Introduction:

E-commerce, also known as electronic commerce or internet commerce, refers to the buying and selling of goods or services using the internet, and the transfer of money and data to execute these transactions.

E-Commerce is an online store where customers can browse categories and select products of interest. The selected items may be collected in a shopping cart. the items in the shopping cart will be presented as an order if customer submit it. At that time, more information will be needed to complete the transaction. Usually, the customer will be asked to fill or select a billing address, a shipping address, a shipping option, and payment information such as credit card number. An e-mail notification is sent to the customer as soon as the order is placed.

Types of E-commerce Models:

There are four main types of ecommerce models that can describe almost every transaction that takes place between consumers and businesses.

1. Business to Consumer (B2C):

When a business sells a good or service to an individual consumer

2. Business to Business (B2B):

When a business sells a good or service to another business (e.g. A business sells software-as-a-service for other businesses to use)

3. Consumer to Consumer (C2C):

When a consumer sells a good or service to another consumer (e.g. You sell your old furniture on eBay to another consumer).

4. Consumer to Business (C2B):

When a consumer sells their own products or services to a business or organization

Dependability Requirements:

1. Availability:

Availability percentage: 99.9%

System is unavailable for 84 seconds in 24-hour period.

2. Reliability:

System	metric	Suggest value
Recovering data	POFOD	Software should never fail in recovering data within the lifetime of system. It's critical
Financial Report	ROCOF	Failures resulting report shouldn't occur more than once per 3 months.
Order processing	AVAIL	System should be unavailable for 1 minute per day.

3. Safety Requirements:

to prevent electricity accidents, we must take in our consideration some environment details that should be covered:

- Cables shall be covered well.
- Hardware shall be far away from any liquids.
- Hardware shall be put in a cold environment in order to not achieve heat.
- Servers must be put in a cold room far from anyone.

Asset and Analysis table:

Asset Identification	Asset Value Assessment	Exposure Assessment
Information System	high	Loss of authentication and authorization
Product Database	high	Financial loss as product may be removed

Threat and Control analysis:

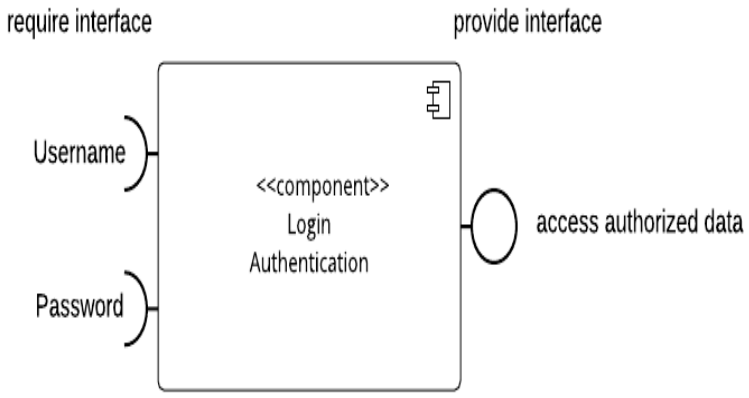
Threat	Probability	Control	Feasibility
Unauthorized user gains access as system administer And manipulate data	low	Only allow System management from location far from other users	We must take it in our consideration, It's Critical and
Unauthorized user gains access as system users and access private information	high	Authenticated everyone use the system by scanning his QR code	High-cost but have to be done to keep away from accessing information

4. Security Requirements:

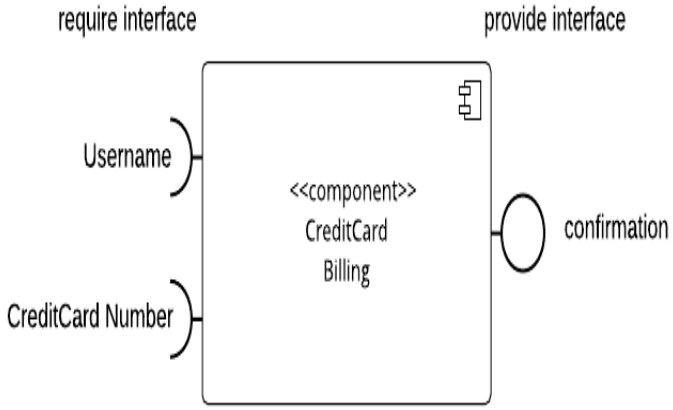
- All customer information on the system shall be encrypted especially passwords and Creditcard number.
- Log authentication, System shall check the authentication of the user once per month.
- Adding, removing data must be authorized by the one who has access on data of the system (admin).
- When attack occurs, System shall stop any manipulations on data through attacking time.

Components Diagrams:

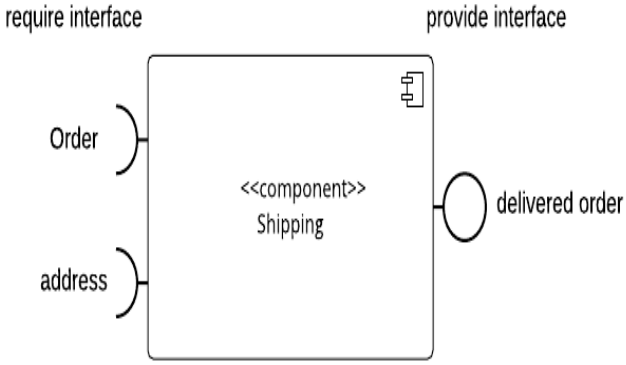
1- Login Component Diagram:



2- Credit Card Billing Diagram:



3- Shipping Diagram:



Shopping Cart Software Workflow: