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Budgeroo: A Friendly Budgeting Tool

Final Project Assignment: Proposal

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## **Budgeroo: A Friendly Budgeting Tool**

### **Background:**

For many Americans, money is something that is always a constant strain on the mind. Despite working a 9-5, couponing like no tomorrow, and making other attempts to cut costs where they can, many families find themselves still just barely making ends meet. This is a problem that, due to many factors such as rising property taxes, gas prices, and even more taxes, plague many New Jerseyans. As a result of the high cost of living in New Jersey, many multi-generational families that grew up in the state are being forced out along with wealthier New Jerseyans leaving too. The combination of wealthy individuals and everyday families leaving the state means that the remaining residents of the state need to pick up the tax bill for the following year that these people are leaving behind, resulting in a permanent cycle of an increased cost of living.

Though our state government has its shortcomings, much could also be said on how one's paycheck or salary is being spent. Therefore, it is important to develop a solution which will allow an individual to see exactly where their money is going and, if they do not know, provide them with a good budget to follow so that they can survive.

### **Hypothesis:**

In order to guide an individual to financial success, it is important to provide them with multiple means of visualizing their expenses. One part of this project would involve reading in a .csv file of the individual's expenses, visualize this data, and maybe inform them of where their money is going at the highest frequency and also where the most money was spent within the month.

Another part of this project would involve suggesting a budget for the individual to follow based upon factors such as their salary and lifestyle. These lifestyle budgets would be evaluated based upon criteria established on common budget areas, such as food, electric, loans, etc. and would be visualized similarly to the .csv analysis.

**Safe and Stretch Goals:**

A program which reads in a .csv file and displays the categories and total sum of expenses in a pie chart will be a safe goal for this project. Another safe program to write would be one that reads in the .csv file provided and displays the most frequent expense for the individual that month. Lastly, a program that would be for the calculation of a budget based on lifestyle is totally feasible under these circumstances.

Some stretch goals include incorporating an interactive GUI and allowing an individual to calculate expenses via a live search of the web. The GUI will allow someone to easily access this program without basic programming knowledge and be able to use both parts of this project together. However, this may prove to be difficult as extensive knowledge of the libraries used for the GUI must be a prerequisite if time constraints are to be met. The live calculation function will prove useful, as an individual need only run the program before shopping to add something to their expense list. This will be accomplished via google sheets API integration and BeautifulSoup, allowing for web scraping and automated data input into the google spreadsheet. This spreadsheet could then be used in conjunction with the safe program which reads in a .csv file. This is also a stretch because the functionality of combining web browsing and data capturing in a python file without knowledge of how to do so will require a large undertaking.

**Draft Outline:**

Below is a bulleted list of how I envision the timeline of the project to be executed. (note: this is subject to change due factors such as time constraints, availability of data, etc.):

- Begin research on how to effectively read and analyze expense data in Python
- Once determined, begin work importing and analyzing the data into Pandas, a data analysis library for formatting purposes.
- Plot the data in Matplotlib via a pie chart to display the different sections of the expenses. Then, display additionally the total of the month and the most frequent and highest grossing expense against everything.
- Once this phase is done, move to phase two. Begin researching and developing a program to take account of a user's salary and lifestyle to create a personalized budget for them.
- Display this but in a pie chart similar to how one was displayed in the expense report.
- STRETCH GOALS: Incorporate a GUI which includes both of these functions, incorporate a live search function which will allow someone to add expenses to their expense report (.csv file) simply by running the program and shopping online.