Introduction:

An e-commerce application on IBM Cloud Foundry is a web-based platform that enables businesses to sell products or services online using IBM's Cloud Foundry platform as the hosting environment. IBM Cloud Foundry is a Platform-as-a-Service (PaaS) offering that simplifies the process of building, deploying, and scaling web applications. When applied to e-commerce, it provides a reliable and scalable infrastructure for running online stores.

Problem Statement:

"In today's digital age, there is a growing demand for an e-commerce platform that provides a seamless and secure online shopping experience. The goal of this project is to develop and deploy a robust e-commerce application that addresses the following key challenges and objectives:

Challenges:

Scalability: Our e-commerce platform must be able to handle varying levels of traffic, including peak periods during sales events and holidays. Ensuring high performance and availability under load is essential.

Data Security: Given the sensitive nature of customer information and payment data, the application must implement stringent security measures, including encryption, access controls.

Integration: Integrating essential components such as payment gateways, inventory management systems, and customer relationship management (CRM) tools seamlessly into the e-commerce application for streamlined operations.

Analytics and Insights: Leveraging data analytics tools to gain valuable insights into user behavior, sales trends, and customer preferences, facilitating data-driven decision-making and continuous improvement.

Design Thinking:

Support Cross-border and Global Sales:

Competing in today's market requires a global presence. Concentrating only on local potentials can leave your business vulnerable to the whims of local economies.

Adopt a Mobile-First Approach:

Customers have grown comfortable with their mobile phones for online transactions. Still, there are enterprise-level merchants who haven't moved to mobile optimized stores. They must consider developing a mobile

platform so that they don't lose a large chunk of their customers due to this oversight.
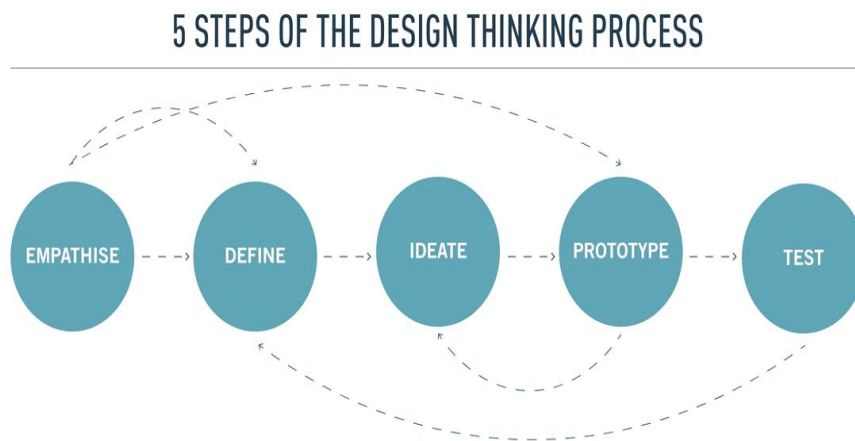
Ease of Navigation :

The user should be able to easily understand and maneuver through the website, possibly with a few clicks. This makes e-commerce web design tricky since many of them have hundreds of products, and all of them should be arranged properly.

Search Functionality:

  Investing time in optimizing your search functionality to be accurate will guarantee customer satisfaction.

common methods:

5 STEPS OF THE DESIGN THINKING PROCESS

EMPATHISE - - - > DEFINE - - - > IDEATE - - - > PROTOTYPE - - - > TEST

Application of cloud computing in e-commerce and related security threats:

This technology emphasizes the development of commercial

self-service portals and tools, which will allow banks to pro vide fast, detailed data to their business clients, allowing

them to make better-informed management decisions.

Threat to E-Commerce:

E-commerce refers to the act of buying and selling products

over the internet. Simply put, it refers to commercial transactions

conducted over the internet. E-commerce technology includes:

Mobile commerce.

Internet marketing.

Online transaction processing.

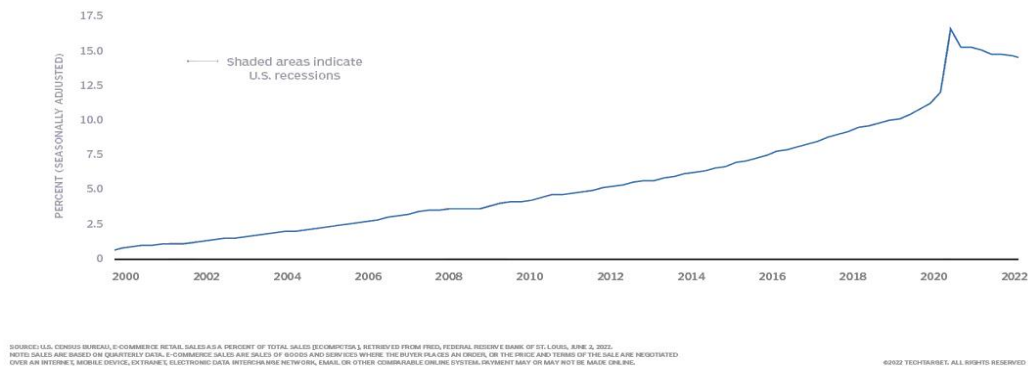Electronic funds transfer.

Inventory management systems.

Automated data gathering systems.

An e-commerce threat is the use of the internet for unfair pur poses such as stealing, fraud, and security breaches. E-commerce.

E-commerce sales continue to increase, so businesses must understand its unique challenges to improve their strategies
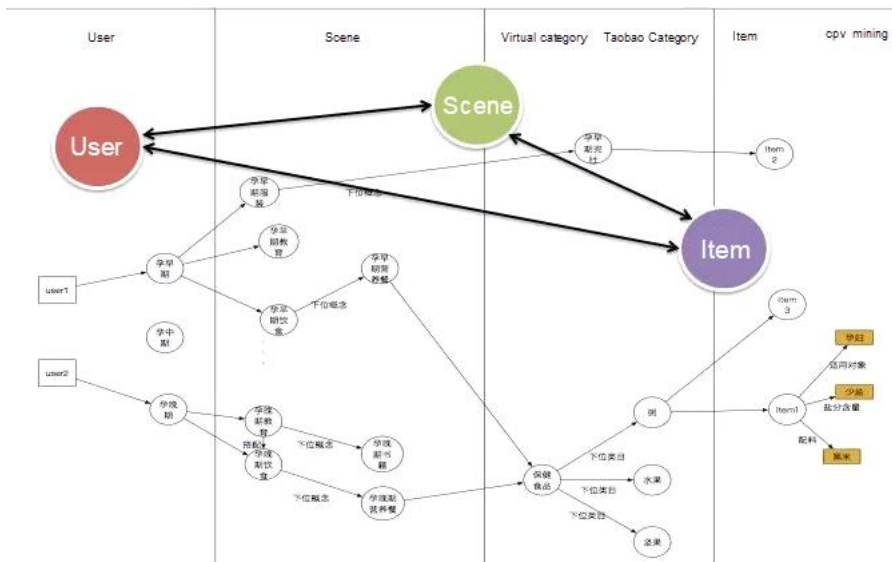

E-commerce retail sales on the rise

E-commerce retail sales as a percentage of total sales

Module Division

E-commerce ConceptNet is divided into four key modules. User-scene-item association can be achieved through building different types of concepts that include users,

scenes, virtual categories, and items in a heterogeneous graph.

let see some code of js in e commerce application

let contentTitle;

console.log(document.cookie);

```
function dynamicClothingSection(ob) {

    let boxDiv = document.createElement("div");

    boxDiv.id = "box";


    let boxLink = document.createElement("a");

    // boxLink.href = '#'

    boxLink.href = "/contentDetails.html?" + ob.id;

    // console.log('link=>' + boxLink);
```

```javascript
let imgTag = document.createElement("img");
// imgTag.id = 'image1'
// imgTag.id = ob.photos
imgTag.src = ob.preview;

let detailsDiv = document.createElement("div");
detailsDiv.id = "details";

let h3 = document.createElement("h3");
let h3Text = document.createTextNode(ob.name);
h3.appendChild(h3Text);

let h4 = document.createElement("h4");
let h4Text = document.createTextNode(ob.brand);
h4.appendChild(h4Text);

let h2 = document.createElement("h2");
let h2Text = document.createTextNode("rs    " + ob.price);
```

```javascript
    h2.appendChild(h2Text);


    boxDiv.appendChild(boxLink);

    boxLink.appendChild(imgTag);

    boxLink.appendChild(detailsDiv);

    detailsDiv.appendChild(h3);

    detailsDiv.appendChild(h4);

    detailsDiv.appendChild(h2);


    return boxDiv;
}


//    TO SHOW THE RENDERED CODE IN CONSOLE
// console.log(dynamicClothingSection());


// console.log(boxDiv)


let mainContainer =
document.getElementById("mainContainer");

let containerClothing =
document.getElementById("containerClothing");
```

```javascript
let containerAccessories =
document.getElementById("containerAccessories");
//
mainContainer.appendChild(dynamicClothingSection('hello
world!!'))


// BACKEND CALLING


let httpRequest = new XMLHttpRequest();


httpRequest.onreadystatechange = function() {
    if (this.readyState === 4) {
        if (this.status == 200) {
            // console.log('call successful');
            contentTitle = JSON.parse(this.responseText);
            if (document.cookie.indexOf(",counter=") >= 0) {
                var counter =
document.cookie.split(",")[1].split("=")[1];
                document.getElementById("badge").innerHTML
= counter;
            }
            for (let i = 0; i < contentTitle.length; i++) {
```

```javascript
            if (contentTitle[i].isAccessory) {

                console.log(contentTitle[i]);

                containerAccessories.appendChild(

                    dynamicClothingSection(contentTitle[i])

                );

            } else {

                console.log(contentTitle[i]);

                containerClothing.appendChild(

                    dynamicClothingSection(contentTitle[i])

                );

            }

        }

    } else {

        console.log("call failed!");

    }

  }

};

httpRequest.open(

    "GET",
```

```
"https://5d76bf96515d1a0014085cf9.mockapi.io/product"
,
    true
);
httpRequest.send();
```

conclusion:

E-commerce still represents one of the business methods that take advantage if done the right way, even if the stock market and commodities fell, but E-Commerce still able to survive and receive high transaction.

Use the extensive E-Commerce in the Internet world is actually much better to bring the goodness of the individual or the state.