XE Currency Converter & Money Transfer Solutions

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Mission

The mission was to do a sweep of the whole site and to sample every different part of it.
This test report describes the application details, the testing process of the XE website, and the issues found during the test process.

The test report does not include testing the features that are required to create an account, sign in, subscribe, or external links.

This report was made in response to a testing learning challenge given to me by James Bach.

Product Information

XE.com is an online currency converter application. It offers exchange rate information, international money transfers, and other currency-related services via its website, mobile apps, and other online channels.

Xe.com offers various free online currency tools, including the Xe Currency Converter, which allows visitors to check live exchange rates of any world currency. The website also offers free historical charts and rate tables. The company provides a foreign exchange service (Xe Money Transfer) and a commercial currency data feed service (Xe Currency Data) that offers accurate and reliable exchange rates for businesses.

Test Process

Since this was my first time testing the application I engaged in primary testing and so I used the survey testing method: which is an open exploration of the product. I began by hovering the mouse over each hyperlink. I sampled every different hyperlink, drop-down list, and button of the application. After sampling around through the main features of the application I stopped at the convert section and tried to convert different amounts for the most common currency pairs such as USD/EUR, EUR/GBP, EUR/JPY, USD/GBP, USD/JPY, USD/CAD, USD/CNY etc. The output was correctly displayed for all the calculations I have tried. As the site states: "**XE currency calculator** is a direct descendent of the fast and reliable original **'Universal Currency Calculator' "**.

The application states: "We use the mid-market rate for our Converter. This is for informational purposes only." This implies that the rates can be used for planning purposes, but do not imply a contract with the user. Therefore, I tried to test if the rates were close enough for planning

purposes. Searching on the XE website for the meaning of mid-market, I found the following statement ***"The mid-market rate is the mid-point between the rate a currency can be bought or sold. These rates are not available to customers - not even XE can buy currency at this rate. These rates are real-time and are updated every 60 seconds during trading hours."*** As I didn't have access to APIs or talk to any developer, I compared the mid-market rate from www.XE.com with other similar websites such as www.oanda.com, www.wise.com, and www.exchange-rates.org. The rates were within a half percentage point of each other.

To test the accuracy of the calculation of the amount from the rate I selected the EUR/USD currency pair, entered an amount of 100, clicked on the "convert" button, and checked the accuracy of the output, by independently calculating USD based on the rate of the amount.

Further on, I checked the consistency of the increasing or decreasing trends in exchange rates, and their percentages for various currencies (Xe Live Exchange Rates, in the Convert section). I verified that the colors of the arrows were consistent with the rate changes: green and upwards for increasing rates, and red and downwards for decreasing rates (Live Currency Rates, in Chart section). I have also checked whether the 24-hour chart in the "Convert" tab matches the 24-hour chart in the "Chart" tab. I checked the accuracy of the Interest Rates for different currencies as extracted from the central bank of each respective country (Central Bank Rates, in Chart section).

I have analyzed the data on the one-week chart for the EUR/USD currency pair, comparing it with the corresponding one-week periods in the one-month and one-year charts.

The analysis was made for the week of May 26, – June 2.

As you can observe in the Image No. 1, the charts' lines are similar. However, in Image No. 2, you can observe that the brushable region seems not to be identical. The reason why the brushable region differs is that, depending on the selected chart type (e.g. 1M, 1Y, 2Y), the time range at the start of the brush is larger, while at the end, it becomes smaller.

mage No.1

Image No. 2

While interacting with the rates spanning intervals for 12 hours, 1 day, 1 week, 1 month, 1 year, 2 years, 5 years, and 10 years, I inspected the consistency of business rules and the accuracy displayed on the chart. This means I checked the time for the beginning and the end, the low, the high, and the close currency displayed on the chart. I used mouse navigation to observe the beginning and the end of the displayed currency to observe that the caption of the screen matches.

I analyzed the accuracy of the displayed rate trends for some currency pairs by comparing the market's historical rates (https://www.xe.com/currencytables/) to the rates displayed on the chart for three dates such as 16th November, 01st December, and 15th December.
Find below some currency pair historical rates (Table 1.1) and currency pair rates shown on the chart (Table 1.2) for the same dates. I have selected some strong currencies, but also a weak currency.

As it can be seen below the rates are the same. The only difference is that the historical rates have more decimals and the rates shown on the chart have fewer decimals. However, for better accuracy of the displayed rates in the application, a more complex analysis should be made for a larger period and more currencies.

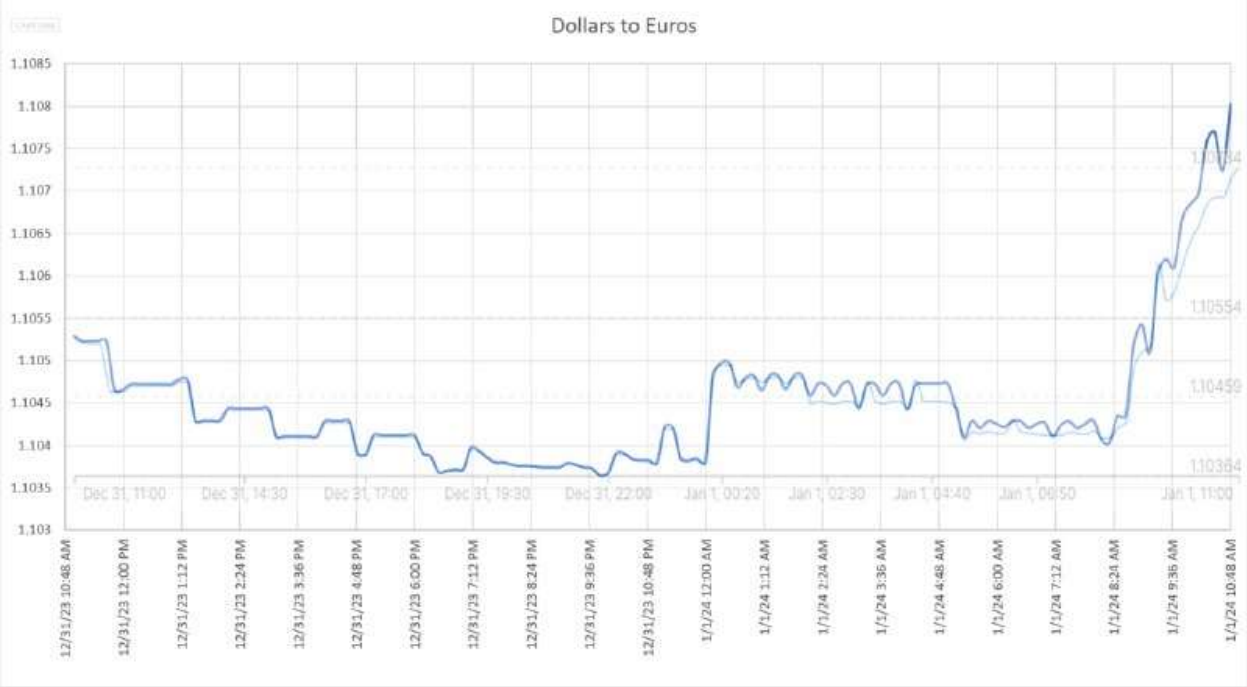
CURRENCY	USD	EUR	GBP	INR	NZD	DATE	TIME
UNITS / USD	1	0.921669	0.805105	83.2367	1.673156	16-Nov-23	17:00
USD / UNIT	1	1.08499	1.24207	0.0120139	0.597672	16-Nov-23	17:00
UNITS / USD	1	0.919133	0.788462	83.2732	1.61375	01-Dec-23	17:00
USD / UNIT	1	1.08798	1.26829	0.0120087	0.619676	01-Dec-23	17:00
UNITS / USD	1	0.916913	0.786872	83.0215	1.60769	15-Dec-23	17:00
USD / UNIT	1	1.09062	1.27086	0.0120451	0.622011	15-Dec-23	17:00

Table 1.1

CURRENCY	USD	EUR	GBP	INR	NZD	DATE	TIME
UNITS / USD	1	0.9216685	0.8051053157871150	83.2367476214712000	1.6731577245567200	16-Nov-23	17:00
USD / UNIT	1	1.0849888	1.2420735280108600	0.0120139244813795	0.5976722847602040	16-Nov-23	17:00
UNITS / USD	1	0.9191327	0.7884624525336400	83.2732192017217000	1.6137464104882200	01-Dec-23	17:00
USD / UNIT	1	1.0879822	1.2682912125829200	0.0120086626839487	0.6196760491615630	01-Dec-23	17:00
UNITS / USD	1	0.9169134	0.7868715929393840	83.0214800749898000	1.6076895707262900	15-Dec-23	17:00
USD / UNIT	1	1.0906155	1.2708553834869900	0.0120450755526972	0.6220106283007350	15-Dec-23	17:00

Table 1.2

I asked James to write a program that would record currency rates every minute for 24H period, and I compared those two, on the chart for a single day. I overlay the two charts. They matched for the first part of the chart, but in the last part, they diverged a small amount. I am not able to explain this divergence, and it should be investigated.



James guided me to write my first automation script. The script iterates over a list of currencies, entering each one into the “From” and “To” fields, and clicking “Convert” for the first currency. Then it navigates to the “Charts” section and clicks to view a chart. Next, the script iterates over another list of currencies, entering each one into the “From” and “To” fields in the Charts section.

The automation script and the JSON files have been uploaded to the GitHub repository.

Test Results

Overall, the application seems stable and usable. It is user-friendly and intuitive. The visual look of the application looks good and makes sense. However, I did find some bugs.

Below you can find a list of bugs I found while testing the application:

- Amount field accepts alphabetical characters or special characters along with numbers
- A huge amount is truncated to a digit and two decimals (55666666666666666666666666666666666689 is truncated to 5.57).
- Numbers with two decimals are rounded up in the amount field when JPY, VND is selected as a base currency, however in the title, the amount is displayed with decimals.
- When searching for a currency by the first three letters, other currencies that don't contain those three first letters are also displayed.
- In the "About us" section, the description of January 1995 appears twice.
- Some Hyperlinks do not open or are not redirecting to another page when clicking on them (Why XE?, Products & Services, Fraud prevention, etc.).
- An error is displayed when the user is redirected to the Salesforce App by clicking on the hyperlink.
- The amount field displays the last input when opening the application after a few days
- The drop-down list from Resources and Tools stays on the screen after selecting an option.
- Dates displayed under the chart are not accurate (10-year chart display Jun 28, 2019, 00:00 UTC - Dec 9, 2023, 10:47 UTC EUR/LINK close: 0.0636206 low: 0.0238713 high: 0.705504; 5 years display chart Dec 11, 2018, 00:00 UTC - Dec 9, 2023, 11:01 UTC, USD/JPY close: 144.973 low: 102.68 high: 151.885).
- Application crashes when clicking on currency pairs from Live Currency rates in the Chart section.
- When accessing the 24H chart, from the Xe Live Exchange Rates table, I am redirected to the 1-Year chart.
- When clicking on the XE icon, to redirect me to the home page, the input in the amount field is not updated.
- Currencies are not properly highlighted when hoovering with the mouse over them in the drop-down list.
- Charts are displayed for outdated currencies (ex: ROL/GRD).
- A scale for ROL/EUR, TRL/EUR, SRG/EUR, SDD/EUR, MZM/EUR, MTL/EUR, and CYP/EUR currencies pairs are displayed on the chart, although ROL was replaced with RON.
- https://www.xe.com/eu-business/ is displayed when clicking on US Business Money Transfer.
- I am not redirected to the same section on the page when I click on the back arrow to go back to the previous page.

- Description ("*To see a currency chart, select your two currencies, choose a time frame, and click to view.*") of how to use Xe Currency Charts does not match with how it works (there is no time frame to choose).

Test Coverage Outline