Design Thinking Project Workbook

Team

Team Name:

SMART SAVERS

Team Logo:

Team Members:

GULLAPALLI SHEETAL - 2320030092

PALADI RAGA AMRUTHA RATNA - 2320030355

2. Problem/Opportunity Domain

Domain of Interest:

Personal finance and budgeting machine learning model that can help users manage their income, expenses, and savings.

Description of the Domain:

Description of the Domain: The personal finance budgeting domain focuses on assisting individuals in effectively managing their financial resources to achieve their financial goals. Key elements include:

Budget Creation: Developing a personalized budget that allocates income to various expenses and savings.
Expense Tracking: Monitoring spending habits to identify areas where adjustments can be made.
Goal Setting: Establishing short-term and long-term financial goals, such as saving for emergencies or major purchases.
Budget Creation: Developing a personalized budget that allocates income to various expenses and savings.
Expense Tracking: Monitoring spending habits to identify areas where adjustments can be made.
Goal Setting: Establishing short-term and long-term financial goals, such as saving for emergencies or major purchases.
Challenges:

Financial Literacy: Many people lack the knowledge needed to create and stick to a budget, leading to overspending and debt accumulation.
Behavioral Barriers: Emotional spending and procrastination can hinder effective budgeting practices.
Complexity of Existing Tools: Current budgeting tools may be too complicated or not tailored to individual user needs, leading to frustration and disengagement.
Opportunities:
User-Friendly Solutions: There is an opportunity to develop intuitive budgeting tools that simplify the budgeting process and enhance user engagement.
Personalization: Offering customized budgeting strategies and reminders can help users stay on track with their financial goals.

Why did you choose this domain?:

We chose the personal finance budgeting domain for several reasons:

Passion for Financial Empowerment: I am passionate about helping individuals take control of their financial situations. Effective budgeting can lead to reduced financial stress and improved overall well-being.
Market Demand: The increasing focus on financial wellness and literacy presents a significant market opportunity for innovative budgeting solutions.
Impact on Lives: By creating a budgeting tool, I can directly help people improve their financial habits, achieve their savings goals, and ultimately build a more secure financial future.
This domain resonates with my commitment to making a positive impact in people's lives by equipping them with the tools and knowledge needed to manage their finances effectively.

3. Problem/Opportunity Statement

Problem Statement:

The growing complexity of personal finance management leads to significant challenges for individuals striving to balance their income, expenses, and savings. Many people struggle with overspending, lack of savings, and insufficient understanding of their financial health, which can lead to long-term financial instability.

Problem Description:

The inability to effectively manage finances results in individuals not having a clear overview of their financial situation, leading to poor budgeting practices. Many people do not have tools that provide personalized insights into their spending habits, making it difficult to identify areas for improvement.

Context:

This problem arises during monthly budgeting periods, at the end of the month when expenses need to be reconciled, and when planning for future financial goals. It is particularly acute during times of financial uncertainty, such as job loss, unexpected medical expenses, or economic downturns.

Alternatives:

Currently, customers may rely on traditional methods such as spreadsheets, manual tracking of expenses, and generic budgeting apps that do not provide personalized advice. Some may also seek financial advice from friends or family, which can be inconsistent and not tailored to their individual circumstances.

Customers:

The primary group affected by this problem includes young professionals, families managing household budgets, and individuals seeking to improve their financial literacy. Additionally, people living paycheck-to-paycheck or those with inconsistent income streams are often more impacted.

Emotional Impact:

Customers frequently experience anxiety, frustration, and helplessness when trying to manage their finances. The stress of financial uncertainty can lead to feelings of inadequacy and overwhelm, especially when they struggle to save or manage debt effectively.

Quantifiable Impact:

The measurable effects of poor financial management can include an increase in debt levels, failure to meet savings goals, and financial stress leading to reduced quality of life. For example, studies show that individuals who struggle with budgeting may overspend by an average of 20% per month, leading to financial losses of thousands of rupees annually.

Alternative Shortcomings:

The measurable effects of poor financial management can include an increase in debt levels, failure to meet savings goals, and financial stress leading to reduced quality of life. For example, studies show that individuals who struggle with budgeting may overspend by an average of 20% per month, leading to financial losses of thousands of rupees annually.

Any Video to showcase the problem:

https://www.youtube.com/watch?v=8LsD73abBYo&pp=ygUmcHJvYmxlbXMgaW4gcGVyc29uYWwgZmluYW5jZSBidWRnZXRpbmc%3D

4. Addressing SDGs

Relevant Sustainable Development Goals (SDGs):

SDG 1: No Poverty

End poverty in all its forms everywhere.

SDG 8: Decent Work and Economic Growth

Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.

SDG 12: Responsible Consumption and Production

Ensure sustainable consumption and production patterns.

How does your problem/opportunity address these SDGs?:

SDG 1: No Poverty

By providing personalized financial insights and budgeting tools, the project can empower individuals to make informed financial decisions. This can lead to increased savings, better management of debt, and ultimately, a reduction in financial hardship. By helping users manage their finances more effectively, the tool can contribute to lifting people out of poverty.

SDG 8: Decent Work and Economic Growth

The financial literacy promoted by the budgeting tool can lead to better financial stability, enabling individuals to invest in their skills or entrepreneurial ventures. Improved financial management can lead to higher productivity and economic growth as individuals can focus on achieving their career goals without the stress of financial insecurity.

SDG 12: Responsible Consumption and Production

The budgeting tool encourages users to track their spending habits, promoting responsible consumption. By analyzing spending patterns, the model can suggest areas for reduction or optimization, fostering a culture of sustainability and awareness about financial resources. This can lead to more mindful consumption habits among users.

5. Stakeholders

1. Who are the key stakeholders involved in or affected by this project?

The key stakeholders are a faculty member from your college and a financial advisor who provides expertise in personal finance.

2. What roles do the stakeholders play in the success of the innovation?

The faculty member provides academic guidance, ensuring that the project aligns with educational objectives and incorporates sound financial principles. The financial advisor offers expertise and insight into practical financial management, helping to ensure the tool provides accurate and useful financial advice.

3. What are the main interests and concerns of each stakeholder?

Faculty Member: Interested in the educational impact of the tool, its alignment with curriculum goals, and its effectiveness in teaching students about personal finance. Concerns may include the accuracy of the financial advice and whether the tool meets educational standards.

Financial Advisor: Interested in ensuring the tool provides reliable financial guidance and adheres to best practices in personal finance. Concerns may involve the tool's applicability to diverse financial situations and the potential risks of users mismanaging their finances based on the tool's recommendations.

4. How much influence does each stakeholder have on the outcome of the project?

The faculty member has a moderate influence, particularly in shaping the educational content and ensuring the tool meets academic standards. The financial advisor has high influence due to their role in providing critical financial insights that impact the tool's effectiveness.

5. What is the level of engagement or support expected from each stakeholder?

The faculty member is expected to engage by providing feedback on the tool's educational value and suggesting improvements. The financial advisor is expected to actively participate by offering expertise, reviewing financial content, and ensuring the tool's recommendations are sound.

6. Are there any conflicts of interest between stakeholders? If so, how can they be addressed?

Conflicts may arise if the faculty member wants to include detailed educational features that may extend the project timeline, while the financial advisor may prefer a more straightforward approach that focuses on practicality. To address this, open communication about project priorities and timelines can help balance educational depth with practical application.

7. How will you communicate and collaborate with stakeholders throughout the project?

Regular meetings will be scheduled to update both stakeholders on progress, gather feedback, and address any concerns. Collaboration tools (e.g., emails, project management software) will facilitate ongoing communication and ensure everyone is aligned.

8. **What potential risks do stakeholders bring to the project, and how can these be mitigated?**

The faculty member may raise concerns about the educational efficacy of the tool, which can be mitigated by involving them in the development process to ensure alignment with academic standards. The financial advisor may highlight risks associated with financial recommendations; these can be addressed by ensuring that the tool is based on sound financial principles and includes disclaimers about the nature of financial advice.

6. Power Interest Matrix of Stakeholders

Power Interest Matrix:

	High Interest	Low Interest
High Power	Manage Closely	Keep Satisfied
	- Financial Advisor	- College Administration
	- Faculty Member	- Stakeholder Organizations
Low Power	Keep Informed	Monitor
	- End Users (Students)	- Researchers/Academia
	- Project Team	- Community Organizations

- High Power, High Interest (Manage Closely):

  Financial Advisor, Faculty Member

- High Power, Low Interest (Keep Satisfied):

  College Administration, Stakeholder Organizations

- Low Power, High Interest (Keep Informed):

  End Users (Students) , Project Team

- Low Power, Low Interest (Monitor):

  Researchers/Academia, Community Organizations

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7. Empathetic Interviews

Conduct Skilled interview with at least 30 citizens/Users by asking open ended questions (What, why/How etc) and list the insights

I need to know (thoughts, feelings, actions)	Questions I will ask (open questions)	Insights I hope to gain
Thoughts	What do you think is the hardest part of managing money?	Identify the biggest financial challenges users face (e.g., saving, impulse spending, tracking expenses).
	How do you currently track your expenses?	Understand what tools or methods users currently rely on (manual vs. automated tracking).
	Why do you think budgeting apps are useful (or not useful)?	Determine users' attitudes toward budgeting apps (usability, trust, convenience).
Feelings	How do you feel when your expenses exceed your budget?	Gauge the emotional impact of overspending (e.g., stress, frustration, guilt).
	Can you describe a situation where you saved successfully?	Discover what makes savings feel rewarding for users and what motivates them.
	How do financial tools/apps make you feel (empowered, confused, frustrated)?	Identify emotional responses to financial tools and determine pain points in existing apps.
Actions	How often do you review your expenses?	Learn about users' financial habits (e.g., regular vs. ad-hoc reviews).
	How do you decide between needs and wants when budgeting?	Understand planning strategies for major purchases and how users prioritize their savings.
	How do you decide between needs and wants when budgeting?	Identify the thought process for balancing discretionary and essential spending.

SKILLED INTERVIEW REPORT

User/Interviewee	Questions Asked	Insights gained
Abhishek Verma, Student	How do you currently manage your student budget?	Students struggle with balancing personal expenses and education costs.
Srinivasan P., Parent	How do you plan for your child's education expenses?	Parents focus more on future education savings but overlook short-term expenses.
Richa Gupta, IT Professional	How do you track your monthly savings and investments?	Many professionals use spreadsheets or manual tracking rather than apps.
Dinesh Rao, Freelancer	What challenges do you face when managing irregular income?	Freelancers find it hard to predict and budget with fluctuating earnings.
Anita Sharma, Homemaker	How do you feel when unexpected expenses arise?	Unexpected costs often create anxiety and derail planned savings goals.

Key Insights Gained:

People use different tools (manual methods, spreadsheets) instead of automated apps, indicating a potential need for simpler tools that integrate with their habits.

Users experience stress and frustration when expenses exceed budgets or when savings goals are not met.

8. Empathy Map

Empathy Map Canvas

Designed By: TEAM

Date of Submission: 18-10-24

Who is your Customer Segment: Young professionals, freelancers, students, and anyone managing personal

Idea/Innovation Title:
AI-Powered Personal Finance and Budgeting Tool

OFT ED

1 WHO are we empathising with?
Who is the person we want to understand?
What is the situation they are in?
What is their role in the situation?

Your Answer: People trying to manage income, expenses, and savings.
Users with irregular income (e.g., freelancers) or limited financial knowledge.
Their role: Individuals looking for better financial control and decision-making tools.

2 What do they need to DO
What do they need to do differently?
What job(s) do they want or need to get done?
What decision(s) do they need to make?
How will we know they were successful?

Your Answer: Track and categorize expenses easily.

7 What do they THINK and FEEL

PAINS
What are their fears, frustrations, and anxieties?

GAINS
What are their wants, needs, hopes and dreams?

Your Answer: Anxiety about managing money and achieving savings goals.
☐ Frustration with existing

Your Answer: Peace of mind from being financially organized. Confidence from achieving

Your Answer:Fear of unexpected expenses

What other thoughts and feelings might motivate their behaviour?

3 What do they SEE
What do they see in the marketplace?
What do they see in their immediate environment?
What do they see others saying and doing?
What are they watching and reading?

Your Answer: Increasing options for personal finance tools and apps in the market.

6 What do they HEAR?
What are they hearing others say?
What are they hearing from friends?
What are they hearing from colleagues?
What are they hearing second hand?

Your Answer: Friends discussing ways to save and budget effectively.
Social media influencers promoting financial discipline and tools.
News about economic uncertainty, rising costs, and inflation.

4 What do they SAY
What have we heard them say?
What can we imagine them saying?

Your Answer: "I want to save more but don't know where to start."
"I can't track where all my money goes every month."
"I need help managing my finances but don't have time for it."

5 What do they DO
What do they do today?
What behaviour have we observed?
What can we imagine them doing?

- Your Answer: Use spreadsheets or finance apps to manually track expenses.
- Check bank balances frequently to stay within budget.
- Try to save, but often without a structured plan.

a. Who is your Customer?

Description:

The primary customers are young professionals, freelancers, and students who actively manage their income and expenses.

Key points:

Age group: 18–35 years

Profession: Students, freelancers, working professionals (IT, creative, gig economy)

Goals: Track income/expenses, save effectively, plan for purchases or debts

Context of use: Users engage with the app during salary days, after purchases, or for goal-setting sessions.

b. Who are we empathizing with?

Description:

We are empathizing with users who face budgeting challenges due to busy schedules, irregular incomes, or lack of financial awareness.

Key points:

Characteristics: Organized but time-constrained, curious about financial planning

Values: Security, simplicity, control over money

Challenges: Difficulty tracking spending habits, managing unpredictable income

Situation: Balancing multiple responsibilities—work, education, lifestyle management

c. What do they need to DO?

Description:

Users need to track income and expenses easily and plan for savings goals. They need reminders and alerts to stay on track.

Key points:

- Tasks: Track daily expenses, plan for large purchases, manage savings goals
- Decisions: How much to spend on leisure vs. necessities? How much to save each month?
- Definition of Success: Meeting monthly savings goals, sticking to a budget, reducing unnecessary expenses

d. What do they SEE?

Description:

Users see many apps and financial tools in the market, but often feel these tools are too complex or time-consuming to use regularly

Key points:

Physical environment: Receipts, bills, bank notifications

Digital environment: Social media ads for financial apps, peer advice, investment blogs

Influence: Complex tools discourage usage; simple and intuitive solutions attract users

e. What do they SAY?

Description:

Users might express frustration about losing track of spending or missing savings targets. They might also share positive feedback when they achieve financial milestones.

Key points:

"It's hard to track everything I spend on."

"I've tried budgeting apps, but they feel overwhelming."

"I need a tool that fits my lifestyle and doesn't require too much effort."

f. What do they DO?

Description:

Users often try to track expenses manually but fail to follow up consistently. Some may use spreadsheet templates or banking apps for partial tracking.

Key points:

- Actions: Review account balances after large expenses, check app notifications for financial updates
- Habits: Spend first, track later; inconsistent review of budgets
- Solutions they try: Use notes or spreadsheets to record daily spending, set reminders for bills

g. What do they HEAR?

Description:

Users hear advice from peers, parents, and social media influencers promoting savings plans and financial discipline.

Key points:

From Peers: "You should try investing in mutual funds."

From Industry: Ads promoting budgeting apps or financial tools

Media Exposure: Finance blogs, Instagram financial influencers, YouTube savings challenges

h. What do they THINK and FEEL?

Description:

Users feel anxious about their future if they don't manage money properly. At the same time, they desire financial freedom and control over their expenses.

Key points:

Fears: Running out of savings, missing financial goals

Motivations: Building an emergency fund, saving for travel, clearing debts

Alignment with actions: Users aim for financial discipline but struggle with consistency

i. Pains and Gains

Description:

This section identifies the frustrations users experience and the benefits they seek from the solution.

Key points:

- Pains:
    - Losing track of small but frequent expenses
    - Lack of visibility on monthly savings progress
    - Apps that are too complex or time-consuming to use
- Gains:
    - A simple and intuitive budgeting tool that integrates with their spending habits
    - Visual insights on spending patterns and savings goals
    - Automated reminders and alerts to stay on track with goals

9. Persona of Stakeholders

Stakeholder Name:

Amit Sharma

Demographics:

- Age: 25-40 years
- Gender: All
- Income: ₹5-15 lakhs annually (middle to upper-middle class)
- Location: Metropolitan and urban areas in India
- Occupation: Young professionals, entrepreneurs, and freelancers

Goals:

- Achieve financial discipline and control over spending
- Automate budgeting and savings processes to meet financial goals (e.g., travel, education, home ownership)
- Track monthly income, expenses, and investment returns efficiently
- Gain insights into spending patterns to make informed decisions
- Build an emergency fund and long-term savings plan

Challenges:

Difficulty in manually tracking and categorizing daily expenses

Lack of knowledge about investment opportunities

Overwhelmed by managing multiple income sources and loan repayments

Struggle to maintain consistency in savings and budgeting

Impulse spending and failure to stay within budget limits

Aspiration:

Financial independence and early retirement

Build a sustainable emergency fund and diversify investments

Achieve specific savings milestones (e.g., down payment for a house, higher education for children)

Develop habits of mindful spending and disciplined saving

Needs:

- User-friendly interface: Easy tracking of income, expenses, and savings with minimal effort
- Real-time alerts: Notifications to warn about overspending and missing savings targets
- Customized recommendations: Personalized budgeting plans based on user behavior
- Forecasting models: Predict future cash flows and suggest optimal savings strategies
- Integration: Ability to sync with bank accounts, credit cards, and investment platforms

Pain Points:

Inability to accurately categorize expenses and identify areas to cut costs

Missed bill payments or loan EMIs leading to penalties

Stress from living paycheck to paycheck despite earning a decent salary

No clear view of how much to save monthly for long-term goals

Lack of motivation or tools to maintain financial discipline

Storytelling:

Amit Sharma's Financial Journey:
Amit is a 30-year-old software engineer living in Bangalore. Despite earning a comfortable salary, he often finds himself running out of money by the end of the month. Amit is frustrated by how difficult it is to keep track of his expenses—his morning coffees, weekend dinners, and subscription services add up faster than he expects. He wants to save for a vacation abroad and eventually buy a house but has no clear savings plan.

After using the personal finance and budgeting ML model, Amit gains insights into his spending habits. The app automatically categorizes his transactions, provides alerts when he is overspending, and suggests a weekly budget that helps him cut unnecessary expenses. It even forecasts his future savings based on his current habits and recommends how much he should allocate monthly to reach his vacation and house down payment goals. With consistent savings and real-time tracking, Amit feels more in control of his finances and motivated to achieve his long-term dreams.

Sample:

Background

Amit Sharma is a 30-year-old software engineer from Bangalore. He earns a decent salary working at a reputed firm, but despite his good income, he struggles to manage his personal finances effectively. His daily lifestyle involves multiple expenses, such as morning coffees, weekend outings, and subscription services, which add up quickly.

Doubts/Fears

- Will he be able to save enough for his long-term goals (like a vacation or house down payment)?
- Can he control his impulse spending?
- Will he miss important bill payments or savings targets due to poor planning?

Challenges Faced

- Difficulty in tracking multiple expenses accurately.
- Struggles with maintaining a consistent savings habit.
- Fails to create or stick to a monthly budget plan.
- Overwhelmed by multiple payment deadlines (credit cards, EMIs, bills).

Aspirations

- Achieve financial independence and have a secure emergency fund.
- Save enough for a dream vacation abroad.
- Buy a house in the next few years.
- Develop financial habits that enable early retirement.

Motivation

- Amit wants to feel in control of his finances and build long-term security.
- He aims to eliminate financial stress by improving his budgeting skills.
- He desires a structured approach to meet savings goals and manage debt efficiently.

Storytelling

Amit Sharma works hard to advance in his career, but every month, he finds himself running out of money sooner than expected. Tracking his daily expenses feels like a burden, and he often forgets payment deadlines, which leaves him frustrated. Despite his best efforts, he struggles to stick to a budget and save consistently for future goals like a vacation or a house. Then, Amit discovers a personal finance and budgeting ML model that completely changes his outlook on money management. The app automatically categorizes his transactions, sends alerts when he overspends, and forecasts savings based on his spending habits. Amit is delighted to see a clear weekly budget that allows him to cut unnecessary expenses without feeling deprived. Slowly, Amit builds his emergency fund, and his vacation fund grows steadily. For the first time in years, Amit feels empowered, knowing he is on track to achieve his financial dreams.

10. Look for Common Themes, Behaviors, Needs, and Pain Points among the Users

Common Themes:

Financial Uncertainty:

Users want better control over their income, savings, and expenses.

Impulse Spending:

Many users struggle with overspending on non-essential items, leading to financial stress.

Inconsistent Budgeting:

Users attempt to manage their money but often fail to follow through with budgets.

Savings Goals and Future Planning:

Users want to save for significant goals, like vacations, home ownership, and emergency funds.

Common Behaviors:

Procrastinating on Financial Planning:

Users avoid creating budgets until they face financial stress or emergencies.

Short-Term Spending Habits:

Users prioritize immediate gratification (e.g., dining out or subscriptions) over long-term savings.

Multiple Expense Streams:

Users have income from salaries but struggle to track recurring expenses and debts (e.g., loans, credit card payments).

Reactive Decision-Making:

Users adjust spending only when overspending alerts or payment deadlines loom close.

Common Needs:

Automated Expense Tracking:

Users need real-time monitoring and automatic categorization of expenses to reduce manual effort.

Savings Forecasting Tools:

Users want clear guidance on how much to save to meet financial goals.

Personalized Budgeting Plans:

Users require customized recommendations based on their income and spending habits.

Reminders and Alerts:

Notifications about upcoming bills, savings shortfalls, or spending thresholds are essential to staying on track.

Common Pain Points:

1. **Unorganized Expense Records:**

   Users find it frustrating to manually track and categorize expenses.

2. **Missed Payment Deadlines:**

   Forgetting due dates results in penalties, further straining finances.

3. **Difficulty Sticking to Budgets:**

   Users often set budgets but feel demotivated or overwhelmed by the discipline needed to follow them.

4. **Lack of Motivation for Long-Term Savings:**

   Many users know they should save but struggle to maintain the consistency needed for large goals like home ownership or vacations.

11. Define Needs and Insights of Your Users

User Needs:

Functional Needs

- **Automated Tracking:**

  Users need automatic expense categorization and tracking to reduce the hassle of manual logging.

- **Custom Budgeting Plans:**

  They require personalized budgets aligned with their income and spending patterns.

- **Forecasting and Goal Planning:**

  Users want clear financial forecasts to understand how much they need to save for specific goals (vacations, home purchases, emergency funds).

- **Reminders and Alerts:**

  Notifications for bill payments, spending limits, and savings shortfalls to prevent financial slip-ups.

Emotional Needs

- **Peace of Mind:**

  Users desire a sense of security in knowing their finances are under control.

- **Motivation and Encouragement:**

  They need small wins, like progress indicators or reward messages, to stay motivated with long-term savings.

- **Trust:**

  Users seek confidence that their financial data is secure and the recommendations are reliable.

Societal Needs

- **Financial Empowerment:**

  Users want tools that help them develop good financial habits and achieve independence.

- **Social Comparison and Learning:**

  Many users feel motivated by knowing how their financial habits compare with others, such as peers or community benchmarks.

User Insights:

Behavioral Patterns

- Users tend to procrastinate budgeting tasks until they encounter financial stress.
- They often prioritize short-term gratification over long-term savings, leading to inconsistent saving patterns.
- Many users make reactive financial decisions, adjusting spending only when alerted by apps or faced with payment deadlines.

Motivations

- Users are motivated by future goals like vacations, home ownership, or early retirement, but often struggle with immediate discipline.
- There is a desire to feel financially secure and independent, which drives users to explore budgeting tools.

Pain Points

- Lack of visibility into spending patterns leads to unexpected cash shortages.
- Missed deadlines for bill payments result in penalties, which users find frustrating.
- Users feel overwhelmed by the complexity of managing multiple income streams, expenses, and loans, leading to financial stress.

12. POV Statements

POV Statements:

PoV Statements (At least ten)	Role-based or Situation-Based	Benefit, Way to Benefit, Job TBD, Need (more/less)	PoV Questions (At least one per statement)
Amit needs a way to track his daily expenses effortlessly because he struggles with manual tracking and forgets small transactions like morning coffees and subscriptions.	Role-based	Way to benefit: Effortless daily expense tracking	What can we design that automates daily expense tracking for users?
Users need a way to set realistic savings goals because they feel overwhelmed by long-term financial planning without clear progress tracking.	Situation-based	Need: More achievable financial goal-setting	How can we provide goal-setting tools that feel achievable and motivating?
Busy professionals need a way to receive timely reminders for bill payments because they often forget deadlines, resulting in penalties.	Role-based	Job TBD: Prevent missed deadlines and financial penalties	How can we design reminders that ensure users don't miss payment deadlines?
Amit needs a way to curb impulse spending because he overspends on weekend outings without realizing the cumulative impact.	Situation-based	Benefit: Better control over impulse spending	How can we nudge users when they are about to overspend?
Young professionals need a way to forecast savings for future goals because they don't know how much to allocate each month to meet specific targets.	Role-based	Way to benefit: Clear savings forecast	What can we design to help users visualize their progress toward financial goals?

13. Develop POV/How Might We (HMW) Questions to Transform Insights/Needs into Opportunities for Design

User Need: Users struggle to manually track and categorize daily expenses, often forgetting small transactions.

- HMW Question: How might we automate expense tracking to ensure users capture all transactions effortlessly?

Insight: Users feel overwhelmed by long-term financial planning without clear progress tracking.

- HMW Question: How might we break long-term savings goals into smaller milestones that keep users motivated?

User Need: Users need reminders for timely bill payments to avoid late fees and penalties.

- HMW Question: How might we create smart reminders that integrate with users' schedules and ensure timely payments?

Insight: Users often overspend on non-essential items without realizing the cumulative impact on their budget.

- HMW Question: How might we provide real-time nudges that help users control impulse spending?

User Need: Users with fluctuating incomes struggle to manage fixed budget plans.

- HMW Question: How might we design a dynamic budgeting system that adapts to changes in income and spending patterns?

Task:

User Need/Insight	"How Might We" Question
User Need: Users need an easy way to track expenses because manual tracking is tedious and prone to missing small transactions. • HMW Question: How might we develop automated expense tracking that seamlessly captures small and recurring transactions? User Need: Users forget to pay bills on time, leading to penalties and financial stress. • HMW Question: How might we design personalized reminders that align with users' schedules and habits?	Insight: Users feel stressed managing multiple financial goals without knowing their progress. • HMW Question: How might we create a system that breaks down financial goals into smaller, manageable milestones? Insight: Users overspend on non-essentials without realizing their cumulative impact on savings. • HMW Question: How might we provide timely insights and alerts to guide users in making mindful spending decisions?

14. Crafting a Balanced and Actionable Design Challenge

Design Challenge:

Actionable:

It outlines specific functionalities to implement (tracking, dynamic budgeting, reminders).

Balanced:

It covers both immediate (expense tracking, reminders) and long-term needs (saving goals).

Quantifiable:

Success can be measured through reduced missed payments, reduced impulse spending, and savings progress over time.

15. Validating the Problem Statement with Stakeholders for Alignment

Validation Plan:

Stakeholder/User Feedback:

Stakeholder/User	Role	Feedback on Problem Statement	Suggestions for Improvement
Amit Sharma	Software Engineer	Yes, the problem resonates because he struggles to manage expenses and save efficiently.	Include more personalized recommendations for different savings goals.
Priya Gupta	Financial Consultant	Yes, the problem aligns with common financial planning challenges faced by young professionals.	Consider adding cash flow analysis to improve financial insight.
Shreya Patel	Student	The problem feels relevant since students often overspend without realizing it.	Suggest adding a feature for tracking micro expenses (e.g., coffee or snacks).
Manisha Verma	HR Manager	The problem reflects real issues employees face managing monthly budgets.	Include mental health benefits of financial management to emphasize well-being.

Ravi Shah	**Bank Relationship Manager**	**The problem is well-identified as many clients struggle with goal-based savings.**	**Incorporate advice on investment options to align savings goals with returns.**
Anjali Desai	**Marketing Professional**	**The problem resonates, especially with working professionals who lack time for manual tracking.**	**Provide easy integrations with bank apps for real-time transaction data.**
Rohit Singh	**Freelancer**	**It is relevant as freelancers face income instability and struggle with savings.**	**Add alerts for irregular payments or income gaps to assist in planning ahead.**
Nisha Mehta	**Homemaker**	**Yes, managing household budgets can be difficult without clear tracking.**	**Introduce family-budgeting features to help households collaborate on savings.**
Finance Team	**Corporate Finance Analysts**	**The problem aligns with financial behavior patterns seen in company employees.**	**Include educational content to improve users' financial literacy.**
Arvind Kumar	**Entrepreneur**	**Yes, entrepreneurs with variable incomes find fixed budgets hard to follow.**	**Add forecasting tools to predict income fluctuations and suggest savings plans.**

16. Ideation

Ideation Process:

Idea Number	Proposed Solution	Key Features/Benefits	Challenges/Concerns
Idea 1	Expense Classification	Auto-categorizes spending	Needs large data for accuracy
Idea 2	Income Prediction	Forecasts future earnings	Hard to predict irregular income
Idea 3	Savings Goal Planner	Recommends saving targets	Goals may need frequent updates
Idea 4	Anomaly Detection	Flags potential fraud	Risk of false alerts
Idea 5	Budget Optimizer	Suggests optimal budgets	Users may struggle to follow plans

17. Idea Evaluation

Evaluate the Idea based on 10/100/1000 grams

Idea	Impact (10/100/1000 grams)	Feasibility (10/100/1000 grams)	Alignment (10/100/1000 grams)	Total Weight
Idea 1	1000	100	1000	2100
Idea 2	100	1000	100	1200
Idea 3	1000	100	100	1200
Idea 4	100	100	1000	1200
Idea 5	1000	100	100	1200

Example:

Idea	Impact (10/100/1000 grams)	Feasibility (10/100/1000 grams)	Alignment (10/100/1000 grams)	Total Weight
Idea 1	1000	100	1000	2100
Idea 2	100	1000	100	1200
Idea 3	100	100	100	300

Solution Concept Form

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1. Problem Statement:

Many individuals struggle to manage income, expenses, and savings effectively, leading to poor financial decisions and missed savings goals.

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2. Target Audience:

Young professionals, freelancers with irregular income, students, and individuals seeking better financial management.

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3. Solution Overview:

A personal finance and budgeting tool powered by machine learning that categorizes expenses, forecasts income, suggests savings goals, and detects anomalies to improve financial health.

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4. Key Features:

Feature	Description
Feature 1	**Expense Classification:** Automatically categorizes user transactions to track spending patterns.
Feature 2	**Income Prediction:** Forecasts future income based on past earnings and trends.
Feature 3	**Savings Goal Planner:** Recommends personalized savings goals aligned with user income and spending.

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5. Benefits:

Benefit	Description
Benefit 1	**Informed Decision-Making:** Users gain better insight into their spending habits.
Benefit 2	**Improved Financial Planning:** Forecasting income helps users plan ahead.
Benefit 3	**Security:** Anomaly detection adds an extra layer of protection against fraud.

6. Unique Value Proposition (UVP):

A comprehensive, AI-powered financial assistant that integrates expense management, income forecasting, and savings recommendations, catering to users with irregular or evolving incomes.

7. Key Metrics:

Metric	Measurement
Metric 1	Number of users achieving their savings goals.
Metric 2	Reduction in unnecessary expenses tracked over time.

8. Feasibility Assessment:

The solution is achievable using available machine learning techniques, though data collection for accurate forecasts and classification may require time and resources. Integrating the tool with banking APIs may also present some technical challenges.

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9. Next Steps:

• Develop a prototype for expense classification and savings goal planner.
• Test the income prediction model using a small dataset.
• Gather user feedback to refine features and expand functionalities.