intuit quickbooks

Net Worth Calculator exercise

PROBLEM STATEMENT

A small business that you know asked you to design and build a simple web based net worth calculator for them to keep track of their business daily. You have a mockup in the appendix section that you can use as inspiration. You will track assets and liabilities only. For your proof of concept, you will populate the rows in the tables by default, the user will not be able to add or remove rows.

REQUIREMENTS

- The client web UI will display two tables, assets and liabilities. Initially, the data should be stored in the front end in javascript and rendered to the UI using templates (react, angular).
- When an account line amount is edited, a request should be sent to the server which will calculate the totals and net worth and return them.
- The UI will render the calculated amounts upon response from the server.
- The "Select Currency" list should be a drop down with ten hard coded currency code values of your choice. The currency should be included in the payload to the service, and the service should call an upstream service to get an exchange rate to apply to the totals.
- The service should also return adjusted account line amounts in the new currency for each of the editable rows. The updated values should be formatted for the currency of selection and include the new currency sign on the left for each of the updated values.
- The service should include unit tests to cover all API calls.
- Diagram your design and prepare to explain your design choices.
- 48 hours prior to your interview please share the code with your contact at Intuit. Use github or similar software version control.

TECHNOLOGY

- This is a client/server web application.
- The client should be a simple html page hosted locally using javascript to render templates and fetch data. Do not use jQuery.
- The server should be a RESTful web api of your design implemented in your choice of Java/JEE, or a .NET language such as C#, or node.js.
- The data can just live inside the memory or a file, database is not needed.

DISCUSSION POINTS DURING THE INTERVIEW

- What assumptions did you make when implementing your solution and what impact did they have on the design?
- How would you improve the performance of your application?
- How would you go about testing your application?
- How would you make your service secure?
- How would you globalize your application?
- How would you make your application more resilient to errors? (network, upstream services, etc)
- How would you take advantage of HTTP caching?
- How would you support multiple users editing concurrently?

APPENDIX

Tracking your Networth

		Select Currency: CAD
Net Worth		$ 1,212,130.00
Assets		
Cash and Investments		
Chequing		$ 2,000.00
Savings for Taxes		$ 4,000.00
Rainy Day Fund		$ 506.00
Savings for Fun		$ 5,000.00
Savings for Travel		$ 400.00
Savings for Personal Development		$ 200.00
Investment 1		$ 5,000.00
Investment 2		$ 60,000.00
Investment 3		$ 24,000.00
Long Term Assets		
Primary Home		$ 455,000.00
Second Home		$ 1,564,321.00
Other		
Total Assets		$ 2,120,427.00

Liabilities			
Short Term Liabilties	**Monthly Payment**		
Credit Card 1	$	200.00	$ 4,342.00
Credit Card 2	$	150.00	$ 322.00
Long Term Debt			
Mortgage 1	$	2,000.00	$ 250,999.00
Mortgage 2	$	3,500.00	$ 632,634.00
Line of Credit	$	500.00	$ 10,000.00
Investment Loan	$	700.00	$ 10,000.00
Total Liabilties			$ 908,297.00

Suggestion: Data in red is data that will go to the service as part of the calculation request payload.

Data in green is data that will come back from the service as a calculation response.