Project Report

Spring 2023

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Project : HW6 – Rates Redux

Problem Statement

The goal of the programming assignment is to create a multi-threaded GUI application that converts USD to another country's currency. The inputs are the chosen country, an entered amount, and the button press to convert the amount. The programming outputs are to display what data is getting loaded and the result of the loaded data. I must make sure each connection to the API call was successful. The user amount must be a positive number.

Design

I use an adapter design to spawn my thread. I will use a GUI application, so I need to use the callback function. The callback will not freeze my GUI application and each callback will determine if my API call was successful. I use tkinter to create my GUI application and message box if any server or user errors occur. I feel I solved the problem in an efficient way that is easy to understand. I feel I approached the problem correctly and I will not change anything with what I know now.
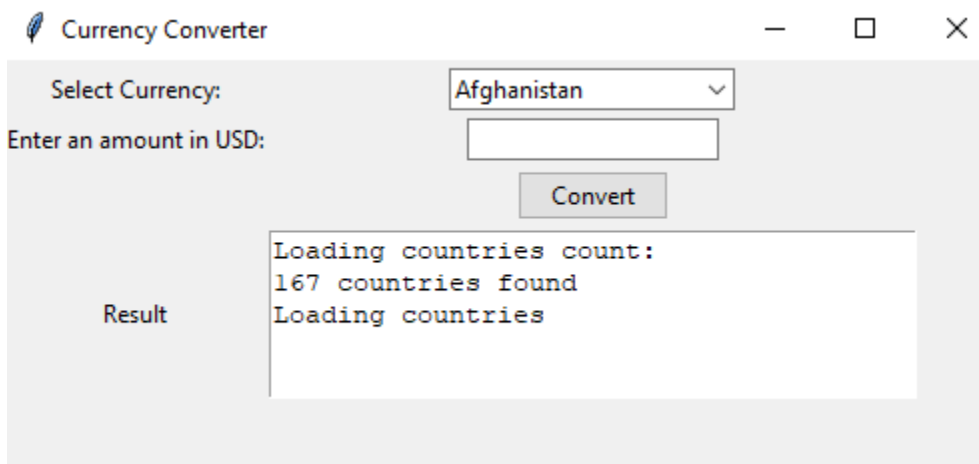
Testing

Case 1 will make sure the application is loaded correctly. This case will not have any normal inputs nor any special cases. This case worked as expected.
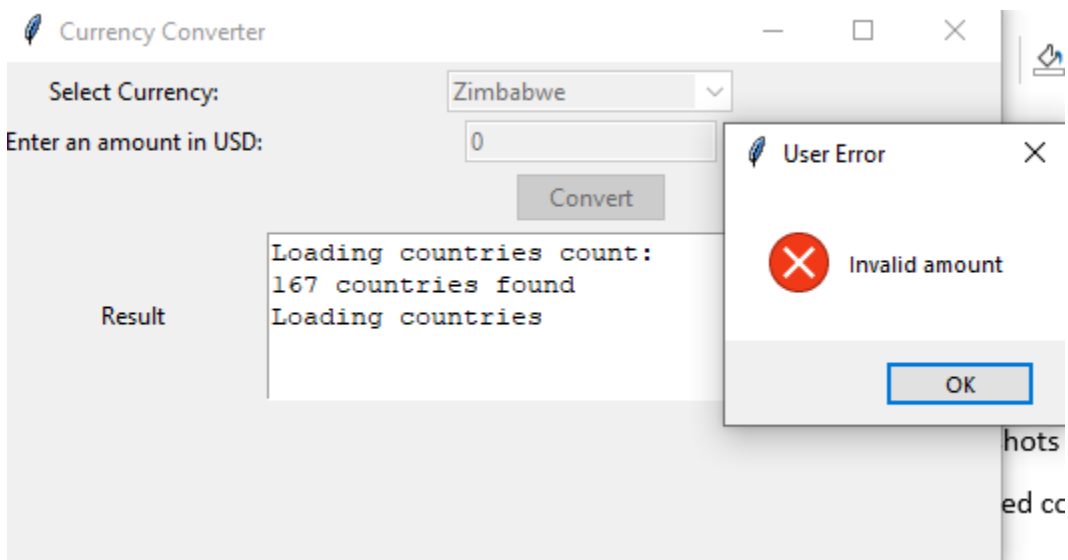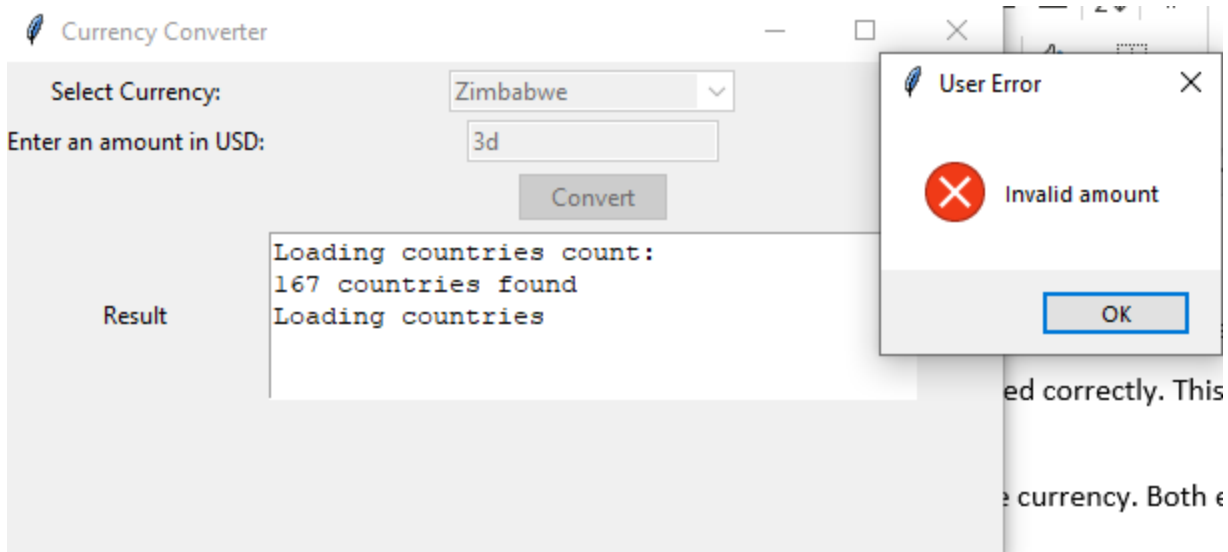
Case 2 will convert 3d, and 0 with Zimbabwe currency. Both enter values are special cases. There are no normal inputs for this case.

Case 3 will convert 100 with Zimbabwe currency. There are no special cases for this case. This case only contains normal inputs: 100, Zimbabwe, and the convert button.
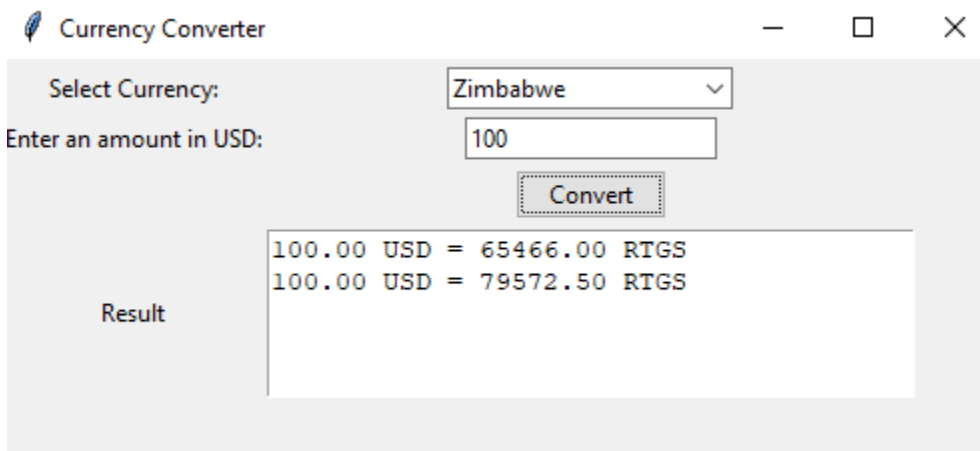
Test Case 1 –

Test Case 2 –

Currency Converter

Select Currency: Zimbabwe

Enter an amount in USD: 3d

Convert

Result
```
Loading countries count:
167 countries found
Loading countries
```

User Error

Invalid amount

OK

ed correctly. This

currency. Both

Currency Converter

Select Currency: Zimbabwe

Enter an amount in USD: 0

Convert

Result
```
Loading countries count:
167 countries found
Loading countries
```

User Error

Invalid amount

OK

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Test Case 3 –

Currency Converter

Select Currency: Zimbabwe

Enter an amount in USD: 100

Convert

Result
```
100.00 USD =  65466.00 RTGS
100.00 USD =  79572.50 RTGS
```

Conclusion

The result of the assignment is to create a multi-threaded GUI application. The programming project is a success. Taking my time to make sure each callback is successful helped me to complete this project. I will keep doing this.