AMAZON CLONING USING REACT AND FIREBASE

Project Report

Submitted in partial fulfilment of the requirements for the award of Bachelor of Engineering Degree in Computer Science and Engineering

By

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

SCHOOL OF COMPUTING

SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY

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CHENNAI – 600119, TAMILNADU.

MARCH 2022

SATHYABAMA INSTITUTE

OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY)

(Established under Section 3 of UGC Act, 1956)

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

BONAFIDE CERTIFICATE

This is to certify that this Professional Training Report is the bonafide work of **ZAHIN EKBAL (Reg. No.38110676) & PIU MAITI (Reg. No.38110407)** who underwent the professional training in **"AMAZON CLONING USING REACT AND FIREBASE"** under our supervision from Jan 2022 to Mar 2022.

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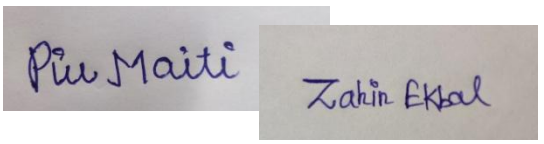
DECLARATION

I, **ZAHIN EKBAL** (Reg. No.38110676) **& PIU MAITI** (Reg. No.38110407) hereby declare that the Professional Training Report on **"AMAZON CLONING USING REACT AND FIREASE"** done by me under the guidance of **DR. A. CHRISTY, M.C.A, Ph.D.,** at Sathyabama Institute of Science and Technology is submitted in partial fulfilment of the requirements for the award of Bachelor of Engineering degree in Computer Science and Engineering.



DATE:

PLACE: **SIGNATURE OF THE CANDIDATE**

ACKNOWLEDGEMENT

I am pleased to acknowledge my sincere thanks to **Board of Management of SATHYABAMA** for their kind encouragement in doing this project and for completing it successfully. I am grateful to them.

I convey my thanks to **DR. T. SASIKALA M.E., PH. D, Dean**, School of Computing, **DR. Lakshmanan L,M.E., PH.D. and, DR. S. VIGNESHWARI, M.E., PH.D., Heads of the Department of Computer Science and Engineering** for providing me necessary support and details at the right time during the progressive views.

I would like to express my sincere and deep sense of gratitude to my Project Guide **DR. A. CHRISTY, M.C.A., PH.D.,**for his valuable guidance, suggestions and constant encouragement paved way for the successful completion of my project work.

I wish to express my thanks to all Teaching and Non-Teaching staff members of the **Department ofComputer Science and Engineering** who were helpful in many ways for the completion of my project.

ABSTRACT

The main goal of this project is to build an e-commerce website similar to Amazon. Our clone will allow users to register, login, add product to the cart, delete product from the shopping cart. Our clone will permit only an authenticated user to access the home page. IT world is changing. Evolution of cloud computing in recent past has brought forceful change in era of IT field. Major advantage of cloud computing is that the hardware need not to be upgraded as Cloud Services provides everything of demand basis. Consuming electricity is the best example by which cloud computing can be explained, just pay for whatever you used. during this paper, we present a comparative study of leading improvidence like Amazon Cloud Services, Rack space hopped-up by Open Stack and different open supply Cloud suppliers. Further discussing concerning a way to implement Open Stack or simply making an attempt out by Dev stack and Try stack only for testing purpose and finally covering releases and up to date work occurring in Open Stack. The aim of this paper is to point out the importance of Open Stack as a Cloud supplier and the method to induce started with Open Stack. Neutral. Using the dataset, these networks may be leveraged to produce task-specific outcomes. Using Transfer Learning, we utilized our dataset on a pre-trained network. The pre-trained network is used for both feature extraction and classification. Transfer Learning takes features and weights from previously trained models and applies them to subsequent models, even when there is less information on the most recent job. We will use Firebase for user authentication. Firebase provides developers with servers, APIs and datastore, all written so generically that developers can modify based upon user needs. It is user friendly. We will use firebase to store our data.

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CHAPTER 1

INTRODUCTION

1.1 OUTLINE OF THE PROJECT

Amazon could be a prime example of an internet site with all the key parts creating up a decent e-commerce website. Businesses, in any field have tons of competition. They're constantly on the lookout for a proven because of increase Revenue. If the business doesn’t have an e-commerce website, they're deed money on the table. The e-commerce web site of Amazonas at first place in conjunction with easy hypertext mark-up language, CSS & JAVASCRIPT. Through this Project, We’ll discover the simplest way to create a useful clone of Amazon e-commerce web site with React & Firebase. Cloud Computing has become the essential requirement for the IT companies. Cloud Industry is growing at a very good pace, and providing essential services i.e. infrastructure as a service (IaaS), network as a service (NaaS), platform as a service (PaaS) (SaaS). Because of important cost saving several smaller and medium sized organizations are trying forward for exploitation cloud services. The emerging demand for cloud services is driven by continuing globalization, consumer acceptance of technology, economic downturn and the growth of the extended enterprise. Cloud Computing enables many organizations to limit the large capital investment that is associated with costly data centres and for the applications and transforming these costs into operating expenses paying for cloud resources only as required.

CHAPTER 2

LITERATURE SURVEY

In this era of internet, e-commerce is growing by leaps and bounds keeping the development of brick-and-mortar businesses down. Individuals in the developed world and increasing number of people in the developing world currently use e-commerce websites on a routine for their everyday purchase. In recent times the role of information technology within the business enterprises has emerged with varied new levels of services, storage needs, resource management and handiness. Amazon is a vast Internet-based enterprise that sells books, music, movies, housewares, electronics, toys, and many other goods. In this article, we will explore the react hooks and context API as we build the amazon clone using the react context API for state management within our app. As the amount of data that is available now a days is too large for a single organization to regulate and manage therefore putting the data on cloud can act as a savoir. Cloud services are a true 'on-demand' services. Cloud servers work at a far more broader scale than even the largest non-public enterprises can work. Cloud computing is a method of enabling a convenient and present access to a shared pool of configurable computing resources (networks, servers, processors, storage, applications and services) which can be rapidly accessed with less effort. Through this project, we'll discover a way to create a functional clone of Amazon's e-commerce website with React and Firebase for database storage.

CHAPTER 3

AIM AND SCOPE OF THE PRESENT INVESTIGATION

3.1 PURPOSE OF THE PROJECT

The goal of this project is to build an e-commerce application using React, which is inspired by Amazon. Amazon is a vast Internet-based enterprise that sells books, music, movies, housewares, electronics, toys, and many other goods. In this article, we will explore the react hooks and context API as we build the amazon clone using the react context API for state management within our app.

Pre-requisite:

- Basic understanding of JavaScript ES6.
- Basic understanding of HTML and CSS.
- Have Node js installed on your machine.
- Have Visual Studio Code installed on your machine.

Technologies:

- React
- Firebase
- Font awesome(icons)

Project overview:

Our clone will allow users to register, login, add products to the shopping

cart, remove product from the shopping cart. Our clone will permit only an authenticated user to access the home page.

3.2 PROJECT ARCHITECTURE:

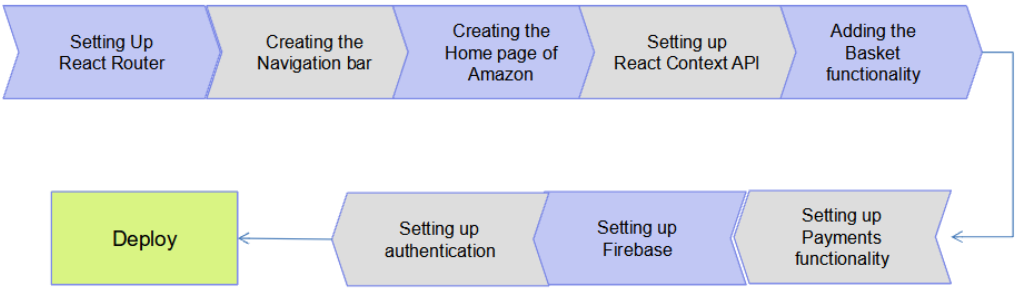

Figure 3.1 Project Stages

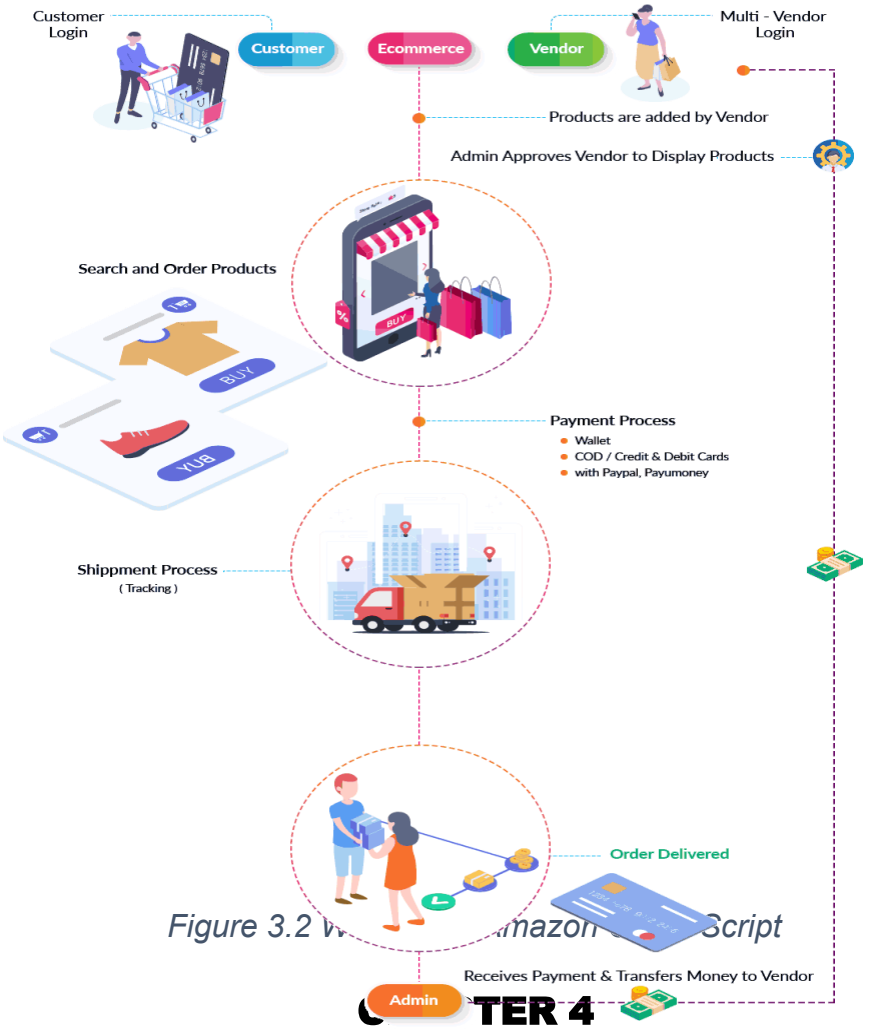

Figure 3.2 W... mazon ... Script

CHAPTER 4

METHODS AND MATERIALS USED

4.1 Designing of the Text Editor

The project will stick to the basic functionalities expected of a simple text editor – whichincludestheabilitytowritesomethingonthenotepad,saveitandopenand modify it whenever required. For the purpose of this tutorial we will design the Visual Studio Code Editor with React and CSS code to create the front-end part of the webpage and connect Firebase to the code to add the Database. We will use Stripe for Authentication.

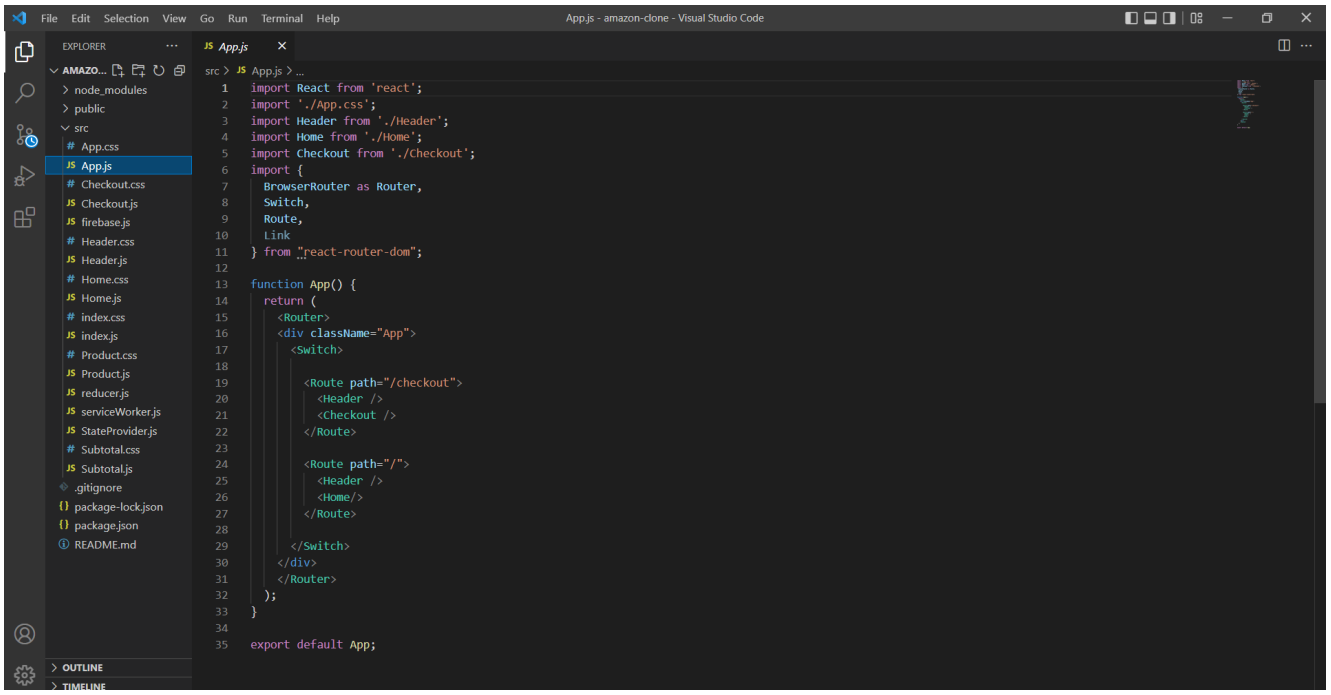

Figure 4.1 Outline of the Web Page

4.2 WORKING EXPLANATION:

4.2.3 Primary Goals

Create header/navigation bar to navigate between pages. Create a home page to display products. Create a login page for user login. Add functionalities like basket,

payment and authentication login. Now we've our react project dead setup. Now we can start making the amazon clone.

4.2.3.1 Set React Router

A very necessary factor to contemplate during a React app is that the navigation(moving from one to another) of the users. Use this npm install react-router-dom.

4.2.3.2 Creating the NavBar

We are going to use a package for icons, and we need Material Icons to use them. So open your terminal and write the subsequent command. npm install @material-ui/core.

4.2.3.3 React Context API

The Context API may be an important part of React. It helps North American nation to form application level states and that we will get the information from those states through any part. There are many alternatives, one among them is revived. Setting up React API is additional of boiler plate. putting in place React Context API is more of a boilerplate and just about same in each project.

4.2.3.4 FireBase

We use base of operations for user authentication. Firebase provides developers with servers, APIs and data store, all written thus generically that developers will modify it to suit most desires. It is user friendly In this article we will use the fire store to store our data. Next you will be directed to your Firebase projects pagelike the following:-

step1:-Add the name of your project (amazon-clone)

step2:- check enable Google Analytics for this project and click continue

step3:- select default account for Firebase. After the Firebase project is successfully created, click on the web icon and follow the prompt to register your app. Next Install Firebase CLI .

npm install -g Firebase-tools and continue to console. Next, click on the net icon and choose the con-fig possibility as follow:-

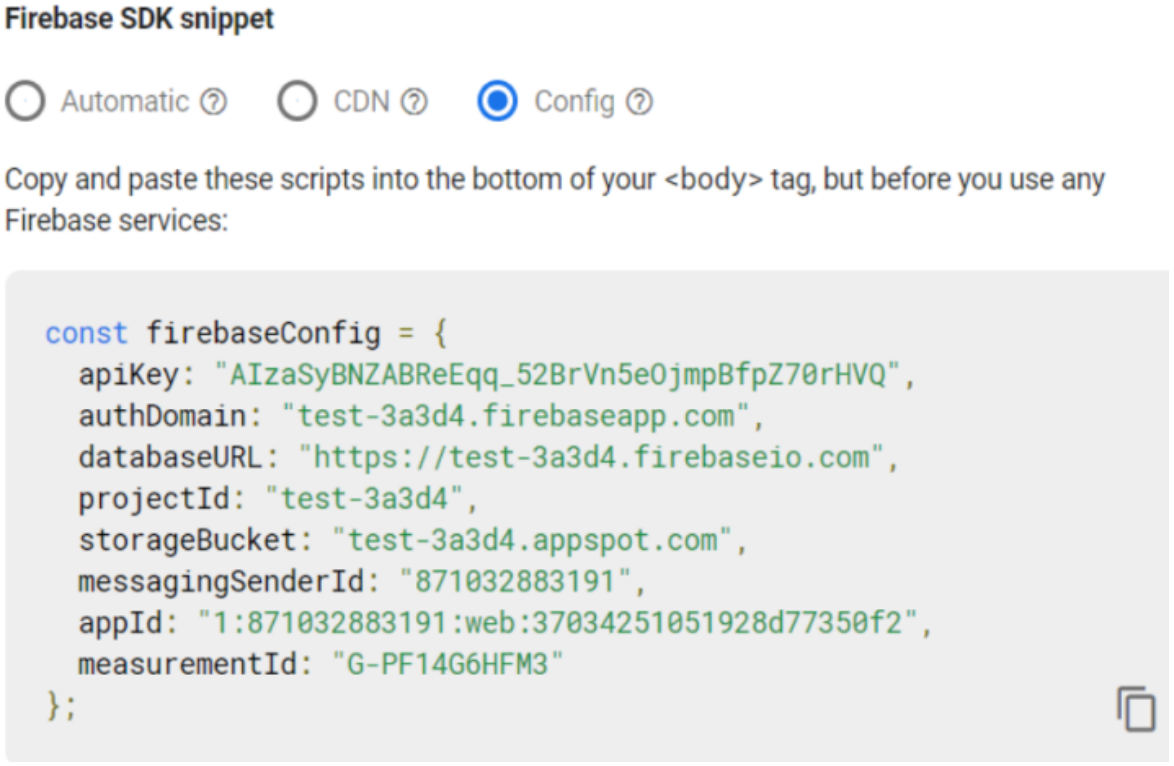

Figure 4.2 Firebase Configuration

Connect our projects to firebase install fire- -base in the project.

npm install firebase

4.2.3.5 React Hooks

“Hooks square measure a brand new addition in React They let you use state and alternative React options without writing a category.”THE use State Hook The North American nation Estate hook permits us rouse state in our purposeful elements similar this. State school primarily based component. A use State hook takes the initial price of our state because the solely argument, associated it returns an array of 2 elements. the primary part is our stat variable and also the second part may be a function within which we are able to use the update the value of the state variable.

Let’s take a look at the following example:

import React, {useState} from "react";

function Counter()

{

const [counter, setCounter] = useState(0);

}

Here, counter is our state variable and its initial price is zero whereas set Counter may be a function that we are able to use to update the value of count. The use Context HOOK. This hook essentially permits North American nation to consume the worth of a context. It accepts a context object(the price returned from create Context and returns the current context price for that context.

CHAPTER 5

RESULTS AND DISCUSSION

Login Page:

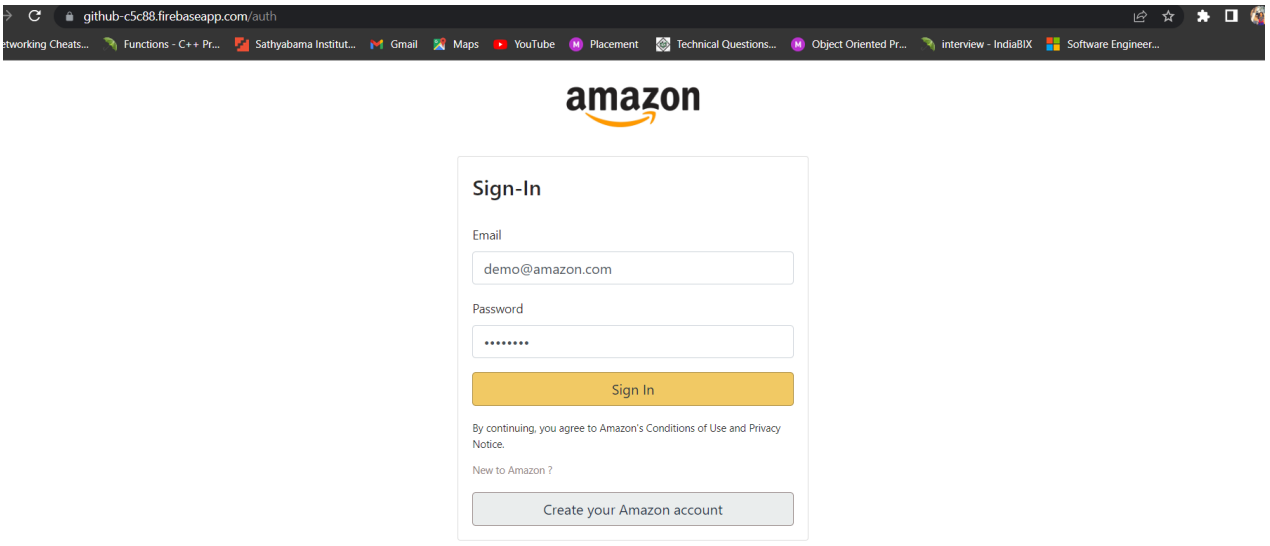

Figure 5.1 Login page of the web page

:

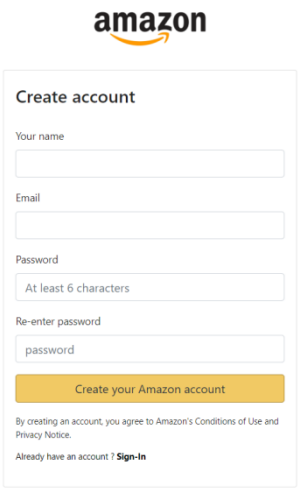

Figure 5.2 Sign In

Home Page:

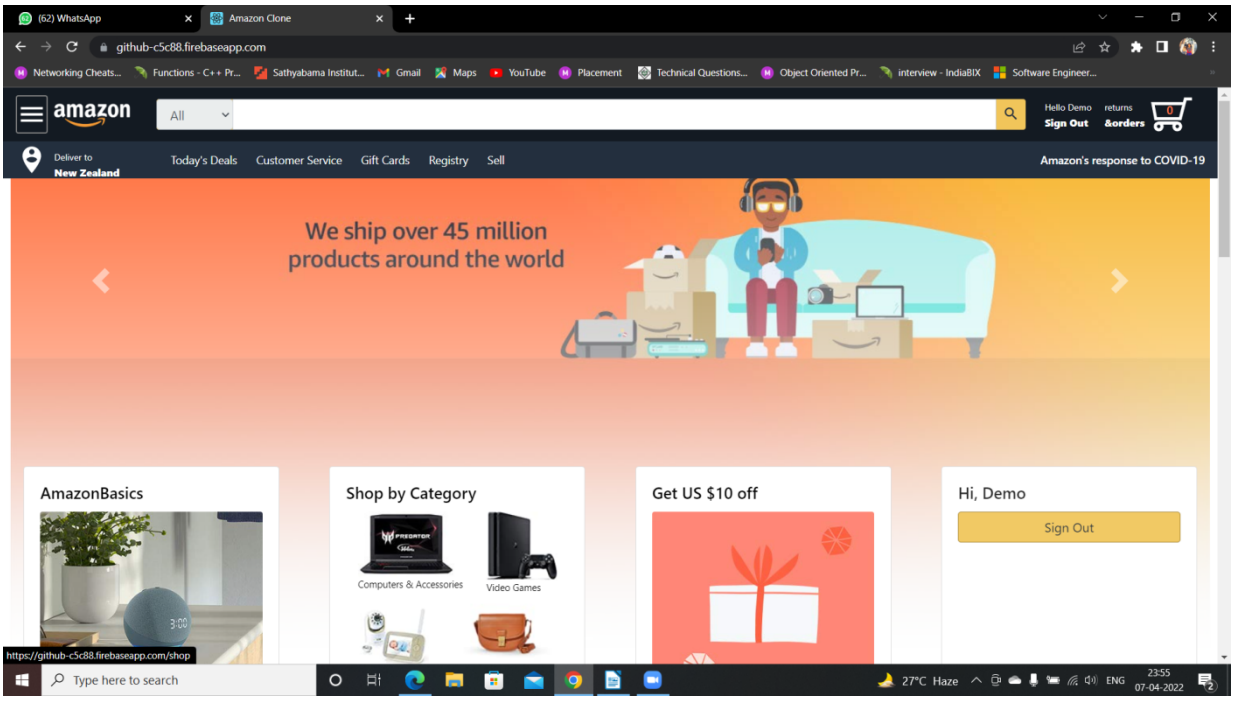

Figure 5.3 Home Page of the Amazon website

List Page:

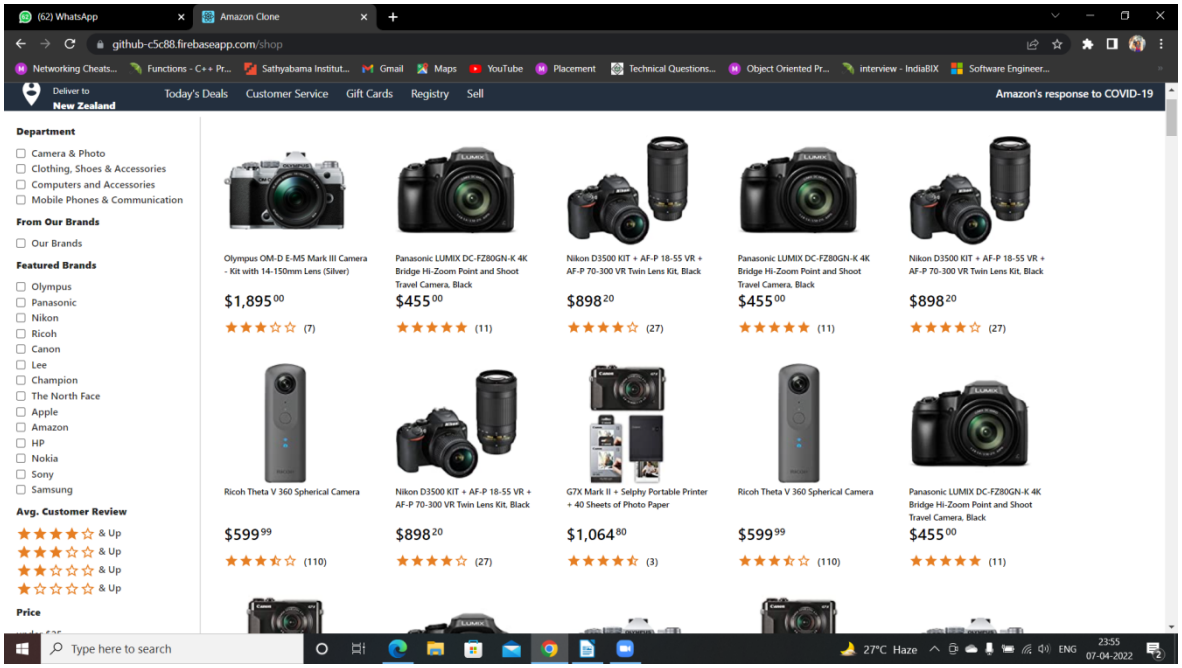

Figure 5.4 List of Products connected through Firebase

Item Page:

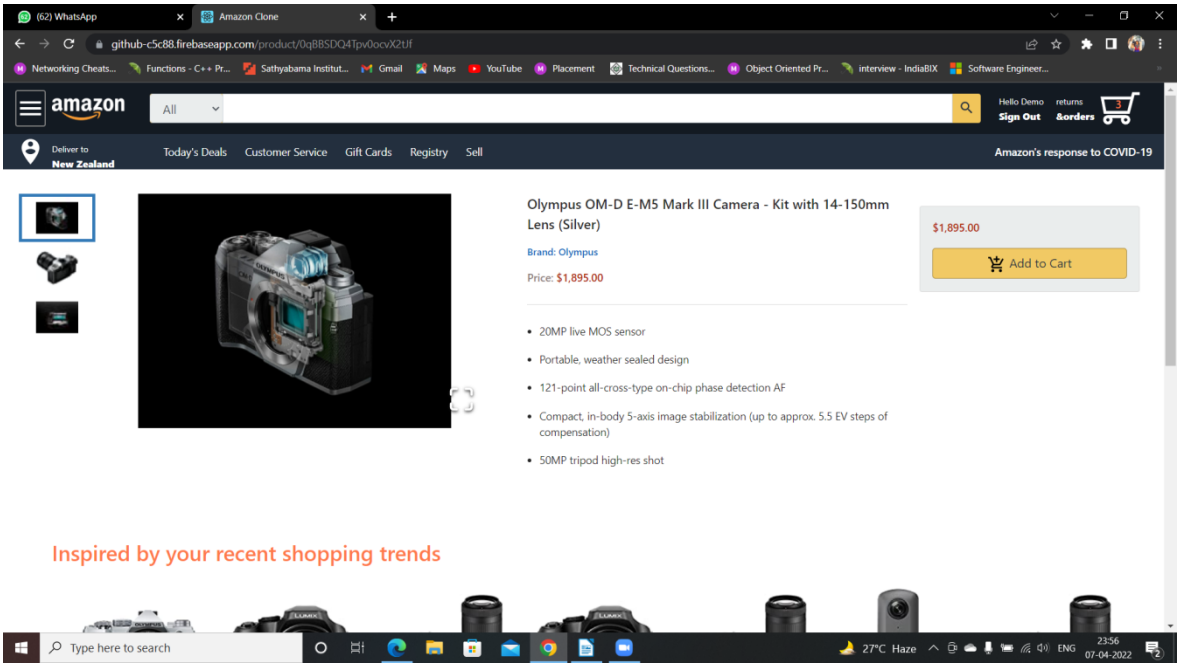

Figure 5.5 Item Page showing details of the item

Checkout Page:

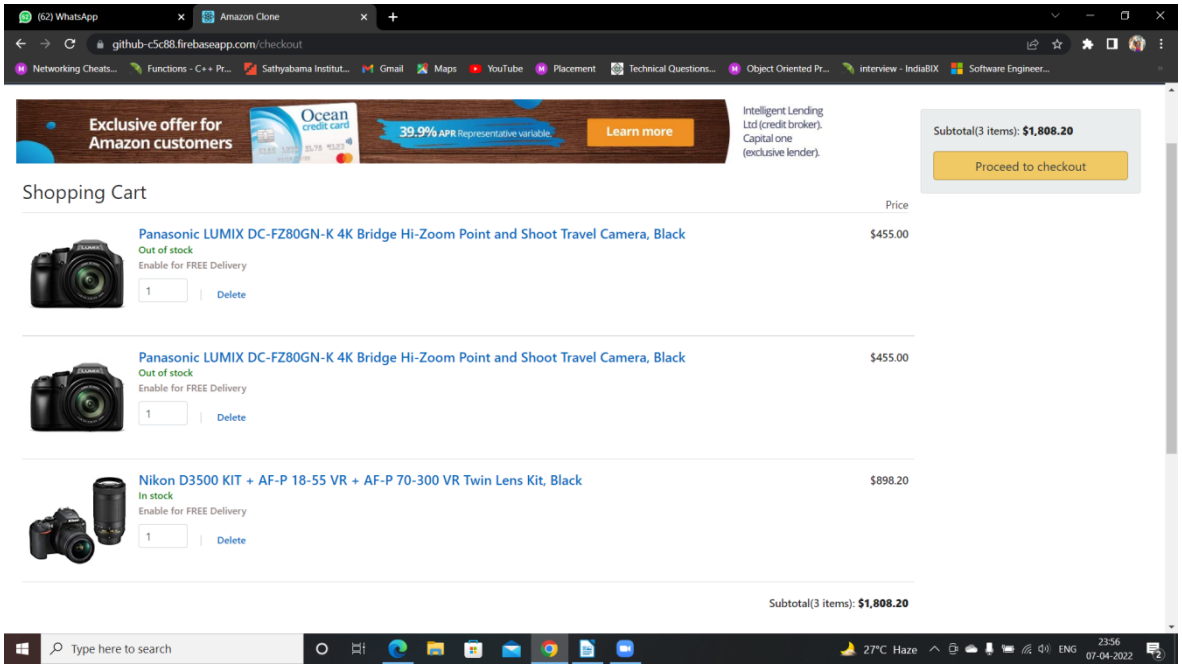

Figure 5.6 Checkout Page

CHAPTER 6

SUMMARY AND CONCLUSION

Open Stack is designed to allow researchers and administrators to deploy Iaas infrastructure and supply tools for making and managing virtual machines on high of existing resources. This work aims to illustrate that the system Open-stack has stuffed an important niche within the style area of cloud computing by providing a simple to deploy over the prevailing resources, and most importantly forms open supply and provides powerful options whereas following rising open standards. Currently, we have a tendency to deployed the entire system. this technique are going to be utilized in future works to check and appraise it performances in dynamic reconfiguration in IaaS Cloud Computing. So it's clear the one reason that stood bent to manoeuvrer several enterprises to point out towards the Amazon clone script is, "The massive finish of Amazon Marketplace".To satisfy the requirements and desires of such e-commerce business seekers. We at we have a tendency tobnexs, variety multimovement e-Commerce script supplier offer feature-rich and high-performing Amazon clone to kick-start their multi-vendor market place web site virtually like Amazon with our greatest Amazon multi-vendor Clone script. Our development experts square measure nice at coming up with implementing, and developing Amazon clones as per your business necessities with all must-to have functionalities.

That's it! We have succeeded in building our Amazon clone using the Context API for state management ad firebase for user authentication in the process, we have learned.

- What the Context API is and the problem it solves;
- When to use the Context API
- Creating Context and consuming it functional components.
- What React Hook is
- How to setup firebase authentication.

APPENDIX

SOURCE CODE:

App.js:

```
import React from'react';

import'./App.css';
import Header from'./Header';
import Home from'./Home';
import Checkout from'./Checkout';
import {
  BrowserRouter as Router,
  Switch,
  Route,
  Link
} from"react-router-dom";

function App() {
  return (
    <Router>
    <divclassName="App">
      <Switch>

        <Routepath="/checkout">
          <Header/>
          <Checkout/>
        </Route>

        <Routepath="/">
          <Header/>
          <Home/>
        </Route>

      </Switch>
    </div>
    </Router>
  );
}

exportdefault App;
```

App.css:

```
.App {

  text-align: center;
}
```

```
.App-logo {
  height: 40vmin;
  pointer-events: none;
}

@media (prefers-reduced-motion: no-preference) {
  .App-logo {
    animation: App-logo-spin infinite20slinear;
  }
}

.App-header {
  background-color: #282c34;
  min-height: 100vh;
  display: flex;
  flex-direction: column;
  align-items: center;
  justify-content: center;
  font-size: calc(10px + 2vmin);
  color: white;
}

.App-link {
  color: #61dafb;
}

@keyframes App-logo-spin {
  from {
    transform: rotate(0deg);
  }
  to {
    transform: rotate(360deg);
  }
}
```

Header.js:

```
import React from"react";
import"./Header.css";
import SearchIcon from"@material-ui/icons/Search";
import ShoppingBasketIcon from"@material-ui/icons/ShoppingBasket";
import { Link } from"react-router-dom";

function Header() {
  return (
    <divclassName="header">
      <Linkto="/"><img
```

```
          className="header__logo"
          src="http://pngimg.com/uploads/amazon/amazon_PNG11.png"
        />
      </Link>

      <divclassName="header__search">
        <inputclassName="header__searchInput"type="text"/>
        <SearchIconclassName="header__searchIcon"/>
      </div>

      <divclassName="header__nav">

        <divclassName="header__option">
          <spanclassName="header__optionLineOne">Hello Guest</span>
          <spanclassName="header__optionLineTwo">Sign In</span>
        </div>



        <divclassName="header__option">
          <spanclassName="header__optionLineOne">Returns</span>
          <spanclassName="header__optionLineTwo">& Orders</span>
        </div>



      <divclassName="header__option">
        <spanclassName="header__optionLineOne">Your</span>
        <spanclassName="header__optionLineTwo">Prime</span>
      </div>

      <Linkto="/checkout">
      <divclassName="header__optionBasket">
          <ShoppingBasketIcon/>
          <spanclassName="header__optionLineTwo header__basketCount">
            0
          </span>
        </div>
        </Link>

    </div>
  </div>
 );
}

exportdefault Header;
```

Header.css:

```
.header {
  height: 60px;
  display: flex;
  align-items: center;
  background-color: #131921;
  position: sticky;
  top: 0;
  z-index: 100;
}

.header__logo {
  width: 100px;
  object-fit: contain;
  margin: 020px;
  margin-top: 18px;
}

.header__search {
  display: flex;
  flex: 1;
  align-items: center;
  border-radius: 24px;
}

.header__searchInput {
  height: 12px;
  padding: 10px;
  border: none;
  width: 100%;
}

.header__searchIcon {
  padding: 5px;
  height: 22px!important;
  background-color: #cd9042;
}

.header__optionLineOne {
  font-size: 10px;
}

.header__optionLineTwo {
  font-size: 13px;
  font-weight: 800;
}
```

```
.header__optionBasket {
  display: flex;
  align-items: center;
  color: white;
}

.header__basketCount {
  margin-left: 10px;
  margin-right: 10px;
}

.header__nav {
  display: flex;
  justify-content: space-evenly;
}

.header__option {
  display: flex;
  flex-direction: column;
  margin-left: 10px;
  margin-right: 10px;
  color: white;
}
```

Home.js:

```
import React from"react";
import"./Home.css";
import Product from"./Product";

function Home() {
  return (
    <divclassName="home">
      <divclassName="home__container">
        <img
          className="home__image"

src="https://images-eu.ssl-images-amazon.com/images/G/02/digital/video/merch2
016/Hero/Covid19/Generic/GWBleedingHero_ENG_COVIDUPDATE__XSite_1500
x600_PV_en-GB._CB428684220_.jpg"
          alt=""
        />

        <divclassName="home__row">
          <Product
            id="12321341"
```

```
          title="The Lean Startup: How Constant Innovation Creates Radically
Successful Businesses Paperback"
          price={11.96}
          rating={5}

image="https://images-na.ssl-images-amazon.com/images/I/51Zymoq7UnL._SX3
25_BO1,204,203,200_.jpg"
        />
        <Product
          id="49538094"
          title="Kenwood kMix Stand Mixer for Baking, Stylish Kitchen Mixer with
K-beater, Dough Hook and Whisk, 5 Litre Glass Bowl"
          price={239.0}
          rating={4}

image="https://images-na.ssl-images-amazon.com/images/I/81O%2BGNdkzKL._A
C_SX450_.jpg"
        />
      </div>

      <divclassName="home__row">
        <Product
          id="4903850"
          title="Samsung LC49RG90SSUXEN 49' Curved LED Gaming Monitor"
          price={199.99}
          rating={3}

image="https://images-na.ssl-images-amazon.com/images/I/71Swqqe7XAL._AC_
SX466_.jpg"
        />
        <Product
          id="23445930"
          title="Amazon Echo (3rd generation) | Smart speaker with Alexa, Charcoal
Fabric"
          price={98.99}
          rating={5}

image="https://media.very.co.uk/i/very/P6LTG_SQ1_0000000071_CHARCOAL_S
Lf?$300x400_retinamobilex2$"
        />
        <Product
          id="3254354345"
          title="New Apple iPad Pro (12.9-inch, Wi-Fi, 128GB) - Silver (4th
Generation)"
          price={598.99}
          rating={4}
```

```
image="https://images-na.ssl-images-amazon.com/images/I/816ctt5WV5L._AC_SX385_.jpg"
        />
      </div>

      <divclassName="home__row">
        <Product
          id="90829332"
          title="Samsung LC49RG90SSUXEN 49' Curved LED Gaming Monitor - Super Ultra Wide Dual WQHD 5120 x 1440"
          price={1094.98}
          rating={4}

image="https://images-na.ssl-images-amazon.com/images/I/6125mFrzr6L._AC_SX355_.jpg"
        />
      </div>
    </div>
  </div>
 );
}

exportdefault Home;
```

Home.css:

```
.home {
  display: flex;
  justify-content: center;
  margin-left: auto;
  margin-right: auto;
  max-width: 1500px;
 }
 .home__image {
  width: 100%;
  z-index: -1;
  margin-bottom: -150px;
  mask-image: linear-gradient(to bottom, rgba(0, 0, 0, 1), rgba(0, 0, 0, 0));
 }
 .home__row {
  display: flex;
  z-index: 1;
  margin-left: 5px;
  margin-right: 5px;
 }
```

Checkout.js:

```
import React from'react'
import"./Checkout.css"
import {useStateValue } from'./StateProvider'
import  Subtotal from  "./Subtotal"

function Checkout() {


   return (
      <divclassName="checkout">
         <divclassName="checkout__left">

<imgclassName="checkout__ad"src="https://images-na.ssl-images-amazon.com/images/G/02/UK_CCMP/TM/OCC_Amazon1._CB423592668_.jpg"alt=""/>
            <div>
               <h2className="checkout__title"> Your shopping basket</h2>
            </div>
         </div>
         <divclassName="checkout__right">
            <Subtotal/>
         </div>
      </div>
   )
}

exportdefault Checkout
```

Checkout.css:

```
.checkout {
   display: flex;
   padding: 20px;
   background-color: white;
   height: max-content;
}

.checkout__ad{
   width: 100%;
   margin-bottom: 10px;
}

.checkout__title {
   margin-right: 10px;
   padding: 10px;
   border-bottom: 1pxsolidlightgray;
}
```

firebase.js

```
const firebaseConfig = {
    apiKey: "AIzaSyDVLtxnEdxA3LUsqOllQAif_kF4M8PeVTo",
    authDomain: "e-clone-3fd32.firebaseapp.com",
    projectId: "e-clone-3fd32",
    storageBucket: "e-clone-3fd32.appspot.com",
    messagingSenderId: "162589427345",
    appId: "1:162589427345:web:f704f82887a6761893e130",
    measurementId: "G-K5M00RBN77"
  };
```

StateProvider.js:

```
import React, { createContext, useContext, useReducer } from"react";

// Prepares the dataLayer
exportconst StateContext = createContext();

// Wrap our app and provide the Data layer
exportconst StateProvider = ({ reducer, initialState, children }) => (
  <StateContext.Providervalue={useReducer(reducer, initialState)}>
    {children}
  </StateContext.Provider>
);

// Pull information from the data layer
exportconst useStateValue = () => useContext(StateContext);
```

ServiceWorker.js:

```
const serviceWorker = onPerfEntry => {
  if (onPerfEntry && onPerfEntry instanceof Function) {
    import('web-vitals').then(({ getCLS, getFID, getFCP, getLCP, getTTFB }) => {
      getCLS(onPerfEntry);
      getFID(onPerfEntry);
      getFCP(onPerfEntry);
      getLCP(onPerfEntry);
      getTTFB(onPerfEntry);
    });
  }
};

exportdefault serviceWorker;
```

Output:

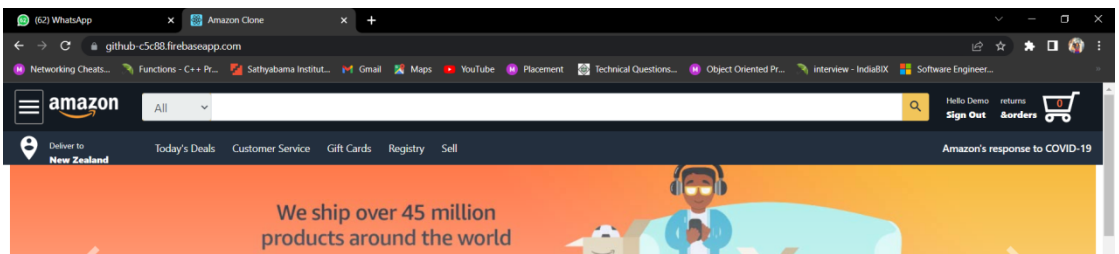

Figure 6.1 Output

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