

Computer Science IA Proposal

Title: Spreadsheet of Financial Data in Household Expenditures

1.0 Problem Description

- My dad always uses pen and paper to record the house's bills and monthly expenditures
- Taught me how it was important to keep track of my allowances using the pen and paper style
- However, this may be time-consuming and recopying the same values from the same senders/receivers of money may be tedious
- One can easily forget about the deadline of paying someone or something, so having a program like this can help remind the user to pay off bills
- Instead of checking multiple bank accounts, one can store their information here where they all coexist in one database, reducing the amount of time

When it comes to managing household expenditures and income, families sometimes struggle to balance their budget in the short and long term. Some families use a paper-based system to keep track of their income and outcome to better understand where the money is being spent, my family included. However, this results in large binders storing personal financial information and may not be needed in the future. In addition, when the senders/receivers of money are regular clients, precious time is wasted transferring the same information over and over again.

As humans shift towards a digital and technological era, financial businesses make use of data management and efficient computing systems to better suit their clients. However, if families have multiple bank accounts, it can be tedious remembering the amount of money devoted to each bank. Families tend to view managing the bills as a daunting task due to the laborious amount of work they do, shuffling through receipts and reminding themselves to pay off outstanding bills. Therefore, it is crucial to optimize this process so families can spend their time doing the things they love instead of coping with their financial problems.

2.0 Proposed Solution

- Problem that the program aims to solve is to provide an organized list of expenditures and income, providing an estimate of how much money is left for household use
- Eliminating the difficulties of using paper-based notes and references for clients
- Displaying an electronic database in real-time allows for one to see the records of where money is being spent and how money is being stored
- Provides all monetary information of the household in one easy to access program, similar to a spreadsheet
- Although keeping paper copies for reference is important, a digital database can also coexist because of its added benefits (e.g. no need to store binders of information each month, ridding of personal information)
- Allows for quicker access to modify and change any errors in spending

- Solution makes it easier for families to balance their funds and make wise decisions based on their current financial situation

The program aims to solve the everlasting burden of managing household bills. The project aims to provide an organized list of the family's income and outcome, providing an estimate of how much money is left or due in the household. The solution eliminates the use of paper-based records and references for clients as they are stored in the program. The program would display an electronic database in real-time for the family to analyze where their income comes from and what they spend the money on. Overall, it provides all monetary information in one easy-to-access spreadsheet where users can modify and change any errors in spending. Although keeping a paper copy like receipts are important for references, a digital database can use that information to provide a complete picture of the family's average spending on one screen instead of multiple stacks of binders. Thus, the solution makes it easier for families and individuals to balance their funds, hence promoting wiser decisions based on their current financial situation.

3.0 Functionality

- Once the program starts, the user is prompted for a username and password for security purposes
- The program keeps track of the date when data is entered into the database
- The main screen shows the general overview of the user's recent expenditures and income
- The user may add a new item to define the user's expenditure or income
- Program asks the user whether the source of money is incoming or outgoing
- User must provide the name of the sender or where the money is going to
- User must provide a description of the item, for example, the name of the product they bought
- User can choose from existing expenditures or income if the item was stored previously stored in the database
- User may delete an item or edit an item (its description, sender, value) for clarity or mistakes
- User can decide to sort the program by recent items or alphabetical order
- Program takes the expenditures and income, displays the net income/outcome based on the information entered by the user
- (Extension) User can possibly add a wish list for items they would like to purchase, this will be stored in a separate place, independent of the bank overview
- (Extension) User can add a reminder to remind themselves about an upcoming bill, this message will appear the next time the user logs onto the system
- (Extension) Regarding the above point, the user can choose to opt out of notifications, the reminder will ask them to "remind me later" or "don't remind me again". If the user chooses "don't remind me again", the reminder will be automatically deleted