

## Criterion A: Planning

### 1. Problem Description

The importance of properly managing one's expenses and money cannot be overstated. My client is my father and he is a person who could use help managing his expenses due to the numerous amounts of expenditures he makes per month. Nowadays, expenses are all over the place as people such as my father use their credit cards, physical cash, and other methods of payment to purchase things. This makes it harder for my father to realize if he is spending too much money in a certain area or too little money in another area. This, combined with the fact that monetary responsibility is incredibly important, creates a problem which can cause my father to lose out on savings for the future if he is not being very careful. There simply is not a way for people to seamlessly manage and track their expenses while receiving monetary advice at the same time. In addition to this, my father would like to look into investments for the future more. He needs a way to calculate returns easily alongside tracking savings to know how much money he can invest. A program that could solve all these problems would be very helpful as it would be very simple for him to keep track of everything money related.

Word count: 213

### 2. Proposed Solution

When discussing with the client, the programming language Java was decided to be the best language to use for this program. Object oriented programming was a key feature which would help, and the language Java is recognizable by many different types of operating systems and devices. Since my father may not always have access to a computer, this is important in order for him to keep track of his expenditures on any device, anywhere. We also believed that Java was the best choice due to my experience with the language and the ease of creating interface. Using a known language speeds up the development process due to the reduction of self learning required. The built-in GUI tools of Java also make the process of creating interfaces very simple. Due to the implementation of accounts in the program, the security of each user's data is important to consider. The program could store each user's data in different files, and read files based on the account using the program. Additionally, by using text files to store the information, the data can be easily backed up and read by the program in case of file corruption or other forms of data loss.

Word count: 199

### 3. Success Criteria

- The registration function works properly, and the user is required to login using a registered account.
- The interface is simple and easy to use.
- The main menu displays the selected month correctly, which is the most recent month by default.
- Updating the income and expenditure information updates the text file properly. It is easy to update this information.
- Creating a new month inserts the month in the LinkedList in chronological order, and the same order is also updated in the text file.
- The program is able to search through all existing data.
- The program is able to sort the existing data by income & expenditure.
- The investment menu correctly calculates the expected return based on input investment

amount and type of interest.

- Updating old information works properly and is easy to do.
- Switching accounts works properly without needing to close the application.