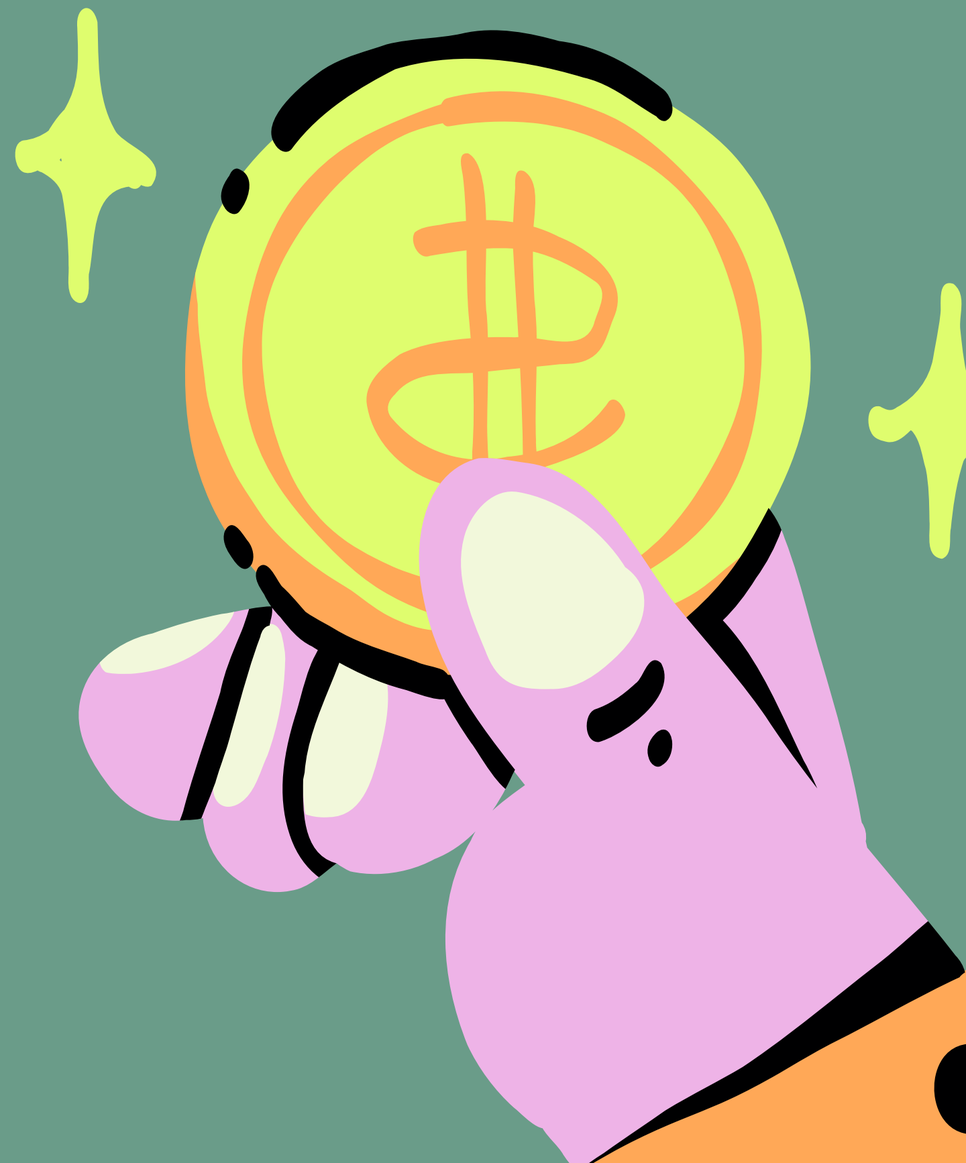
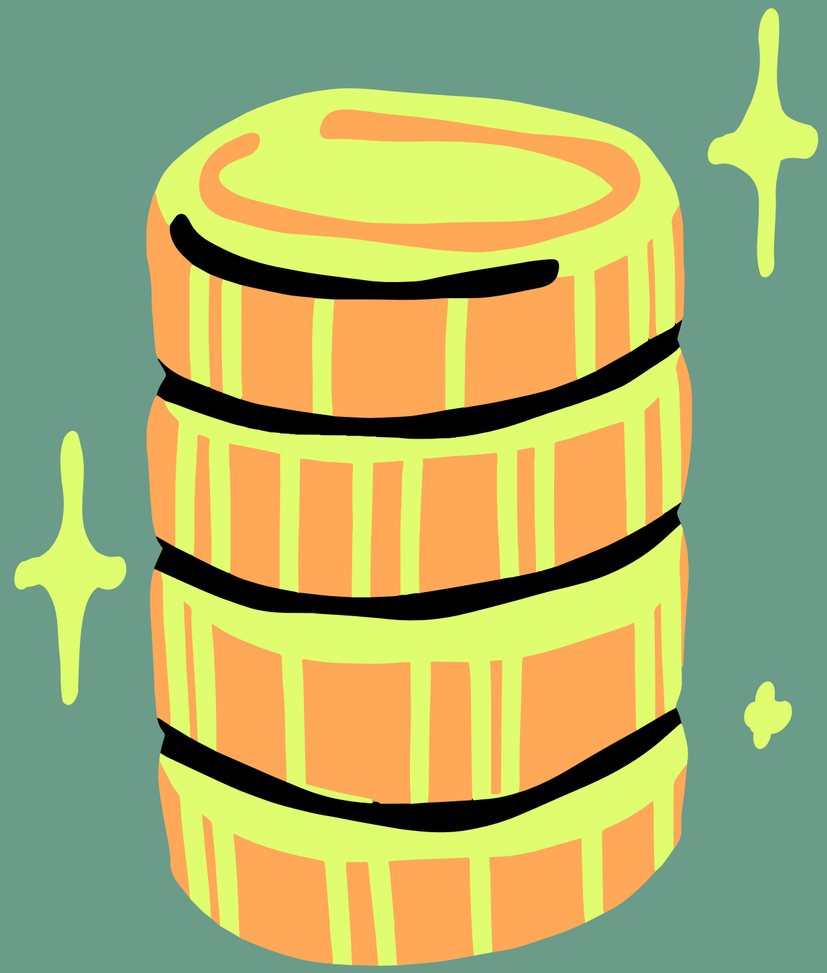
PRESENTED BY BONA FIDE

EXPENSE OPTIMIZATION TRACKER



PROBLEM

Managing a fixed budget efficiently while maximizing savings and covering essential expenses.



ITERATION 1

UNDERSTANDING BUDGET CONSTRAINTS AND EXPENSE ALLOCATION:

How can users effectively allocate a fixed budget while balancing essential and non-essential expenses?

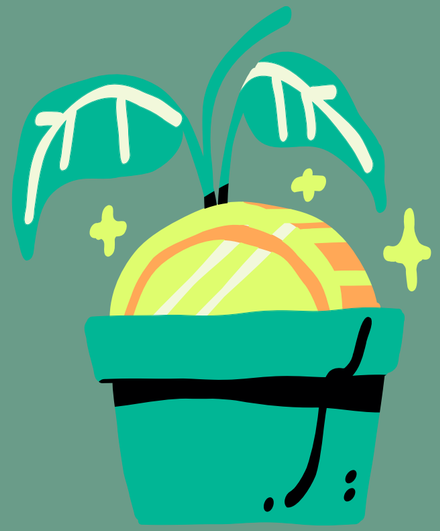
Decomposition: Breaking down the budget into individual expenses and their importance.

Pattern Recognition: Identifying common spending habits and savings strategies.

Abstraction: Simplifying the budget problem into key spending categories.

ITERATION 2

FINDING THE OPTIMAL ALLOCATION OF EXPENSES:



How can users decide which expenses to keep or cut to maximize savings while still covering necessary costs?

Decomposition: Identifying fixed, variable, and optional expenses.

Pattern Recognition: Recognizing trends in past spending and potential savings.

Abstraction: Converting expenses into a weighted selection problem.

ITERATION 3

CONTINGENCY BUDGET & REAL-TIME EXPENSE ADJUSTMENTS:

How can users handle unexpected expenses, such as medical emergencies, without completely disrupting their budget or resorting to high-interest loans?

Decomposition: Separating short-term adjustments from long-term budgeting.

Pattern Recognition:
Recognizing past emergency expenses to suggest better emergency fund planning.
Identifying expenditures that can be cut without major impact.

Abstraction:
Creating an adaptive budget model that dynamically responds to emergencies.

ALGORITHM

-Categorization & Rule-Based Budgeting

-0/1 Knapsack Algorithm

-Greedy & Rule-Based Adjustments

A BUDGET IS MORE THAN JUST A SERIES OF NUMBERS ON A PAGE; IT IS AN EMBODIMENT OF OUR VALUES.

– BARACK OBAMA

THANK YOU FOR LISTENING!