



Assiut University
Faculty of Computer and Information



System Analysis and Design

Project Name

Tech Mart

Students Name

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Submitted to:

Dr. Mustafa Kamel & Eng. Rofida Gamal

System Request

Project Sponsor

Amazon's heads who responsible for finance department.

Business Need

This System is made to solve the problem of congestion when buying from large stores and malls, to increase sales in malls, and not to waste customers time in traditional dealings.

By selling various products via the Internet.

Business Requirements

This System allows us to scan a QR code to enter the supermarket to buy various products, and it allow us to buy online not traditional ways for paying.

Business value

We expect that:

- It supplies 10% increase in sales.
- It will save about 100000\$ than the traditional selling (sell by monthly paid employees) to sell.
- It will increase the confidence of the customers in purchasing at any time without fear of congestion.

Special Issues or Constraints

- The System must be completed before RAMADAN because it will be very helpful to the customers.
- The customer's information must be very secure in dealing with the customer database.
- The App must be linked with the customer visa.
- The System must take 6 months to complete.

Technical Feasibility

The Tech Mart system is feasible technically, although there is some risk.

- Tech mart risk regarding familiarity with Tech Mart application is moderately low.
 - 1- The IT department has knowledge of the current Mobile application system and the databases and Internet technology it uses.
 - 2- The IT department has strong knowledge of Securing user information from hacking.
 - 3- Consultants are readily available to provide help in this area.
- Tech mart risk regarding familiarity with the technology is moderately high.
 - 1- The IT department has no direct knowledge of this new technology that links the sensors by the products and the application.
 - 2- The IT department has knowledge of the technology required to paying with the visa that is linked on the application.
- The project size is considered medium risk.
 - 1- The project team will likely consist of 10 or fewer people.
 - 2- Business user involvement will be required.
 - 4- The time frame of the project is critical since the system is essential to determine our competitive position in the market.
- The compatibility with Tech mart existing technical infrastructure should be good.
 - 1- An Internet infrastructure and cameras is already in place at the Mart.
 - 2- The Electrical generator should be able to Run the system in the case of a power cut.

Economic Feasibility

| Development Costs | Operational Costs |
|---|---|
| <ul style="list-style-type: none">• Development team salaries.• Development training.• Application Software.• Sensors, Cameras.• Equipment like (Fridges, Freezer)• Smart Carts. | <ul style="list-style-type: none">• Goods costs.• Making Sales.• Software upgrades.• Software licensing fees.• Hardware repair and upgrades.• User training.• security and Operational team salaries. |
| Tangible Benefits | Intangible Benefits |
| <ul style="list-style-type: none">• Increased sales.• Reductions in Equipment costs.• New Cheap Hardware Devices.• Better supplier prices. | <ul style="list-style-type: none">• Open more Branches.• Being Sponsors for famous companies.• Increased brand recognition.• Higher-quality products.• Improved customer service.• Better supplier relations. |

| | 2022 | 2023 | 2024 | 2025 | Total |
|--|-----------|----------|---------|---------|---------|
| Benefits | | | | | |
| Increased sales. | | 100,000 | 115,000 | 120,000 | |
| Reductions in equipment cost | | 70,000 | 75,000 | 60,000 | |
| New Cheap Hardware Devices. | | 160,000 | 100,000 | 100,000 | |
| Better supplier prices. | | 20,000 | 25,000 | 40,000 | |
| Total Benefits | | 350,000 | 315,000 | 320,000 | 985,000 |
| Present Value Total Benefits | | 318,181 | 260,330 | 240,420 | 818,931 |
| Development costs | | | | | |
| Development team salaries | 60,000 | 0 | 0 | 0 | |
| Development training. | 20,000 | 0 | 0 | 0 | |
| Application Software. | 17,000 | 0 | 0 | 0 | |
| Sensors, Cameras. | 30,000 | 0 | 0 | 0 | |
| Equipment like (Fridges, Freezer) | 16,000 | 0 | 0 | 0 | |
| Smart Carts. | 18,000 | | | | |
| Total Development costs | 165,000 | | | | |
| Operational costs | | | | | |
| Making Sales | | 10,000 | 12,000 | 17,000 | |
| User training | | 20,000 | 20,000 | 20,000 | |
| security and Operational team salaries | | 50,000 | 52,000 | 53,500 | |
| Software upgrades | | 70,000 | 27,000 | 30,000 | |
| Goods costs | | 50,000 | 130,000 | 150,000 | |
| Total Operational costs | | 200,000 | 241,000 | 270,000 | |
| Total costs | 165,000 | 200,000 | 241,000 | 270,000 | 876,000 |
| Present Value Total Costs | 165,000 | 181,818 | 199,173 | 202,854 | 748,845 |
| Total Benefit-Total cost | (165,000) | 150,000 | 74,000 | 50,000 | |
| Cumulative Net Cash Flow | (165,000) | (15,000) | 59,000 | 9,000 | |
| Return on investment (ROI) | 12,44% | | | | |
| Break-even point | 1.45 year | | | | |
| NPV (PV Total Benefits -PV Total) | | | | | 70,086 |

Organizational Feasibility

How our system aligned with the business

- Our society is rapidly progressing towards financial inclusion.
- The product cost deposit automatically in bank account so that our system fit government taxing regulations.
- One and only systematic price model for whole customers.
- Deepening the financial and banking sector, enhancing its stability and safety, and strengthening its role in serving the endeavors of comprehensive economic growth.

Champions

- should be able to promote the project
- has strong network in many different business environments
- Highlights the project advantages in events and between investors
- supervise and administrate management staff
- involves users in decision making

Organizational management

- Determines the tasks, the responsibility for them, and their deadline
- Collect user opinions
- Prepares and presents documents and statistics to champions

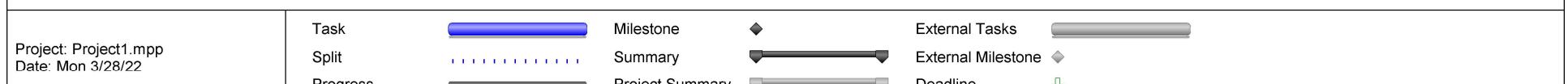
System users

- accepts the system policies
- give feedback and reviews
- Suggests modifications to the system or ask for new features

Work Plan

| Task ID | Task Name | Assigned To | Estimated | | | Actual | | | Dependency | Status |
|----------|-----------------------------|-------------|-----------|-------------|-------------|------------|-------------|-------------------|------------|--------|
| | | | days | Start Date | Finish Date | Start Date | Finish Date | Duration variance | | |
| 1 | Planning Phase | | 41 | Mon 1/3/22 | Mon 2/28/22 | | | | | Open |
| 1.1 | Identify opportunity | Aya | 20 | Mon 1/3/22 | Fri 1/28/22 | | | | | Open |
| 1.1.1 | System request | Aya | 20 | Mon 1/3/22 | Fri 1/28/22 | | | | | Open |
| 1.2 | Analyze feasibility | Aya | 10 | Mon 1/31/22 | Sun 2/13/22 | | | | | Open |
| 1.2.1 | Technical feasibility | Dina | 10 | Mon 1/31/22 | Sun 2/13/22 | | | | | Open |
| 1.2.2 | Economic feasibility | Dina | 10 | Mon 1/31/22 | Sun 2/13/22 | | | | | Open |
| 1.2.3 | Organizational feasibility | Dina | 10 | Mon 1/31/22 | Sun 2/13/22 | | | | | Open |
| 1.3 | Workplan | Dina | 11 | Mon 2/14/22 | Mon 2/28/22 | | | | | Open |
| 2 | Analysis Phase | | 23 | Tue 3/1/22 | Thu 3/31/22 | | | | | Open |
| 2.1 | System Requirements | Hossam | 23 | Tue 3/1/22 | Thu 3/31/22 | | | | | Open |
| 2.2 | Stockholders Requirements | Hossam | 23 | Tue 3/1/22 | Thu 3/31/22 | | | | | Open |
| 2.3 | Customer Requirements | Hossam | 23 | Tue 3/1/22 | Thu 3/31/22 | | | | | Open |
| 3 | Design Phase | | 39 | Fri 4/1/22 | Wed 5/25/22 | | | | | Open |
| 3.1 | APP | Toson | 39 | Fri 4/1/22 | Wed 5/25/22 | | | | 2 | Open |
| 3.1.1 | Coding | Toson | 14 | Fri 4/1/22 | Wed 4/20/22 | | | | | |
| 3.1.2 | Design Database | Hamad | 16 | Thu 4/21/22 | Thu 5/12/22 | | | | | Open |
| 3.1.3 | Gui | Hamad | 9 | Fri 5/13/22 | Wed 5/25/22 | | | | | Open |
| 3.2 | Setup | David | 4 | Thu 5/26/22 | Tue 5/31/22 | | | | | Open |
| 3.2.1 | Cameras | David | 4 | Thu 5/26/22 | Tue 5/31/22 | | | | | Open |
| 3.2.2 | Sensors | David | 4 | Thu 5/26/22 | Tue 5/31/22 | | | | | Open |
| 4 | Implementation Phase | | 11 | Wed 6/1/22 | Wed 6/15/22 | | | | | |
| 4.1 | System construction | Mustafa | 11 | Wed 6/1/22 | Wed 6/15/22 | | | | 2 | |
| 4.1.1 | Testing | Mustafa | 11 | Wed 6/1/22 | Wed 6/15/22 | | | | | |
| 4.2 | System installation | Mustafa | 11 | Wed 6/1/22 | Wed 6/15/22 | | | | | |
| 4.3 | establish a support plan | Mustafa | 11 | Wed 6/1/22 | Wed 6/15/22 | | | | | |
| 5 | R&D | | 11 | Thu 6/16/22 | Thu 6/30/22 | | | | | |
| 5.1 | Feedback | Ramez | 5 | Thu 6/16/22 | Wed 6/22/22 | | | | 2.3 | |
| 5.2 | Development | Ramez | 6 | Thu 6/23/22 | Thu 6/30/22 | | | | | |

| ID | Task Name | Duration | Start | Finish | Predecessors | Resource Names | Decemb | January | Februa | March | April | May | June | July | August |
|----|----------------------------|----------|-------------|-------------|--------------|----------------|--------|---------|--------|-------|-------|-----|------|------|--------|
| 1 | Planning Phase | 41 days? | Mon 1/3/22 | Mon 2/28/22 | | | | | | | | | | | |
| 2 | Identify opportunity | 20 days? | Mon 1/3/22 | Fri 1/28/22 | | Aya | | | | | | | | | |
| 3 | System request | 20 days? | Mon 1/3/22 | Fri 1/28/22 | | Aya | | | | | | | | | |
| 4 | Analyze feasibility | 10 days? | Mon 1/31/22 | Sun 2/13/22 | | Aya | | | | | | | | | |
| 5 | Technical feasibility | 10 days? | Mon 1/31/22 | Sun 2/13/22 | | Dina | | | | | | | | | |
| 6 | Economic feasibility | 10 days? | Mon 1/31/22 | Sun 2/13/22 | | Dina | | | | | | | | | |
| 7 | Organizational feasibility | 10 days? | Mon 1/31/22 | Sun 2/13/22 | | Dina | | | | | | | | | |
| 8 | Workplan | 11 days? | Mon 2/14/22 | Mon 2/28/22 | | Dina | | | | | | | | | |
| 9 | Analysis Phase | 23 days? | Tue 3/1/22 | Thu 3/31/22 | | | | | | | | | | | |
| 10 | System Requirements | 23 days? | Tue 3/1/22 | Thu 3/31/22 | | Hossam | | | | | | | | | |
| 11 | Stackholders Requirements | 23 days? | Tue 3/1/22 | Thu 3/31/22 | | Hossam | | | | | | | | | |
| 12 | Customer Requirements | 23 days? | Tue 3/1/22 | Thu 3/31/22 | | Hossam | | | | | | | | | |
| 13 | Design Phase | 43 days? | Fri 4/1/22 | Tue 5/31/22 | | | | | | | | | | | |
| 14 | APP | 39 days? | Fri 4/1/22 | Wed 5/25/22 | 9 | Toson | | | | | | | | | |
| 15 | Codeing | 14 days? | Fri 4/1/22 | Wed 4/20/22 | | Toson | | | | | | | | | |
| 16 | Design Database | 16 days? | Thu 4/21/22 | Thu 5/12/22 | | Hamad | | | | | | | | | |
| 17 | Gui | 9 days? | Fri 5/13/22 | Wed 5/25/22 | | Hamad | | | | | | | | | |
| 18 | Setup | 4 days? | Thu 5/26/22 | Tue 5/31/22 | | David | | | | | | | | | |
| 19 | Cameras | 4 days? | Thu 5/26/22 | Tue 5/31/22 | | David | | | | | | | | | |
| 20 | Sensors | 4 days? | Thu 5/26/22 | Tue 5/31/22 | | David | | | | | | | | | |
| 21 | Implementation Phase | 11 days? | Wed 6/1/22 | Wed 6/15/22 | | | | | | | | | | | |
| 22 | System construction | 11 days? | Wed 6/1/22 | Wed 6/15/22 | 9 | Mustafa | | | | | | | | | |
| 23 | Testing | 11 days? | Wed 6/1/22 | Wed 6/15/22 | | Mustafa | | | | | | | | | |
| 24 | System installation | 11 days? | Wed 6/1/22 | Wed 6/15/22 | | Mustafa | | | | | | | | | |
| 25 | establish a support plan | 11 days? | Wed 6/1/22 | Wed 6/15/22 | | Mustafa | | | | | | | | | |
| 26 | R&D | 11 days? | Thu 6/16/22 | Thu 6/30/22 | | | | | | | | | | | |
| 27 | Feedback | 5 days? | Thu 6/16/22 | Wed 6/22/22 | 12 | Ramez | | | | | | | | | |
| 28 | Development | 6 days? | Thu 6/23/22 | Thu 6/30/22 | | Ramez | | | | | | | | | |



Interviews

| Name | Position | Purpose of interview | Meeting |
|-----------------|----------------------------|---|----------------------------------|
| Ahmed Ali | an important customer | knowing what customers think of buying over the phone find out what is best for them in traditional purchase or purchase over the phone | Sat, January 1 3-4P.M |
| Karim Thapet | another important customer | knowing what customers think of buying over the phone. find out what is best for them in traditional purchase (through sellers) or purchase over the phone. | Sat, January 2 4-5 P.M |
| Mohamed Kamel | a delivery company manager | Knowing the maximum time, it takes for delivery within the city. Find out the cost of contracting with the company. Find out his personal opinion of buying over the phone. | Sun, January 2 10-11 A.M |
| Bahi Khalil | Bank manager | Knowing How to link the customer's bank account to his account on our application. Know the security problems and know the alerts that our customers should know. Know the Necessary measures in case of theft. | Sun, January 2 11-12 A.M |
| Mohamed Mostafa | The Manager | Understand the way to deal with the system | Sun, January 2 12:30-1:30 P.M |
| Hesham Ahmed | Cashier | <ul style="list-style-type: none"> • Knowing that how you deal with customers. • Knowing handle the cashier program. • Knowing the client's opinion about the system. | Mon, January 3 10-11 A.M |
| Mariam Baher | Cyber Security Engineer | Knowing how to protect our database for malicious digital attacks. | Mon, January 3 3-4 PM |
| Abdallah | Software Engineering | <ul style="list-style-type: none"> • Speaking about security • Speaking about Application features | Mon, January 3 4-5PM |

Person interviewed: an important customer

Interviewer: Ramez

Purpose of Interview:

- knowing what customers think of buying over the phone
- find out what is best for them in traditional purchase (through sellers) or purchase over the phone

summary of Interview:

they saw that buying over the phone is the best for them

because he saw traditional purchase is consuming for time and he was afraid of crowding in the mall

finally, we knew it is best for him to buy over the phone

open items:

after doing an Interview with another client we knew he prefers traditional buying.

details notes:

- 1) What's your opinion in buing in traditional way?

Answer:

I saw that I have a big problem because of the crowding, and it consume much time

- 2) What is your opinion in buying online (as buying from amazon)

Answer:

I think it's very nice because the products have a discount and it's very good to buy online from everywhere I want

not like buying from local places

- 3) Which you prefer buying online or buying by traditional ways?

Answer:

I prefer buying online.

- 4) What is your opinion in buying by scanning the QR code in the mall?

Answer:

I think it is very nice because it will reduce the crowding and the time consumed.

Person interviewed: a delivery company manager

Interviewer: Hamad

Purpose of Interview:

- Knowing the maximum time, it takes for delivery within the city.
- Find out the cost of contracting with the company.
- Find out his opinion of buying over the phone.

summary of Interview:

We knew that the maximum time it takes for the representative to deliver the product is 25 minutes.

We knew that the cost of one delivery anywhere in the city is 10 Egyptian pounds.

He liked the idea of buying over the phone very much because it is convenient for people and many customers prefer online shopping over traditional shopping.

details notes:

- 1) What do you think of the way to buy through the delivery company?

Answer:

The method of purchasing through the recommendation company is fast, saves effort and time, and is suitable for the elderly

- 2) What do you think of the traditional way of buying from the market?

Answer:

The traditional purchase method saves money, but wastes time and effort

- 3) In your opinion, which one does the customer prefer? How to buy through the delivery company or the traditional purchase method? And why?

Answer:

Of course, the customer prefers the method of purchasing through the delivery company in order to save time and effort

- 4) What is the cost of delivery within the city?

Answer:

Delivery cost anywhere in the city is 10 pounds

- 5) What is the maximum time it takes to deliver the product within the city?

Maximum delivery time is 25 minutes in anywhere within the city.

Person interviewed: Bank manager

Interviewer: Toson

Purpose of Interview:

How to link the customer's bank account to his account on our application?

Knowing the security problems and knowing the alerts that our customers should know.

Knowing the Necessary measures in case of theft.

summary of Interview:

We knew that every bank customer has his own bank number and has a password for his account, so the customer can register on the application using his bank number and the password of his bank account.

We knew the instructions that all our customers must take, which are he must not give his bank number and password to anyone, so as not to be stolen.

In the event of theft, he must inform the bank's employees so that his personal account is temporarily suspended until the thief is known

open items: none

details notes:

1) If I want to open account in the bank what should I do?

Answer:

You will go to bank and you will get a bank account by a special number to your account and your own basswood which you want.

2) What is the risks which must be avoided?

Answer:

You shouldn't tell anyone about your special number and your password.

3) What should I do in case of theft?

Answer:

You should tell the bank and they will close your account temporarily until knowing the thief

4) What is your opinion in buying online by using the phones?

Answer:

I think it's very nice idea because nowadays most people prefer to buy online it's more comfortable to them.

Person interviewed:

another important customer

Interviewer:

Mostafa

Purpose of Interview:

- knowing what customers think of buying over the phone.
- find out what is best for them in traditional purchase (through sellers) or purchase over the phone.

summary of Interview:

He thinks it is a good and quick idea, but he sees that some people do not have a bank account and therefore will not be able to buy through the application.

He liked the traditional buy because he got used to it.

open items: none

details notes:

1) What is your opinion in buying online?

Answer:

I think it's good idea, but I don't prefer it because I used to traditional ways.

2) What is your opinion in buying in traditional ways?

Answer:

I saw I have a problem because of crowding but I used to that .

3) Which you prefer buying online or buying by traditional ways?

Answer:

I think buying online is very good idea but I used to buy in traditional way and some of people don't used to use the phones.

4) What is your opinion in buying by scanning the QR code in the mall?

Answer:

It will be very good because it will save more time .

Person interviewed: Manager

Interviewer: Hossam

Purpose of Interview:

- Understand the way to deal with the system

summary of Interview:

- He said that the customer needs to work an account on the application
- He said that every customer must be with him CREDIT CARD containing its data
- He said that in the place of products there are sensors once you pull the product is deducted its price from your account
- He said that the electronic payment will be easy to deal

open items: None

details notes:

1-What do we need to use the application?

Answer:

We need to create an account on the application, and we should have a CREDIT CARD.

2-How to calculate the price of the product when the customer buys it?

Answer:

We put some sensor beside the products when the customer pulls the product the system calculates the price of it and deducted its price from their account

3-can you tell me some of benefits of electronic payment?

Answer:

Yes, I can it makes the treats more easy

Person interviewed: A cyber security engineers

Interviewer: David

Purpose of Interview:

- How to protect our database from malicious digital attacks.

Summary of Interview:

- Adding physical security measures such as cameras, locks and staffed security personnel is highly suggested.
- Set up an HTTPS proxy server which acts as a gatekeeper that aims to keep out non-authorized requests.
- Setting up data encryption protocols lowers the risk of a successful data breach. This means that even if cybercriminals get a hold of your data, that information remains safe.

Open items: none

Details notes:

1- What are the types of security we need to protect our data?

You need physical security for your servers like cameras, locks and staffed security personnel and any access to the physical servers should be logged and only given to specific people to mitigate the risk of malicious activities.

Also, digital security like creating backups for your database regularly, as well. This mitigates the risk of losing sensitive information due to malicious attacks or data corruption.

2- What can we do to manage a data breach?

-When you discover a breach, remember:

- Do not panic
- Do not let your failure to not panic lead you to hasty actions
- Do not wipe and re-install your systems (yet)

- Disconnect from the Internet by pulling the network cable from the security system/router to stop the bleeding of data.

- Document the entire incident. Document how you learned of the suspected breach, the date and time you were notified and how you were notified.

- Some companies fall into the “Let’s make sure we know exactly what’s going on before we say anything at all” trap, but excessive delays in releasing a statement may be seen as an attempted cover-up. Providing some information is usually better than saying nothing at all. You can always provide updated statements as needed on your website

Person interviewed: Eng. Abdallah - **Interviewer:** Dina Ahmed

Purpose of Interview:

- Speaking about security
- Speaking about Application features

summary of Interview:

- He said that customer data is secured to maximum extent possible
- He said that THE SYSTEM was evaluated more than once to ensure it could handle the stress of peak work
- He said that the application is easy to deal with and fully protected
- He said that the network is designed very efficiently

open items:

- Advertisement of products
- sell products.
- what customers think of buying over the phone

details notes:

a) Is it safe to use the application?

Yes, safety is available to all customers. Security used to verify the identity of a User when the User resets the User's Compliant Password.

b) How do we order from the site?

By using iPhone and Android phones.

c) What does a person do if someone registers his password and pays to buy something?

Payment can only be made with the customer's consent, or refusal to transfer, there is security that means using an answer to verify the user's identity when the user resets the corresponding user password.

d) Is it difficult to use the app?

The application,, provides greater flexibility to the customers.

e) Does it take a long time to order from the application with delivery?

It doesn't take long; its speed and customer satisfaction are fast.

f) When will the application be available?

All the time the app is available 24 hours a day, if you press it, the system has been tested more than once to ensure that it can handle extreme working pressures

g) How do I pay when I buy things?

There is more than one payment method and not limited to electronic payment methods, manual payment

Person interviewed: Hesham Ahmed, Cashier.

Interviewer: Aya Ahmed

Purpose of Interview:

- Knowing that how you deal with customers.
- Knowing manage the cashier program.
- Knowing the client's opinion about the system.

summary of Interview:

- Receive customers, welcome them, help them, respond to their inquiries, and provide them with information.
- System depends on Online payment: The online store will provide you with more than one payment method to ensure that you get the largest segment of customers and the idea of buying and paying online has recently spread, keeping you up to date with the developments of the so
- How to Turn on and use the scanner, cash device and all electronic devices located in place.
- Scan goods and sells.
- Customers prefer speed, and they do not prefer to crowd people.

open items: • Deals with employees' questions and concerns

- Assistance in resolving customer complaints
- Deliver orders to homes
- Talk to guests to get feedback on product quality

details notes:

1-Who is the cashier?

A job description as a person who receives customers and customers and deals with financial and monetary matters at the points of sale of shops, shopping malls and malls.

2-How the Cashier system do?

Ideal for small and medium-sized businesses. It is easy for employees to complete the sale as quickly as - possible. The cashier program contains store management, customer and supplier account management and account management.

3-What is responsibility of cashier?

- Receiving money from customers and customers.
- keeping the place responsible clean and arrange
- Make a final inventory of the funds entered and present at the end of the day or the beginning of the next day
- Follow-up replacements and refunds for any product
- Packaging goods in a safe and correct manner

4-How do you deal with customers?

Receiving, welcoming, and assisting customers, responding to their inquiries, and providing them with information

5-What are the skills of cashier?

- He must have honesty, honesty, and sincerity.
- He is under the pressure of work.
- He has good computer skills.
- He can work long hours and work on public holidays and holidays.
- He has a sense of responsibility.
- Rapid response to customer requirements.

6-What is the goal of the job?

Adjusting the account process and integrating them into specific invoices and adjusting the process of taking money and cheques from customers and customers without chaos during sales and purchases.

| Functional Requirement | Description | Examples |
|-------------------------------|--|--|
| Process-oriented | A process the system must perform; a process the system must do | <ul style="list-style-type: none"> -The System will return a successfully registered process for the customer. -The System will create the ability to pay using a visa. -The System will create the ability to list the item and its price that the customer wants to buy. -The ability to scan the QR code for all items. - the system counts and scores one point for each EGP paid by the customer |
| information-oriented | Information the system must contain | <ul style="list-style-type: none"> -The System will record all items in the market with their prices. -The System will record the order history of any customer. -case of theft the customer must tell the bank. |

| Non-Functional Requirement | Description | Examples |
|----------------------------|--|---|
| Operational | The physical and technical environments in which the system will operate | <ul style="list-style-type: none"> -The System will work on mobile devices. -all users can browse the app and see our goods and their price without adding payment method. |
| Performance | The speed, capacity, and reliability of the system | <ul style="list-style-type: none"> -The System will return an easy and dynamic application. -Usability Great ease of use of the application. -You can also decide whether or not a limited number of operators can access customer details or if all of them can. |
| Security | Who has authorized access to the system under what circumstances | <ul style="list-style-type: none"> -There will be account and password for each customer. -only The Staff and customers have the access for their own data. -Strengthen Network Security. -Implement Monitored Alarms. -protect the many different kinds of applications against data. -Application Security Tools are designed to protect software applications from external threats throughout the entire application lifecycle. |
| Cultural and Political | Cultural and political factors and legal requirements that affect the system | <ul style="list-style-type: none"> -The System should be dealing with Egyptian currency. -all hardware setups will purchase from our local partners. -All refunds will be returned as a voucher inside the application and not to the bank account. -We have the full right to cancel any purchase that does not meet the conditions or for a pricing error. |

| Use Case Name :- Recording all items in the market with their prices | ID :-UC 1 | Priority :- high | |
|---|----------------------------|---|-------------|
| Actor :- Software engineer(Database Administrator) | | | |
| Description :-This function helps the Customer know the price of every product that he will buy. | | | |
| Trigger :- Customers request to know the available products and their prices. Type :- External Temporal | | | |
| Preconditions :- 1. The product should be available. 2. The price of the product must be set. | | | |
| <p>Normal Course :-</p> <ol style="list-style-type: none"> 1. Request from the customer to know the available products. 2. products and its prices shown to the customer and he specifies what product he want to buy (Alternative Course 1.1). 3. The system asks customer to confirm his request 4. The system gives the customer Authorization to buy products. 5. customer has successfully buy the products. | | <p>Information for steps :-</p> <p>Customer E-mail and password</p> <p>Show available products and its prices.</p> <p>Request confirmation</p> <p>Customer Authorization</p> <p>successful purchaser.</p> | |
| <p>Alternative Courses:</p> <ol style="list-style-type: none"> 1.1 The customer request from the system to buy products. 1. The system confirm the request of the customer. 2a. The customer selects what product he wants to buy. 3a. The customer purchaser the products and check out. 2b. The customer didn't request from the system to buy products and check out. 3b. Quantity available is less than quantity needed. | | <p>Selected Products and its quantity.</p> <p>successful purchaser.</p> <p>Cancellation</p> <p>Cancellation</p> | |
| Post-conditions :- 1. The customer's purchaser for products. | | | |
| Exceptions :- 1. The product hasn't been set on the database. 2. The product isn't available at the current time. | | | |
| Summary | | | |
| Inputs | Resources | Outputs | Destination |
| 1-Customer E-mail and password. 2-Desired products. 3-Request confirmation. 4- Selected Products and its quantity. | Customer& System DATABASE. | 1-Show available products and its prices. 2-Request confirmation. 3-Customer Authorization. 4-successful purchaser. 5- Cancellation | Customer |

| | | |
|--|--|---|
| Use Case Name :- request items | ID :-UC 2 | Priority :- high |
| Actor :- Customer | | |
| Description : The items to be purchased are searched and their price is known , The system fulfills the demand by reserving the required quantity or the available quantity. | | |
| Trigger :- Forming the list of new features and their price for items and request it. | | |
| Type :- ✓ External Temporal | | |
| Preconditions :- ◆ Having enough items that want to buy ◆ Know the price of each item ◆ Get the names of the exported items in a list | | |
| Normal Course :- .10 Order a specific item, how to buy and pay. 1. Sign in to your application account. 2 Hover over the sections Browse the available products. 3 .find what you want to buy 4. Select the quantity you want and click "Add to Cart"and The products will be added to your shopping cart. 5. Review the items 6. Enter a shipping address and click Continue. 7. The system stores items Request in the Request datastore 8. Choose a payment method and click Continue such as visa card 9. Click Place Your Order. | <pre> sequenceDiagram participant Actor participant System Actor->>System: Sign in to your application account Actor->>System: Hover over the sections Browse the available products Actor->>System: find what you want to buy Actor->>System: Select the quantity you want and click "Add to Cart" Actor->>System: Review the items Actor->>System: Enter a shipping address and click Continue System->>Actor: items Request System-->>System: The system stores items Request in the Request datastore Actor->>System: Choose a payment method and click Continue such as visa card Actor->>System: Click Place Your Order </pre> | Information for steps :- E-mail and password Products List item name Quantity needed Name of items Name of address request items from data store Password and National ID items Request |
| Alternative Courses: 1. 1 Quantity available is less than quantity needed (branch at step 4) a) The system asks if it wants the quantity available or to cancel the request 1. you ask to take the quantity available | | Request quantity available |

2. The system changes the quantity requested to the quantity available

3. If you want to cancel the order too

4. It should be noted that when you choose the product, it will have some accessories with it. You can remove this accessory so that the price of the product itself will be reduced if you wish

5. the Removal required tab lists products that must be removed before completing your shipping plan.

6. Click the tab to review any products that must be removed before completing your shipping plan.

7. The system terminates the use case

Cancel the order

Post-conditions :-

- The Request is stored, The items you want will be ordered
- The request you want will be added and you have modified it
- The request you removed will be deleted
- Within days, which will be determined by the application, the order will reach you in full and not missing anything

Exceptions :-

- Failure to deliver within the specified time
- the products are different
- there is an increase in some products .
- The system does not delete the item. The use case ends.

| Summary Inputs | Resource | Outputs | Destination |
|--|------------|--|-------------|
| <ul style="list-style-type: none">● E-mail and password.● Products List● item name● Quantity needed● Request items● Name of items● Name of address● Password and National ID● Cancel the order | ● Customer | <ul style="list-style-type: none">● request items from data store● items Request● Request quantity available● buying process● cancellation | ● Customer |

Use Case Name :- Recording the order history for any customers

ID :-UC 3

Priority :- medium.

Actor :- customers.

Description :-This function helps the Customer to buy their favorite product quickly and easily because it is shown the goods that they bought before.

Trigger :- the purchase process usual goods will be easier .

Type :- External Temporal

Preconditions :-

1. The mobile's application should be connected with the internet.
2. The system should be available in this time.

Normal Course :-

- 1.the customers enter their e-mail and password.
- 2.Request from the customer to know the goods they bought.
3. The system asks customer to confirm his request.
4. the products and the date that it bought on it shown to the customer.



Information for steps :-

- Customer E-mail and password .
Request confirmation .
Customer Authorization .
Show the products and the date that it bought on it.
successful purchaser.

Post-conditions :-

1. Every customer will have order history.
2. Becoming easy to find the things that he used to buy it .

Exceptions :-

1. The system isn't available at the current time.
2. If the product already exists,an error message will be displayed"this product is already exists".

Summary

| Inputs | Resource | Outputs | Destination |
|---|--|---|-------------|
| 1-Customer E-mail and password. 2-Request form. 3- confirm the request. | -Customer -software engineer -System DATABASE | 1-Authorization . 2- show the list for the products that they bought. 3- Confirmation message . | Customer |

| Use Case Name :- the ability to scan the QR code for all items. | ID :-UC 4 | Priority :- high | |
|---|--|--|--------------------------|
| Actor :- Software engineer. | | | |
| Description :- This function enables the system to count the cost for the items. | | | |
| Trigger :- Customers request to know the available products and their prices. Type :- External Temporal | | | |
| Preconditions :- | | | |
| <p>1. The customer should has email and password.</p> | | | |
| Normal Course :- 1. to open the system to use the camera for scanning. 2. After scanning the system shows the prices. 4. The system asks the customer to confirm the purchase . 5. customer has successfully buy the products. | ← → ← → | Information for steps :- Customer E-mail and password Show available products and its prices. confirmation for the purchasing. successful purchase . | |
| Alternative course:- 5. customer has successfully buy the products. I)the system show message “ Do you want to buy other. items” II) the system show message “Do you want to exit”. | ← → | Still in registering. Still in registering. | |
| Post-conditions :- | | | |
| 1. The customer should know all information about the items and its prices. 2. and should have the ability to buy the items which he want . | | | |
| Exceptions : | | | |
| I) if the item is expired. 1- The system displays message “ Expired item not approved to use ”. 2- The system asks the user if he want to request another item or exist. | | | |
| II) If the customer request another item. Start another purchase. | | | |
| III) If the customer ask to exit. The system terminate the use case. | | | |
| Summary :- | | | |
| Inputs | Resource | Outputs | Destination |
| 1-Customer E-mail and password. 2-to know the prices 3-confirm the purchase | Customer Registering on the system. Enough money | The items and its prices. Knowing the prices. Successful purchase. | Customer and purchasing. |

Use Case Name :- case of theft.

ID :-UC 5

Priority :- medium.

Actor :- customers and the bank officials.

Description :-This function enable the customer to know protect his account from theft .

Trigger :- what should the customer do in case of theft.

Type :- External Temporal

Preconditions :-

1. The Customer should have an account.

Normal Course :-

- 1.the customers should tell the bank about the theft.
- 2.the bank should know his account .
3. the bank should close his account until knowing the thief.
4. the bank should take legal actions against the thief.

Information for steps :-

- Customer E-mail and password .
The ability to close the account.
Asking the customer to change his password.
The customer receives compensation from the thief.

Alternative course:-

Null

Null

Post-conditions :-

1. The customer should change his password.
2. The customer receives compensation from the thief.

Exceptions :-

- 1) The account can not has the ability to buy in case of theft.

Summary :-

| Inputs | Resource | Outputs | Destination |
|--|--|--|-----------------------------|
| 1-Customer E-mail and password. 2-to close the account. 3- to change the password. | 1-Customer 2- Bank officials 3- customer | 1-Knowing the customer account 2- closing the account. 3- changing the password. | Customer and Bank officials |

| Use Case Name: The System will create the ability to pay using a visa. | ID:UC-6 | Priority: medium | | |
|---|---|--------------------------------------|-------------|--|
| Actor:Hardware device | | | | |
| Description:this function It makes it easier to pay because it's more accurate than cash. | | | | |
| Trigger: Represents payment after buying goods | | | | |
| Type:: External ✓Temporal | | | | |
| Preconditions:1- The customer must have a Visa card or a brown account for his ability to pay 2. The visa must have money in it. 3. The client gives the visa to the cashier. | | | | |
| Normal Course: 1-Swiping the card. 2-Enter the amount. 3-Enter the password. 4-Authorization 5-Print accept receipt | Information for Steps: <-input customers card <-total price <- enter id <-send customer information <-Approved | | | |
| Alternative Courses:Pay cash when you forget a password.(steps 5) | | | | |
| Post conditions :The paper proves that the payment process has been successfully completed. | | | | |
| Exceptions:-1The payment failed because of a mistake in the system. .2Visa card expires- | | | | |
| Inputs | Resource | Outputs | Destination | |
| 1-Enter amount 2-Enter password | Customer& hardware device | Message with the amount you withdraw | Customer | |

Use Case Name: The System will return a successfully registered process for the customer.

ID :-UC 7

Priority: high

Actor: Software engineer (Database Administrator)

Description: This function helps the Customer to successfully register in our system to facilitate purchasing

Trigger: Customers request to make an account in our system

Type :- External Temporal

Preconditions:

1. There's a Successful connection between our system and its database.
2. The customer enters his data accurately.
3. The customer's visa should be valid.

Normal Course:

1. Request from the customer to register.
2. The system make sure from the validation of the customer's data.
3. The system creates an account for the user.
4. The system prints whether it was a successful process or not.

Information for steps:

Customer E-mail and password

Customer name and his profile picture

Customer's visa information (card number, expiration date)

System checks the validation of the visa.

A successful register.

Post-conditions:

1. The customer registered successfully in our system and his data is saved in our database.

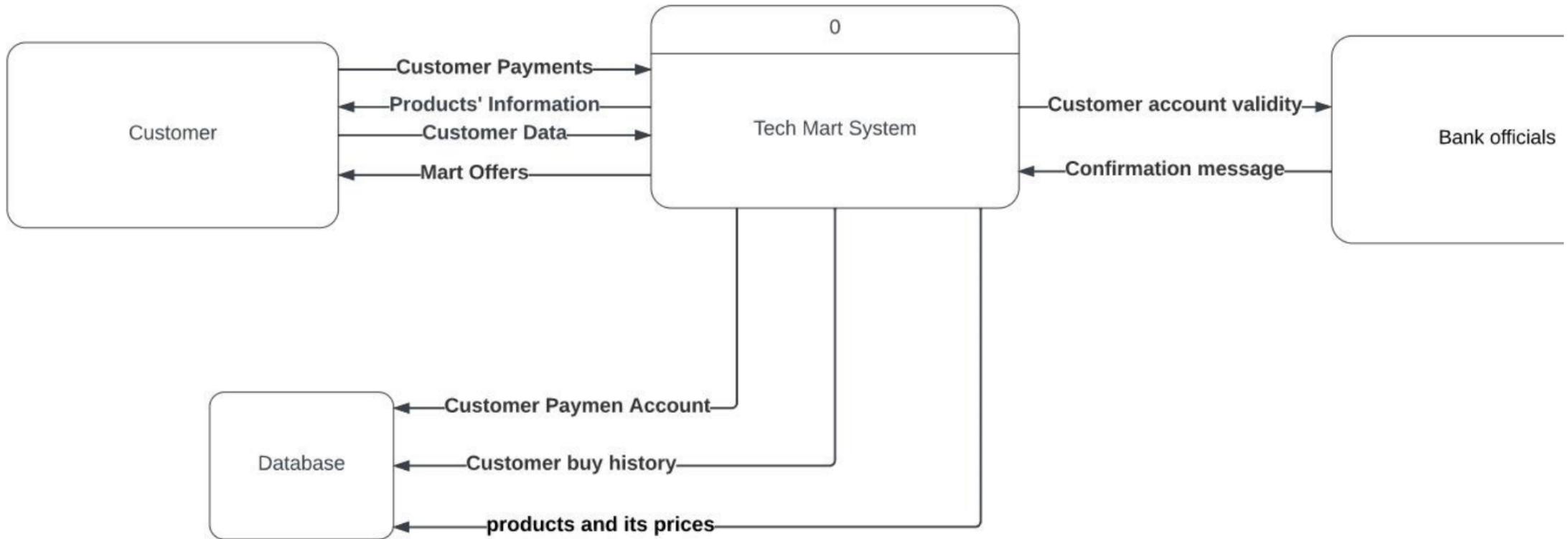
Exceptions:

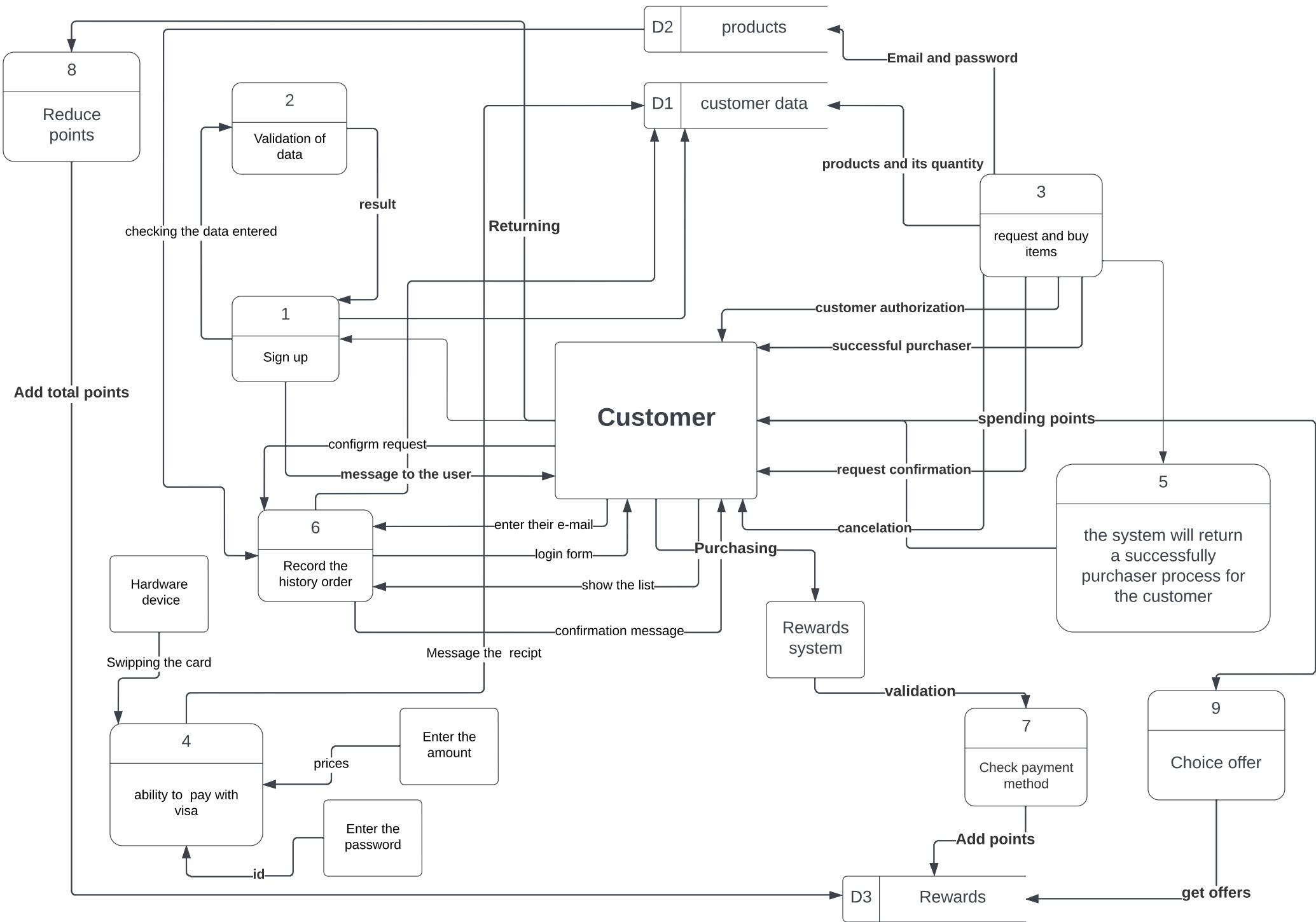
1. The customer has no visa or his visa expired.
2. The customer's email isn't found.

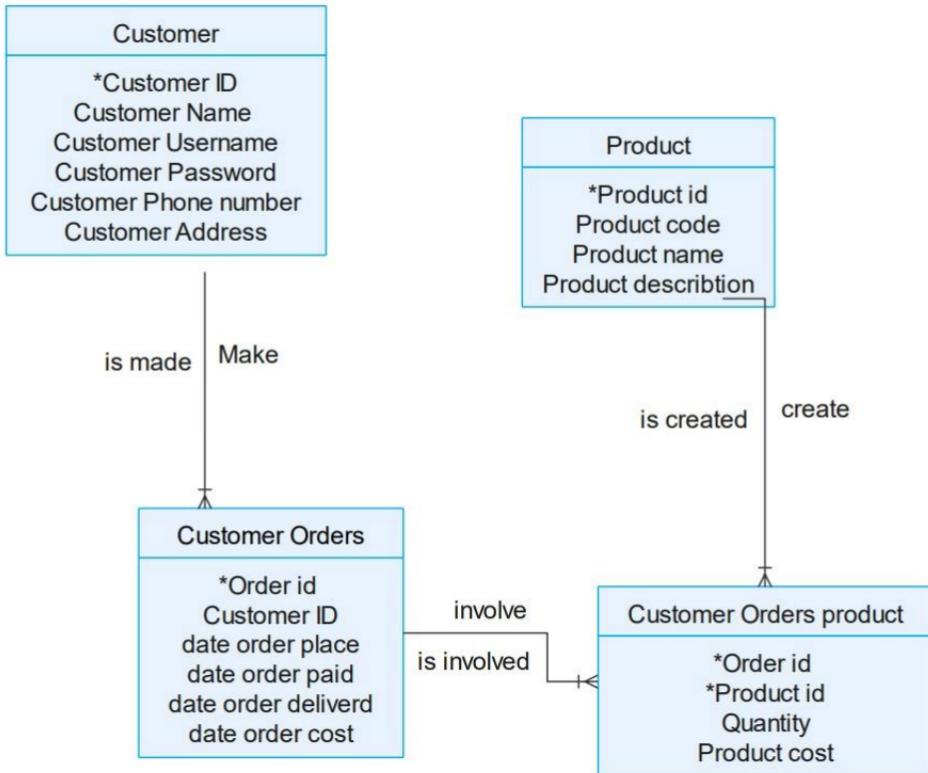
Summary

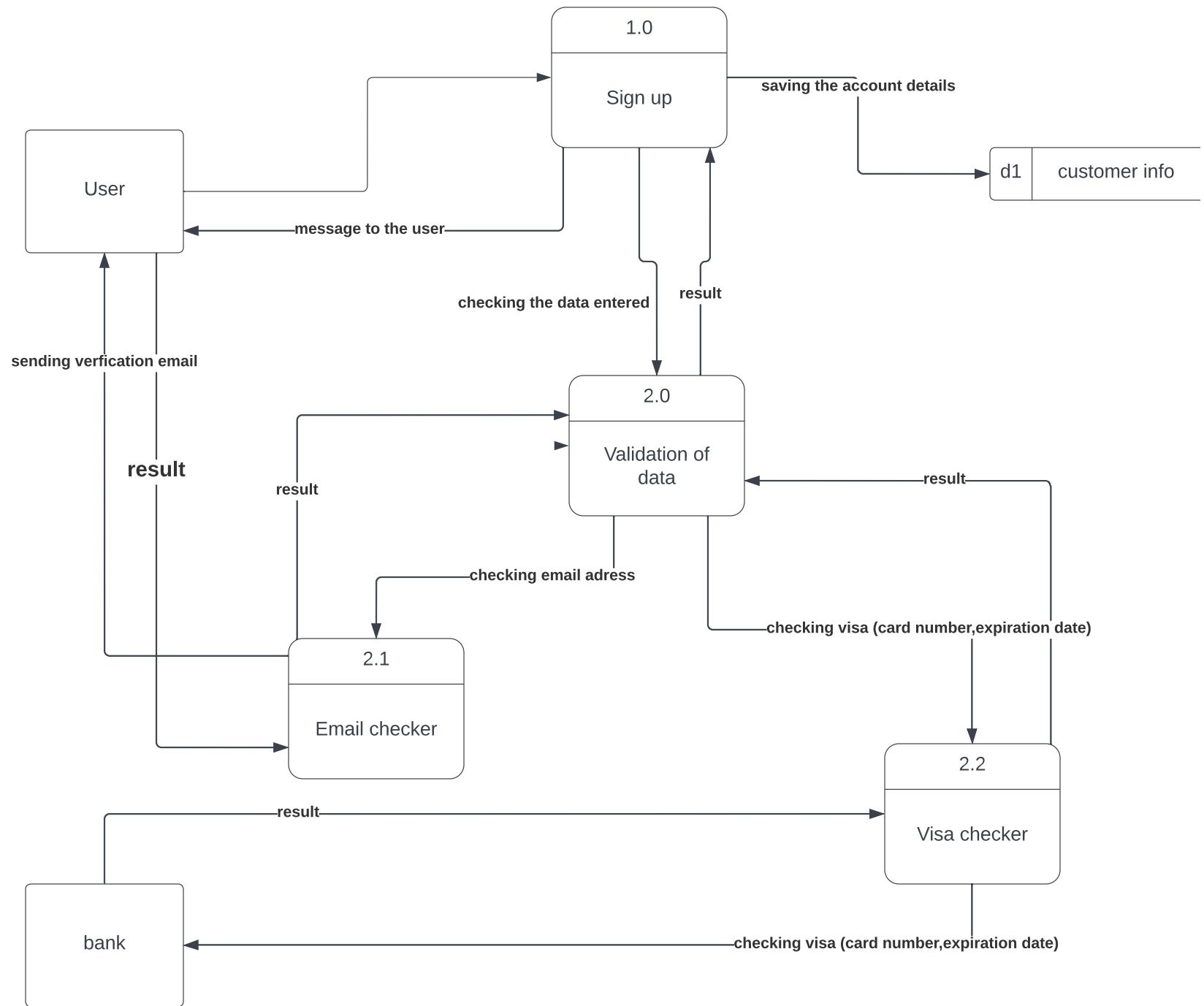
| Inputs | Resource | Outputs | Destination |
|--|----------------------------|-------------------------|-------------|
| 1-Customer information 2-visa card number and expiration date | Customer& System DATABASE. | 1- Confirmation message | Customer |

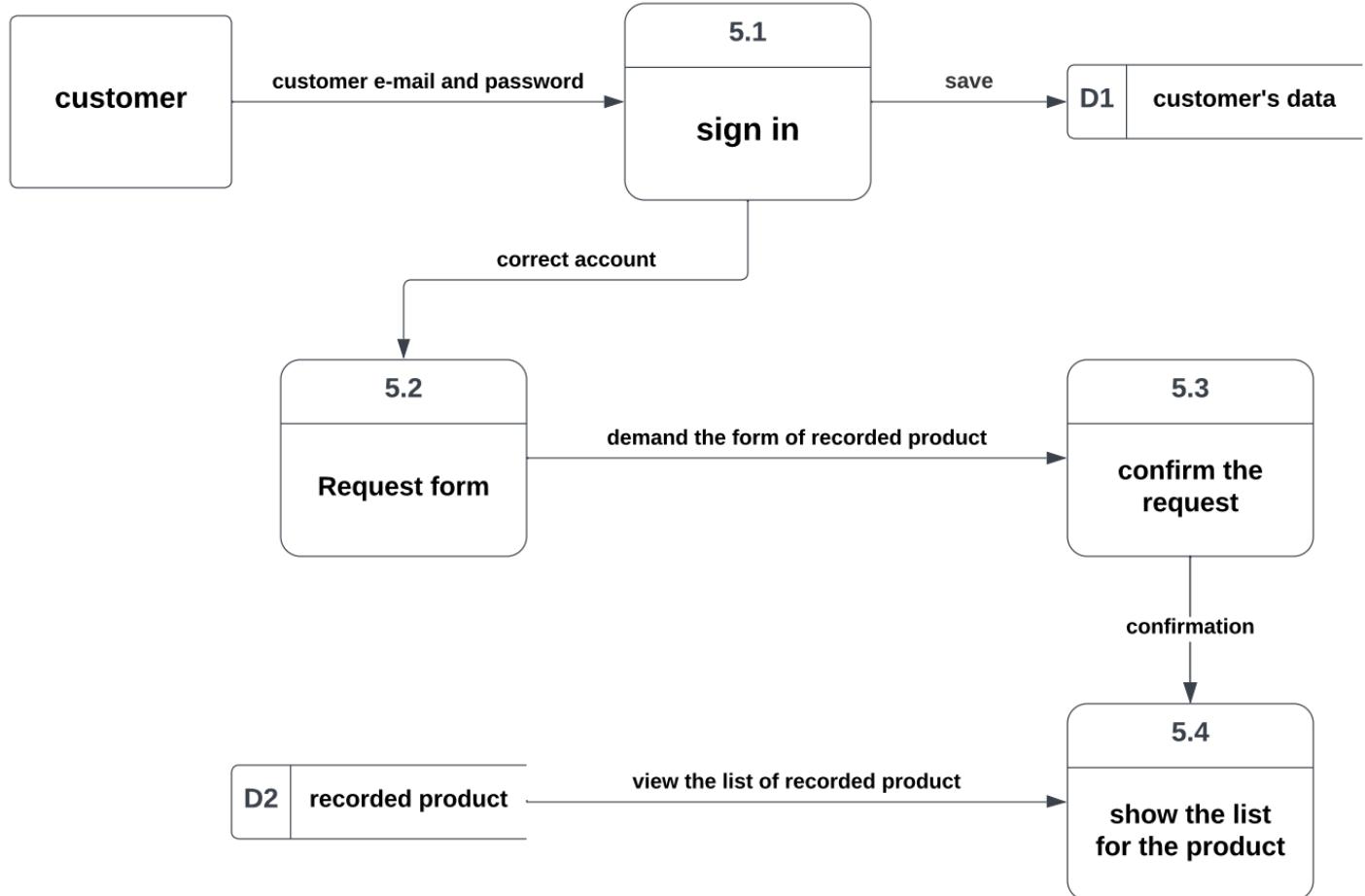
| Use Case Name: Rewards | ID: UC 8 | Priority: low | | |
|---|--|---|------------------|--|
| Actor: Rewards system | | | | |
| Description: the system counts and scores one point for each EGP paid by the customer. | | | | |
| Trigger: once the customer paid for an order. | | | | |
| Type: External & Temporal | | | | |
| Preconditions: | | | | |
| <ol style="list-style-type: none"> 1. Points system connected with one and specific payment method for each account. 2. The customer must complete ten orders to subscribe to the rewards system. 3. Points are earned after 14 days to avoid returns. | | | | |
| Normal Course: | Information for step: | | | |
| <ul style="list-style-type: none"> • customer paid 1000 EGP for all items in his cart | <ul style="list-style-type: none"> • Purchase | | | |
| Alternative Course: | Information for step: | | | |
| <ul style="list-style-type: none"> • within 14 days. Customer return 2 items that cost 500 EGP | <ul style="list-style-type: none"> • Return | | | |
| Post Conditions: | | | | |
| <ol style="list-style-type: none"> 1. System check did he paid with card connected to his rewards system. (if true) <ol style="list-style-type: none"> 1.1. System check did he complete 10 orders. (if true) 1.2. System store 1000 points for the customer 2. System reduces returns from stored points (1000-500) 3. After 14 days from purchasing. System adds total points (500) to his account. 4. System informs the customer via SMS | | | | |
| Exceptions: | | | | |
| <ol style="list-style-type: none"> 1. Defect in product made customer return it after 14 days 2. Customer used card connected to Another account rewards system | | | | |
| Summary Inputs | Source | Outputs | Destinations | |
| Customer money Customer account information | Customer | Points Vouchers Offers Discounts | Customer Account | |

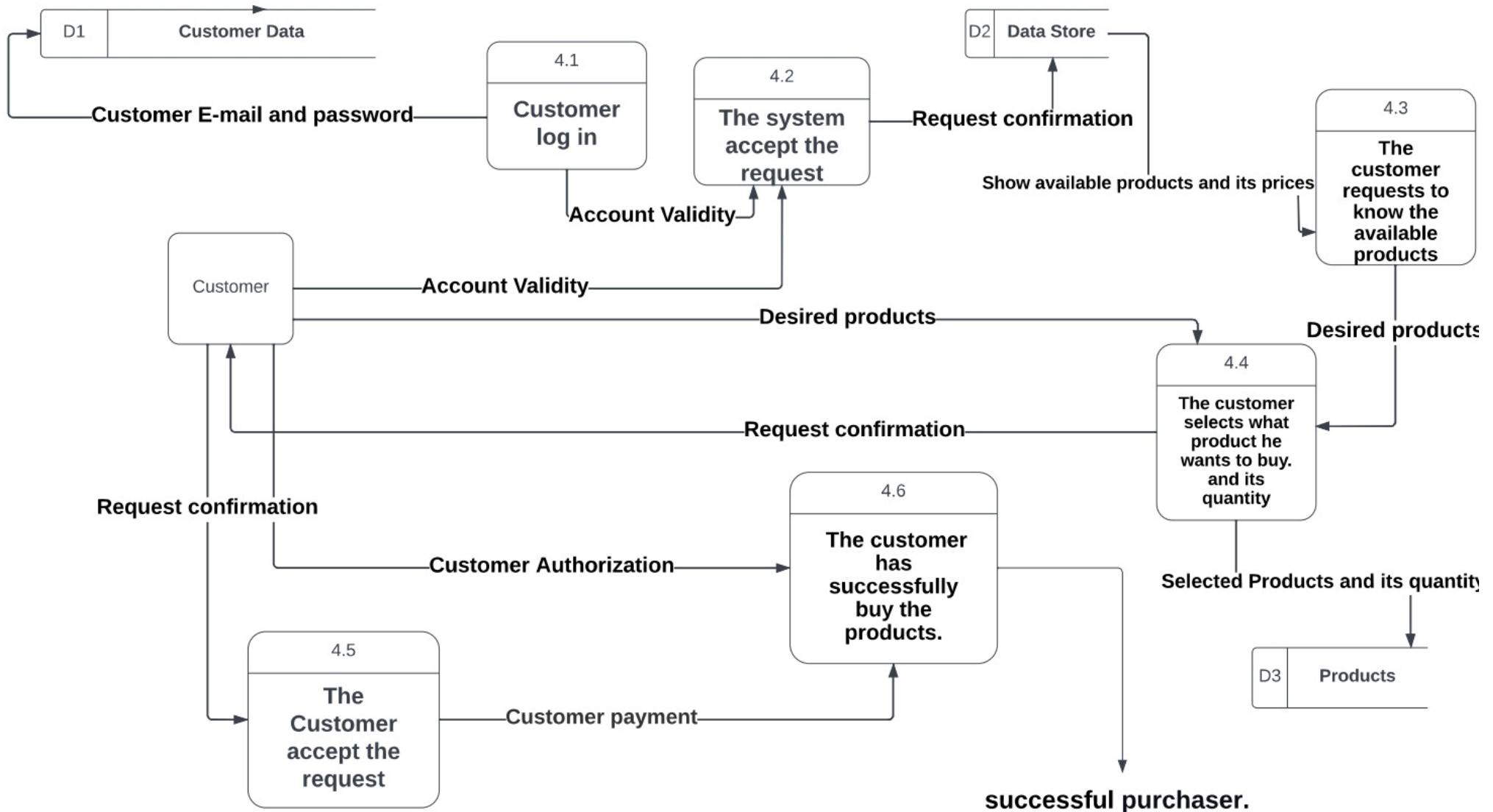


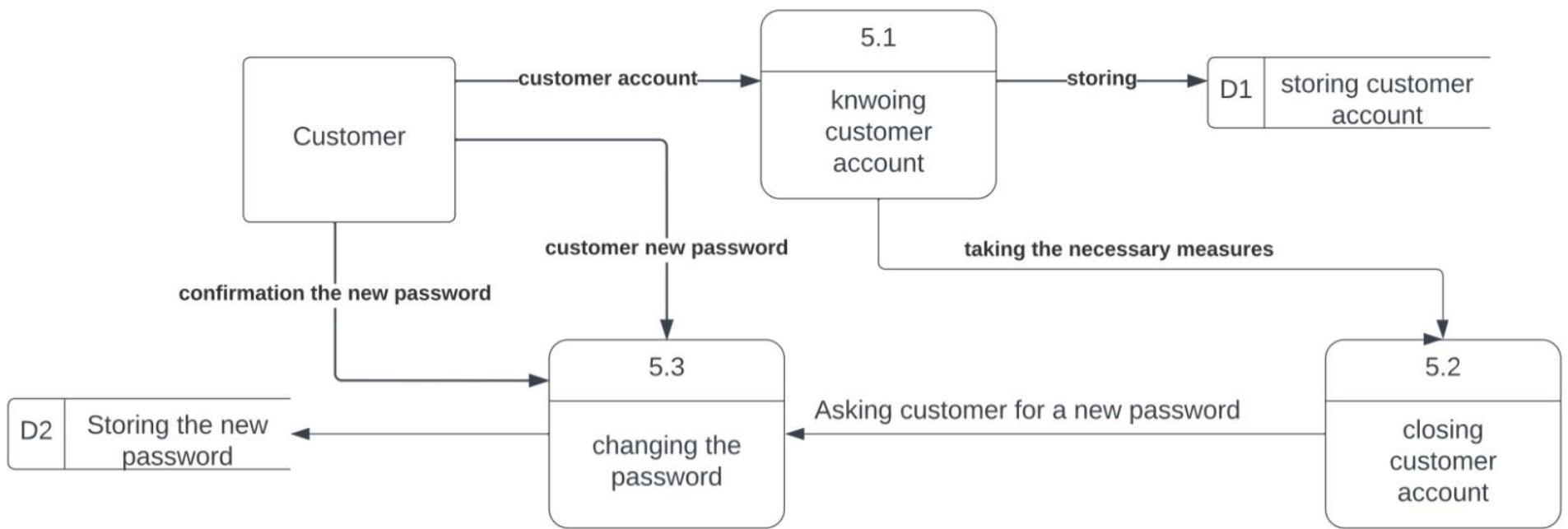




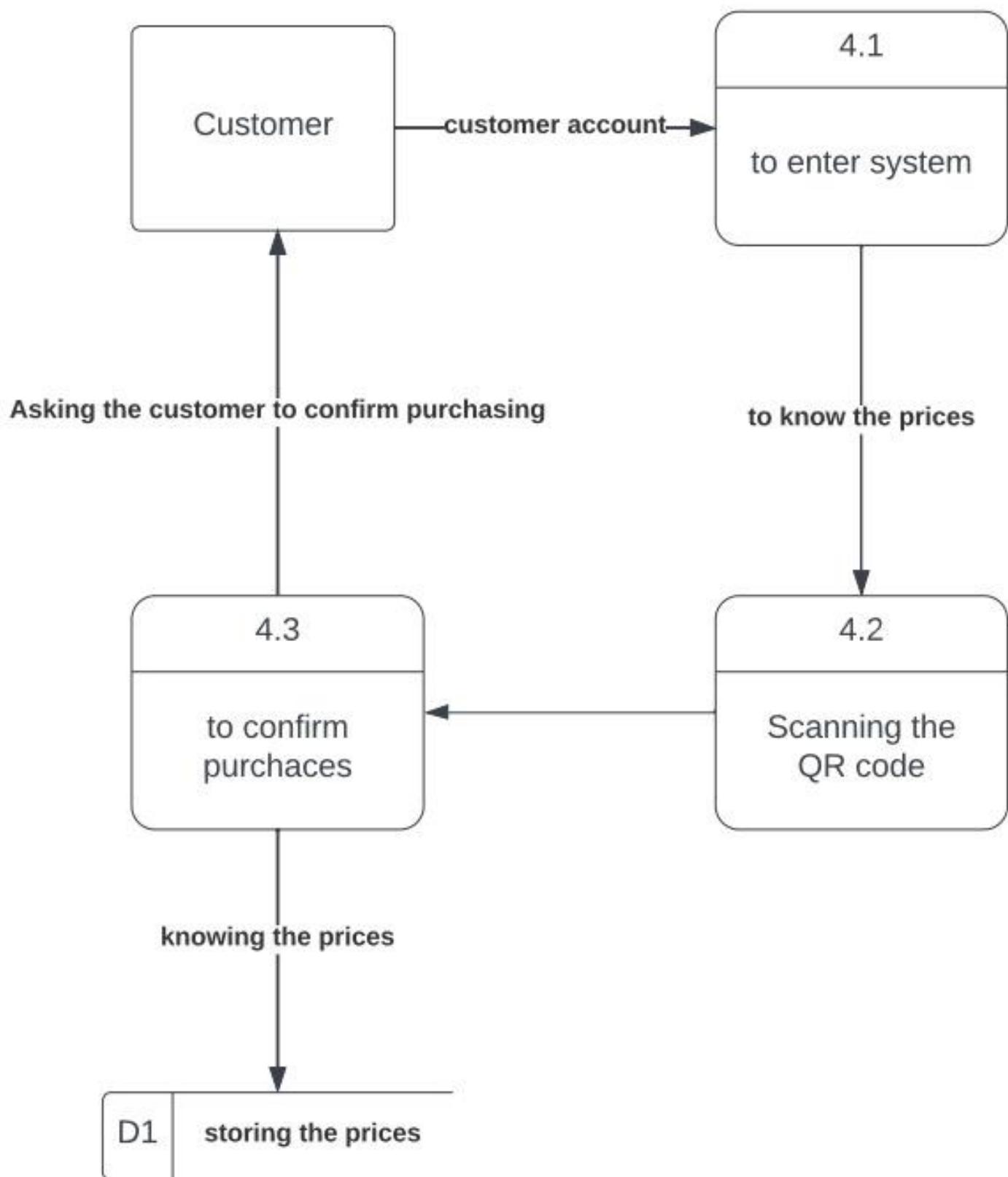


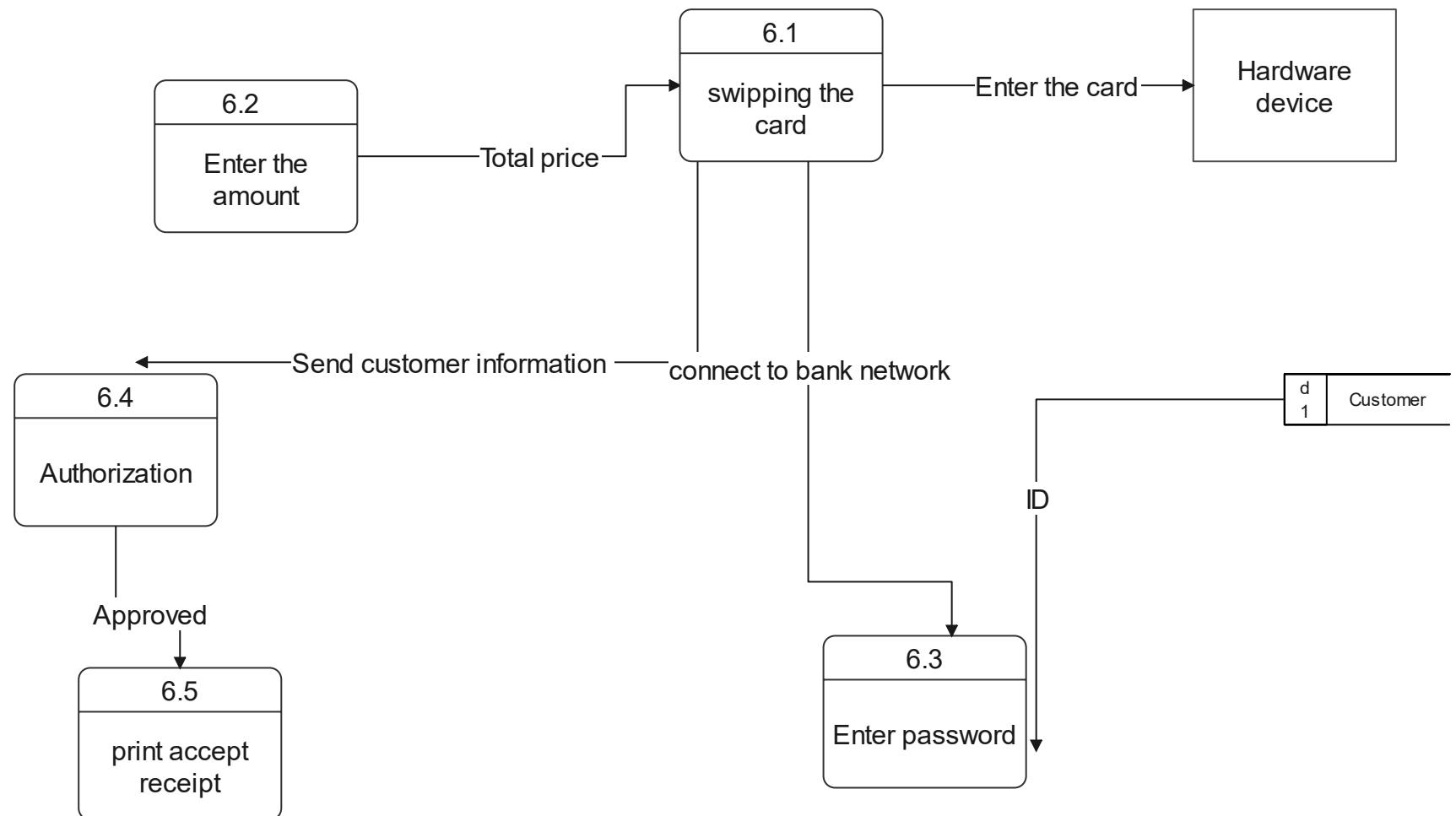


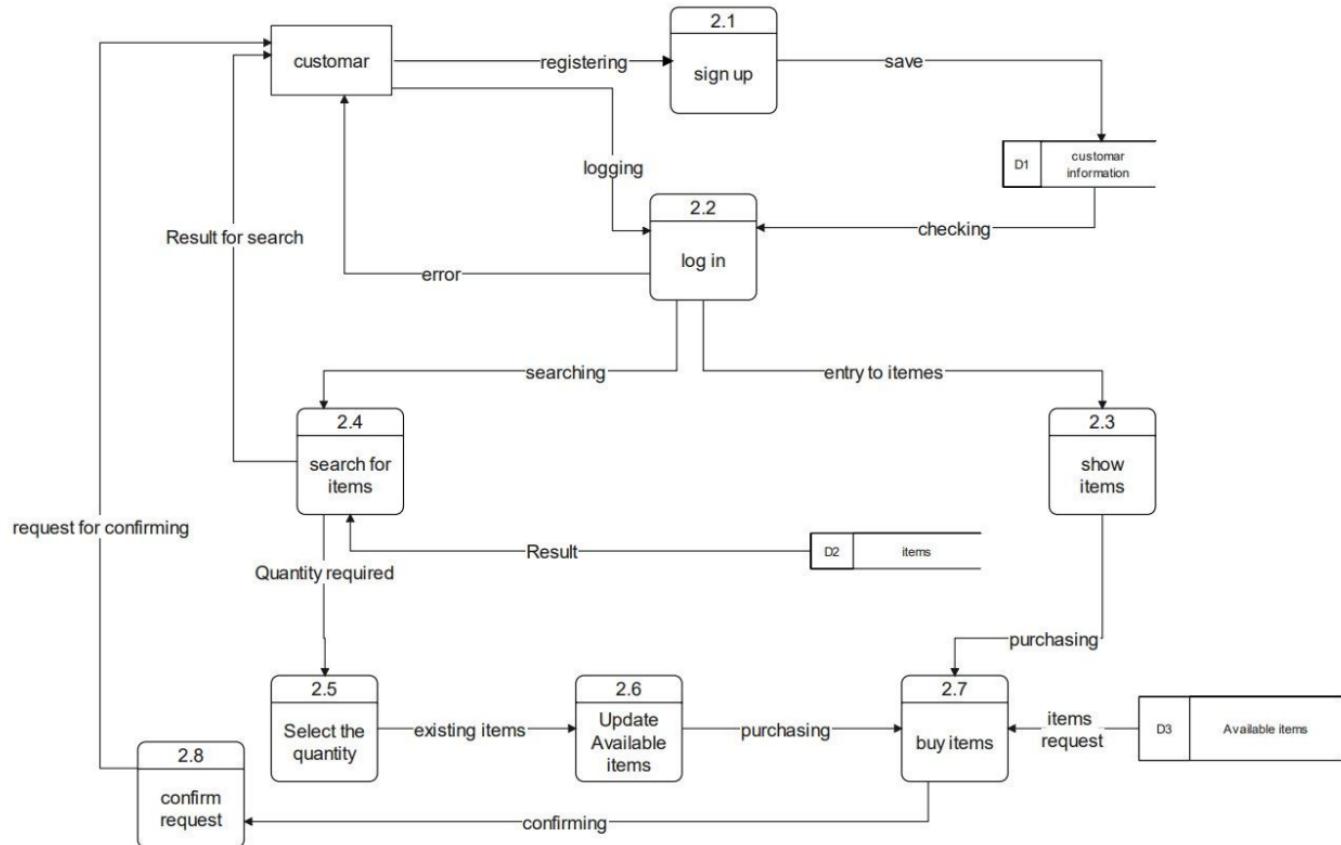




level 1







level 1

