**My Final Topic**

**23 / 09 / 2021**

**CS3105: SE Term Project**

|  |  |
| --- | --- |
| Team number | 1 |
| Project Title | Home Budget Economy |
| Document | SE Project Concept Document2 |
| Existing Work | Various home budget calculator websites (that will be mentioned below). |
| Differences | Most of the websites have outdated UI and lack some functionalities that I require in those websites. |
| Technologies | MERN: MongoDB, ExpressJs, React Framework, Redux, NodeJs;  Database: SQL or JSON |
| Customers | Corporate employees, physical labourers, financially unstable people or any one who wants to manage their income and increase their savings and investments thereby managing their home economically can use this website. |

**Description**

Problem Statement:

Managing one’s income has been the key resource to one’s financial stability which not only affects himself, but also his/her family. Apart from insurance policies, savings has always been an important factor in situations such as emergencies, investment in shares, property or starting a business. It is very important for a person to keep his/her family financially stable and if one is unable to achieve it by increasing his/her income, he/she can do so by decreasing their expenditure.

Nowadays, home economics has become a serious issue as money transactions are advancing with newer technologies. The process of transactions that gets abstracted by the swipe of a card or by a few clicks of a button. This degrades the essential critical thinking that occurs when spending money. This is especially true when numerous smaller transactions occur in a small period of time. This becomes evident only when the person checks their bills and balance at the end of the month and notices the apparent loss of money.

Solution:

In order to tackle this problem, I will create a website that allows the user to add entries regarding their income and expenditure, even the smallest expenditures needs to be added.

Initially there will be only one provision for income where the income can only be added monthly but later it can be modified to suit more occupations such as farmers where income is derived from seasonal sale of goods which does not occur monthly but rather semi-annually.

The website would suggest the user to set a reasonable goal which will finally be their monthly savings. If the monthly savings are greater than the goal, then it will congratulate them. If the monthly savings are less than the goal, then it will try to find the reason for it, such as a higher electricity bill than the average value, etc.

The expenditure will also be handled in a professional manner. Expenditure will be categorized as:

1. Periodic: Monthly electricity bills and credit card bills, Quarterly Water bills, EMIs, etc.
2. Frequent Essentials: Weekly or non periodic grocery shopping, fuel expenses, etc.
3. Once/Twice in a year: Purchasing clothes and accessories, luxuries, etc.
4. Investments: Share investments, savings account, fixed deposits, etc.

[nomenclature is not finalised]

For this, the website would allow the user to add information about their income and expenses in a tabular format that will be time stamped. The user will have add, edit and delete access to their own table. Each table would be one month long summarizing the savings and expenses for that particular month. Based on the values inputted, the website would suggest solutions or celebrate the monthly savings achieved. This information can also be viewed in a graphical format allowing the user to analyze their situation.

Existing solutions:

The existing solutions for this problem are various home budget planning calculators such as bankrate.com, moneycontrol.com, smartasset.com, etc.

**Profile of Users**  
The target demographic for this website are the struggling lower, middle-lower and middle class, such as corporate employees, physical laborers, financially unstable people or any one who wants to manage their economic situation. This can be any adult who is web browsing literate. No prior knowledge about budgeting is required. The website would help teach as much general budgeting as it is capable of.

**Technology Stack**

The technology that would be used is the MERN Stack consisting of MongoDB, MongoDB Atlas ExpressJs, React Framework, Redux state management and NodeJs overall. Since I am using MongoDB, I am using a non-relational database that allows my databases to be more flexible. ExpressJs is an excellent package for React to write APIs to both relational and non-relational databases. ReactJs is free and open source front-end javascript libraray that is also supported by a large community with lot of packages. The JSX functionalities that it provides is really powerful. Redux is a really good package to have a central data store that can request APIs alongside with axios to fetch data from the database that will be used by React. NodeJs is extensively used. It is open source, cross-platform and uses back-end JavaScript runtime environment that executes JavaScript code outside a web browser.

The alternatives are MEAN, LAMP, Django, Ruby on Rails, etc.

**Discussion Log**

After looking at other possible topics which are not much touched upon such as SDG Goal 14 and 15, being Life in Water and Life on Land respectively. I came up with an idea, inspired from Noble’s air pollution app, about having silhouettes of animals that used to roam the places around you centuries ago. But this could only work as a mobile application rather than a website.

Then I wondered why the choices decided by my friends and I are the “go-to” choices. The reasoning that I came across was that there are very few people in the world that actually care about the environment, life under water or life on land and that is because the GENERAL PUBLIC has already got a tonne of issues in their daily lives such as money shortage, job and personal life balance, for married couples, it might be their kids, etc. Having government push issues is only a start point, but having your citizens actively take part for that issue is another. This is evident when we compare countries such as Netherlands, Denmark, Japan, etc, whose citizens think about preserving the environment more often than countries such as ours, South and Central American countries and especially African countries where life itself is so difficult that thinking about preserving the environment is almost non-existent. Thus in order to have a global majority think about these issues we need to solve their existing problems first. And in that regard, I would like to help their financial problems.

I believe that along with managing my user’s expenses, my website might also instill a good habit within the user to spend their money sensically. This prevents the user from becoming an extravagant spender, which he could have become if I had made a website that would teach the user to increase their income instead of decreasing their expenditure.

This is why I stand by my original idea of making a **Home Budget Economy**.

Bibliography:  
European Citizen support for climate action: <https://ec.europa.eu/clima/citizens/support_en>

African viewpoint on environment preservation: <https://www.unep.org/regions/africa>