JAVASCRIPT MINI PROJECT

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INTRODUCTION

FOREX Dashboard

- Forex refers to foreign currency exchange
- Currency conversion is required for:
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  - International trade
  - Travel
  - Online payments

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- Manual conversion is slow and inaccurate
- This project provides real-time currency conversion

PROBLEM STATEMENT

- Users need up-to-date exchange rates
- Static or old rates cause wrong calculations
- Requirement:
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  - Enter amount
  - Select base & target currency
  - Get instant converted value
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- Solution: Forex Dashboard using JavaScript

TECHNOLOGIES USED

Javascript

1. Fetch API : To fetch live exchange rates.

```
const API_URL = "https://open.er-api.com/v6/latest";
```

2. Async/Await : To handle Smooth API calls.

```
async function getRates(base) {
    const cachedData = JSON.parse(localStorage.getItem(CACHE_KEY))
```

3. Caching (Local Storage) : Reduces Repeated API Calls
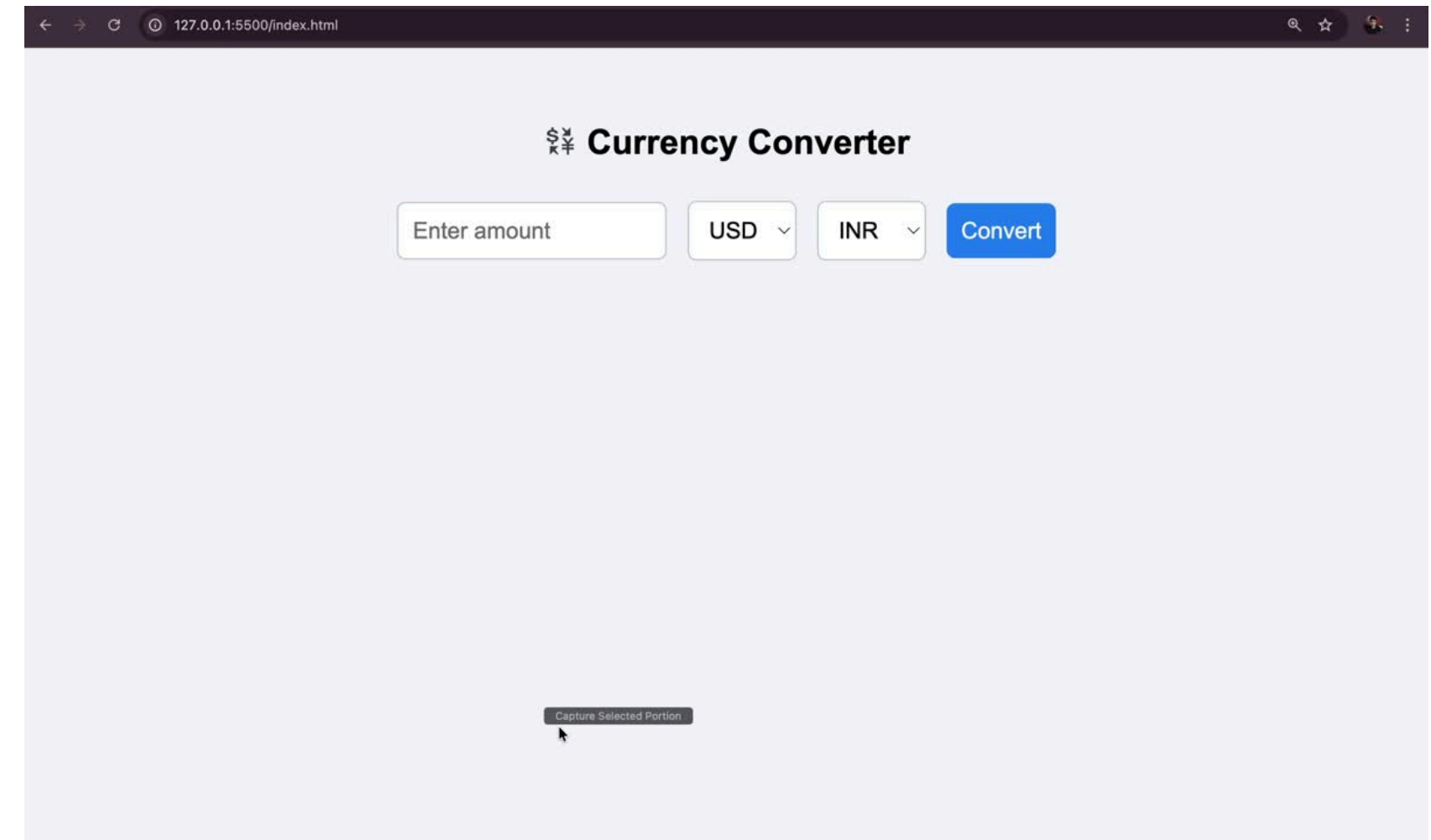
```
localStorage.getItem(CACHE_KEY)
```

4. API Used : Open Exchange Rate (https://open.er-api.com/v6/latest)

{"result":"success","provider":"https://www.exchangerate-api.com","documentation":"https://www.exchangerate-api.com/docs/free","terms_of_use":"https://www.exchangerate-api.com/terms","time_last_update_unix":1769904151,"time_last_update_utc":"Sun, 01 Feb 2026 00:02:31 +0000","time_next_update_unix":1769990781,"time_next_update_utc":"Mon, 02 Feb 2026 00:06:21 +0000","time_eol_unix":0,"base_code":"USD","rates":
{"USD":1,"AED":3.6725,"AFN":65.549413,"ALL":80.804824,"AMD":378.731228,"ANG":1.79,"AOA":919.217596,"ARS":1452.25,"AUD":1.431739,"AWG":1.79,"AZN":1.700009,"BAM":1.64431,"BBD":2,"BDT":122.234264,"BGN":1.629777,"BHD":0.376,"BIF":2969.177234,"BMD":1,"BND":1.269053,"BOB":6.923007,"BRL":5.203772,"BSD":1,"BTN":91.926175,"BWP":13.555557,"BYN":2.834638,"BZD":2,"CAD":1.356795,"CDF":2244.994634,"CHF":0.770922,"CLF":0.021766,"CLP":860.337737,"CNH":6.954671,"CNY":6.965737,"COP":3667.686681,"CRC":495.312668,"CUP":24,"CVE":92.702265,"CZK":20.460627,"DJF":177.721,"DKK":6.271478,"DOP":62.888908,"DZD":129.162947,"EGP":46.895647,"ERN":15,"ETB":154.236378,"EUR":0.84073,"FJD":2.186989,"FKP":0.728555,"FOK":6.271475,"GBP":0.72856,"GEL":2.690928,"GGP":0.728555,"GHS":10.965531,"GIP":0.728555,"GMD":74.146703,"GNF":8760.050502,"GTQ":7.671593,"GYD":209.253547,"HKD":7.809297,"HNL":26.382193,"HRK":6.334424,"HTG":131.041205,"HUF":320.387409,"IDR":16775.916262,"ILS":3.099979,"IMP":0.728555,"INR":91.926231,"IQD":1309.181984,"IRR":1084878.69203,"ISK":121.83531,"JEP":0.728555,"JMD":156.71841,"JOD":0.709,"JPY":154.313647,"KES":128.970741,"KGS":87.430905,"KHR":4015.901803,"KID":1.431726,"KMF":413.608352,"KRW":1443.89322,"KWD":0.306415,"KYD":0.833333,"KZT":502.688468,"LAK":21627.472601,"LBP":89500,"LKR":309.310869,"LRD":184.90497,"LSL":16.024917,"LYD":6.293395,"MAD":9.061127,"MDL":16.794572,"MGA":4470.282852,"MKD":51.749058,"MMK":2100.684528,"MNT":3543.535178,"MOP":8.043575,"MRU":40.040663,"MUR":45.300221,"MVR":15.446898,"MWK":1744.074738,"MXN":17.383405,"MYR":3.942009,"MZN":63.556839,"NAD":16.024917,"NGN":1388.649294,"NIO":36.800776,"NOK":9.606825,"NPR":147.081881,"NZD":1.656443,"OMR":0.384497,"PAB":1,"PEN":3.355557,"PGK":4.283728,"PHP":58.930336,"PKR":279.832775,"PLN":3.540912,"PYG":6735.032267,"QAR":3.64,"RON":4.277961,"RSD":98.266935,"RUB":75.955669,"RWF":1460.383195,"SAR":3.75,"SBD":8.315429,"SCR":14.678499,"SDG":509.490627,"SEK":8.877336,"SGD":1.269055,"SHP":0.728555,"SLE":124.322046,"SLL":24320.946467,"SOS":570.789923,"SRD":38.112635,"SSP":4.685.160512,"STN":20.597701,"SYP":113.975002,"SZL":16.024917,"THB":31.491858,"TJS":9.314198,"TMT":3.500372,"TND":2.838732,"TOP":2.355672,"TRY":43.504035,"TTD":6.741919,"TVD":1.431726,"TWD":31.533248,"TZS":2535.111356,"UAH":42.823621,"UGX":3534.998099,"UYU":37.845138,"UZS":12187.92414,"VES":370.2544,"VND":25910.175969,"VUV":119.100143,"WST":2.691364,"XAF":551.477803,"XCD":2.7,"XCG":1.79,"XDR":0.717336,"XOF":551.477803,"XPF":100.325096,"YER":238.112698,"ZAR":16.025808,"ZMW":19.819771,"ZWG":25.5806,"ZWL":25.5806}}

WORKING OF THE SYSTEM

1.   User enters amount
2. Selects base & target currency
3. Fetch API gets live exchange rate
4.   Cached data is checked first
5. Converted amount is displayed
6.   Last updated time is shown

CONCLUSION

- Real-time and accurate currency conversion
- Efficient due to caching
- Uses modern JavaScript concepts
- Easy to use and scalable
- Can be extended with:

  - Historical data
  - Graphs
  - More currencies

Thank You