Criterion A – Planning

Word Count: 505

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Defining the Problem

Client & Advisor: Mr. Pantelis

Solution Title: Valuator

My father (Mr. Pantelis, client & advisor) is an investment banker who specializes in brokering deals between companies and helping the people who own the companies sell them. A significantly time-consuming part of his job is helping calculate the value of a company. Currently, my father must do this by hand—using .csv files to store his data, performing all his calculations on paper and transcribing them to the computer. Recently, this has become quite an arduous process as his workload has continued to go yet his method has remained 'prehistoric' as he referred to it.

The primary issue for my father was that he did not have a digital way to perform calculations and graph creation. Even when my data would create a CSV file for the data, he would still need to manually take the steps to create graphs in the spreadsheet software, creating another time-consuming process for him.

While thinking about potential ideas for my Internal Assessment, I overheard my father speaking to a co-worker over the phone about how tiring this part of his job is, so I offered to build him a digital solution. My father accepted my proposition, agreeing to be my client, and we scheduled an interview[1] to further discuss details.

[1] Please see Appendix A: 1st Interview with the Client.

Rationale For Development

The purpose of the “Valuator” program is to be a software solution that can aid investment bankers, such as my father, in evaluating companies, generating projections and statistics for companies, while doing all these things with a higher degree of accuracy. The traditional method of judging a company’s value by using paper and spreadsheet software is a tedious process which is also prone to human error. A digital solution to this problem would be more efficient and reliable.

“Valuator” must allow users to take in data and calculate the value of selected companies. The program will use abstract data structures such as linked-lists in-order to hold companies as nodes in-order to allow for a more dynamic company storage system.

To develop this program, the program will utilize OOP (Object Oriented Programming) features such as encapsulation to create an accurate to real-life model of how companies function by representing them as objects containing objects to represent other parts of functions of these companies. In-order to do this, I have selected to program this in Java, an OOP language which also suits this program as it allows for easy responsive GUI creation and has a variety of useful libraries.

An alternative solution to this problem would be to use cloud-based financial analysis and valuations to solve my father’s issue. Platforms like these offer tools like investment analysis data processing and report generation which would be suited to this use case.

However, this is a solution which would require the use of an API, not only costing my father money but also potentially leaking private information to other companies.

By developing the program, the initial way, I had presented, I believe that my father will be able to implement this program into his work routine to speed up his work.

Success Criteria

1. Companies should be able to be added and deleted from a user file.
2. All company data should be stored in individual files.
3. All user inputs should be validated.
4. The program should have an easy-to-use interface.
5. The program should have documentation embedded into the interfaces, to make it easier to learn.
6. Company data should be retrievable from the company file.
7. Statistics and data should be able to be graphed.
8. The user should easily be able to modify company data.
9. The program should be able to create an estimation for a company's value based on data provided.
10. The program should be able to project the value for a company in a variety of timespans.
11. Users should be able to simulate the merging of two companies and predict the new value of them together as one.