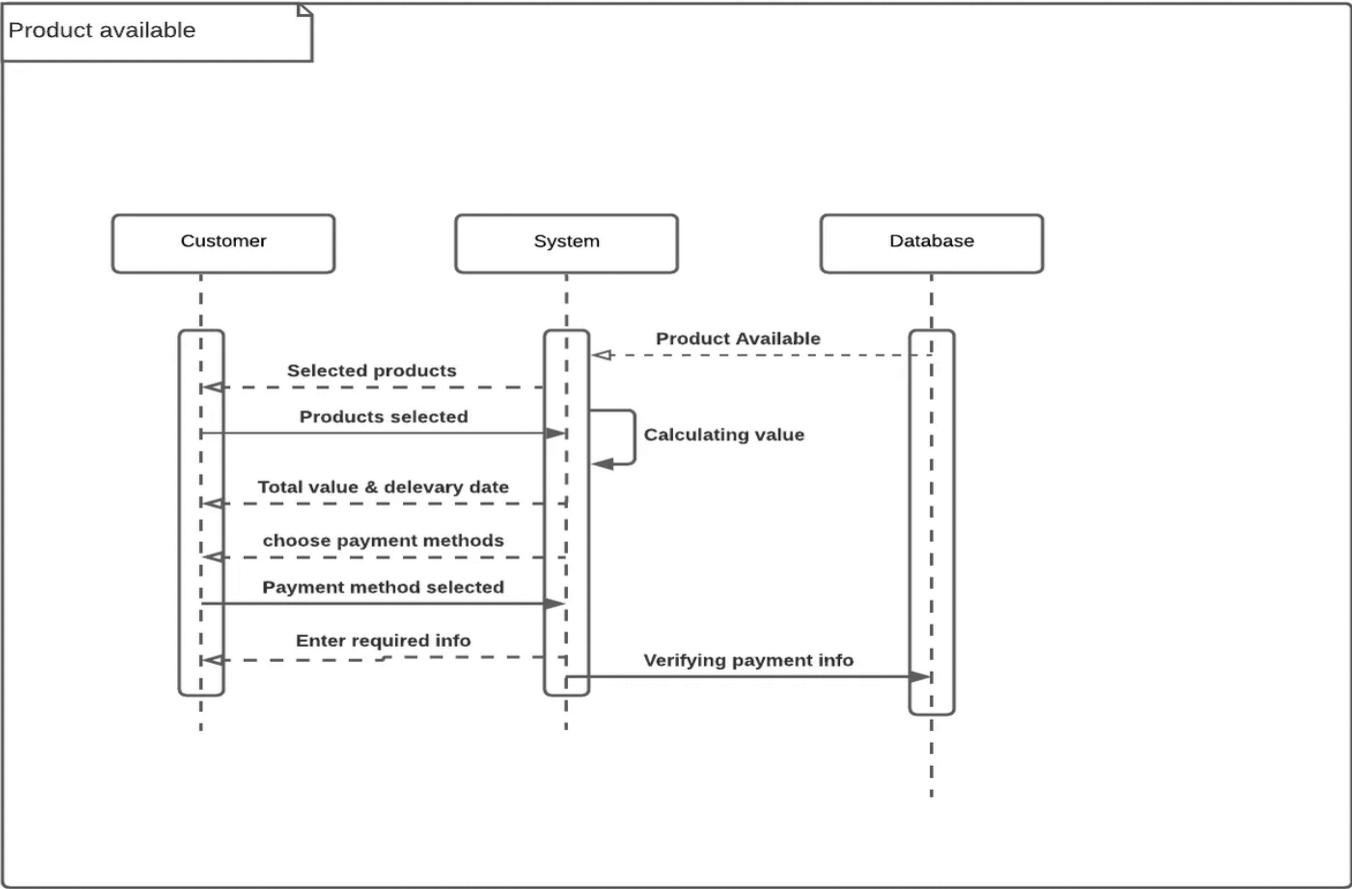
Specification:

In our sequence diagram there are three objects. The dash lines are called lifelines. First of all, the customer long in to the system. The system will send message to the database. If it is a valid request then it will send a return message to the system.



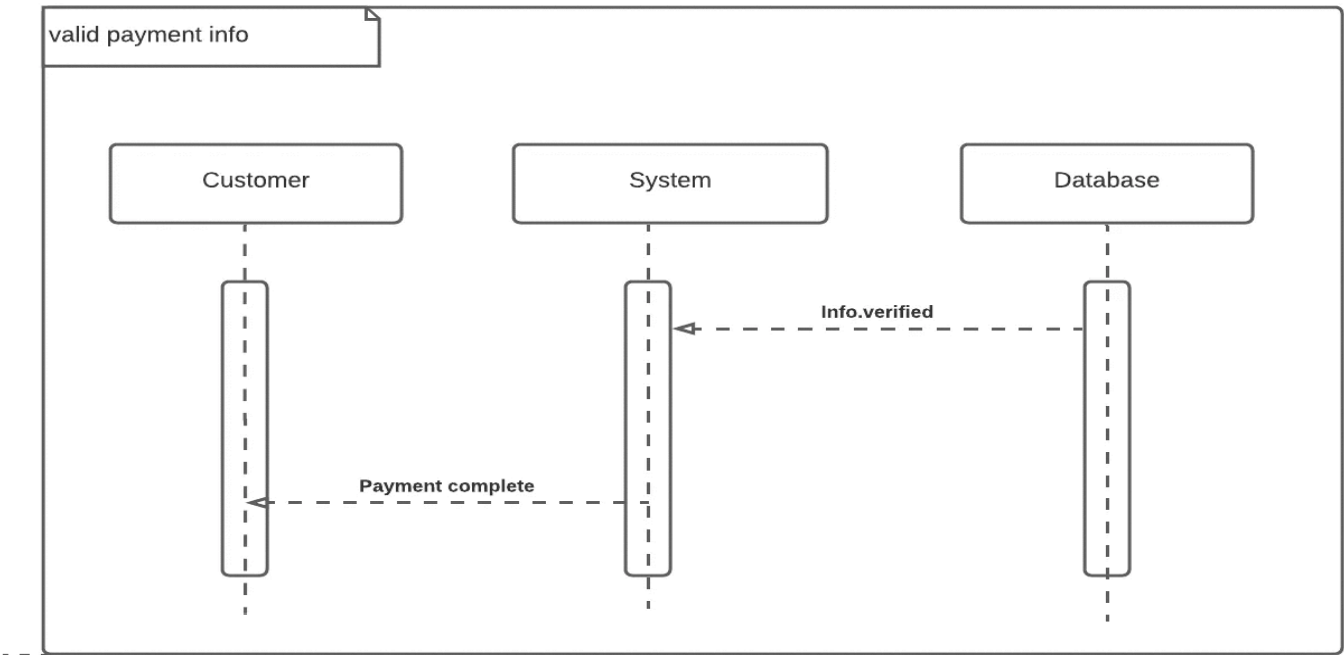
Specification:

Then the system will show a “search-product” message to the customer. Customer will search product from the system. System will check if the product is available in database.



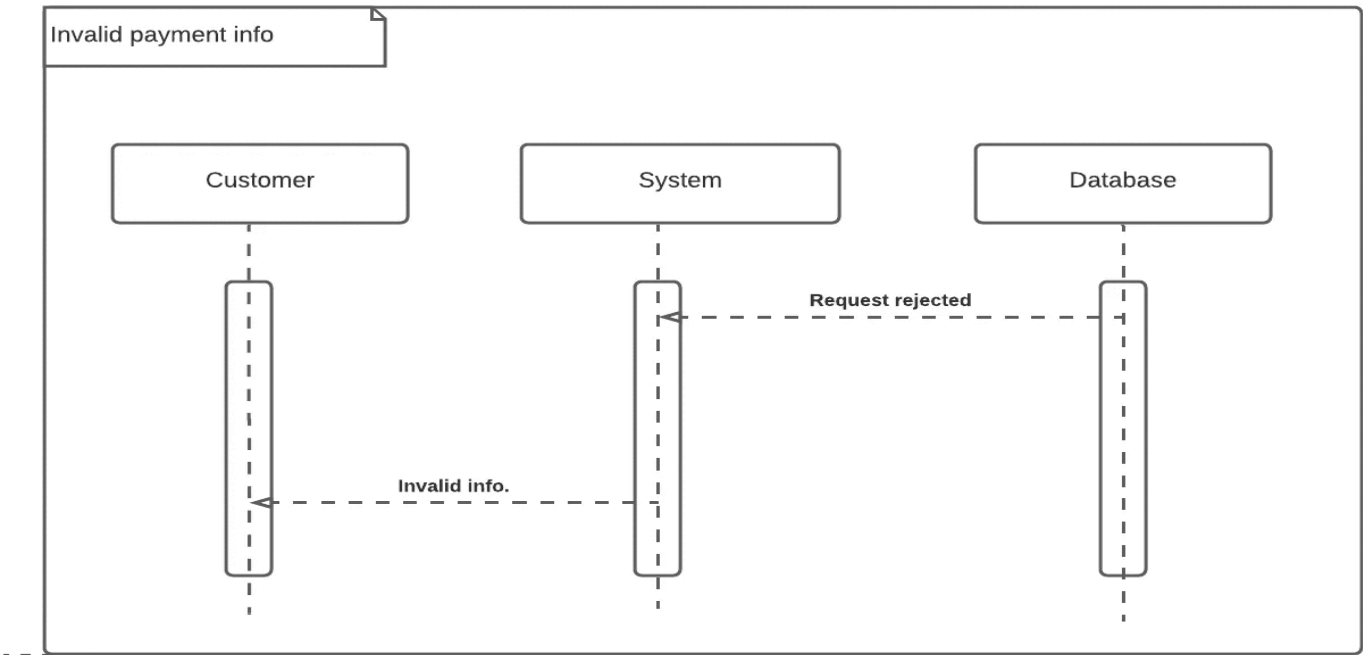
Specification:

If the product is available database will return message to the system. The system will send a return message to the customer to select products. After selecting the product system will calculate the price and send a return message to the customer to choose payment methods, total value and delivery date. After selecting the payment method, the system will ask for required info or verify payment info.



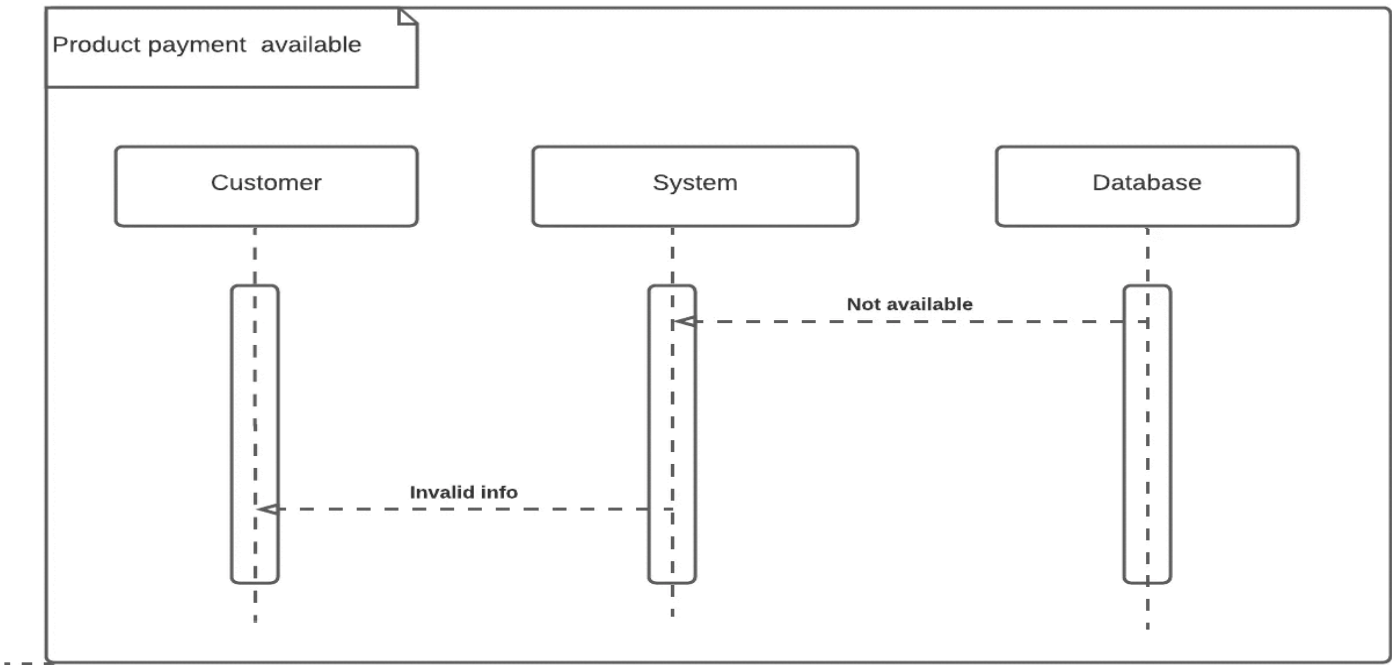
Specification:

The database will verify the info and send a return message to the system. System will ask for the customer to complete the payment method.



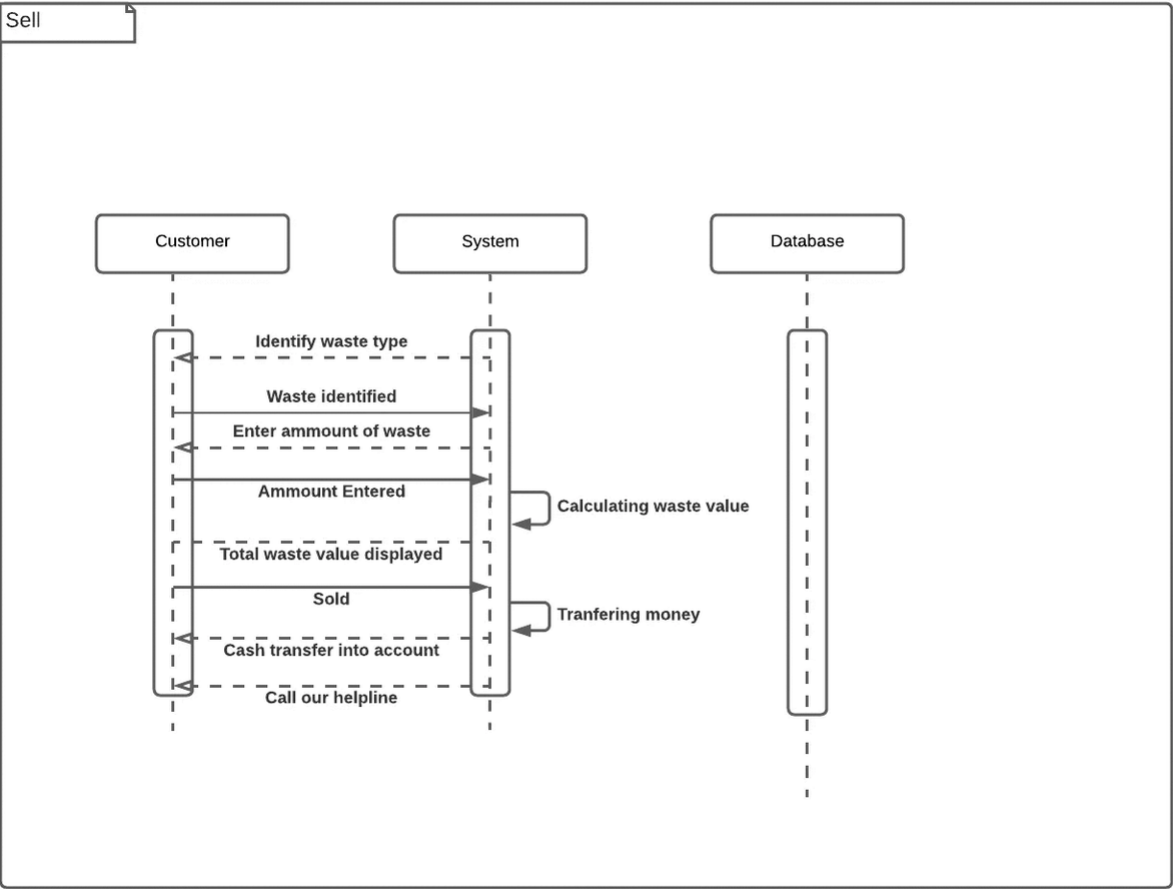
Specification:

If the request rejected the database will send a return message to the system.
The system will send a invalid info. message to the customer.



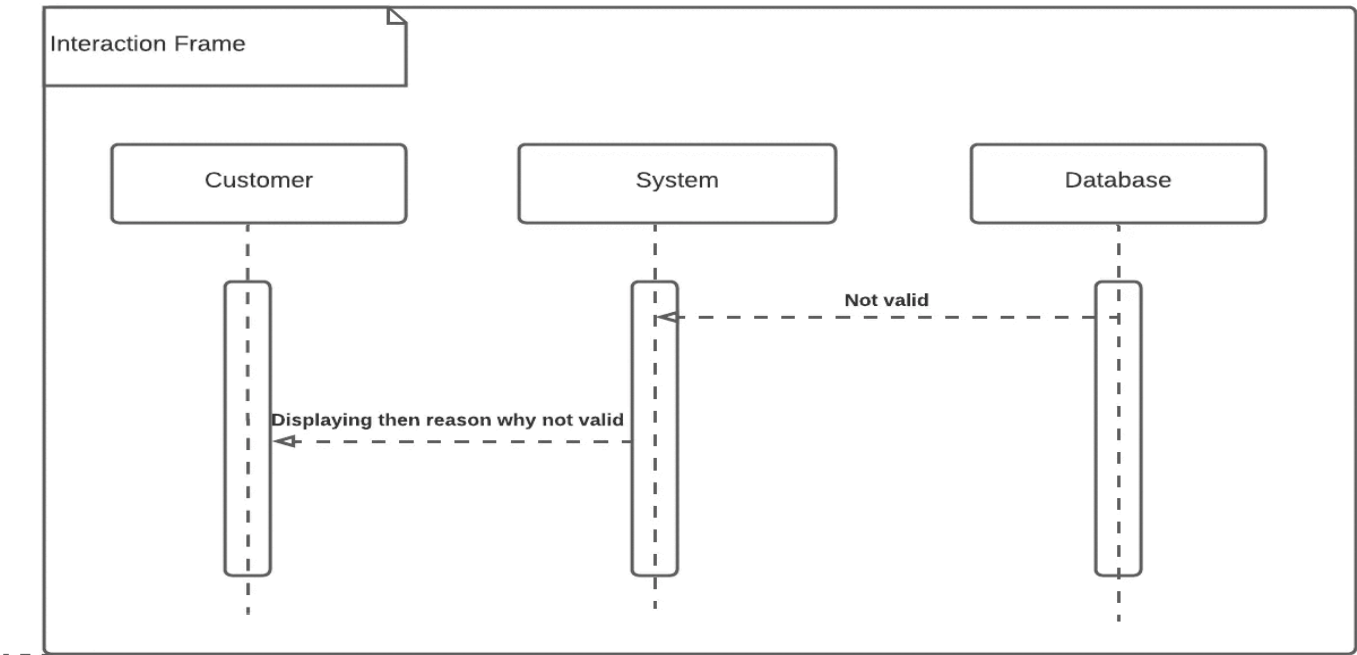
Specification:

If the information is not available the database will send a return message to the system and the system will send a return message to the customer.



Specification:

The system will show the customer to identify waste type. If the waste identified by the customer it will send to a message to the system. The system will ask the customer to know the amount of waste customer need. The system will calculate the waste value and send a return message to the customer. The customer will sell the waste and the system will transfer cash to the customer account. If there is any query or emergency the customer can call the helpline



Specification:

If the password is invalid or wrong the system send feedback to the system. The system will show the reason why the password is wrong to the customer

Section 9: Prototype



Fig: Prototype number 01

This is a sample of design of our prototype where user sees a home page for login.



Welcome to Waste management System
Recycle your trash or trash your Earth

USER NAME

PASSWORD

FORGET PASSWORD?

Fig: Prototype number 02

This sample shows the user after clicking the login option



Welcome to Waste management System
Recycle your trash or trash your Earth

BUY WASTE

SELL WASTE

Fig: Prototype number 01

This sample show the third page of the system where use have to select if he/she use the system as a seller or buyer

Section 10: Conclusion

Production of waste in our time is more than ever & slowing it's leading to global environmental change creating imbalances There can be multiple solutions to deal with waste management. The convenient way is recycling the waste make them into usable products. This process will not only reduce waste but also make sure it's not harming the environment. It will also open a new income source for a lot of people. Even from the business perspective it's feasible for the new growing e-commerce market where everyone can be benefitted.

In short, by using this system

1. Environment pollution can be reduced
2. Waste is completely useless and people can sell it to earn money
3. People can buy their desired products which is recycled also eco-friendly
4. This system is also work as a social awareness
5. This system will generate income source for people like people sell waste and also work for this system