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CPS 3320 Python Programming
Project 3 Proposal

I. **Social Problem:** *The social problem that you have identified and plan to work on, and the story of how you came to choose this particular problem.*

2020 has been a year of changes and adaptations, due to the global pandemic caused by COVID-19. It has been a source of terror and fear as the lives of thousands have been claimed by the virus, leaving many to suffer. This impact is a trickle down effect, because along with the negative health impacts caused, it also negatively impacts the economic state of our nation, and world. Many have been financially impacted by this pandemic, whether it be non-essential workers earning a reduced salary, or overall job loss. As a college student, I can vouch for the financial impact it has on our population, and in this current time, the skill of budgeting comes in really useful. Managing the money that I already have saved, along with the small income I am thankfully able to make by working from home, goes a very long way. The uncertainty of how much I will continue to be able to earn has motivated me to ensure I am budgeting my finances properly. Using Python, I will create a program that will set the template for college students, like myself, to budget and stay on top of their finances.

II. **Basic Vision:** *The basic idea/vision for the project.*

The basic vision for this project is to use Python to create a budget where a college student can enter their income on their desired basis (weekly, monthly, annually etc.) and their expenses. The program will calculate whether they have a sufficient or insufficient amount of funds after their expenses are deducted from the money they have. The whole point of this program is to provide a level of self-accountability. This program can be executed at any time so the individual can check their expenses as frequently as they want, to assess what expenses are necessary, versus what they can cut back on.

III. **Safe Goal:** *A safe goal and a stretch goal for the project, a couple of sentences each of what you feel 80-90% sure you can accomplish (safe goal) and what might be more difficult, but still possible to accomplish (stretch goal).*

A safe goal for this project is to be able to build this entire program to be executed within the user's terminal shell, which will suffice for its purpose. It will prompt the user to input their income and expenses, and provide the option to continue to do so until they have entered everything. Once everything is entered, their final budget will be calculated. A stretch goal for this project is to build a program using Python libraries to create a Graphical User Interface to make it more user friendly and engaging for college students

of all backgrounds. My vision is to use the **Tkinter** library to build the GUI and the **Budget** library to seamlessly create a budget by utilizing its built-in functions. This will allow the user to utilize text field boxes to enter all of their data, to press a button when done to perform the final calculations. The idea of this is to make this program more user friendly and engaging for college students of all backgrounds.

IV. **<u>Outline:</u>** *A bulleted list outlining your starting point and initial plans for exploring how to accomplish this project. Consider this a draft outline, or a map, for how to plan to proceed.*

1. Import the **Tkinter** and **Budget** library to utilize their built-in functions to build a GUI and create a Budget template.
2. Create a **Budget()** class in which I will *define* all variables necessary.
    a. These variables will include the following:
        i. User's Income & Name
            1. Income List [to keep track of income for calculation]
        ii. User's Expenses & Name
            1. Expense List [to keep track of expenses for calculation]
    b. I will also provide the option for the user to continue adding incomes/expenses, or not, so the program may execute.
        i. This feature will be supported through the use of **if, else** statements, and **for** & **while** loops.
3. Create a **Window()** class to utilize the functions of **Tkinter** to build a window to hold all of this data.
    a. This window will have text field boxes where the user can enter:
        i. Income
        ii. Expenses
    b. Finally, it will hold a "Total" *button* which will calculate the users total expenses, and display how much they have left in their budget after they are deducted from their total income.

- Please note that how the budget will be built into the GUI is still in the works, so the **Budget** bullet is to define how the program will be written to work, and the **Window** bullet is how it will work in theory.