Java GUI Project Proposal

   The proposed idea that I have is to create an innovative take on a financial application. It is simple to use and create, with the main idea being a user friendly application. This includes no advertisements, paywalls, or broken or unusable software implementations. Below is a rough draft of what I want my financial application to look like in the model package. These are five of the model classes that I want to implement.

Employee: Noun for person who earns a wage (Object Class)
Variables for object:
- Name
- Birth Date
- Age
- jobName
- jobHoursWorked
- hourlyPay

Methods for class:
- calculateSalary
- Getter methods for variables

Asset: Noun for defining positive amount of money
Variables for object:
- assetName
- assetType
- estimatedYearlyIncome
- incomeRate

Methods for class:
- Getter methods for variables
- estimateIncome

Liability: Noun for defining negative amount of money
Variables for object:
- liabilityName
- liabilityType
- estimatedYearlyInterest
- interestRate

Methods for class:
- Getter methods for variables
- findLosses

Bill: Noun for defining a separate fixed expense. (extends from liability)
Variables for object:
- billName

- billFrequency
- billCost

Methods for class:
- Getter methods for variables
- checkFrequency

Credit: Noun for defining the ability for someone to buy assets or liabilities with loans.
Variables for object:
- creditScore
- creditHistory

Methods for class:
- Getter methods for variables

The first five nouns that I use in this program design to define the model classes are employee, asset, liability, bill, and credit. First, an employee or worker can be defined here: "The question "Is a worker an employee?" may seem like a simple one to answer on its surface. The dictionary definition of "employee" says succinctly that an employee is "a person who works for another in return for financial or other compensation."3 Under that definition, independent contractors would appear to be employees." (Muhl, BLS p3). The main point is that an employee class, or worker, is created to understand where someone is financially, considering that someone that uses a financial tool like this is employed full time or part time.

The next two nouns are assets and liabilities. Assets can be defined as resources that have long term future economic benefit (Nibusinessinfo.co.uk), or something that one can purchase that makes them more money. A liability is defined as debt or obligations which you need to fulfill in the future (Nibusinessinfo.co.uk), or buying something that will take more money from you. Examples of assets include stocks, bonds, and mutual funds. Examples of liabilities include car payments, a mortgage on a house, or student loan debt.

Another noun used in this model class design is bill. A bill is a separate expense that could also be a liability depending on its frequency (Nibusinessinfo.co.uk). This makes the bill class extend from the liability class. The final model class is credit. Credit is defined here "Credit is the ability to borrow money or access goods or services with the understanding that you'll pay later. " (Akin, 2019). This is defined with a credit score and history of bills that have been paid on time.

Five verbs that I have described in my model are work, calculate, get, find, and estimate. Work can be defined best here: "to perform or carry through a task requiring sustained effort or continuous repeated operations" (Merriam-Webster, 2024). The employee class wants to find the number of hours worked for an employee to calculate their salary. This leads to the next verb, which is calculate. Calculating is simply using mathematics to find a relevant number for solving a problem. (Czerwonka, 2023). Wages should be calculated and sent to the users in a friendly and easily accessible way.

Another common verb possibly used would be get (as well as set). To get something is to retrieve it. To set something is to define it as something else. For this application, getter and setter methods are very important. These are defined here: "Getters and setters are an essential part of Java programming, particularly in object-oriented programming (OOP). They provide a way to access and modify the private fields of a class, ensuring encapsulation and maintaining data integrity. This article explains what getters and setters are and how they're used in Java development." (Kadhar, 2023) Setters might not be used, but it is still helpful to know.

Another verb used here is find. To find something can be defined simply here: "to obtain by effort or management" or "to come upon often accidentally" (Merriam-Webster, 2024). One method is used to find the losses that occur from any certain liability that the user might have, and the main goal is to send this data to the user. Finally, the last verb is estimate. Estimate is finding a calculation that is close or similar to the actual (ADP, 2024). For interest rates and income, it is better to estimate some for easier readability. Estimating income is defined more here: "To calculate an annual salary, multiply the gross pay (before tax deductions) by the number of pay periods per year. For example, if an employee earns $1,500 per week, the individual's annual income would be 1,500 x 52 = $78,000." (ADP, 2024). The main goal is to use this to come up with a final estimation, but explain that this could not be one-hundred percent accurate based on missing expenses.

Works Cited:

Muhl, Charles. (2002). *Monthly Labor Review What Is an Employee?*
https://www.bls.gov/opub/mlr/2002/01/art1full.pdf

unknown. (2019, May 14). *Difference between assets and liabilities*. Nibusinessinfo.co.uk.
https://www.nibusinessinfo.co.uk/content/difference-between-assets-and-liabilities

Akin, Jim. (2018, January 11). *What is Credit | Experian*. Experian.com.
https://www.experian.com/blogs/ask-experian/credit-education/faqs/what-is-credit/

Merriam-Webster Dictionary. (2019). *Definition of Work*. Merriam-Webster.com.
https://www.merriam-webster.com/dictionary/work

Czerwonka, Eric. (2023, August 9). *How are salary and wages calculated? - Buddy Punch*.
Buddypunch. https://buddypunch.com/blog/how-is-salary-and-wages-calculated/

Merriam-Webster Dictionary. (n.d.). *Definition of Find*. Www.merriam-Webster.com.
https://www.merriam-webster.com/dictionary/find

Kadhar, A. (2023, September 4). *Getters And Setters In Java*. Medium.
https://akadar899.medium.com/getters-and-setters-in-java-a27b39b0bb23

ADP. (2019). *Salary Paycheck Calculator – Calculate Net Income | ADP*. Adp.com.
https://www.adp.com/resources/tools/calculators/salary-paycheck-calculator.aspx