Financial Dashboard Application

Framework: React
JavaScript
HTML5
CSS3
Bootstrap

Project Presentation

By
Vikram Guhilot

V1.0

Introduction

The financial Dashboard application is an application that was created for a user to be able to get information of various financial performances in real time by fetching current market performances from 3rd party APIs that are tracking an maintaining the data on a regular basis, this application has touched on markets like currencies, precious metals, crypto currencies and country information – All these features can be further developed and are in beta phase as of know

Motivation:

The main reason for building this application was to put my React skills to the test, in previous classes I learned technologies like HTML, CSS and JS. However, I had not used a powerful framework that used the technologies mentioned above to create robust and maintainable applications. I had a choice of frameworks to use i.e. (Angular, Vue and React), I chose React as all my friends in industry recommended it as React was extremely popular and gaining more momentum with the introduction/addition of Hooks, React also has a strong community for support online, it is maintained by Facebook and is super lightweight.

React framework features implemented:
Hooks: useState, useEffect, useContext
Router
Context
JSX

Implementation:
In this project you will notice, that I have not used a single class-based component, or I have not implemented any classes. Why should I or why would I? With the introduction of hooks, there is absolutely no reason to use classes. The useState hook is used to maintain and declare state for which we previously used classes

(this.state), also other lifecycle methods like componentDidMount, componendDidUpdate, etc .. that used classes can be easily implemented using hooks like useEffect, useRef etc, which we can configure to fire at any lifecycle event. For the longest time the React community turned towards REDUX for state management as Reacts own context/state management was a little complex to implement, however that has all changed with the hooks, it has become extremely easy to implement and we can minimize or even eliminate the use of Redux

Data Flow:
In react data flows from top to bottom, from parent to child and not backwards or sideways, so now you must have questions, one of them definitely being what if a component somewhere far away in the tree that is dependent on data from a component on the other side of the tree, how are you going to get access to it, since data only flows in one direction top to bottom

Figure1

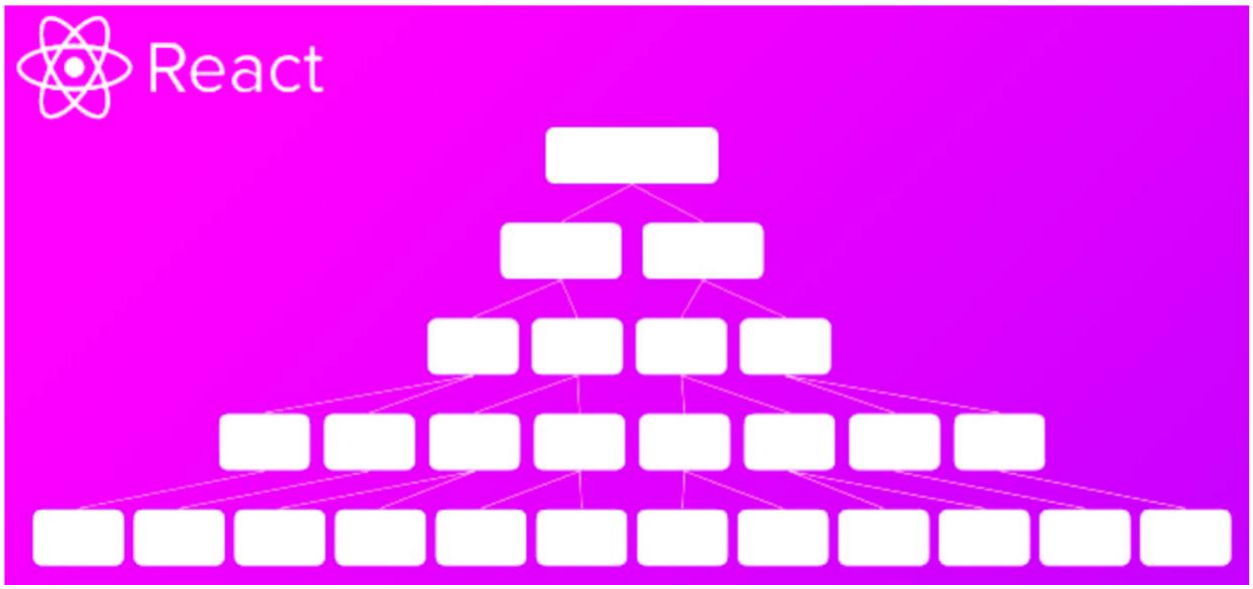


Figure2

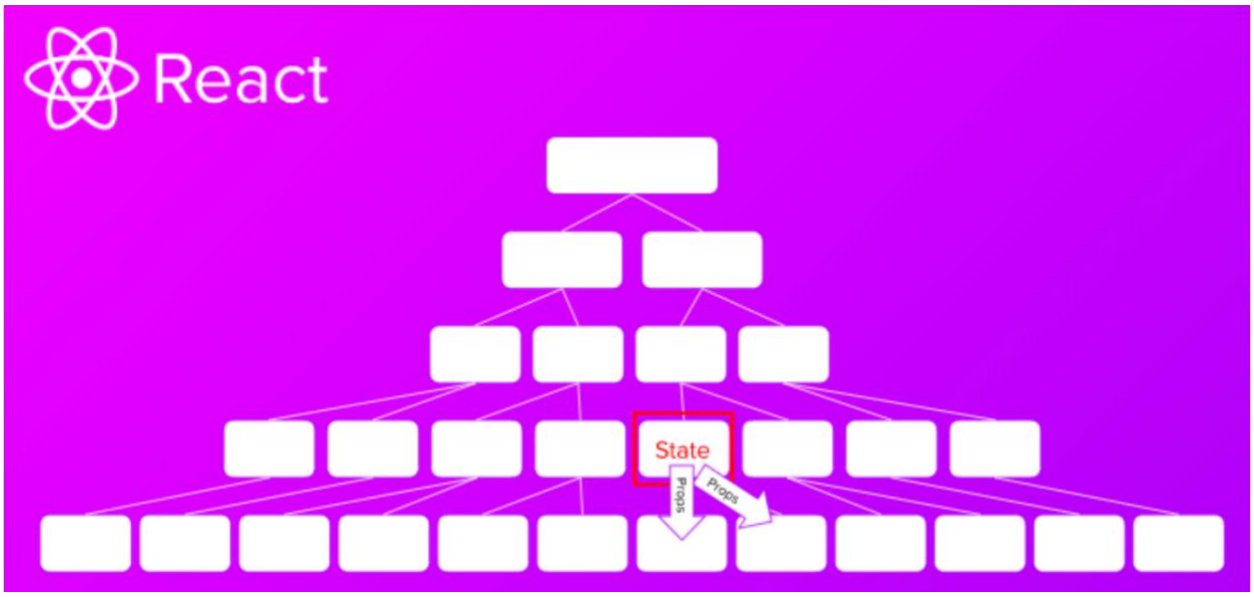


Figure3

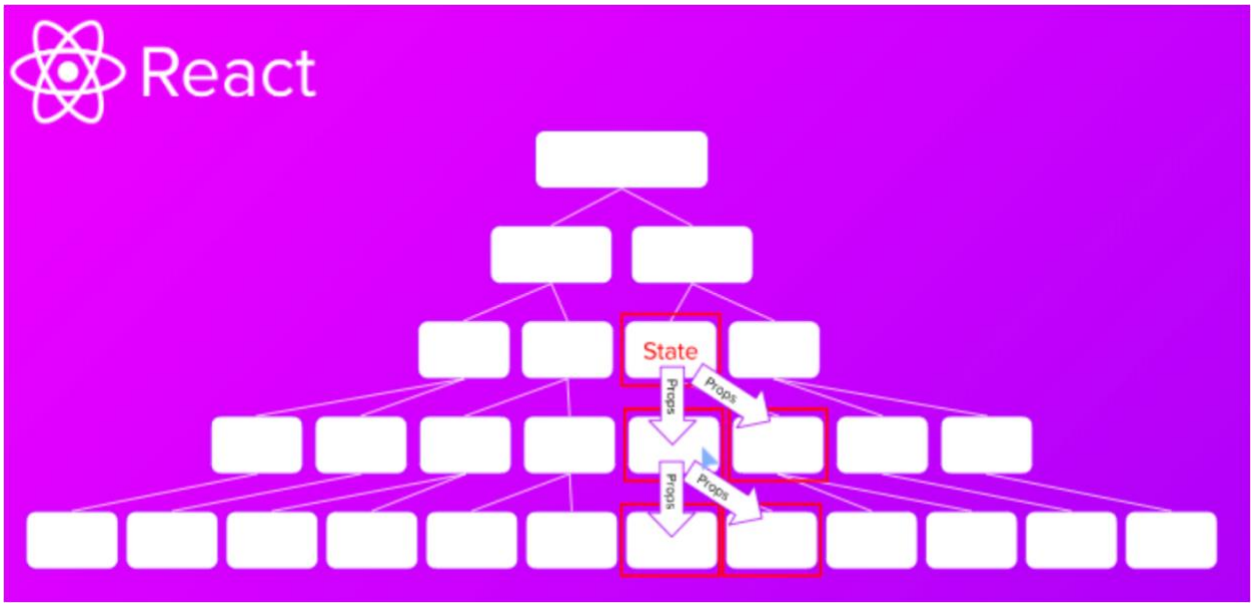


Figure4

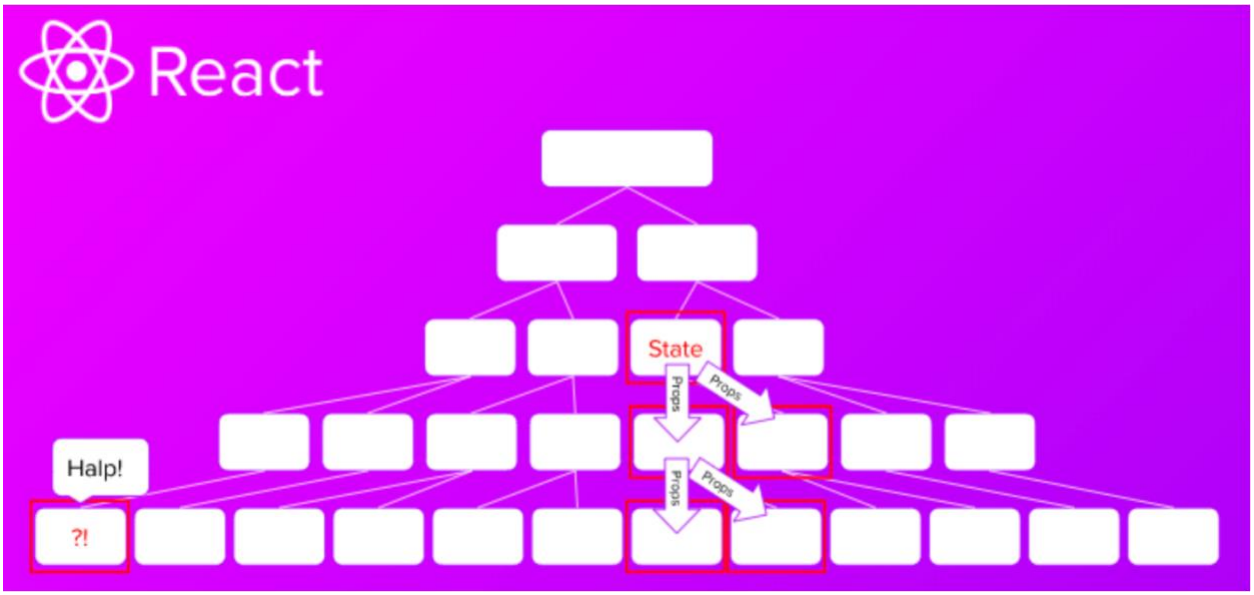


Figure5

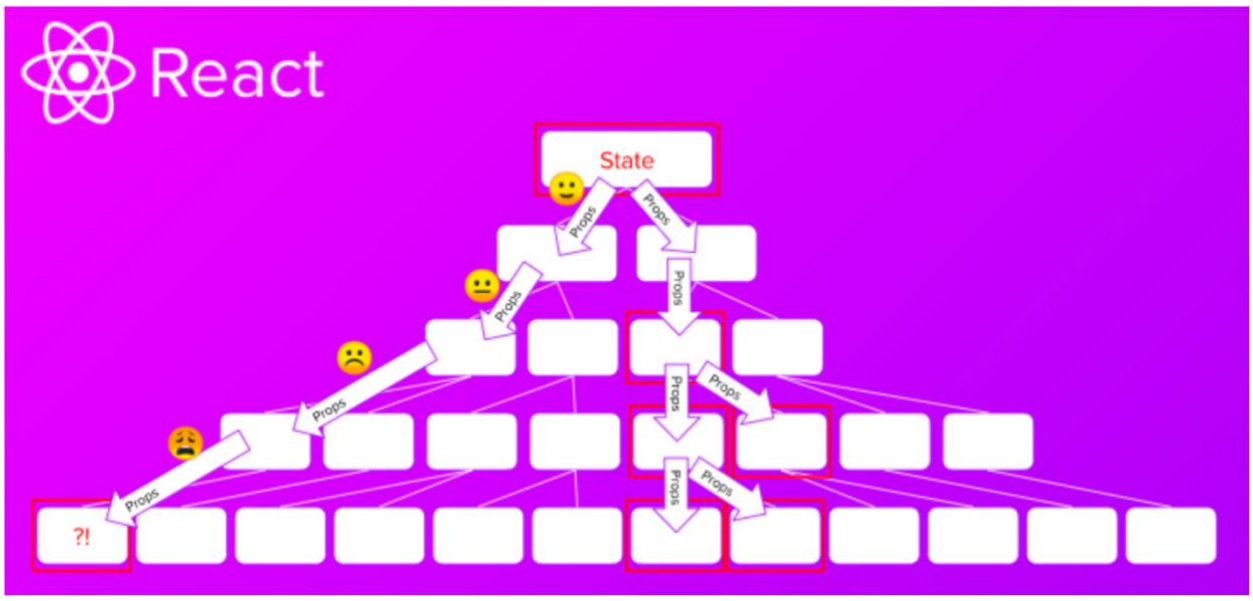
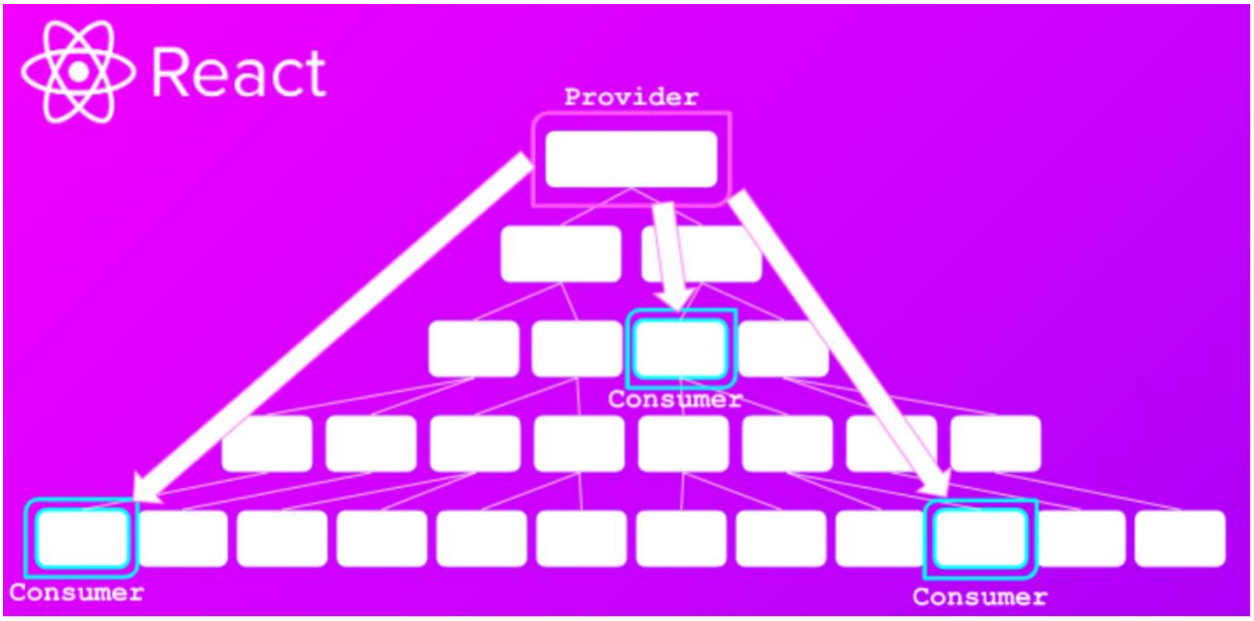


Figure6



Create Context

To begin, we create a new Context. As we want the entire app to have access to this, we go to index.js and wrap the app in ContextProvider

```
import React from 'react';
import ReactDOM from 'react-dom';
import './index.css';
import App from './App';
import {BrowserRouter as Router} from "react-router-dom"
import {ContextProvider} from "./Context"

ReactDOM.render(
<ContextProvider>
  <Router>
    <App />
  </Router>
</ContextProvider>
, document.getElementById('root')
);
```

We also wrap <App/> with Router as the App component is from where we will be routing to different pages

Creation of context provider component

```
import React, {useEffect, useState} from 'react'

const Context = React.createContext()

function ContextProvider(props){
```

Code …. to manage/update state

```
    return(
        <Context.Provider
        value={{
            processCode,
            newCoinData,
            moreCoinData,
            extraData,
            countryInfo,
            processCountry,
            flag,
            moreData,
            getCurrency,
            rate,
            metal
            }}>
            {props.children}
        </Context.Provider>      You, a month ago • Bare bones
    )
}

export {ContextProvider, Context}
```

Here **ContextProvider** is the provider and **Context** is the consumer, we export both of them so that we could use them in different components
Eg ContextProvider wraps the App component signifying that data will be passed from this level.
Context will be imported into components where they will have access to data

eg

```
import React, {useContext} from "react"
import {Context} from "../Context"
import ContSearch from "../components/ContSearch"
import '../App.css';

function Country(){

    const {countryInfo, flag, moreData} = useContext(Co
ntext)

return(
      JSX code …….
    )

}

export default Country
```

Managing of State by the useState Hook

```
    const [url, setURL] = useState("")
    const [coinData,setCoinData] = useState([])
    const [country,setCountry] = useState("")
    const [countryData, setCountryData] = useState([])
    const [countryInfo, setCountryInfo] = useState([])
    const [flag, setFlag] = useState("")
    const [moreData, setMoreData] = useState([])
    const [rate, setRate] = useState("")
    const [currUrl, setCurrUrl] = useState("")
    const [metal, setMetal] = useState([])
    const [too, setToo] = useState("")
```

useEffect Hook

```
useEffect(()=>{
         fetch(currUrl, {
            "method": "GET",
            "headers": {
                "x-rapidapi-
host": "currencyconv.p.rapidapi.com",
                "x-rapidapi-
key": "74582e3d89msh6a4a888a5292854p1d279cjsne4a41671a6
7f"
                 }
            })
            .then(res=>res.json())
            .then(data=>setRate(data))
        },[currUrl])

useEffect(()=>{
            fetch(metalUrl)
                .then(res=>res.json())
                .then(data=>setMetal(data))
        },[metalUrl])
```

The useEffect hook takes two parameters a call back function and []
The hook fires at any change of the values present inside the array, if it is an empty array if fires only once, if you do not provide a [] it fires continuously
The fetch function: Data is converted to JSON format and then passed to useState function to update state

useContext Hook

```
const {getCurrency,rate} = useContext(Context)
```

We are de-structuring to pluck required objects/variables/functions from the provider

Alright enough with the definitions and background, let see some action

```
import React, {useContext, useState} from "react"
import {Context} from "../Context"

function Search(){

    const [coin, setCoin] = useState({Coin:""})

    const {processCode} = useContext(Context)

    function handleChange(e){
        e.preventDefault()

        const {name, value} = e.target
        setCoin(prev=>{
            return{...prev,[name]:value}
        })
    }
    function handleSubmit(e){
        e.preventDefault()
        processCode(coin.Coin)
    }
    return(
        <div className="Rcontainer">
            <div className="row">
                <div className="col-sm-12 col-md-
12 col-lg-12">
                    <form className="iform" onSubmit={h
andleSubmit}>
                        <input
                        type="text"
                        name="Coin"
                        value={coin.Coin}
                        placeholder="Enter crypto code
ex. LTC, BTC"
                        onChange = {handleChange}
                        className="form-control fm1"
                        />
```

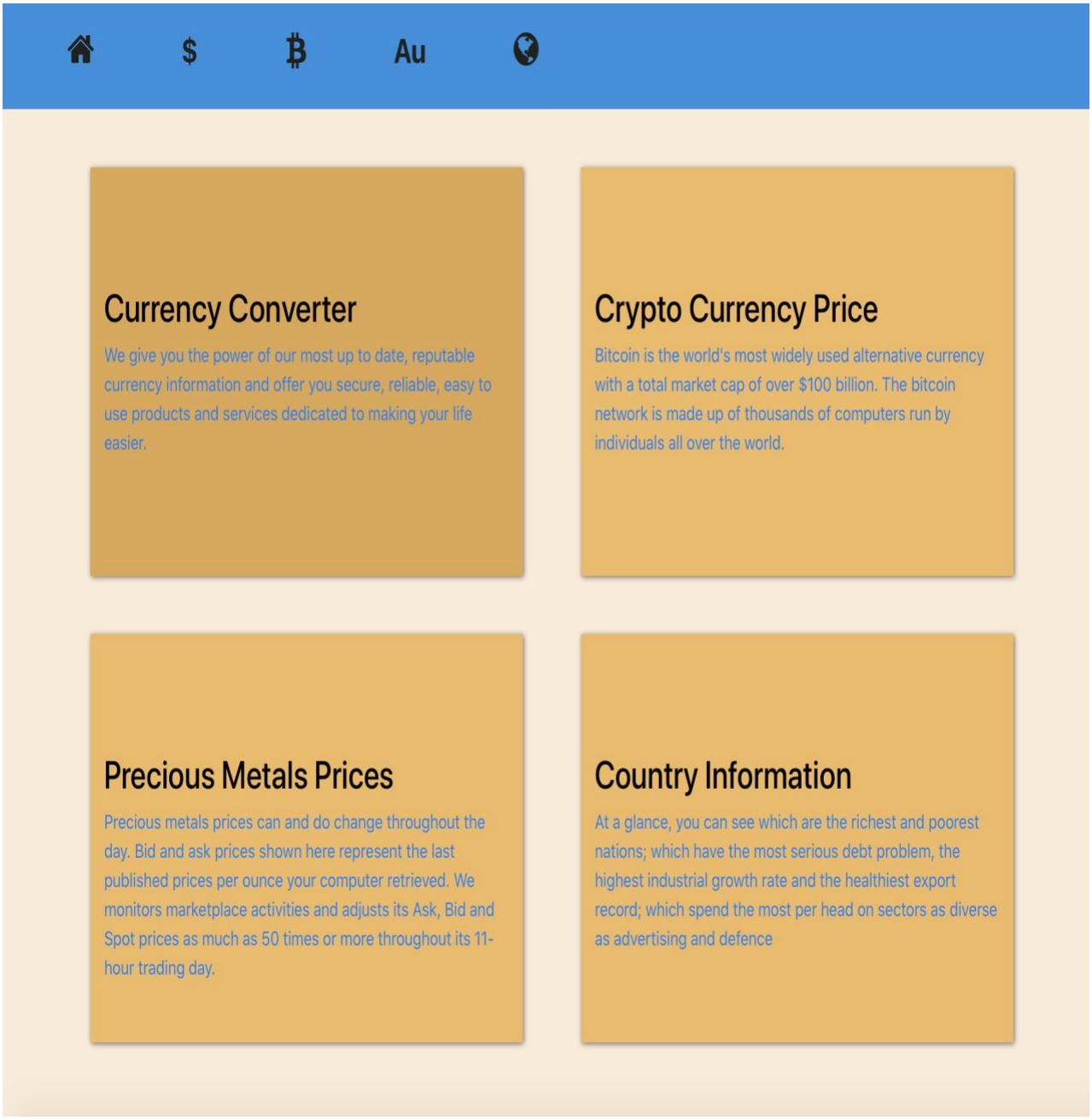
```
                        <button className="btn btn-
primary bpad">Search</button>
                    </form>
                </div>
            </div>

        </div>
    )
}

export default Search


const addr = "https://api.nomics.com/v1/currencies/tick
er?key=demo-26240835858194712a4f8cc0dc635c7a&ids="

function processCode(id){

        let upper = id.toUpperCase()
        let att = addr.concat(upper)
        setURL(att)
    }



const [url, setURL] = useState("")




 useEffect(()=>{
        fetch(url)
            .then(res=>res.json())
            .then(data=>setCoinData(data))
    },[url])
```

```
const [coinData,setCoinData] = useState([])









const newCoinData = coinData.map(coin=>{
        return(
            <div className="dContainer" key={coin.name}
>
                <div className="row dd">
                    <div className="col-sm-2 logo">
             <img
             src={coin.logo_url}
             alt="Coin logo"
             height={30}
             width={30}/></div>
                    <div className="col-sm-
6 price">$ {coin.price}</div>
                    <div className="col-sm-
4 name">{coin.name}</div>
                </div>
            </div>
        )
    })



<Context.Provider
        value={{
            processCode,
            newCoinData,
            moreCoinData,
            extraData,
            countryInfo,
            processCountry,
```

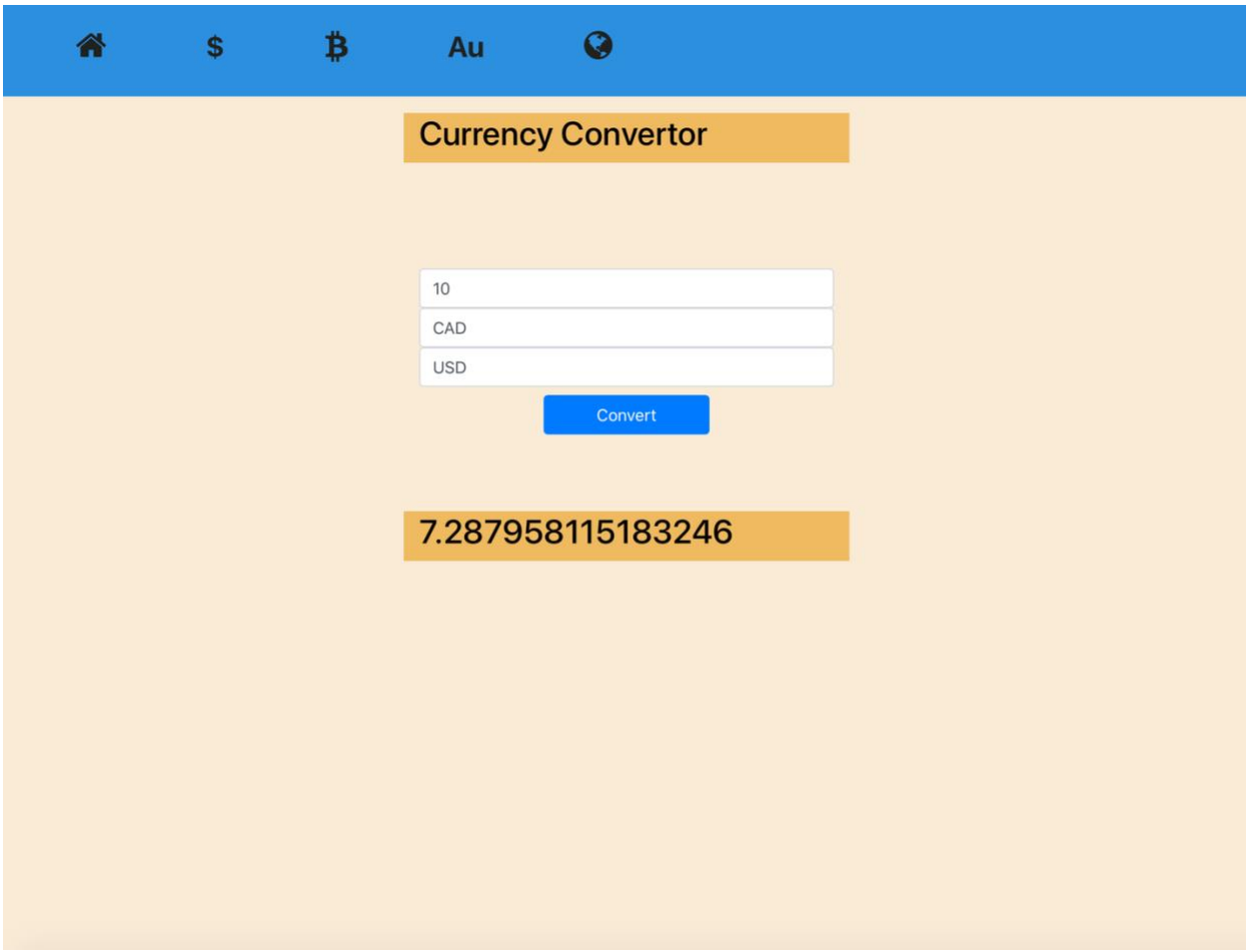
```
            flag,
            moreData,
            getCurrency,
            rate,
            metal
            }}>
            {props.children}
 </Context.Provider>




import React, {useContext} from "react"
import {Context} from "../Context"
import Search from "../components/Search"
import '../App.css';

function Crypto(){

    const {newCoinData, moreCoinData, extraData} = useC
ontext(Context)
    //console
    return(
        <div className="container">
            <div className="row">
                <div className="col-lg-
5 box"><Search /></div>
                <div className="col-lg-
5 box ">{newCoinData}</div>
            </div>
    </div>
    )
}

export default Crypto
```

DEMO

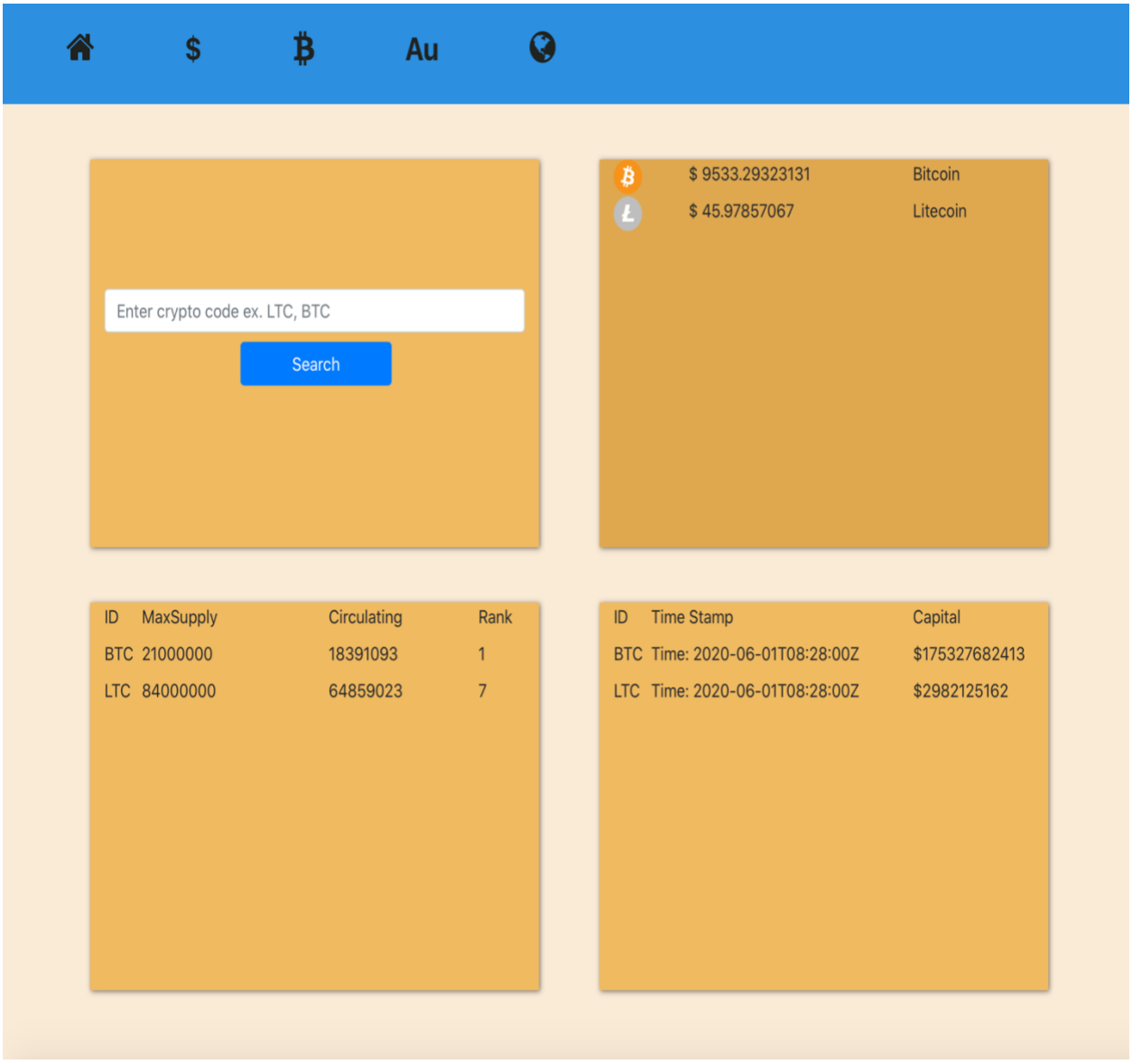
HOME PAGE


$
Au
Currency Converter
We give you the power of our most up to date, reputable currency information and offer you secure, reliable, easy to use products and services dedicated to making your life easier.
Crypto Currency Price
Bitcoin is the world's most widely used alternative currency with a total market cap of over $100 billion. The bitcoin network is made up of thousands of computers run by individuals all over the world.
Precious Metals Prices
Precious metals prices can and do change throughout the day. Bid and ask prices shown here represent the last published prices per ounce your computer retrieved. We monitors marketplace activities and adjusts its Ask, Bid and Spot prices as much as 50 times or more throughout its 11-hour trading day.
Country Information
At a glance, you can see which are the richest and poorest nations; which have the most serious debt problem, the highest industrial growth rate and the healthiest export record; which spend the most per head on sectors as diverse as advertising and defence

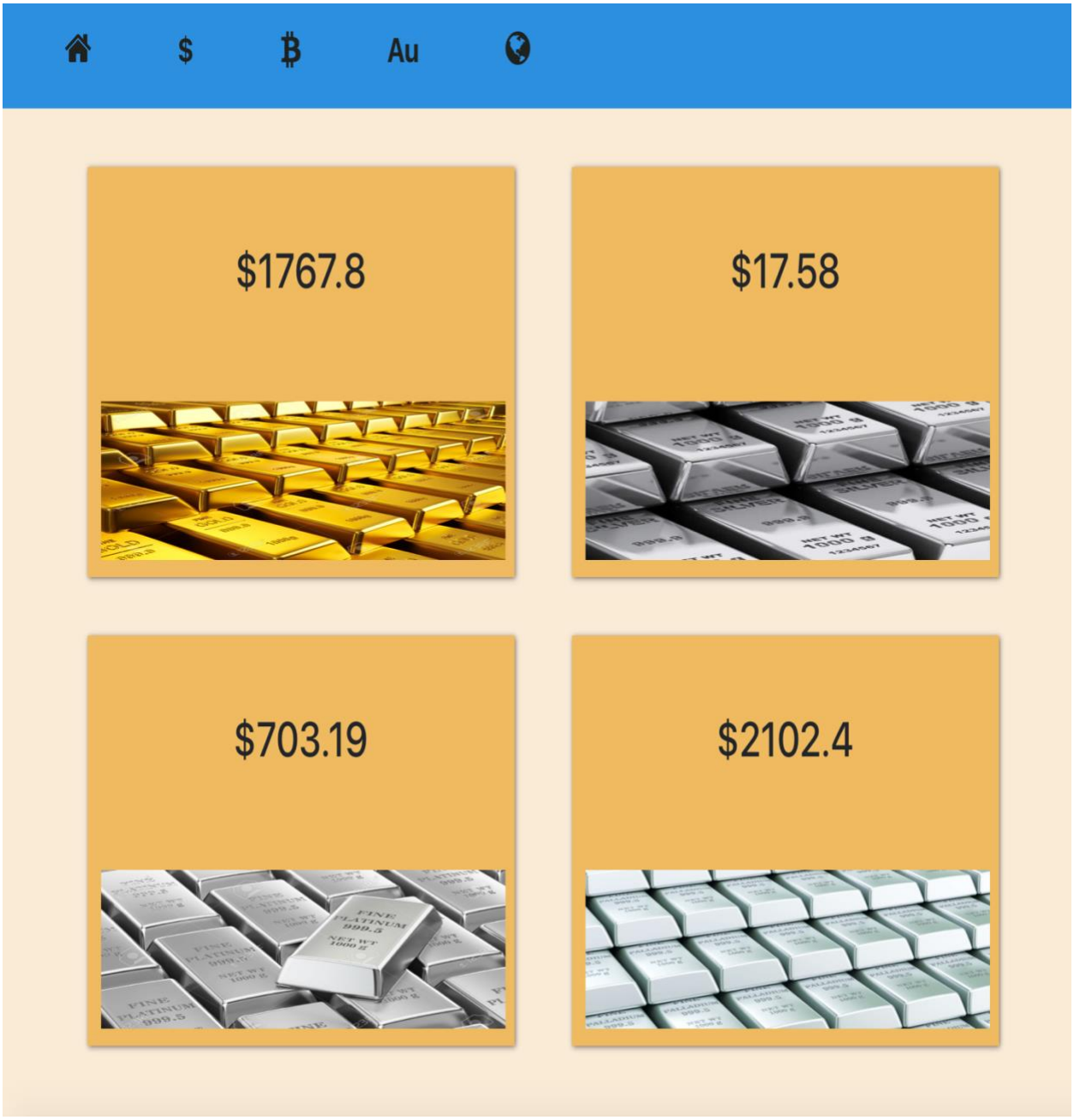
CURRENCY CONVERTOR



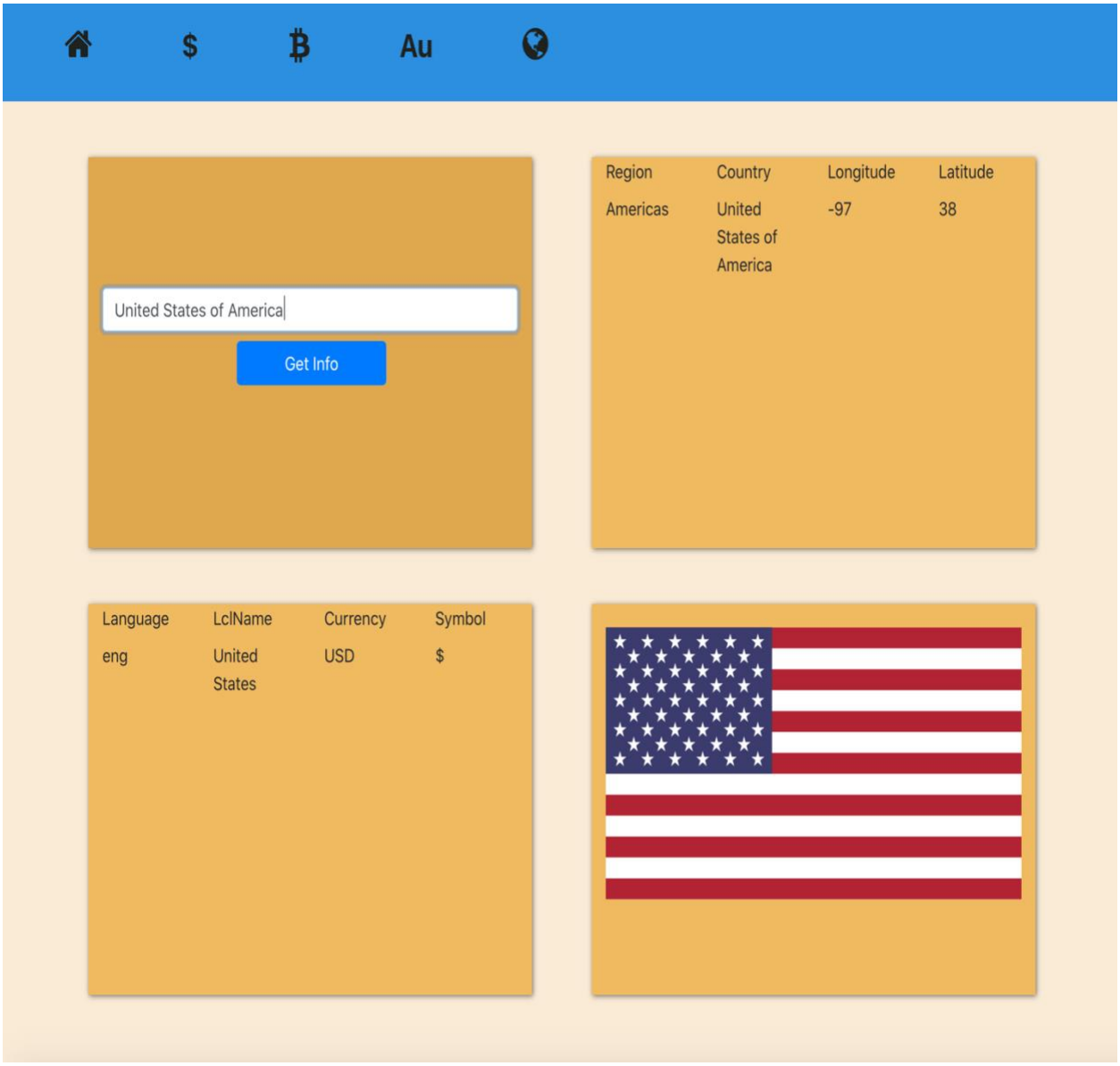
CRYPTO CURRENCY



PRECIOUS METALS



COUNTRIES DATA



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