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RAJPURA(PATIALA) PUNJAB-140401 (INDIA)

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Abstract:

The currency converter is a digital tool designed to facilitate real-time currency exchange calculations, enabling users to convert amounts between various global currencies with ease and accuracy. By leveraging up-to-date exchange rates sourced from financial markets, this tool provides essential functionality for travellers, businesses, and individuals engaged in international commerce. Key features include multi-currency support, historical data analysis, graphical trends, and user-friendly interfaces, all aimed at enhancing user experience and decision-making. Additionally, functionalities such as rate alerts and offline access contribute to its practicality. The currency converter serves as an indispensable resource in a globalized economy, promoting efficient financial transactions and informed currency management.

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❖ **INTRODUCTION:**

A **currency converter** is a software tool or application designed to convert the value of one currency into another, using the latest exchange rates. Currency conversion is a fundamental requirement in a globalized world, where individuals and businesses frequently engage in international trade, travel, and financial transactions. Whether it's a traveller needing to know how much their local currency is worth in a foreign country or a multinational corporation performing cross-border financial transactions, currency converters play a crucial role.

● **FUNCTIONING OF CURRENCY CONVERTER:**

- **Input of Currencies:** The user specifies the amount of money they want to convert and selects the source and target currencies (e.g., USD to EUR).
- **Fetching Exchange Rates:** The converter fetches the current exchange rates from a reliable source, such as a currency exchange service, bank, or financial institution. These rates fluctuate due to supply and demand factors in the foreign exchange market.
- **Output of Converted Value:** The converter displays the converted amount in the target currency.

❖ **WORKING:**

- **Data Source:** Exchange rates are obtained from live financial data feeds such as central banks, forex trading platforms, or online services (like APIs from currency conversion providers).
- **Currency Pairing:** When converting, currency converters look for the currency pair (e.g., USD/EUR) and apply the relevant rate for that pair.
- **Bid/Ask Rate:** Some converters may show bid (buy) and ask (sell) rates if they're used for trading. These rates differ slightly, with bid rates being lower (for selling) and ask rates higher (for buying).
- **Fees/Charges:** Currency converters used by financial institutions (banks, credit card companies) may apply a conversion fee or markup, which is added to the exchange rate.
- **Offline/Online Conversion:** Some converters work offline using pre-downloaded exchange rates, but they may not reflect the most recent rates, unlike online converters that offer real time rates.

❖ **PROBLEM STATEMENT:**

Design and implement a Currency Converter that allows users to input an amount in one currency and convert it into another based on real-time or predefined exchange rates. The system should:

- Support multiple currencies.
- Display accurate conversion results.
- Allow users to input amounts and choose their desired currencies for conversion.
- Fetch real-time exchange rates from a reliable data source or use predefined rates if real time access is not available.
- Handle edge cases, such as invalid inputs, network errors, or unsupported currency pairs.

● **EXAMPLE:**

- Input: Convert 100 **USD** to **EUR**.
- Output: **85 EUR** (assuming the current exchange rate is 1 USD = 0.85 EUR).

The solution should be user-friendly, fast, and accurate, ensuring that the conversion aligns with up-to-date market exchange rates.

❖ **TECHNICAL DETAILS:**

● **Exchange Rate Source:**

- **Real-time data APIs:** Currency converters require real-time or periodic exchange rates, which are typically fetched from APIs provided by financial data providers like:
 - Open Exchange Rates
 - Currency Layer
 - XE Currency API
 - Fixer.io
- **Historical Data:** In some cases, users may want to convert based on historical rates, which requires access data of exchange rates.

✓ **Programming Language & Backend:**

Currency converters are often developed using languages and frameworks suited to web or mobile development, for example:

- **Mobile Development:** Swift (for iOS), Kotlin (for Android), React Native
- **APIs:** Fetching exchange rates and handling user requests will typically use restful APIs, often in JSON format.

✓ **User Interface (UI):**

- **Input Fields:** Users can input the amount, select the base and quote currency.
- **Dropdown Menus:** For choosing between available currencies.
- **Conversion Button:** To trigger the conversion request.

❖ Key features:

- **Travelers**: To know how much money they'll receive in foreign currency while traveling.
- **Businesses**: For converting payments or prices for international transactions.
- **Investors/Traders**: For monitoring and calculating currency trades.
- **Real-Time Exchange Rates**: Access to up-to-date exchange rates to ensure accurate conversions.
- **Multi-Currency Support**: Ability to convert between a wide range of currencies, often including both major and minor currencies.
- **Conversion Calculator**: A simple interface where users can enter an amount and select currencies to see the converted value.
- **Offline Mode**: Option to access previously fetched exchange rates without an internet connection.
- **User-Friendly Interface**: Intuitive design for easy navigation and quick conversions.
- **API Integration**: Ability for developers to integrate currency conversion features into their applications.

❖ Project Content:

- **Converter Page:** This page contains a conversion bar with two options to select the currency to be converted and the final currency. On the top there are three hovered buttons or links which hovers up This page contains a result button and a Add to favourite button. On the top left there shows the current conversion rate of the selected currencies. And on the right top there is a selection bar where we can go on About us and contact us page.

```

1 <html>
2 <head>
3   <meta charset="UTF-8">
4   <meta http-equiv="X-UA-Compatible" content="IE=edge">
5   <meta name="viewport" content="width=device-width, initial-scale=1.0">
6   <title>CONVERTER</title>
7   <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-QWTKZyjpPEjISV5WaRU9
8   <link rel="stylesheet" href="MainPage.css" type="text/css">
9 </head>
10 <body>
11   <script src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.11.8/dist/umd/popper.min.js" integrity="sha384-I7E8VVD/ismYTF4hNIPjVp/Zjvgyol6VFv
12   <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.min.js" integrity="sha384-0pUGzVb6m6Xf6gxpjEnlmugR3XvbnuzT9qBBavb
13   <video autoplay muted loop id="background-video">
14     <source src="sv.mp4" type="video/mp4">
15     <source src="sv.webm" type="video/webm">
16   </video>
17   <!-- HEADER -->
18   <div class="d-flex flex-row justify-content-evenly pb-2 mt-3 position-relative" id="containing">
19     <a class="btn" id="history" role="button" href="H-1.html">HISTORY</a>
20     <a class="btn" id="converter" role="button" href="Mainpage.html">CONVERTER</a>
21     <a class="btn" id="favourites" role="button" href="F-1.html">FAVOURITES</a>
22     <button class="menu-btn btn btn-dark" id="menuPopover" data-bs-toggle="popover" data-bs-placement="bottom" data-bs-content="" data-bs-ht
23   </div><br><br>
24
25   <!-- MAIN BODY -->
26   <div class="card card-border rounded-4 " style="opacity: 0.9;">
27     <h5 id="ch" class="card-header" style="text-align: center;"><strong>CONVERTER</strong></h5>
28     <div id="cb" class="card-body">
29       <div class="container">
30         <div class="row">
31           <div class="col align-self-start" id="exchangerate">Exchange Rate: </div>
32         </div><br><br>
33         <!-- Currency converter form -->
34         <div class="d-flex flex-row justify-content-evenly align-items-center">

```

```

47   <option value="INR"> <!-- India-->
48   <option value="JPY"> <!-- Japan-->
49   <option value="KRW"> <!-- South Korea-->
50   <option value="MXN"> <!-- Mexico-->
51   <option value="NPR"> <!-- Nepal-->
52   <option value="RUB"> <!-- Russia-->
53   <option value="SAR"> <!-- Saudi Arabia-->
54   <option value="SGD"> <!-- Singapore-->
55   <option value="TRY"> <!-- Turkey-->
56   <option value="GBP"> <!-- UK-->
57   <option value="USD"> <!-- USA-->
58   <option value="VND"> <!-- Vietnam-->
59   <option value="ZAR"> <!-- South Africa-->
60   </datalist><br>
61   <input id="amountFrom" type="number" class="form-control border-dark" placeholder="0.0">
62 </div>
63   <svg xmlns="http://www.w3.org/2000/svg" width="80" height="33" fill="currentColor" class="bi bi-arrow-left-right" viewBox="0
64     <path fill-rule="evenodd" d="M11.5 5.5 0 0 .5 11.793 3.147 3.146a 5.5 0 0 0 .708 7.081 4a 5.5 0 0 0 -.708 1.4 4a
65   </svg>
66   <div class="c2">
67     <input id="currencyTo" class="form-control border-dark" list="currencyOptions" placeholder="INR">
68     <datalist id="currencyOptions">
69       <option value="AUD"> <!-- Australia-->
70       <option value="BRL"> <!-- Brazil-->
71       <option value="BDT"> <!-- Bangladesh-->
72       <option value="BTN"> <!-- Bhutan-->
73       <option value="CAD"> <!-- Canada-->
74       <option value="CNY"> <!-- China-->
75       <option value="EUR"> <!-- Euro-->
76       <option value="HKD"> <!-- Hong Kong-->

```

- **History Page:** This page shows the history of conversions that we did. This page provides a text area where we can write or search the history. And a history box where we can see all the histories.

```

{ DOCTYPE html}
<html>
<head>
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-QWTKZyjpPEjISv5MaRU9OFerPoke6YctnYmDr5pNlyT2bRjXh8JmHjY6hW+AL" crossorigin="anonymous">
<style>
body {
font-family: Arial, sans-serif;
background-image: url("");
background-size: ;
margin: auto;
}
}

#background-video {
position: fixed;
top: 0;
left: 0;
width: 100%;
height: 100%;
object-fit: cover;
z-index: -1;
}

.cont {
background: white;
margin: 10%;
margin-top: 4%;
padding: 20px;
border-radius: 8px;
box-shadow: 10px 10px 10px rgba(0, 0, 0, 0.1);
opacity: 0.75;
}

h1 {
text-align: center;
color: #333;
}

input[type="text"] {
width: 99.5%;
height: 25px;
border: 1px solid #ccc;
border-radius: 8px;
border-color: black;
background-color: black;
color: white;
border: none;
border-radius: 50%;
}

* Retain hover effect on buttons when hovered individually */
history,
Favourites,
converter {
height: 40px;
width: 119px;
background-color: black;
color: white;
cursor: pointer;
transition: scale 0.25s ease-in, opacity 0.25s ease-in, filter 0.25s ease-in;
}

containing:has(.btn:hover) .btn:not(:hover){
scale: 0.8;
opacity:0.6;
fill: blur(2px);
}

history:hover,
Favourites:hover,
converter:hover {
scale: 1.2;
}

</style>
<title>History Page</title>
</head>
<body>
<script src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.11.8/dist/umd/popper.min.js" integrity="sha384-I7E8VVD/ismYTF4hNIPjVp/Zjvgyo16VFvRkX/vR+Vc4jQkC+HvQc2pM80Dewa9n" crossorigin="anonymous"></script>
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.min.js" integrity="sha384-0pUGZvbkm6XF6gxJEnlmuGrJXVbNuzT9qB8avblLwCsOgabYfZ00t05segruptly" crossorigin="anonymous"></script>
<video autoplay muted loop id="background-video">
<source src="4v.mp4" type="video/mp4">
<source src="4v.webm" type="video/webm">
</video>

```

- **Favourite Page:** This page will show the conversions that you will add to favourites by clicking on add to favourite button on the converter page.

```

1 <!DOCTYPE html>
2 <html>
3 <head>
4   <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-QWTKZyjpPEjISv5WaRU90FeRpok6YctnYmDr5pNlyT2bRjXh8JMhY6h"
5 </style>
6 <body>
7   font-family: Arial, sans-serif;
8   background-image: url("");
9   background-size: 100%;
10  margin: auto;
11  padding: 20px;
12
13
14  #background-video {
15    position: fixed;
16    top: 0;
17    left: 0;
18    width: 100%;
19    height: 100%;
20    object-fit: cover;
21    z-index: -1;
22  }
23
24  .cont {
25    background: white;
26    margin: 10px;
27    margin-top: 40px;
28    padding: 20px;
29    border-radius: 8px;
30    box-shadow: 10px 10px 10px rgba(0, 0, 0, 0.1);
31    opacity: 0.8;
32  }
33
34  h1 {
35    text-align: center;
36    color: #333;
37  }
38
39  .fav {
40    margin-top: 20px;
41    border: 1px solid #ccc;
42    border-radius: 8px;
43    border-color: black;
44    height: 100px;
45
46    color: white;
47    border: none;
48    border-radius: 50%;
49  }
50
51  /* Retain hover effect on buttons when hovered individually */
52  #history,
53  #favourites,
54  #converter {
55    height: 40px;
56    width: 119px;
57    background-color: black;
58    color: white;
59    cursor: pointer;
60    transition: scale 0.25s ease-in, opacity 0.25s ease-in, filter 0.25s ease-in;
61  }
62
63  #containing:has(.btn:hover) .btn:not(:hover){
64    scale: 0.8;
65    opacity: 0.6;
66    filter: blur(2px);
67  }
68
69  #history:hover,
70  #favourites:hover,
71  #converter:hover {
72    scale: 1.2;
73  }
74
75  </style>
76  <title>Favourite Currencies</title>
77 </head>
78 <body>
79   <script src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.11.8/dist/umd/popper.min.js" integrity="sha384-T7F8V0/1smYTF4NTPJYv7Jv6x016VfUeRkX/v8+V4jQKCs1Nqg 2:880Deua9" crossorigin="
80   <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.min.js" integrity="sha384-0pUGZybc6K6F6gXjEn1muGcXUv8UzT9q8B8av9LwCs0GabyfZ08T0t05eqruptly" crossorigin="
81   <video autoplay muted loop id="background-video">
82     <source src="du.mp4" type="video/mp4">
83     <source src="du.webm" type="video/webm">
84   </video>

```

- **About Us Page:** This page gives the basic details about the site and the basics features like: Real-Time Exchange Rates, conversion. Global Coverage, User-Friendly Interface, Fast & Reliable. These are the main features of the about us page.

```

1  <html>
2  <head>
3    <meta charset="UTF-8">
4    <meta http-equiv="X-UA-Compatible" content="IE=edge">
5    <meta name="viewport" content="width=device-width, initial-scale=1.0">
6    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-QnTKZyypPEjISv5WaRU90FeRpok6YctnYmDr5pN1yT2bRjXh0JMHjY6" crossorigin="anonymous">
7    <title>About US</title>
8  </head>
9  <body>
10   <div class="background-image">
11     <img alt="Background image" data-bbox="113 215 898 508"/>
12   </div>
13   <div class="container">
14     <div class="row">
15       <div class="col-12">
16         <div class="text-center">
17           <h1>About Us</h1>
18           <p>At our Currency Converter, we are committed to providing a seamless and reliable experience for all your currency conversion needs. Whether you're traveling across borders or managing your finances, our platform has got you covered. We provide live, up-to-the-minute exchange rates sourced from reliable financial institutions to ensure accuracy and timeliness. Our mission is simple - to empower individuals and businesses with real-time, accurate currency exchange rates at their fingertips. We strive to make financial decisions easier and faster for everyone. Here's why we're the best choice for your currency conversion needs:</p>
19           <div class="features">
20             <div><strong>Real-Time Exchange Rates:</strong> We provide live, up-to-the-minute exchange rates sourced from reliable financial institutions to ensure accuracy and timeliness.</div>
21             <div><strong>Global Coverage:</strong> Whether you're converting between USD, EUR, GBP, JPY, or even lesser-known currencies, we've got you covered. We support a wide range of currencies and ensure accurate conversions for all.</div>
22             <div><strong>User-Friendly Interface:</strong> Our platform is designed with simplicity in mind. Whether you're a financial expert or a first-time user, you'll find our tools easy to use and intuitive.</div>
23             <div><strong>Fast & Reliable:</strong> Get instant conversions with no delays. We prioritize speed without sacrificing accuracy, ensuring you can make decisions quickly.</div>
24             <div><strong>Completely Free:</strong> Our services are completely free of charge. No hidden fees, no subscriptions - just straightforward and honest currency conversions.</div>
25           </div>
26         </div>
27       </div>
28     </div>
29   </div>
30   <div class="card">
31     <div class="card-header">
32       <strong>ABOUT US</strong>
33     </div>
34     <div class="card-body">
35       <p>At our Currency Converter, we are committed to providing a seamless and reliable experience for all your currency conversion needs. Whether you're traveling across borders or managing your finances, our platform has got you covered. We provide live, up-to-the-minute exchange rates sourced from reliable financial institutions to ensure accuracy and timeliness. Our mission is simple - to empower individuals and businesses with real-time, accurate currency exchange rates at their fingertips. We strive to make financial decisions easier and faster for everyone. Here's why we're the best choice for your currency conversion needs:</p>
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42       </div>
43     </div>
44   </div>
45   <div class="card">
46     <div class="card-header">
47       <strong>ABOUT US</strong>
48     </div>
49     <div class="card-body">
50       <p>At our Currency Converter, we are committed to providing a seamless and reliable experience for all your currency conversion needs. Whether you're traveling across borders or managing your finances, our platform has got you covered. We provide live, up-to-the-minute exchange rates sourced from reliable financial institutions to ensure accuracy and timeliness. Our mission is simple - to empower individuals and businesses with real-time, accurate currency exchange rates at their fingertips. We strive to make financial decisions easier and faster for everyone. Here's why we're the best choice for your currency conversion needs:</p>
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52         <div><strong>Real-Time Exchange Rates:</strong> We provide live, up-to-the-minute exchange rates sourced from reliable financial institutions to ensure accuracy and timeliness.</div>
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56         <div><strong>Completely Free:</strong> Our services are completely free of charge. No hidden fees, no subscriptions - just straightforward and honest currency conversions.</div>
57       </div>
58     </div>
59   </div>
60   <div class="card">
61     <div class="card-header">
62       <strong>ABOUT US</strong>
63     </div>
64     <div class="card-body">
65       <p>At our Currency Converter, we are committed to providing a seamless and reliable experience for all your currency conversion needs. Whether you're traveling across borders or managing your finances, our platform has got you covered. We provide live, up-to-the-minute exchange rates sourced from reliable financial institutions to ensure accuracy and timeliness. Our mission is simple - to empower individuals and businesses with real-time, accurate currency exchange rates at their fingertips. We strive to make financial decisions easier and faster for everyone. Here's why we're the best choice for your currency conversion needs:</p>
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70         <div><strong>Fast & Reliable:</strong> Get instant conversions with no delays. We prioritize speed without sacrificing accuracy, ensuring you can make decisions quickly.</div>
71         <div><strong>Completely Free:</strong> Our services are completely free of charge. No hidden fees, no subscriptions - just straightforward and honest currency conversions.</div>
72       </div>
73     </div>
74   </div>
75   <div class="card">
76     <div class="card-header">
77       <strong>ABOUT US</strong>
78     </div>
79     <div class="card-body">
80       <p>At our Currency Converter, we are committed to providing a seamless and reliable experience for all your currency conversion needs. Whether you're traveling across borders or managing your finances, our platform has got you covered. We provide live, up-to-the-minute exchange rates sourced from reliable financial institutions to ensure accuracy and timeliness. Our mission is simple - to empower individuals and businesses with real-time, accurate currency exchange rates at their fingertips. We strive to make financial decisions easier and faster for everyone. Here's why we're the best choice for your currency conversion needs:</p>
81       <div class="features">
82         <div><strong>Real-Time Exchange Rates:</strong> We provide live, up-to-the-minute exchange rates sourced from reliable financial institutions to ensure accuracy and timeliness.</div>
83         <div><strong>Global Coverage:</strong> Whether you're converting between USD, EUR, GBP, JPY, or even lesser-known currencies, we've got you covered. We support a wide range of currencies and ensure accurate conversions for all.</div>
84         <div><strong>User-Friendly Interface:</strong> Our platform is designed with simplicity in mind. Whether you're a financial expert or a first-time user, you'll find our tools easy to use and intuitive.</div>
85         <div><strong>Fast & Reliable:</strong> Get instant conversions with no delays. We prioritize speed without sacrificing accuracy, ensuring you can make decisions quickly.</div>
86         <div><strong>Completely Free:</strong> Our services are completely free of charge. No hidden fees, no subscriptions - just straightforward and honest currency conversions.</div>
87       </div>
88     </div>
89   </div>
90   <div class="card">
91     <div class="card-header">
92       <strong>ABOUT US</strong>
93     </div>
94     <div class="card-body">
95       <p>At our Currency Converter, we are committed to providing a seamless and reliable experience for all your currency conversion needs. Whether you're traveling across borders or managing your finances, our platform has got you covered. We provide live, up-to-the-minute exchange rates sourced from reliable financial institutions to ensure accuracy and timeliness. Our mission is simple - to empower individuals and businesses with real-time, accurate currency exchange rates at their fingertips. We strive to make financial decisions easier and faster for everyone. Here's why we're the best choice for your currency conversion needs:</p>
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101        <div><strong>Completely Free:</strong> Our services are completely free of charge. No hidden fees, no subscriptions - just straightforward and honest currency conversions.</div>
102      </div>
103    </div>
104  </div>
105  </body>
106  </html>

```

- **Contact Us Page:** This page provides the contact details and gives an option to message us and can contact us through this page.

```

1 <html>
2   <head>
3     <meta charset="UTF-8">
4     <meta http-equiv="X-UA-Compatible" content="IE=edge">
5     <meta name="viewport" content="width=device-width, initial-scale=1.0">
6     <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-QWTKZyjpPEjISv5WaRU90FeRpok6YctnYmDr5pNlyT2bRjXh0JMhJYGHw"
7     <title>Contact Us</title>
8     <style>
9   body{
10     background-image: url("1.webp");
11     background-size: cover;
12   }
13   #containing {
14
15     position: relative; /* Required for the absolute positioning of the button */
16   }
17
18   /* Menu button (≡) hover effect */
19   .menu-btn {
20     position: absolute;
21     top: 50%;
22     right: 10px;
23     transform: translateY(-55%);
24     height: 40px;
25     width: 40px;
26     background-color: black;
27     color: white;
28     border: none;
29     border-radius: 50%;
30   }
31
32   /* Retain hover effect on buttons when hovered individually */
33   #history,
34   #favourites,
35   #converter {
36     height: 40px;
37     width: 119px;
38     background-color: black;
39     color: white;
40     cursor: pointer;
41     transition: scale 0.25s ease-in, opacity 0.25s ease-in, filter 0.25s ease-in;
42   }
43
44   #containing:has(.btn:hover) .btn:not(:hover){
45     scale: 0.8;
46   }
47
48   </style>
49 </head>
50 <body>
51   <a class="btn" id="converter" role="button" href="Mainpage.html">CONVERTER</a>
52   <a class="btn" id="favourites" role="button" href="F-1.html">FAVOURITES</a>
53   <button class="menu-btn btn btn-dark" id="menuPopover" data-bs-toggle="popover" data-bs-placement="bottom" data-bs-content="" data-bs-html="true">≡</button>
54 </div><br><br>
55 <section id="contact" class="section">
56   <div class="contact my-1">
57     <div class="card" id="con"><h3 class="text-center"><b>Contact Us</b></h3>
58     <h5 class="text-center"><b>For any inquiries, feel free to reach out to our team:</b></h5><br></div>
59     <div class="row justify-content-center mt-3">
60       <div class="col-md-4">
61         <div class="card">
62           <div class="card-body text-center">
63             <h4 class="card-title">Person 1</h4>
64             <p>Name: Imaanot Singh</p>
65             <p>Phone: +919915218138</p>
66             <p>Email: <a href="mailto:imaanot1234.becse24@chitkara.edu.in">imaanot1234.becse24@chitkara.edu.in</a></p>
67           </div>
68         </div>
69       </div>
70       <div class="col-md-4">
71         <div class="card">
72           <div class="card-body text-center">
73             <h4 class="card-title">Person 2</h4>
74             <p>Name: Lakshay Mittal</p>
75             <p>Phone: +917626977583</p>
76             <p>Email: <a href="mailto:lakshay1250.becse24@chitkara.edu.in">lakshay1250.becse24@chitkara.edu.in</a></p>
77           </div>
78         </div>
79       </div>
80       <div class="col-md-4">
81         <div class="card">
82           <div class="card-body text-center">
83             <h4 class="card-title">Person 3</h4>
84             <p>Name: Lakshya</p>
85             <p>Phone: +918968215724</p>
86             <p>Email: <a href="mailto:lakshya1253.becse24@chitkara.edu.in">lakshya1253.becse24@chitkara.edu.in</a></p>
87           </div>
88         </div>
89       </div>
90     </div>
91   </div>
92 </section>
93 </body>
94 </html>

```

❖ Languages Used:

- **HTML: HTML (Hyper Text Markup Language)**

HTML is the standard language used to create and structure content on the web. It defines the elements of a webpage, such as text, images, links, and multimedia, using a system of tags and attributes. HTML forms the backbone of web development, enabling browsers to render content in a readable and structured way.

✓ **Mainly HTML is used in the following:**

- **MainPage.html**: This is the converter page and here we used HTML tags like div tag script tag buttons and options to make the structure and also the background is set in HTML. We have added links to the favourite page, history page, about us page and contact us page using HTML.
- **F-1.html**: This is the favourite page, here we have used div tag and script tag and we have added bootstrap in it. We have used links to set background as well as for bootstrap.
- **H-1.html**: This is the History page, here we have used div tag and script tag and we have added bootstrap in it. We have used links to set background as well as for bootstrap.
- **About-us.html**: This is the About us page, here we have used div tag and script tag and we have added bootstrap in it. We have used links to set background as well as for bootstrap.
- **Contact-us.html**: This is the Contact us page, here we have used div tag and script tag and we have added bootstrap in it. We have used links to set background as well as for bootstrap.

▪ CSS: CSS (Cascading Style Sheets)

CSS is a stylesheet language used to describe the presentation of a web page written in HTML or XML. It controls the layout, colors, fonts, and overall visual appearance of the content on the page, allowing web developers to create visually appealing and responsive designs. CSS separates the structure of the content from its visual styling, enabling easier maintenance and design updates.

✓ CSS is used in the following:

- MainPage.css: We have used CSS for all the designing. We have used the terms like opacity, height, width, scale, margin, border, display, position, transform etc. for perfection in design and style of the Main page and we have included designing of all the html pages in this stylesheet.

```

1  #background-video {
2      position: fixed;
3      top: 0;
4      left: 0;
5      width: 100%;
6      height: 100%;
7      object-fit: cover;
8      z-index: -1;
9  }
10
11 #containing {
12     position: relative; /* Required for the absolute positioning of the button */
13 }
14
15 /* Menu button (≡) hover effect */
16 .menu-btn {
17     position: absolute;
18     top: 50%;
19     right: 10px;
20     transform: translateY(-55%);
21     height: 40px;
22     width: 40px;
23     background-color: black;
24     color: white;
25     border: none;
26     border-radius: 50%;
27 }
28
29 /* Retain hover effect on buttons when hovered individually */
30 #history,
31 #favourites,
32 #converter {
33     height: 40px;
34     width: 119px;
35     background-color: black;
36     color: white;
37     cursor: pointer;
38     transition: scale 0.25s ease-in, opacity 0.25s ease-in, filter 0.25s ease-in;
39 }
40
41 #containing:has(.btn:hover) .btn:not(:hover){
42     scale: 0.8;
43     opacity: 0.6;
44     fill: blur(2px);

```

```
43     opacity: 1.0;
44     fill: blur(2px);
45   }
46
47   #history:hover,
48   #favourites:hover,
49   #converter:hover {
50     scale: 1.2;
51   }
52
53   /* Card styling */
54   .card {
55     width: 48%;
56     height: 19rem;
57     margin-left: 26%;
58   }
59
60   /* Form control input styling */
61   .form-control {
62     width: 120px;
63     display: block;
64   }
65
66   input[type="number"] {
67     width: 170px;
68     display: block;
69   }
70
71   /* Button styling for result and add */
72   #result {
73     width: 150px;
74     height: 38px;
75     border-radius: 10px;
76     margin-right: 20px;
77   }
78
79   #add {
80     width: 160px;
81     height: 38px;
82     border-radius: 10px;
83   }
84
```


- **JAVASCRIPT:** JavaScript is a high-level, dynamic programming language used to create interactive effects and functionality on websites. It allows web developers to manipulate HTML and CSS, respond to user actions, validate forms, create animations, and build dynamic web applications. JavaScript runs directly in the web browser, enabling real-time updates without needing to reload the page.

✓ JavaScript is used in the following:

- MainPage.html: Here we have used JavaScript in this page in the script tag.

```

103 <script>
104     // Function to fetch and display the exchange rate
105     function updateExchangeRate() {
106         var fromCurrency = document.getElementById("currencyFrom").value;
107         var toCurrency = document.getElementById("currencyTo").value;
108
109         if (fromCurrency && toCurrency) {
110             var apiURL = `https://api.exchangerate-api.com/v4/latest/${fromCurrency}`;
111
112             // Fetch exchange rates
113             fetch(apiURL)
114                 .then(response => response.json())
115                 .then(data => {
116                     if (data.rates[toCurrency]) {
117                         var rate = data.rates[toCurrency];
118                         document.getElementById("exchangerate").textContent = `Exchange Rate: 1 ${fromCurrency} = ${rate} ${toCurrency}`;
119                     } else {
120                         document.getElementById("exchangerate").textContent = 'Exchange Rate: Not Available';
121                     }
122                 })
123                 .catch(error => {
124                     document.getElementById("exchangerate").textContent = 'Exchange Rate: Error fetching data';
125                 });
126         }
127     }
128
129     // Event Listeners to update exchange rate as soon as a currency is selected
130     document.getElementById("currencyFrom").addEventListener("change", updateExchangeRate);
131     document.getElementById("currencyTo").addEventListener("change", updateExchangeRate);
132
133     document.getElementById("result").addEventListener("click", function() {
134         var fromCurrency = document.getElementById("currencyFrom").value;
135         var toCurrency = document.getElementById("currencyTo").value;

```

```

135     var toCurrency = document.getElementById("currencyTo").value;
136     var amount = parseFloat(document.getElementById("amountFrom").value);
137
138     var apiURL = `https://api.exchangerate-api.com/v4/latest/${fromCurrency}`;
139
140     fetch(apiURL)
141       .then(response => response.json())
142       .then(data => {
143         if (data.rates[toCurrency]) {
144           var conversionRate = data.rates[toCurrency];
145           var convertedAmount = (amount * conversionRate).toFixed(2);
146           document.getElementById("amountTo").value = convertedAmount;
147         } else {
148           alert("Invalid currency code.");
149         }
150       })
151       .catch(error => {
152         alert("Error fetching data: " + error);
153       });
154
155     // Initialize the popover for the menu button
156     document.addEventListener('DOMContentLoaded', function () {
157       var popoverTrigger = document.getElementById('menuPopover');
158       var popoverContent = `
159         <ul class="list-group">
160           <li class="list-group-item"><a href="about-us.html" class="text-decoration-none">About Us</a></li>
161           <li class="list-group-item"><a href="contact-us.html" class="text-decoration-none">Contact Us</a></li>
162         </ul>
163       `;
164       var popover = new bootstrap.Popover(popoverTrigger, {
165         content: popoverContent,
166         html: true,
167         sanitize: false,
168       });
169       popoverTrigger.addEventListener('click', function () {
170         popover.toggle();
171       });
172     });
173   </script>
174 </body>
175 </html>

```

- F-1.html: Here we have used JavaScript in this page in the script tag.

```

117   <script>
118     // Initialize the popover for the menu button
119     document.addEventListener('DOMContentLoaded', function () {
120       var popoverTrigger = document.getElementById('menuPopover');
121       var popoverContent = `
122         <ul class="list-group">
123           <li class="list-group-item"><a href="about-us.html" class="text-decoration-none">About Us</a></li>
124           <li class="list-group-item"><a href="contact-us.html" class="text-decoration-none">Contact Us</a></li>
125         </ul>
126       `;
127       var popover = new bootstrap.Popover(popoverTrigger, {
128         content: popoverContent,
129         html: true,
130         sanitize: false,
131       });
132       popoverTrigger.addEventListener('click', function () {
133         popover.toggle();
134       });
135     });
136   </script>
137 </body>
138 </html>

```

- About-us.html: Here we have used JavaScript in this page in the script tag.

```

93     <script>
94         // Initialize the popover for the menu button
95         document.addEventListener('DOMContentLoaded', function () {
96             var popoverTrigger = document.getElementById('menuPopover');
97             var popoverContent = `
98                 <ul class="list-group">
99                     <li class="list-group-item"><a href="about-us.html" class="text-decoration-none">About Us</a></li>
100                     <li class="list-group-item"><a href="contact-us.html" class="text-decoration-none">Contact Us</a></li>
101                 </ul>
102             `;
103             var popover = new bootstrap.Popover(popoverTrigger, {
104                 content: popoverContent,
105                 html: true,
106                 sanitize: false,
107             });
108             popoverTrigger.addEventListener('click', function () {
109                 popover.toggle();
110             });
111         });
112     </script>

```

- Contact-us.html: Here we have used JavaScript in this page in the script tag.

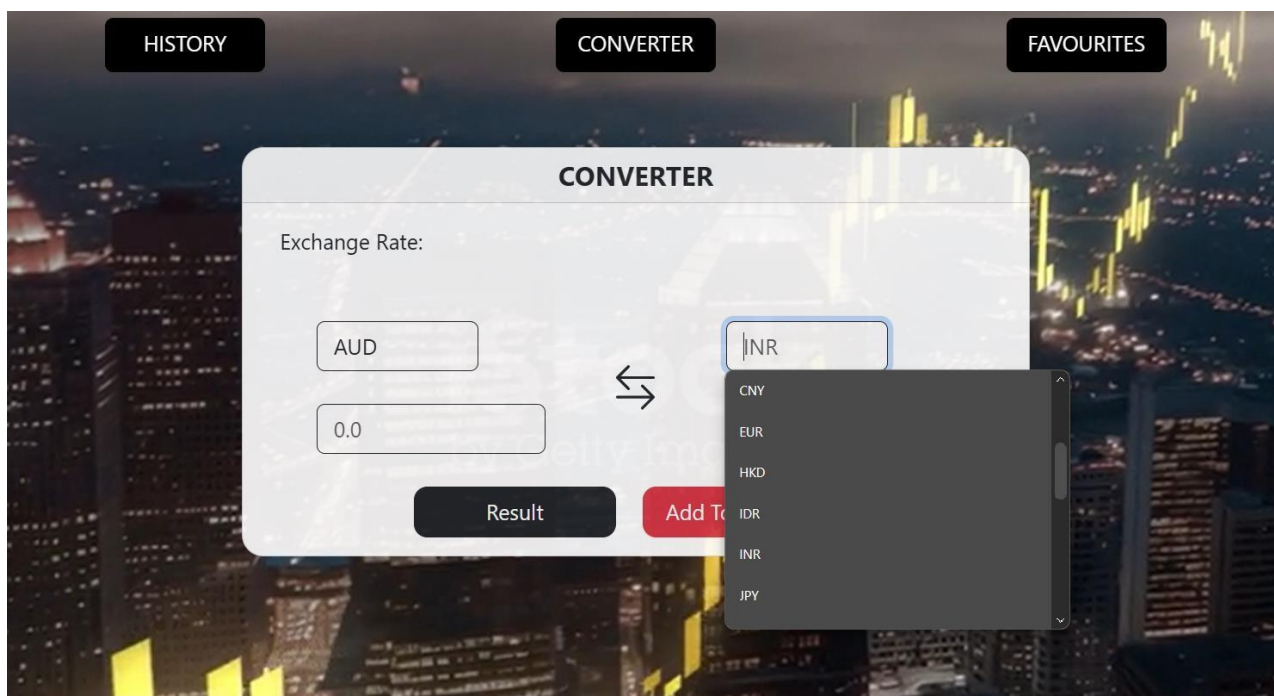
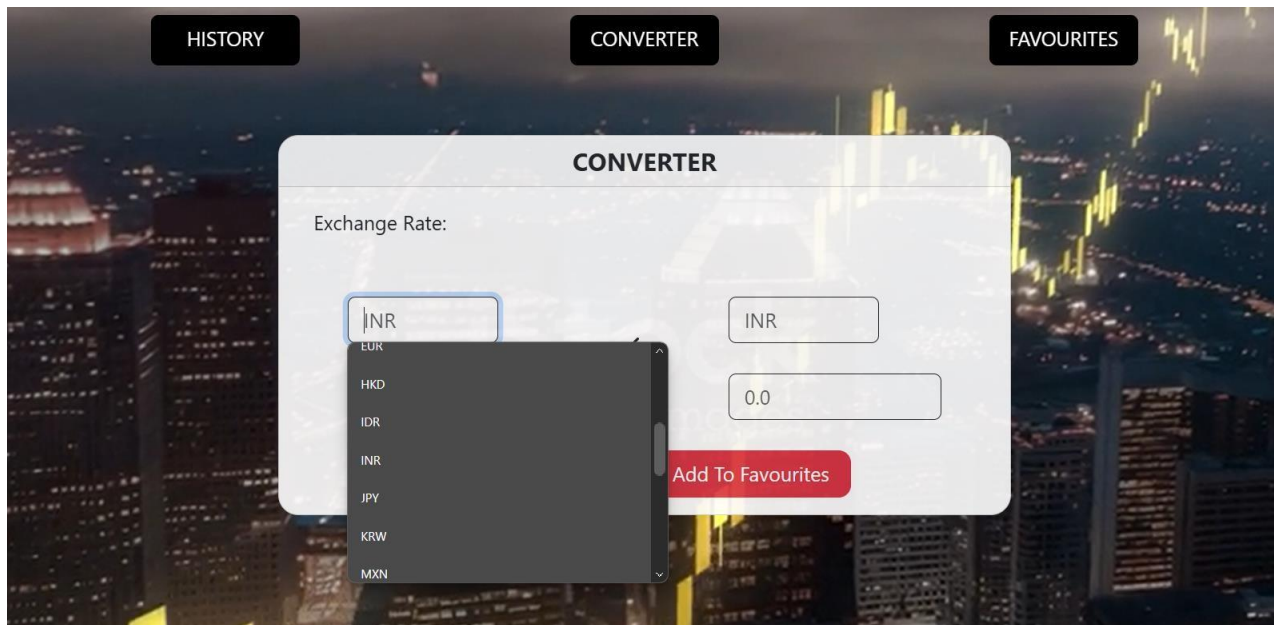
```

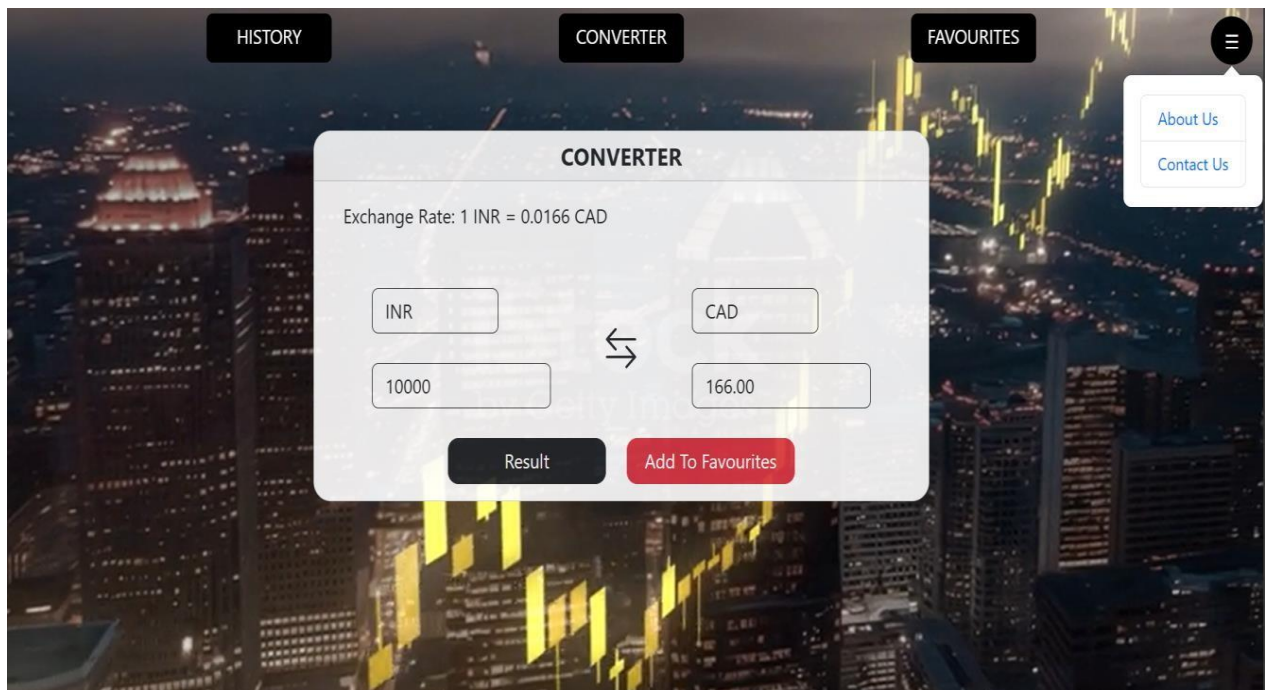
119     <script>
120         // Initialize the popover for the menu button
121         document.addEventListener('DOMContentLoaded', function () {
122             var popoverTrigger = document.getElementById('menuPopover');
123             var popoverContent = `
124                 <ul class="list-group">
125                     <li class="list-group-item"><a href="about-us.html" class="text-decoration-none">About Us</a></li>
126                     <li class="list-group-item"><a href="contact-us.html" class="text-decoration-none">Contact Us</a></li>
127                 </ul>
128             `;
129             var popover = new bootstrap.Popover(popoverTrigger, {
130                 content: popoverContent,
131                 html: true,
132                 sanitize: false,
133             });
134             popoverTrigger.addEventListener('click', function () {
135                 popover.toggle();
136             });
137         });
138     </script>
139 </body>
140 </html>

```

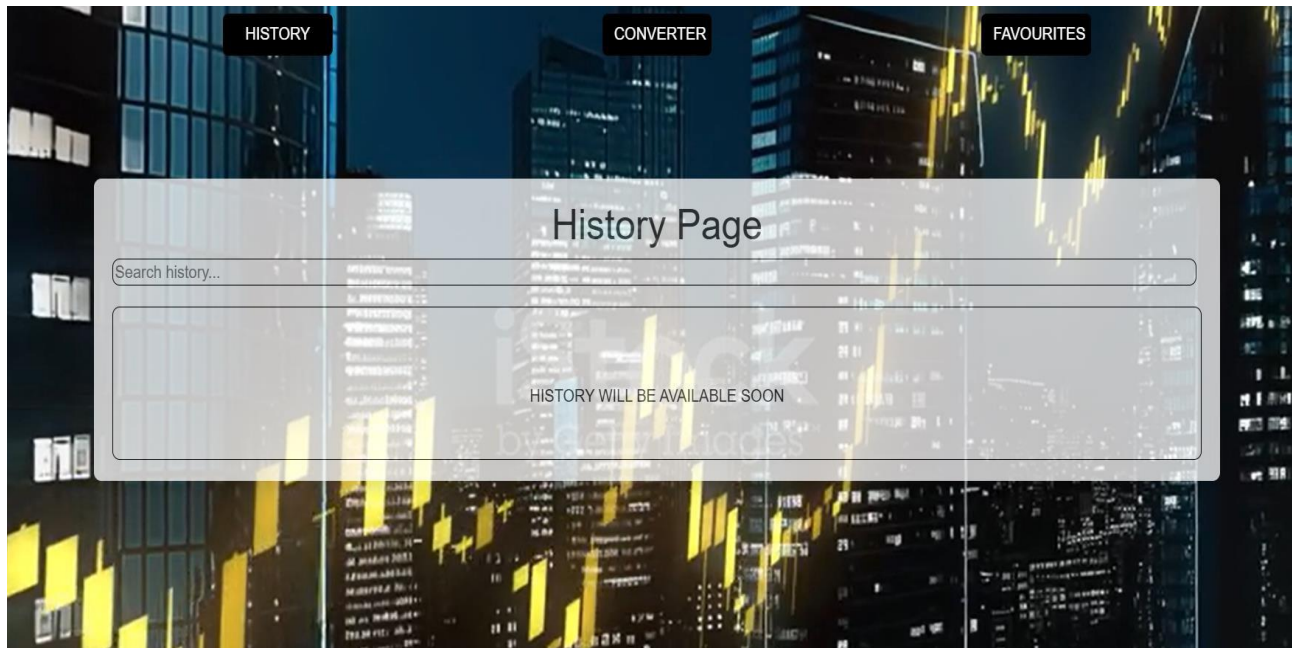
❖ Final Output:

▪ Main Page:

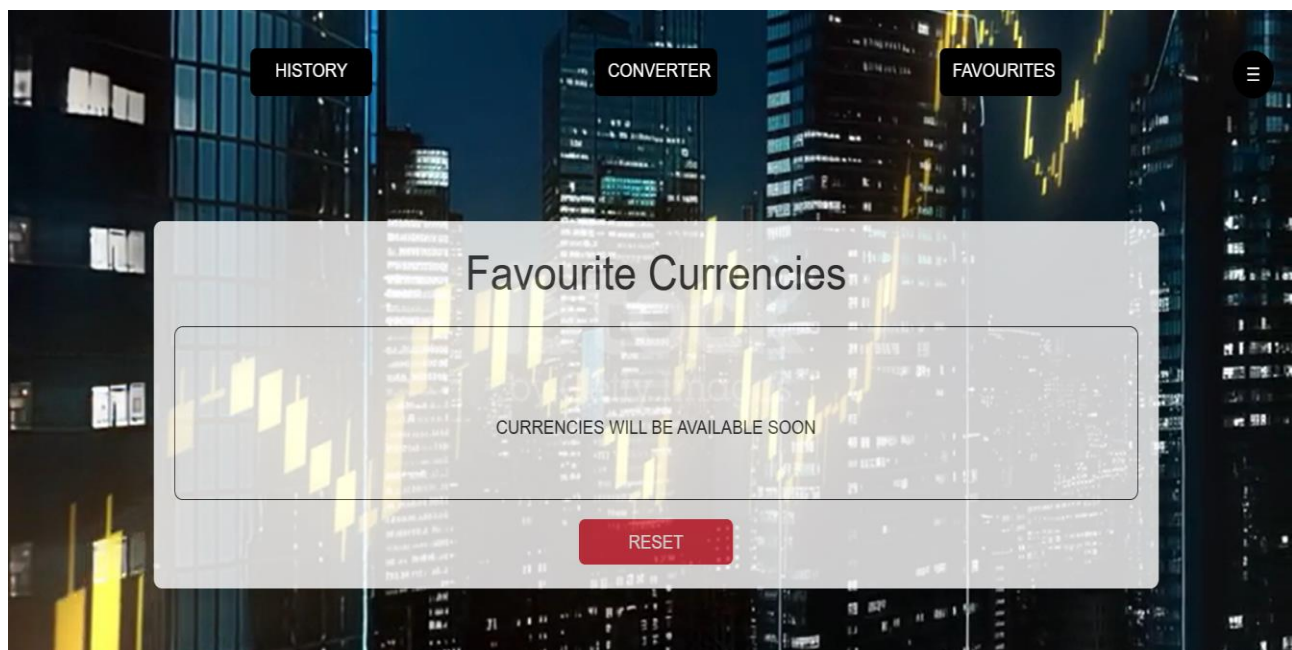




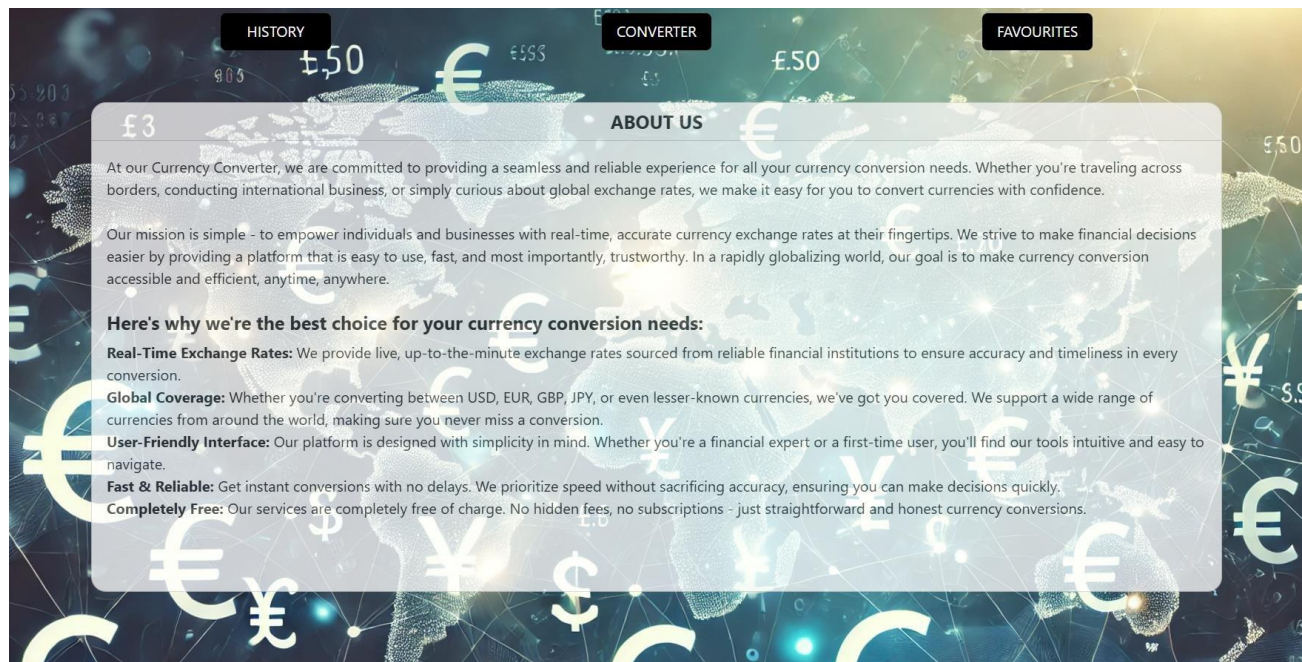
- History Page:



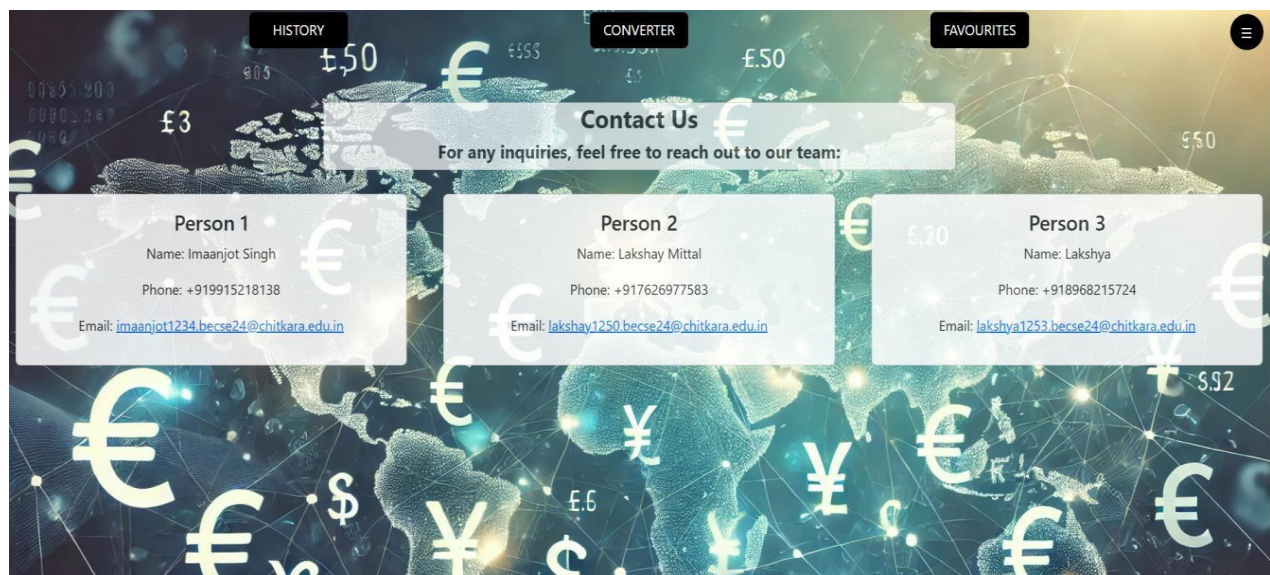
- Favourite Page:



▪ About-us Page:



▪ Contact-us Page:



❖ Framework:

- **Bootstrap**: Bootstrap is an open-source front-end framework for building responsive, mobile-first web pages. It provides pre-designed HTML, CSS, and JavaScript components such as navigation bars, buttons, forms, and grids, which help developers create modern, visually appealing websites quickly and efficiently. Bootstrap ensures that websites are responsive, meaning they automatically adjust to different screen sizes, from desktops to smartphones.

```

7      <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-QWTKZyjpPEjISv5WaRU9
8      <link rel="stylesheet" href="MainPage.css" type="text/css">
9      </head>
10     <body>
11         <script src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.11.8/dist/umd/popper.min.js" integrity="sha384-I7E8VVD/ismYTF4hNIPjVp/Zjvgyo16VfV
12         <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.min.js" integrity="sha384-0pUGZvbkM6XF6gxjEnlmuGrJXVbNuzT9qBBavb

```

```

<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-QWTKZyjpPEjISv5WaRU9
<title>About US</title>
<style>

```

```

<meta name="viewport" content="width=device-width, initial-scale=1.0">
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-QWTKZyjpPEjISv5WaRU9
<title>Contact US</title>
<style>

```

```

<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-QWTKZyjpPEjISv5WaRU90FeR
style>

```

```

<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-QWTKZyjpPEjISv5WaRU90FeR

```

```

<script src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.11.8/dist/umd/popper.min.js" integrity="sha384-I7E8VVD/ismYTF4hNIPjVp/Zjvgyo16VfV
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.min.js" integrity="sha384-0pUGZvbkM6XF6gxjEnlmuGrJXVbNuzT9qBBavb
<video autoplay muted loop id="background-video">

```


❖ Project Advantage:

Currency converter project offers several advantages, including providing users with real time access to current exchange rates, which enhances financial decision-making. It simplifies the process of converting amounts between different currencies, making it valuable for travellers, businesses, and individuals involved in international transactions. The user-friendly interface and responsive design ensure accessibility across devices, while features like conversion history and favourites improve the overall experience. Additionally, integrating security measures protects user data, fostering trust and reliability in the application. Overall, this project addresses a critical need in our increasingly globalized economy

❖ **BONUS FEATURE:**

Bonus features for a currency converter application could include displaying historical data and trends for specific currencies, as well as notifying users when exchange rates reach their desired levels through rate alerts. The ability to convert multiple currencies simultaneously would enhance usability, while graphical representations, such as charts, could visualize exchange rate trends effectively. An offline mode could provide basic functionality with cached rates, and integrating a calculator would simplify arithmetic operations. User profiles could allow for saving settings and transaction history, and enabling social sharing would let users share conversion results on social media.

The results of a currency converter provide users with the converted value of their input amount based on the selected currency. This includes displaying equivalent amount in the target currency, often accompanied by details such as the current exchange rate and any applicable fees. The results may also highlight historical trends and comparisons to help users understand fluctuations in value. Overall, the output is designed to be clear and informative, enabling users to make informed financial decisions quickly and efficiently. Currency converter application serves as a valuable tool for individuals and business. The Currency converter report highlights notable trends in the exchange rates of various currencies against the US dollar. The report reveals that while some major currencies are maintaining stability, others are experiencing fluctuations that could significantly affect financial decisions. Users can leverage this real-time data to make informed choices regarding currency exchanges, particularly when planning international transactions or investments. Overall, the insights provided by the currency converter serve as a valuable resource for navigating the complexities of the foreign exchange market

❖ **Conclusion:**

The navigating the complexities of international transactions. By providing real-time exchange rates, user-friendly features, and additional functionalities, it enhances financial decision-making and accessibility. The inclusion of bonus features further enriches the user experience, making it not only practical but also engaging. As global commerce continues to expand, such applications will remain essential in facilitating seamless currency conversions.