2Cents

Group 14 - Clouds

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GitHub: https://github.com/CMPT-276-SPRING-2025/final-project-14-clouds

Project Overview

This project is a web-based application designed to serve as a personal financial advisor. It aims to help users track their income and expenses while enhancing financial literacy through interactive and educational features. By integrating various APIs and focusing on user-friendly design, the app provides personalized tools to track expenses, plan for goals, and improve understanding of financial concepts.

Problem Statement

Many individuals lack the fundamental knowledge needed to make informed financial decisions, despite financial literacy being an essential life skill. Only one in three adults show an understanding of basic financial concepts, and this percentage declines sharply among younger generations [1]. Low financial literacy contributes to problems such as debt accumulation, insufficient savings, and heightened financial stress.

Statistics Canada reports that one in four Canadians feel financially unprepared for emergencies [2]. Similarly, the Canadian Payroll Association reports that approximately 47% of Canadians live paycheque to paycheque, using their entire income to cover financial responsibilities [3]. This highlights a concerning reality: nearly half of the population has little to no disposable income after addressing their basic expenses. A lack of knowledge on how to manage money could be a factor for this.

Additionally, traditional financial education often feels inaccessible or overwhelming, with complicated jargon and no engaging tools to help users grasp core principles. These barriers make it challenging for users to confidently manage their finances, plan for the future, or avoid costly mistakes.

Origin of the idea

This idea was inspired by a gap in the market for tools that not only track finances but also educate users in an engaging and interactive way. The need for such tools is urgent because traditional education systems often fail to prepare young people with the financial skills they need to navigate adulthood. Many graduates enter the workforce without a clear understanding of budgeting, saving, or managing debt, leaving them vulnerable to financial stress. Similarly, immigrants and international students face challenges in learning financial systems in a new country, as they must navigate unfamiliar terms, regulations, and practices without accessible resources tailored to their needs.

Target Users and Their Needs

- **Young Adults and Students**

Individuals aged 18–35, including university students and recent graduates, who are navigating financial independence for the first time. This group may struggle with budgeting, managing student loans, or understanding credit and savings.

- **Working Professionals**

Employees across different industries, especially those living paycheque to paycheque or looking for ways to optimize savings and meet financial goals. These users may need tools for budgeting, expense tracking, and goal-oriented financial planning.

- **Families and Parents**

Households managing shared finances, saving for children's education, or planning for major expenses like homeownership. This group requires collaborative financial planning and education on long-term strategies.

- **Low-Income Individuals**

People with limited disposable income who may find traditional financial advising unaffordable. They need accessible, user-friendly tools to manage tight budgets, reduce debt, and build emergency savings.

- **Financial Literacy Learners**

Users of any age who feel overwhelmed by traditional financial education resources and want simplified, engaging, and interactive ways to improve their financial knowledge.

- **Immigrants and Newcomers**

Individuals new to Canada who need to understand the financial system, manage expenses, and learn local financial practices (e.g., credit scores, and investment opportunities)

User Personas

Persona 1: International University Student

Category: Young Adults and Students

- Name: Travis Bickle
- Age: 21
- Occupation: University student
- Financial Challenge: Struggles with budgeting, managing student loans, and saving money while studying.
- Struggles: Doesn't know how to track spending, often runs out of money before the end of the month.
- How the App Helps:
    1. Provides easy budgeting tools for students.
    2. Helps track monthly expenses like tuition, food, and rent.
    3. Offers educational tips on managing student loans and credit.

Persona 2: Single Mom Raising 2 Kids

Category: Low-Income Individuals / Financial Literacy Learners

- Name: Patricia Holmes
- Age: 32
- Occupation: Currently Unemployed collecting welfare
- Financial Challenge: Wants to save for a home while balancing debt and daily expenses.
- Struggles: Lives paycheck to paycheck, has trouble organizing finances, unsure how to invest savings.
- How the App Helps:
    1. Goal tracking feature helps her save for a house.
    2. Spending insights show where she can cut unnecessary expenses.
    3. Educational resources on investing and managing debt.

Persona 3: Retiring Old Man

Category: Low-Income Individuals / Financial Literacy Learners

- Name: Arthur Hunchback
- Age: 67
- Occupation: Retired Teacher / unemployed
- Financial Challenge: Wants to manage retirement savings wisely and avoid overspending.
- Struggles: Concerned about outliving savings, needs help managing fixed income and medical costs.
- How the App Helps:
    1. Expense tracking ensures spending stays within budget.
    2. Investment and savings insights help with long-term financial planning.
    3. Emergency fund planning ensures financial security.

Persona 4: Fresh Graduate Tech Worker

Category: Working Professionals

- Name: Neo Anderson
- Age: 24
- Occupation: Cybersecurity Analyst
- Financial Challenge: Wants to optimize savings while managing high living costs.
- Struggles: Lives paycheck to paycheck due to rent, student loans, and lifestyle expenses.
- How the App Helps:
  1. Provides a customizable budget to track spending.
  2. Offers automated savings suggestions based on spending habits.
  3. Helps him set and achieve financial goals like buying a home or investing.

Persona 5: Married Couple Managing Finances

Category: Families and Parents

- Name: Andy Dufresne
- Age: 31
- Occupation: Bank Teller
- Financial Challenge: Balancing shared finances with spouse while saving for a family home.
- Struggles: Struggles to track expenses and plan for big purchases.
- How the App Helps:
  1. Provides information on mortgage rates
  2. Helps them track savings progress toward a house.
  3. Provides financial planning tools for long-term security.

Persona 6: Newcomer to Canada

Category: Immigrants and Newcomers

- Name: Tyler Durden
- Age: 32
- Occupation: Temporary Foreign Worker (welder)
- Financial Challenge: Learning the Canadian financial system while managing expenses with a tight budget
- Struggles: Confused about credit scores, taxes, and investment options.
- How the App Helps:
    1. Provides step-by-step financial guidance for immigrants.
    2. Helps him track spending and build credit.
    3. Offers insights on taxes, banking, and local investment opportunities.

Chosen APIs and Features

API 1: Plaid

- Description: Provides access to financial data such as transactions, account balances, and spending categories. This API ensures integration with user bank accounts for real-time data.
- Features:
    1. Track Earnings and Expenses: Monitor income and spending to give users a clear picture of their financial status.
    2. Purchase Goals: Allow users to set goals for desired items, track progress toward those goals, and visualize how much remains.
    3. Spending Insights: Break down user expenditures into categories like groceries, takeout, and entertainment for better budgeting.

API 2: OpenAI GPT

- Description: Facilitates conversational interactions, delivers personalized financial guidance, and generates visuals like charts and illustrations.
- Features:

1. Personalized Financial Advice: Provide customized budgeting and savings strategies based on user input.
2. Interactive Dictionary: Offer relevant online sources.
3. Dynamic Chart Generation: Create visual representations of user spending, goals, and financial trends.

API 3: WordsAPI

- Description: Enhances user engagement by providing language-related capabilities to improve financial literacy.
- Features:
    1. Financial Dictionary: Enable users to look up unfamiliar financial terms for clear definitions.
    2. Educational Mini-Games: Implement games, such as crosswords and trivia, to help users learn financial concepts interactively.
    3. Daily Fun Facts: Deliver daily facts on financial etymology (e.g., the origin of terms like "mortgage"), making learning enjoyable.

API 4: Algoan Credit Scoring API

- Description: Provides real-time credit scoring and financial insights to help users make informed decisions. It also delivers credit evaluations, tracks financial behavior, and offers personalized loan recommendations.
- Features:
    1. Real-Time Credit Score Updates: Refresh and monitor credit scores based on financial activity.
    2. Credit Card Bill Reminders: Notify users of upcoming due dates to prevent missed payments
    3. Loan Advice: Predict the likelihood of loan approval based on credit score, and offer advice based on that.

User Stories for features

Plaid:

Feature	User Story
Track Earnings and Expenses	As a user, I want to track my earnings and expenses, so that I can ensure that I'm moving closer to my financial goals.
Purchase Goals	As a user, I want to track progress for my purchase goals (iPad, new car, etc.), so that I can stay motivated to save up for certain luxuries.
Spending Insights	As a user, I want to see my spending insights, so that I can have a clearer idea of what's preventing me from reaching my financial goals and where there is room for improvement.

Open AI API:

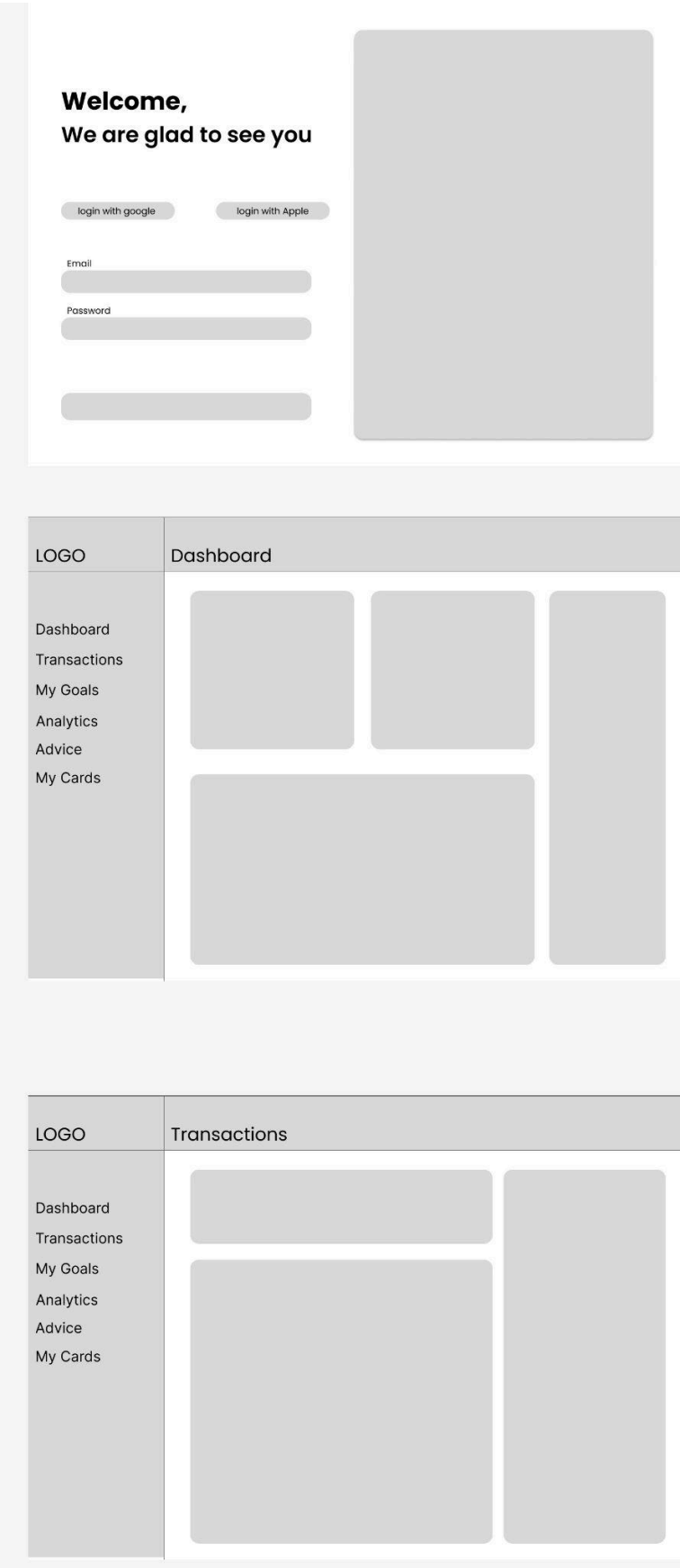| Feature	User Story
Personalized Financial Advice	As a user, I want personalized financial advice, so that I can have a new perspective on how to improve my financial spending.
Interactive Library	As a user, I want an interactive library, so that I can access further resources without having to spend hours finding reliable ones.
Dynamic Chart Generation	As a user, I want to see visuals regarding my financial goals and financial trends, so that I can better process large amounts of data.

WORDS API:

Feature	User Story
Financial Dictionary	As a user, I want a financial dictionary, so that I can quickly look up newly mentioned financial terms.
Educational Mini-Games	As a user, I want educational minigames, so that I can improve my financial literacy in a fun way that will also help me be more consistent with my financial education.
Daily Fun Facts	As a user, I want to see daily fun facts, so that I can learn about financial areas/terms that I didn't think about exploring.

Algoan Credit Scoring API:

Feature	User Story
Update Credit Score in real time	As a user, I want a display of my credit score, so that I can easily quantify and track improvements to my financial responsibility.
Credit Card Bill Reminder	As a user, I want to be notified when my credit card bill is due, so that I can make my payment on time and improve my credit score.
Loan Advice	As a user, I want loan advice, so that before making big purchases; I can see the probability of being approved for certain loans.

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Low Fidelity Storyboard

Welcome,
We are glad to see you

login with google   login with Apple

Email

Password

LOGO   Dashboard

Dashboard
Transactions
My Goals
Analytics
Advice
My Cards

LOGO   Transactions

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Technology Stack

For this project we will be using React.js.

The three main reasons for choosing React.js is:

- It provides easy access to use APIs.
- There is a large React community paired with an abundance of documentation online.
- Some group members have had a fantastic experience using React.js in the past.

References

[1]   L. F. Klapper, A. Lusardi, and P. van Oudheusden, *Financial Literacy Around the World: Insights from the Standard & Poor's Ratings Services Global Financial Literacy Survey*. 2015.

[2]   Statistics Canada, *One in four Canadians are unable to cover an unexpected expense of $500*. The Daily. Feb. 13, 2023. [Online]. Available: https://www150.statcan.gc.ca/n1/daily-quotidien/230213/dq230213b-eng.html

[3]   Canadian Payroll Association. *2017 Survey of Employed Canadians*. Sep. 6, 2017.