EtherX’24

Problem Statements   
Speed Run Hackathon

RULES AND REGULATIONS  
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* This hackathon begins exactly at 9:00 AM and will end at 1:00 PM sharp.
* You are required to pick any **one** of the given problem statements and give us your proposed solution for the problem statement.
* The solution you develop, should most preferably be implemented as a web application.
* A simple video demo of your working application is required for easier evaluation.
* The codebase should be zipped and submitted it in the forms.
* **ONLY** the same team and members (from case study) must participate and submit your solutions for this hackathon. **TEAMS CAN NOT BE CHANGED.**
* Usage of all tools (ChatGPT, Google) is allowed.
* Only one submission per team is allowed.

**SOLUTIONS MUST BE SUBMITTED AT**<https://forms.gle/wJsYTWAHco8QZ3wm6>

**PROBLEM STATEMENT 1**Design a Smart Financial Assistant for Budget Planning and Savings Recommendations**.**

Participants must build a smart assistant that helps users plan their monthly budget based on their income, track expenses, and give real-time savings recommendations. The assistant should adjust the budget based on spending patterns, offering financial tips for improving savings.  
  
Key Features:

1. Budget Input: Users provide their monthly income and categorize expected expenses (e.g., rent, groceries, transportation).

2. Real-time Expense Tracking: The assistant updates the budget as the user logs expenses and shows how much remains in each category.

3. Savings Tips: The assistant should analyze the spending patterns and provide practical tips (e.g., "You’ve overspent on entertainment. Reduce spending by 15% to stay on track for savings goals.").

4. Bonus (Innovation): Implement a chatbot interface that can answer basic finance-related questions (e.g., "How much can I save this month?").

**PROBLEM STATEMENT 2**

Create a Financial Literacy Quiz with Personalized Feedback

Participants will build an interactive quiz that assesses a user’s financial literacy. After completing the quiz, the system should provide personalized feedback based on the user’s answers, suggesting areas for improvement (e.g., better credit card management, saving strategies).

Key Features:

1. Quiz Creation: 10–15 questions on personal finance topics like budgeting, debt management, and saving.

2. Personalized Feedback: Based on quiz responses, give tailored advice or learning resources.

3. Bonus (Innovation): Add gamification elements, like score tracking and milestones for improving financial knowledge over time.

**PROBLEM STATEMENT 3**

Build a Peer-to-Peer Loan Tracker with Interest Calculations.

Develop a tool that helps users track informal loans given to or taken from friends or family. The tool should track repayment progress and calculate the interest, if applicable, based on user-defined terms.

Key Features:

1. Loan Logging: Allow users to log loans, specifying the amount, repayment period, and interest rate.

2. Repayment Tracker: Track payments and remaining balance.

3. Interest Calculation: Automatically calculate interest on loans and update the total owed.

Bonus (Innovation):

Allow multiple repayment methods (e.g., fixed or flexible payments) and offer projections on when the loan will be fully repaid based on current trends.

**PROBLEM STATEMENT 4**

Build a Simplified Tax Calculator for Estimating Annual Tax Liability and Enhancing Tax Knowledge

Develop a user-friendly tax calculator that allows individuals to quickly and easily estimate their annual tax liability while providing educational insights into how taxes work. The system should enable users to input basic financial details such as income, deductions, and credits, and guide them through understanding how taxes are calculated. The goal is to make tax planning accessible to individuals with minimal financial knowledge, helping them better understand tax obligations and savings opportunities through deductions and credits.

Key Features:

**Income Input:**

Allow users to input their annual income from various sources (e.g., salary, investments, etc.).

**Deductions and Credits:**

Enable users to input eligible tax deductions (e.g., medical expenses, charitable donations) and tax credits (e.g., education credits, energy-efficient home credits).

**Tax Calculation:**

Calculate the estimated tax liability based on the user's financial details and provide an easy-to-understand breakdown of how taxes are computed, including which portions are taxed at different rates.

**Educational Insights:**

Offer users educational explanations about each step in the tax calculation process, helping them learn about tax brackets, how deductions lower taxable income, and the impact of tax credits.

**Potential Savings Suggestions:**

Provide personalized suggestions for maximizing deductions and credits to help users reduce their overall tax liability, along with explanations of why these suggestions matter.

**PROBLEM STATEMENT 5**

Develop a Carbon Footprint Tracker for Purchases

Participants must create an application that estimates the carbon footprint of users’ purchases based on the type of item or service purchased (e.g., groceries, electronics, transport).

Key Features:

1. Expense Input: Users input their daily purchases (e.g., fuel, groceries, flights).

2. Carbon Footprint Calculation: Based on the category, the app should calculate the estimated carbon footprint using pre-defined values.

3. Savings Tips: Suggest alternatives to lower carbon-heavy spending (e.g., “Take public transport to reduce your carbon footprint by X kg of CO2”).

Bonus (Innovation):

Integrate a reward system that encourages users to make eco-friendly financial choices (e.g., receive points for lower carbon footprint choices).