MINI-PROJECT II (2020-2021)



Final Report

E-COMMERCE STORE

Group Members:

- 1) Akshita Saxena (181500066)
- 2) Ashita Goyal (181500144)
- 3) Bharti Gautam (181500192)
- 4) Naina Agrawal (181500408)
- 5) Nandani Bansal (181500413)

Under the Supervision of: Mr. Amir Khan

Technical Trainer

Department of Computer Science Engineering & Applications

Contents

Acknowledgement	3
Declaration	4
Abstract	5
1. Introduction	6
2. Objective of the Project	7
3. Motivation	8
4. Hardware and Software Requirements	9
5. Introduction to Technology	10
6. Problem Definition	17
7. Software Design	18
8. Implementation Details	20
9. Screenshots	30
10. Github and Google drive links	36
References	37

ACKNOWLEDGEMENT

It gives us a great sense of pleasure to present the report of the B. Tech Mini Project undertaken during B. Tech. Third Year. This project in itself is an acknowledgement to the inspiration, drive and technical assistance contributed to it by many individuals. This project would never have seen the light of the day without the help and guidance that we have received.

Our heartiest thanks to Dr. (Prof). Anand Singh Jalal, Head of Dept., Department of CEA for providing us with an encouraging platform to develop this project, which thus helped us in shaping our abilities towards a constructive goal.

We owe special debt of gratitude to Mr. Amir Khan, Technical Trainer, for his constant support and guidance throughout the course of our work. His sincerity, thoroughness and perseverance have been a constant source of inspiration for us. He has showered us with all his extensively experienced ideas and insightful comments at virtually all stages of the project & has also taught us about the latest industry-oriented technologies.

We also do not like to miss the opportunity to acknowledge the contribution of all faculty members of the department for their kind guidance and cooperation during the development of our project. Last but not the least, we acknowledge our friends for their contribution in the completion of the project.

DECLARATION

We hereby declare that the work which is being presented in the Mini Project "E-COMMERCE STORE" in partial fulfilment of the requirements for mini project viva voice, is an authentic record of my own work carried under the supervision of "GLA UNIVERSITY MATHURA".

Signature of Candidate:

Name of Candidate: Akshita Saxena, Ashita Goyal, Bharti Gautam, Naina

Agrawal, Nandani Bansal

Roll. No.: 181500066, 181500144, 181500192, 181500408, 181500413

Course: B.Tech. (Computer Science & Engineering)

Year: 3rd

Semester: VI

ABSTRACT

Today the web and its blast have made another monetary situation that not just weighs on the old style idea of the "item" yet additionally on the cutting edge of "administration". It is this degree of administration that directs whether a business adventure will succeed or not in the market. To give a high openness of administration we will structure the online site that supports local businesses, with the goal that potential clients need not go to a physical shop to purchase items

An E-Commerce portal which will allow formal and informal merchants in developing countries to advertise and sell their goods on the internet. This would permit rural communities to make their wares available to the rest of the world via the World Wide Web. The objective of this project is to create an e-commerce web portal with a content management system which would allow product information to be updated securely using a system. The web portal will have an online interface in the form of an e-commerce website that will allow users to buy goods from the merchants. This web portal will allow local organizations and start-ups to start their businesses and reach out the market.

INTRODUCTION

This project is aimed at developing an online static website for an E-commerce store which can be used by people to list their business on the website and will also provide customers to buy the products directly from the store. The website is based on HTML, CSS, Bootstrap, JavaScript and React.

Customers can buy the products directly from the store. This will help local businesses to register their products on the website. It will eventually help local businesses to increase their profits and people to buy the goods from the comfort of their homes. Users can see the products from the website.

Our website will contain a Homepage where all the basic information about the store and details of the products will be available. This site is easy to operate and user friendly.

OBJECTIVE OF THE PROJECT

An E-Commerce portal which will allow formal and informal merchants in developing countries to advertise and sell their goods on the internet. This would permit rural communities to make their wares available to the rest of the world via the World Wide Web. The objective of this project is to create an e-commerce web portal which would allow product information to be updated securely using a system. The web portal will have an online interface in the form of an e-commerce website that will allow users to buy goods from the merchants. This web portal will allow local organizations and start-ups to start their businesses and reach out the market.

MOTIVATION

The online shopping practices are increasing rapidly, thanks to digitalization. Online store owners are always eager to know how to increase traffic on their ecommerce sites and how to increase their profits to earn more revenues. So Ecommerce drives, profitable growth by expanding customer reach, reducing cost to serve and creating differentiated customer experiences. Hence by this, bringing together the various local businesses to the single platform so that anyone can access them anywhere according to their need.

So, with the increasing importance of online sales and the growing number of customers visiting online stores we are going to develop a website which helps to save the time of the users. This website encourages local businesses to create their online store and supports them to run their business to grow.

HARDWARE AND SOFTWARE REQUIREMENTS

> Hardware Used:

• Processor: Intel i5

• RAM: 8 GB

• Hard disk: 256GB

> Software Used:

• Microsoft Windows 7/8/10 or Linux

• VS Code or any other text editor

INTRODUCTION TO TECHNOLOGY

Web Development:

Web programming, also known as web development, is the creation of dynamic web applications. Examples of web applications are social networking sites like Facebook or e-commerce sites like Amazon.

Web development is a specific field of software engineering that focuses on building web pages. Web pages, or web apps, are codebases that are downloaded and run in our web browser (e.g., Google Chrome) each time a user navigates to the website address. This differs from other software which is usually downloaded once and run as a standalone application on your computer or phone. We can also think of web development as being split into two main categories: front end and back end.

Front end is what we see when we open a web page or app. Code is downloaded from a server and is rendered to the screen by a web browser. What happens when we interact with the code is also considered front end. This is often referred to as the 'Presentation Layer' or 'Client' in software development terms. The front end is built out of three languages: HTML, CSS, and JavaScript.

HTML: Hyper Text Mark-up Language is the standard language for creating documents for the World Wide Web. An HTML document is a text file, which contains the elements, in the form of tags that a web browser uses to display text, multimedia objects, and hyperlinks using HTML; we can format a document for display and add hyperlinks to other documents. The user interface has been designed in HTML hence can be browsed in any web browser. HTML code ensures the proper formatting of text and images so that your Internet browser may display them as they are intended to look. Without HTML, a browser would not know how to display text as elements or load images or other elements. HTML also provides a basic structure of the page, upon which Cascading Style Sheets are overlaid to change its appearance. One could think of HTML as the bones (structure) of a web page, and CSS as its skin (appearance).

<u>CSS (Cascading Style Sheets):</u> Cascading Style Sheets, fondly referred to as CSS, is a simple design language intended to simplify the process of making web pages presentable.

CSS handles the look and feel part of a web page. Using CSS, you can control the colour of the text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out, what background images or colours are used, layout designs, and variations in display for different devices and screen sizes as well as a variety of other effects.

CSS is easy to learn and understand but it provides powerful control over the presentation of an HTML document. Most commonly, CSS is combined with the mark-up languages HTML or XHTML.

Advantage of CSS

CSS saves time – We can write CSS once and then reuse same sheet in multiple HTML pages. You can define a style for each HTML element and apply it to as many Web pages as you want.

Pages load faster – If you are using CSS, you do not need to write HTML tag attributes every time. Just write one CSS rule of a tag and apply it to all the occurrences of that tag. So, less code means faster download times.

Easy maintenance – To make a global change, simply change the style, and all elements in all the web pages will be updated automatically.

Superior styles to HTML – CSS have a much wider array of attributes than HTML, so you can give a far better look to your HTML page in comparison to HTML attributes.

Multiple Device Compatibility – Style sheets allow content to be optimized for more than one type of device. By using the same HTML document, different versions of a website can be presented for handheld devices such as PDAs and cell phones or for printing.

Global web standards – Now HTML attributes are being deprecated and it is being recommended to use CSS. So, it's a good idea to start using CSS in all the HTML pages to make them compatible to future browsers.

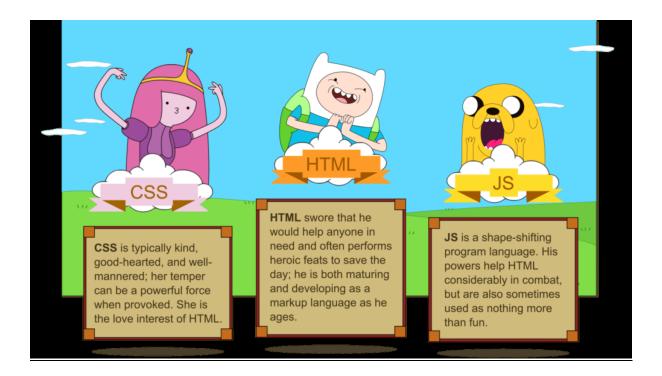
JAVA SCRIPT (JS): JavaScript often abbreviated as JS, is a high level, interpreted programming language that conforms to the ECMAScript specification. It is a programming language that is characterized as dynamic, weakly typed, prototype-based and multi-paradigm.

Alongside HTML and CSS, JavaScript is one of the core technologies of the World Wide Web. JavaScript enables interactive web pages and is an essential part of web applications. The vast majority of websites use it, and major web browsers have a dedicated JavaScript engine to execute it.

As a multi-paradigm language, JavaScript supports event-driven, functional, and imperative (including object-oriented and prototype-based) programming styles. It has APIs for working with text, arrays, dates, regular expressions, and the DOM, but the language itself does not include any I/O, such as networking, storage, or graphics facilities. It relies upon the host environment in which it is embedded to provide these features.

Initially only implemented client-side in web browsers, JavaScript engines are now embedded in many other types of host software, including server-side in web servers and databases, and in non-web programs such as word processors and PDF software, and in runtime environments that make JavaScript available for writing mobile and desktop applications, including desktop widgets. The terms Vanilla JavaScript and Vanilla JS refer to JavaScript not extended by any frameworks or additional libraries. Scripts written in Vanilla JS are plain JavaScript code.

Although there are similarities between JavaScript and Java, including language name, syntax, and respective standard libraries, the two languages are distinct and differ greatly in design. JavaScript was influenced by programming languages such as self and Scheme.



BOOTSTRAP: Bootstrap is a web framework that focuses on simplifying the development of informative web pages (as opposed to web apps). The primary purpose of adding it to a web project is to apply Bootstrap's choices of colour, size, font and layout to that project. As such, the primary factor is whether the developers in charge find those choices to their liking. Once added to a project, Bootstrap provides basic style definitions for all HTML elements. The result is a uniform appearance for prose, tables and form elements across web browsers.

In addition, developers can take advantage of CSS classes defined in Bootstrap to further customize the appearance of their contents. For example, Bootstrap has provisioned for light- and dark coloured tables, page headings, more prominent pull quotes, and text with a highlight. Bootstrap also comes with several JavaScript components in the form of jQuery plugins. They provide additional user interface elements such as dialog boxes, tooltips, and carousels. Each Bootstrap component consists of an HTML structure, CSS declarations, and in some cases accompanying JavaScript code. They also extend the functionality of some existing interface elements, including for example an auto-complete function for input fields.

REACT: React is a JavaScript library and React applications built on it run in the browser, NOT on the server. Applications of this kind only communicate with the server when necessary, which makes them very fast compared to traditional

websites that force the user to wait for the server to re-render entire pages and send them to the browser.

React is used for building user interfaces - what the user sees on their screen and interacts with to use your web app. This interface is split up into components, instead of having one huge page you break it up into smaller pieces known as components. In more general terms, this approach is called Modularity.

- It's declarative: React uses a declarative paradigm that makes it easier to reason about your application.
- It's efficient: React computes the minimal set of changes necessary to keep your DOM up-to-date.
- And it's flexible: React works with the libraries and frameworks that you already know.

React involves Composition that is lots of components wrapping up the functionalities into an encapsulated container.

Features of ReactJS

JSX: JSX is an extension to javascript. Though it is not mandatory to use JSX in react, it is one of the good features and easy to use.

Components: Components are like pure javascript functions that help make the code easy by splitting the logic into reusable independent code. We can use components as functions and components as classes. Components also have a state, props which makes life easy. Inside a class, the state of each of the props is maintained.

Virtual DOM: React creates a virtual dom, i.e., in-memory data -structure cache. Only the final changes of DOM has later updated in the browsers DOM.

Javascript Expressions: JS expressions can be used in the jsx files using curly brackets, for example {}.

Advantages of ReactJS

Here, are important pros/benefits of using ReactJS:

- ReactJS uses virtual dom that makes use of in-memory data-structure cache, and only the final changes are updated in browsers dom. This makes the app faster.
- You can create components of your choice by using the react component feature. The components can be reused and also helpful in code maintenance.
- Reactjs is an open-source javascript library, so it is easy to start with.
- ReactJS has become very popular in a short span and maintained by Facebook and Instagram. It is used by many famous companies like Apple, Netflix, etc.
- Facebook maintains ReactJS, the library, so it is well maintained and kept updated.
- ReactJS can be used to develop rich UI for both desktop and mobile apps.
- Easy to debug and test as most of the coding is done in Javascript rather than on Html.

Disadvantages of ReactJS

Here, are cons/ drawbacks of using ReactJS:

- Most of the code is written in JSX, i.e., Html and css are part of javascript, it can be quite confusing as most other frameworks prefer keeping Html separate from the javascript code.
- The file size of ReactJS is large.

<u>VISUAL STUDIO</u>: Visual Studio Code is a source-code editor that can be used with a variety of programming languages, including Java, JavaScript, Go, Node.js and C++. It is based on the Electron framework, which is used to develop Node.js Web applications that run on the Blink layout engine. Visual Studio Code employs the same editor component (codenamed "Monaco") used

in Azure DevOps (formerly called Visual Studio Online and Visual Studio Team Services).

Instead of a project system, it allows users to open one or more directories, which can then be saved in workspaces for future reuse. This allows it to operate as a language-agnostic code editor for any language. It supports a number of programming languages and a set of features that differs per language. Unwanted files and folders can be excluded from the project tree via the settings. Many Visual Studio Code features are not exposed through menus or the user interface, but can be accessed via the command palette.

Visual Studio Code can be extended via extensions, available through a central repository. This includes additions to the editor and language support. A notable feature is the ability to create extensions that add support for new languages, themes, and debuggers, perform static code analysis, and add code linters using the Language Server Protocol.

PROBLEM DEFINITION

An E-Commerce portal which will allow formal and informal merchants in developing countries to advertise and sell their goods on the internet. This would permit rural communities to make their wares available to the rest of the world via the World Wide Web. The objective of this project is to create an e-commerce web portal which would allow product information to be updated securely using a system. The web portal will have an online interface in the form of an e-commerce website that will allow users to buy goods from the merchants. This web portal will allow local organizations and start-ups to start their businesses and reach out the market.

Modules and its functionalities:

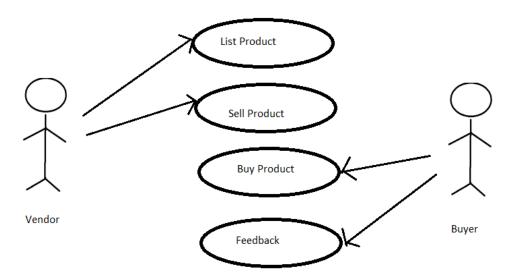
- 1. Dashboard: This is home page of our website.
- 2. Hawkers: This consist of all the hawkers available online for selling their products.
- 3. Feedback: Feedback area consist of all the feedbacks given by buyers.
- 4. Vendors: This contains information about the vendors and their products.
- 5. Place Order: This is used for placing order of the product of your choice.
- 6. About Us: This page consist information of the team behind the idea of promoting local businesses.

SOFTWARE DESIGN

4.1 Use Case Diagram

A **UML** use case diagram is the primary form of system/software requirements for a new software program underdeveloped. Use cases specify the expected behaviour (what), and not the exact method of making it happen (how). Use cases once specified can be denoted both textual and visual representation (i.e. use case diagram). A key concept of use case modelling is that it helps us design a system from the end user's perspective. It is an effective technique for communicating system behaviour in the user's terms by specifying all externally visible system behaviour.

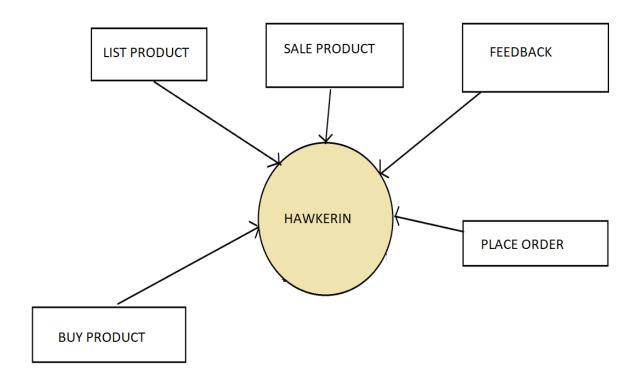
A use case diagram at its simplest is a representation of a user's interaction with the system that shows the relationship between the user and the different **use** cases in which the user is involved.



4.2. Dataflow Diagrams

Data Flow diagrams show the flow of data from external entities into the system, and from one process to another within the system.

Data flow diagrams are used to graphically represent the flow of data in a business information system. DFD describes the processes that are involved in a system to transfer data from the input to the file storage and reports generation. Data flow diagrams can be divided into logical and physical. The logical data flow diagram describes flow of data through a system to perform certain functionality of a business. The physical data flow diagram describes the implementation of the logical data flow.

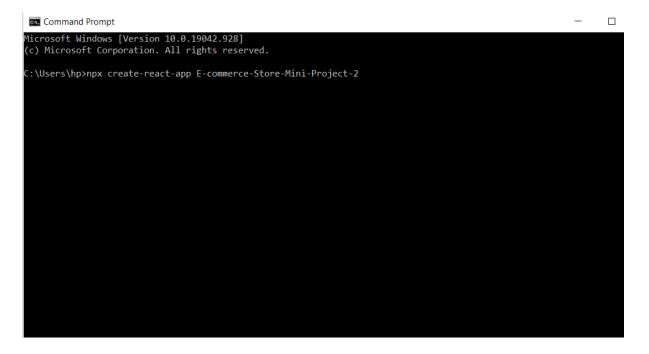


IMPLEMENTATION DETAILS

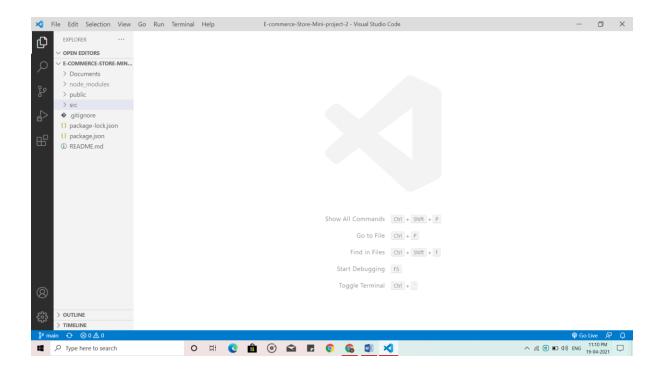
Create React app

- 1. We will use *create-React-app* NPX tool to create a simple React app.
- 2. Open Node.js command prompt.
- 3. Navigate to the respective folder, where you want to create React app.
- 4. Type the command given below in a console to install *create-React-app* using NPX tool.

npx create-react-app E-commerce-Store-Mini-Project-2

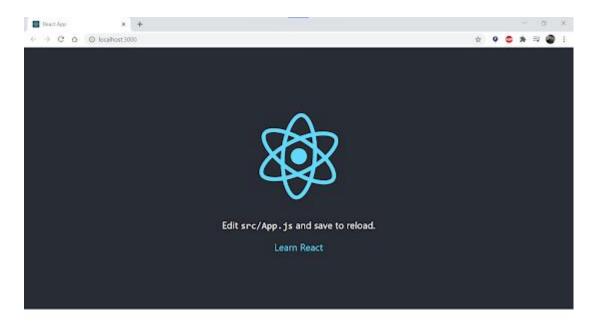


- 5. Navigate to the *E-commerce-Store-Mini-Project-2* folder.
- 6. Type the command **code** . in a console to open the app in Visual Studio code.
- 7. React app will have the folder structure given below.



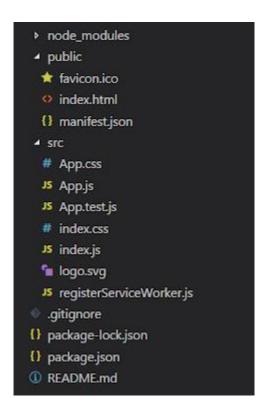
8. Type the command given below in a console to launch React app in the Browser.





In the previous section, you learned how to install and create a project in React. Now, whenever we create a React project, it automatically creates a lot of files and folders. So, in this article, I am going to explain what these files and folders are.

When we create a React project, our application's structure looks like this.



node_modules

The node_modules folder holds all the dependencies and sub-dependencies of our project. We only had React, React DOM and React scripts but React scripts have a lot of other dependencies which are present inside this folder.

Public folder

Basically, this folder contains 3 files as we have seen.

- *favicon.ico* it is an icon file which contains an icon which displays on the browser.
- *index.html* it is an important file. Due to this file, the public folder, known as "root folder", gets served by the web server in the end. Index.html is a single HTML page present in this project.
- *manifest.json* this file contains a lot of information related to our application like short_name, name, icons, start_url, display etc. We can also define other metadata about our application.

src folder

This folder contains actual source code for developers. This is the place where our React application is present. We can create our own subdirectory inside this directory. For faster rebuilds, files inside only this folder are processed by Webpack. However, this folder already contains the following files.

```
# App.css

JS App.js

JS App.test.js

# index.css

JS index.js

logo.svg

JS registerServiceWorker.js
```

- *App.css* this file gives some CSS classes or we can say some styling which is used by App.js file.
- *App.js* App.js is a sample React component called "App" which we get for free when creating a new app.
- *App.test.js* this is the test file which basically allows us to create the unit tests for different units or we can say for different components.
- *index.css* it stores the base styling for our application.
- *index.js* index.js stores our main Render call from ReactDOM (more on that later). It imports our App.js component that we start with and tells React where to render it (remember that div with an id of root?).
- *logo.svg* this is Scalable Vector Graphics file which contains the logo of Reactjs. By this file, we are able to see ReactJS logo on the browser.
- *registerServiceWorker.js* as its name applies, it is important for registering a service which is generated automatically and creates Progressive Web Apps which are necessary for mobile React Native apps.

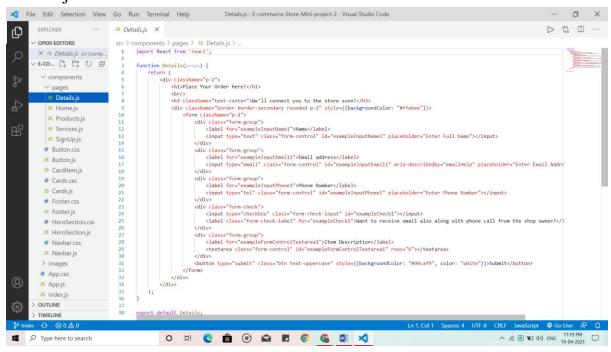
We can delete or rename the other files.

src folder structure:

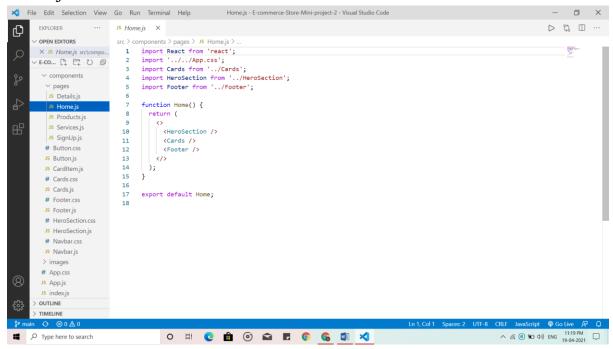
It consist of

Components:

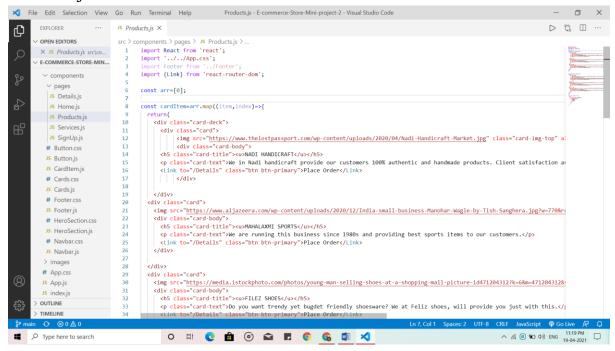
Details.js



Home.js



Products.js



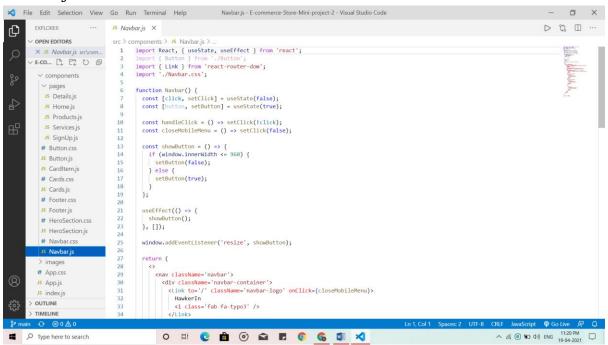
Services.js

```
🛪 File Edit Selection View Go Run Terminal Help Services.js - E-commerce-Store-Mini-project-2 - Visual Studio Code
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               - o ×
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ▷ th □ ···
                                     EXPLORER
                                                                                   ··· JS Services.js X
   O
                                                                                                                                  src > components > pages > J5 Services.js >
1    import React from 'react';
2    import '../../App.css';
                                     OPEN EDITORS
                                      × JS Services is src\com...
                                     E-CO... [] [] [] []
                                                                                                                                                                JS Details.js
                                              JS Home.js
                                                                                                                                                                                       <h1 className='services'>About Us</h1>;
                                                                                                                                                                                         <div className="container
                                                                                                                                                                                                   <h2>Collaborators Details</h2>
                                                                                                                                                                                                 <action="list-unstyled">
<alt class="media my-5">
<alt class="medi
                                                JS SignUp.js
                                             # Button.css
                                            JS Carditem.js
                                                                                                                                                                                                                         E-mail address : akshita.saxena_cs18@gla.ac.in<br/>br></br>
Github Username : Akshitasaxena22
                                            # Cards.css
                                            JS Cards.is
                                                                                                                                                                                                    </div>
</div>
</div>
</div>
</div>
</div>
</div>
di class="media my-5">
<ing class="media my-5">
<ing class="media-body">
<ing class="media-body">
<int class="media-body">
</int class="media-body">
</int class="media-body">
</int class="media-body">
<int class="media-body">
<int class="media-body">
<int class="media-body">
<int class="media-body">
</int class="media-body">
<int class="media-body">
</int cla
                                                                                                                                                                                                                   </div>
                                            # Footer.css
                                           # HeroSection.css
                                            JS HeroSection.js
                                            # Navbar.css
                                         > images
                                        # App.css
                                       JS App.js
                                                                                                                                                                                                         > OUTLINE
                                   TIMELINE
                                                                                                                                                                                                                                      5 class="mt-0 mb-1">Bharti Gautam.k</h5>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ^ (6 0 10 do) ENG 11:20 PM □ 19-04-2021 □
                                                                                                                                                                                           Type here to search
```

SignUp.js

```
🔾 File Edit Selection View Go Run Terminal Help SignUp.js - E-commerce-Store-Mini-project-2 - Visual Studio Code
                     ··· Js SignUp.js ×
                                                                                                                                                                 ⊳ ৸ ॥ …
 ф
                               src > components > pages > JS SignUp.js >
1    import React from 'react';
2    import '../../App.css';
        OPEN EDITORS
        X JS SianUp.is src\comp...
        E-CO... [] [] [] []
                                  4 export default function SignUp() {
           ∨ pages
           JS Details.js
                                          <ht className='sign-up'>LIKE & SUBSCRIBE</ht>
<div className='container border rounded p-4 my-4" style={{backgroundColor: "#e3f2fd", fontSize: "20px"}}>
<form>
           JS Products.js
                                              Js Button.js
          JS CardItem.is
          # Cards.css
          JS Cards.js
                                     </fc
</fd>
</fd>
</fd>
</fd>
</fd>
</fd>
</fr>
</r>
);
}
                                               <button type="submit" class="btn btn-primary">Submit</button>
          JS Footer.js
          # HeroSection.css
          JS HeroSection.js
          Js Navbar.js
          > images
         # App.css
         JS App.js
         JS index.js
       > OUTLINE
        > TIMELINE
                                              O H C 🛍 🎯 🛍 🖫 💿 😘 🛍 💢
                                                                                                                                                   ^ (@ 11:20 PM 19:04-2021 □
 Type here to search
```

Navbar.js

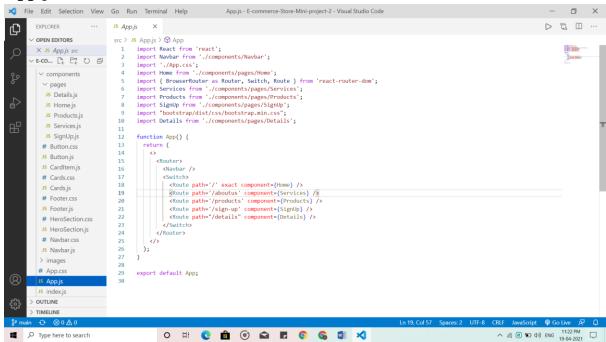


App.css:

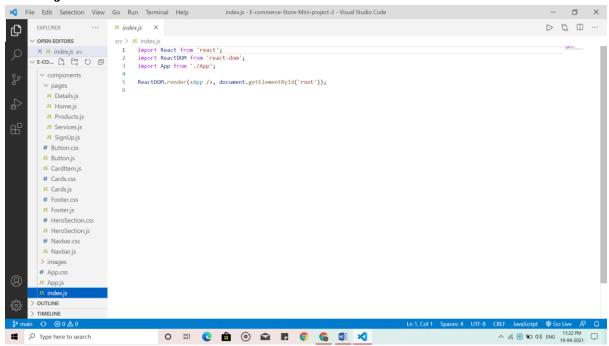
```
🔻 File Edit Selection View Go Run Terminal Help App.css - E-commerce-Store-Mini-project-2 - Visual Studio Code
                                                                                                                                                                                                               - 🗇 X
                                                                                                                                                                                                             D \\ \
           EXPLORER
                              ··· # App.css ×
 Ф
                                        src > # App.css > ts. services

1 * {
    box-sizing: border-box;
    margin: 0;
           OPEN EDITORS
           X # App.css src
           E-COMMERCE-STORE-MIN...
                                                      margin: 0;
padding: 0;
                                                       font-family: 'PT Sans', sans-serif;
             ∨ pages
             JS Details.js
                                              .home,
.services,
              JS Home.js
              JS Products.js
                                                .products,
              JS Services.js
                                                  .products,
.sign-up {
    display: flex;
    height: 60vh;
    align-items: center;
    justify-content: center;
    font-size: 3rem;
              Js SignUp.js
             # Button.css
             JS CardItem.js
                                                 }
             # Cards.css
             JS Cards.js
                                                 | services | | | background-image: url('https://images.unsplash.com/photo-1563906267088-b029e71011147ixid=Mnwx0tjA3fDB8MHxwaG90bylwYWdlftx8fGVuff background-position: center; background-size: cover; background-repeat: no-repeat; color: | D=fff; | formal | |
             # Footer.css
             JS Footer.js
             # HeroSection.css
             JS HeroSection.js
             # Navbar.css
                                                      font-size: 100px;
            > images
           # App.css
                                                      councts {
    background-image: url('https://www.cherylschlenker.com/paintings/2015_04_2435d-p1050103.jpg-watermark.jpg');
    background-position: center;
    background-size: fill;
    background-repeat: no-repeat;
            JS App.js
         > OUTLINE
           TIMELINE
                                                                                                                                                                                           Type here to search
```

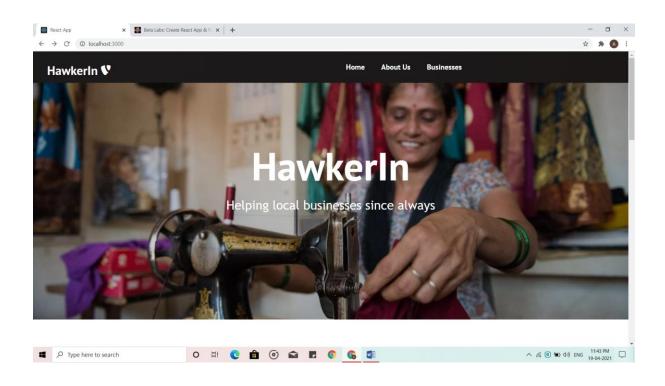
App.js

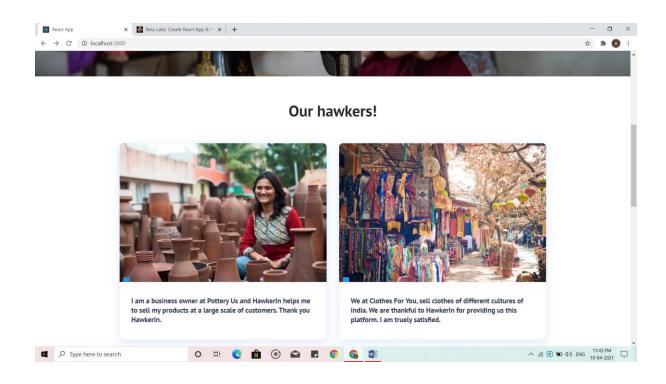


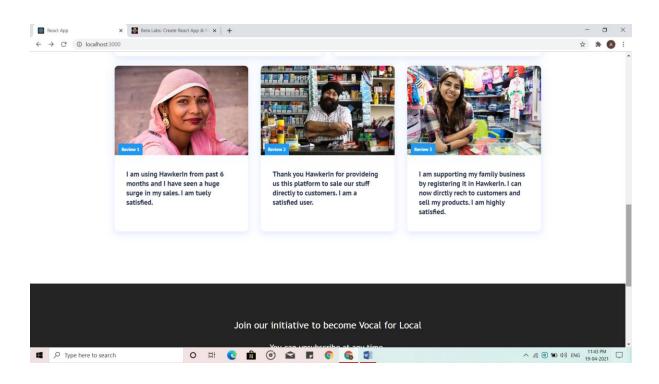
Index.js

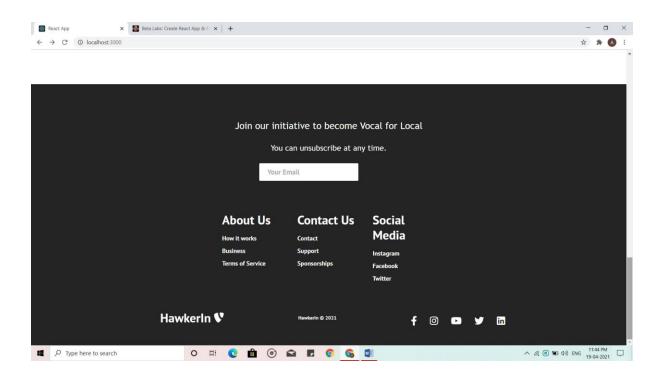


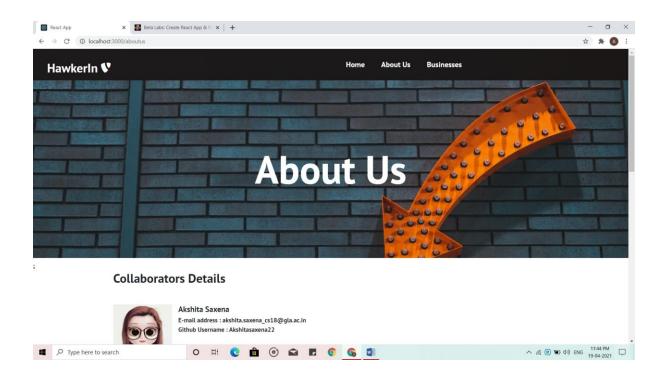
SOME SCREENSHOTS OF PROJECT

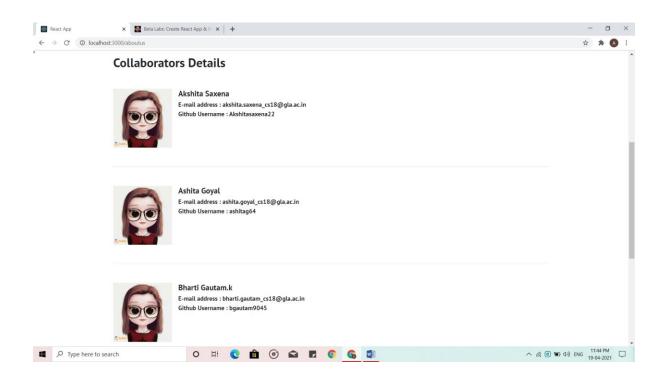


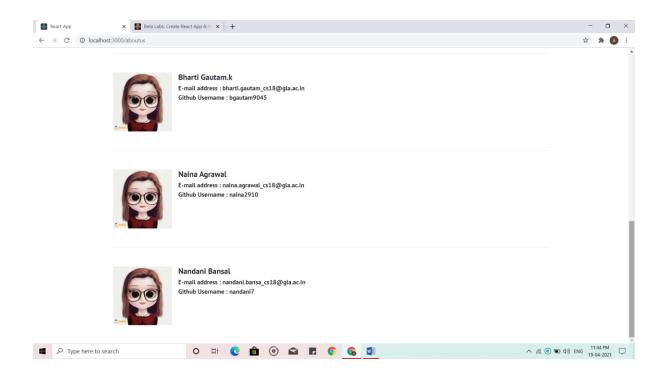


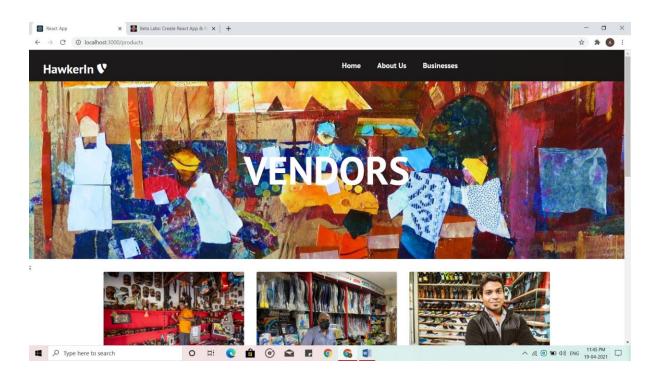


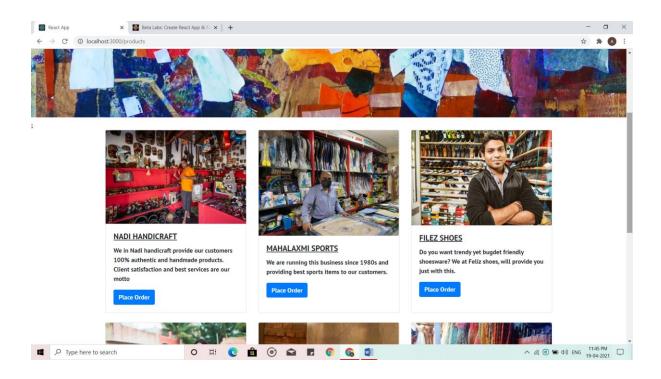


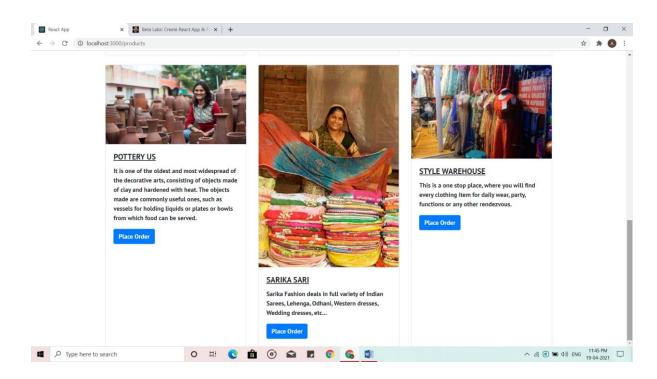


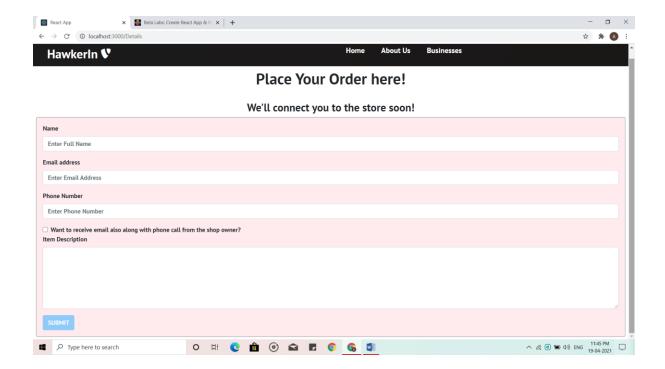












LINKS

GITHUB LINK:

https://github.com/Akshitasaxena22/E-commerce-Store-Mini-project-2

GOOGLE DRIVE LINK:

https://drive.google.com/drive/folders/13cTBU2lGlniztq4W2GI4fANjgKC8 y7ZO?usp=sharing

REFRENCES

- 1. https://reactjs.org
- 2. www.w3schools.com
- 3. www.youtube.com
- 4. www.bootstrap.com
- 5. <u>www.stackoverflow.com</u>