

CreditTrax

*Empowering Young Professionals for
Financial Success*

By Team: Copper
Old Dominion University
CS 410
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Meet the Team



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Financial Stress

A life-altering issue for young professionals

Young professionals often feel trapped by financial uncertainty. With limited experience in an increasingly hostile financial world, many are mentally overwhelmed by student loans, credit card debt, and the constant struggle to meet basic needs—all while trying to build a successful future.

I'm sure at one point we've all felt the **Stress** of:

Unexpected Expenses



Busy Schedules



Bills piling up



Can Relate?

Ever found yourself in a financial situation you couldn't afford? This could be an unexpected medical bill, a costly car repair, or overspending during the holiday season for a gift for a love one. **Just trying to make ends meet!**

Young adults often navigate a challenging financial landscape marked by significant student loan debt, limited entry-level incomes, and high living costs. Some struggle with housing affordability, leading to shared accommodations or living with parents, while credit card debt becomes a tempting yet risky solution for immediate purchases. **We have all been there!**

Interesting Fact: In 2024, student loan debt in the U.S now totals more than \$1.74 trillion, and approximately 60% of college graduates leave school with student loan debt.⁷

A Financial Crisis for Young Professionals

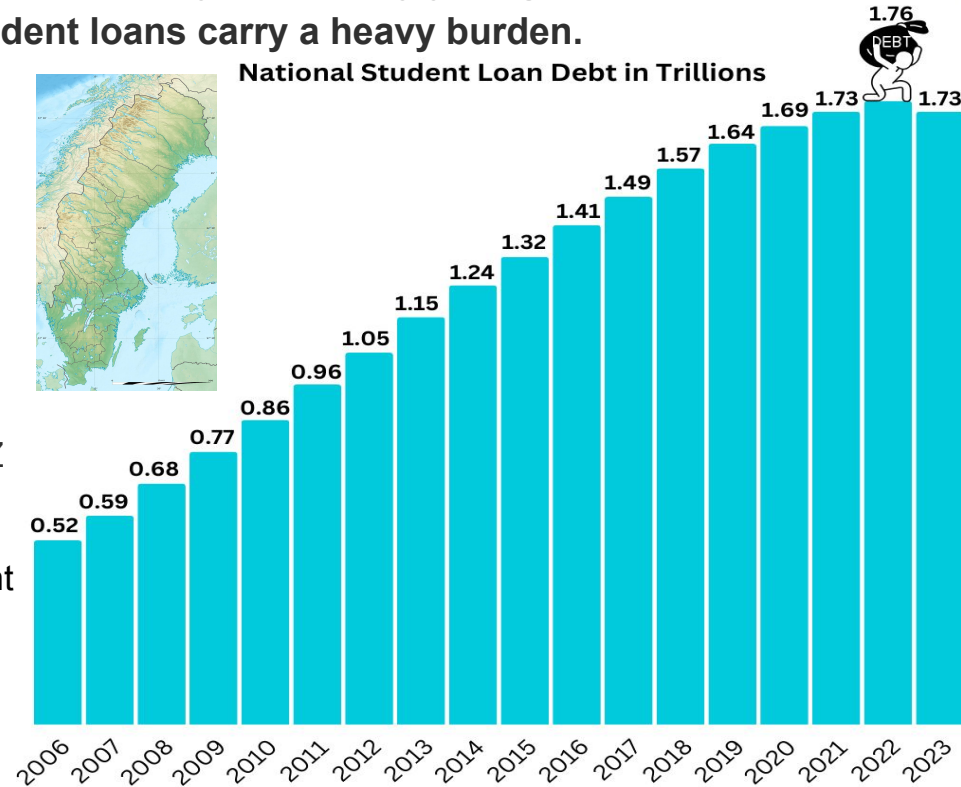
Proper finance management is key to success in life, yet for many young professionals, increasing credit debt and student loans carry a heavy burden.

In The USA

- ❖ U.S Consumers owe over \$1 trillion in credit card debt.²
 - Roughly equivalent to Sweden's national debt.¹
- ❖ Credit card debt raised by 14.3% among Gen-Z (ages 18-29) between 2022-23.²
- ❖ 9 in 10 borrowers report experiencing significant anxiety due to their student loan debt.⁸
- ❖ The national student loan debt balance has risen by 66% in the last decade.⁷



National Student Loan Debt in Trillions



Source: U.S. Federal Reserve

The Hidden Cost of Debt



Mental Health

- Those in debt are twice as likely to experience depression and anxiety.⁵
- 16% of suicides are linked to financial trouble.⁵



Delayed Milestones

- Marriage, starting a family, and buying a house are often delayed due to debt burdens.⁵



Struggle to Meet Basic Needs:

- 36% of young adults (age 18-24) have trouble meeting basic needs.⁶



More Than One in Three Young Adults Had Trouble Meeting Basic Food Needs

Share of adults ages 18 to 24



Source: Well-Being and Basic Needs Survey, December 2023.

URBAN INSTITUTE

Why Are Young Professionals Struggling With Debt?

❖ College Tuition More Expensive Than Ever

- Adjusted for inflation, On campus student tuition has over doubled since the 60's.¹⁰

❖ Rising Inflation

- A 40 year high annual inflation rate of 9.1% was recently reached in 2022, making everything more expensive, including the debt.¹¹

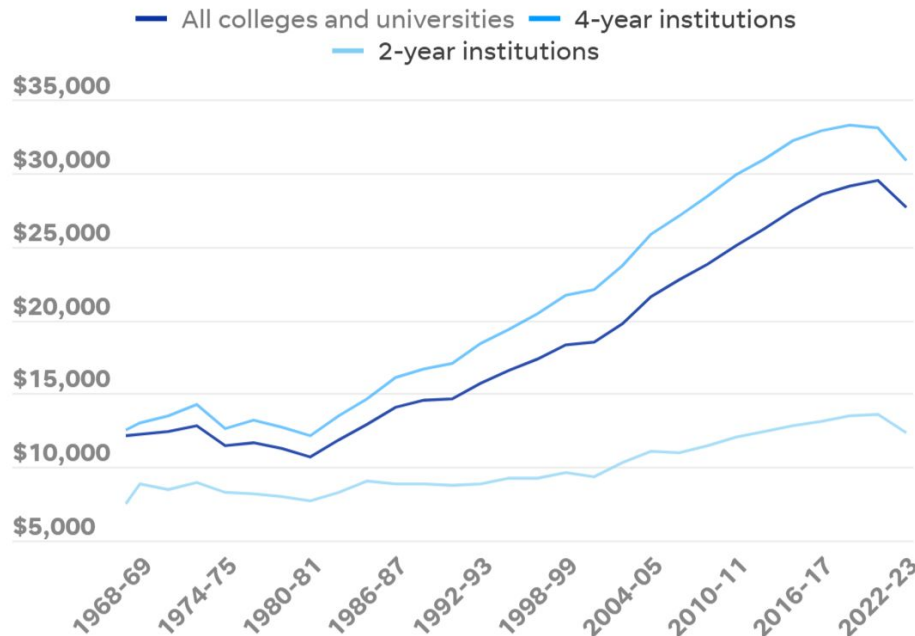
❖ Soaring Credit Card Interest Rates

- The APR on credit cards has nearly doubled from 12.9% in 2013 to a record 22.8% in 2023, further increasing the financial burden on young professionals.¹²

❖ High Cost of Living in Crucial Areas

- Major urban areas, where many young professionals find work, have some of the highest cost of living.¹³

Average cost of tuition fees, room and board by institution
In 2022-2023 dollars



Source: USA Today, data from the National Center for Education Statistics (NCES)

Who is Affected?

Users

- ❖ **Young Professionals** overburdened by student loans and credit card debt.
- ❖ **Recent Graduates** lacking financial literacy and seeking budgeting support.
- ❖ **Young Adults** mentally overwhelmed by a lack of experience with finance.



Customers

- ❖ **Young Adults**, especially recent graduates, who want to simplify their debt and budget management.
- ❖ **Financial Institutions** looking to partner with apps to better serve a younger audience.
- ❖ **Employers** looking to offer financial wellness programs for early-career employees.



Stakeholders

- ❖ **Financial Advisors** with an interest in helping young professionals build sound financial habits
- ❖ **Financial Wellness Coaches** providing educational services to young adults to reduce debt and improve budgeting skills.
- ❖ **Credit Counselors** looking for tools to suggest to their younger clients.



Our Problem Statement

Many young professionals in the U.S. struggle with their finances due to the overwhelming burden of student loans, ever increasing credit rates, and a lack of experience with crucial financial skills.

Balancing the pressures of starting a career while facing financial uncertainty leads to the accumulation of debt, increased anxiety, and delayed life milestones such as marriage, home ownership, and starting a family.

CreditTrax aims to empower young professionals with personalized budgeting and debt management tools designed to simplify financial decisions, enhance financial literacy, and set young professionals back on track for financial success.



The Problem Characteristics

Forgetting to pay monthly payments due to being busy

- ❖ Interest rate increase
- ❖ Takes even longer to pay it off
- ❖ Late fees
- ❖ Credit score sinks
 - Harder time making large purchases



Lack of proper budgeting skills and/or financial literacy

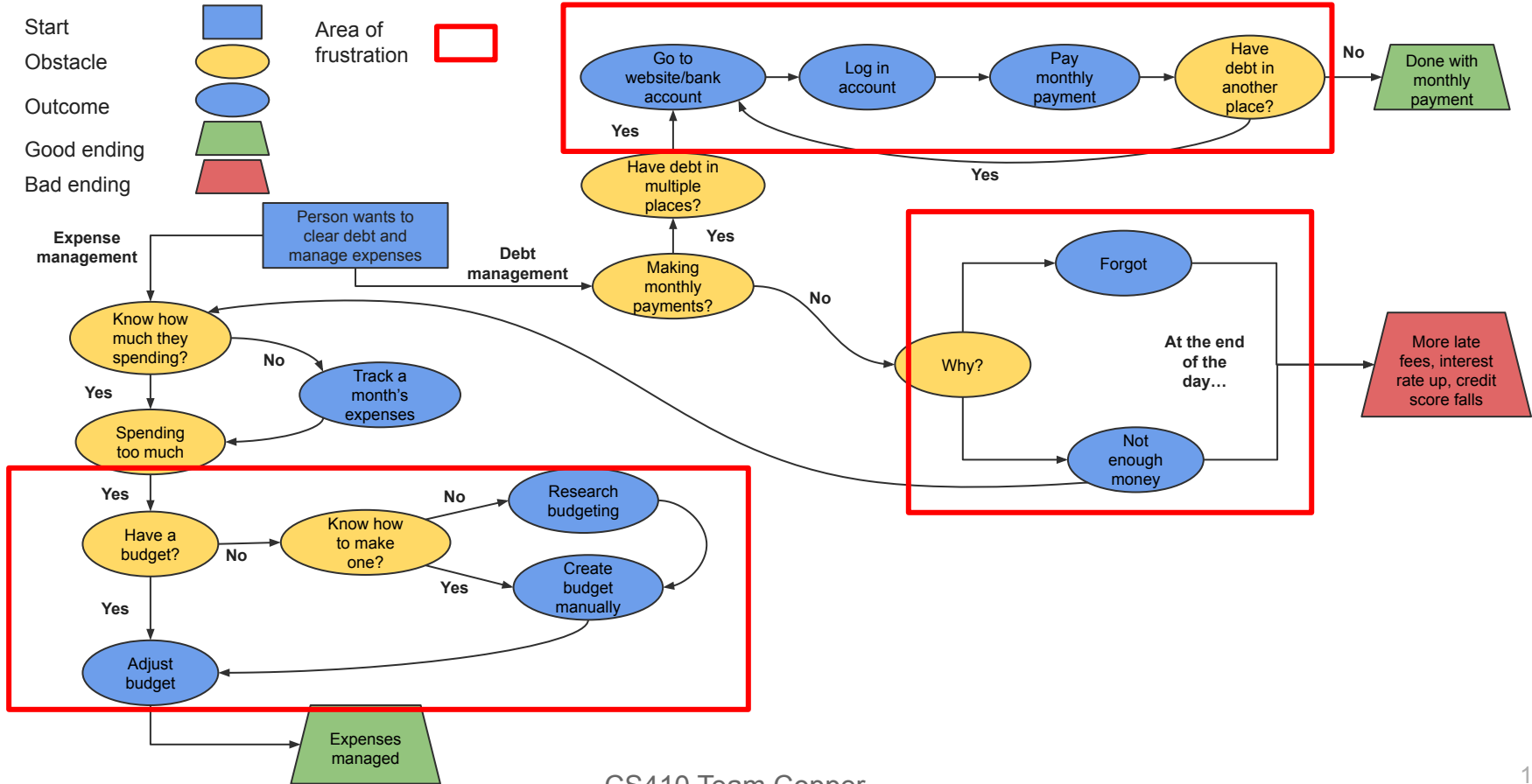
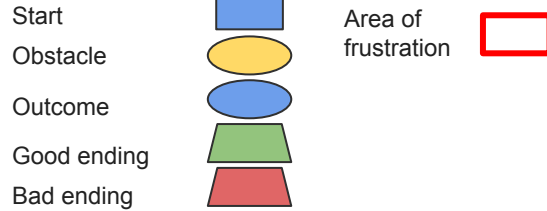
- ❖ Can't make realistic budgets
- ❖ Won't know where their money has gone
- ❖ Harder time prioritizing expenses, short-term and long-term goals
- ❖ Won't fully understand the impacts of late payments and general financial choices

Some apps have budget management features, some have debt management, not many have both

- ❖ May have to use at least two financial apps.
- ❖ Harder to manage finances
- ❖ Hard to see the bigger picture

Current Process Flow

Legend



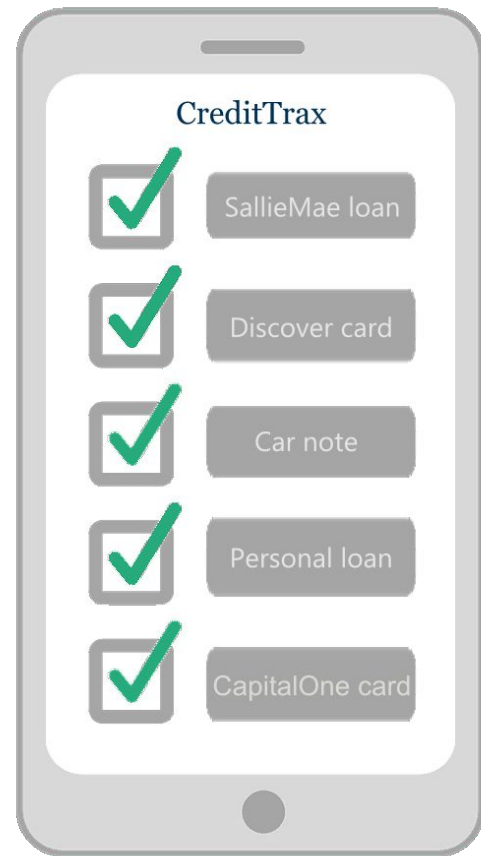
Our Solution: CreditTrax

CreditTrax is a financial management app tailored to the unique challenges faced by young professionals. With rising credit card debt, increasing student loans, and a high cost of living in urban areas, young adults often find themselves financially overwhelmed. CreditTrax addresses these pain points by offering an all-in-one solution that integrates **debt tracking** and **personalized budgeting** in one platform.

The app offers **personalized financial dashboards**, AI-powered budget recommendations, and real-time updates, all designed to help users better manage their spending. By analyzing their financial habits, it ensures that users can align their daily expenses with long-term financial goals, encouraging smarter budgeting practices and providing guidance on how to allocate funds more effectively.

Through its interactive tools and **timely notifications**, CreditTrax helps users stay on track with their debt payments. And by offering a clear pathway to track progress, the app also guides users toward achieving financial goals, like building an emergency fund or saving for major life milestones such as buying a home or starting a family.

Additionally, CreditTrax serves as a powerful tool for fostering **financial literacy**, enabling users to take back control of their finances while alleviating the stress and anxiety that often accompany debt management.



Solution Characteristics

Debt tracking

- ❖ Designed to give users a clear, organized view of their financial obligations
- ❖ Users can **input all their debts** e.g. credit card balances and student loans along with their respective interest rates and due dates
- ❖ **Smart Payment Reminders** - Prompts the user to **manually approve payment** of a debt. If they neglect to do so, the app will issue increasing reminders to ensure that they pay their debts on time.



Solution Characteristics

Budget recommendations

- ❖ Powered by AI to provide personalized advice based on a user's debt and spending habits
- ❖ Analyzes the user's income, expenses, and debt obligations to generate tailored suggestions to help them optimize their budget
- ❖ Reduces unnecessary spending and allocate funds more efficiently

For example:

If a young professional is just starting out in their career and is burdened with multiple loans, the app might suggest the 50-30-20 budget plan.



Solution Characteristics

Personal Financial Dashboard

- ❖ **Data analytics** - tracks and analyzes users' spending habits, debt obligations, and income flow over time, allowing the dashboard to offer real-time visualizations and reports on financial health.
- ❖ **Visualization** - Makes use of charts/graphs and badges to illustrate the user's progress with their debt.
- ❖ Aimed to give users a clear, intuitive representation of their financial journey, allowing them to easily monitor their spending in relation to their debt obligations.
- ❖ Moreover, the tracking tools utilized in the app give users a clear understanding of how their financial choices impact long-term goals, such as loan repayment or saving for important life events. Users can make more informed financial decisions and stay motivated to adhere to their budget and debt repayment plans.



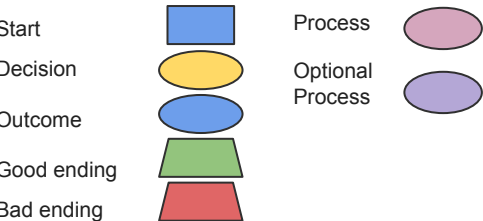
← E.g. For users who manage to make every payment before the due date for 6 months straight.

Solution Characteristics

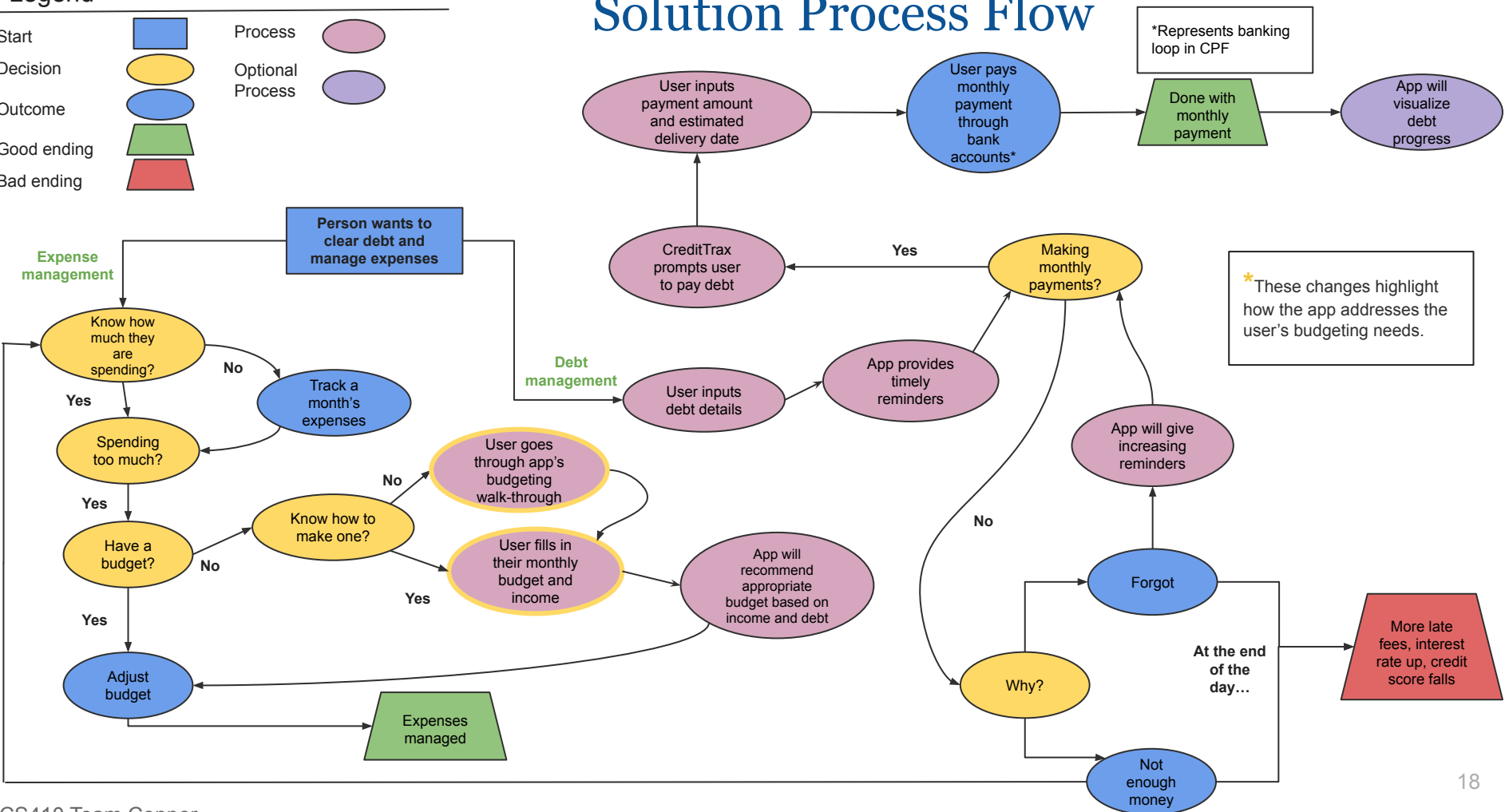
Financial Literacy

- ❖ **Builds essential financial skills:** CreditTrax educates users on key financial concepts like budgeting, saving, and managing debt, which are crucial for young professionals who may lack experience in these areas.
- ❖ **Encourages proactive financial habits:** The app fosters good financial habits by teaching users how to balance debt payments with saving goals, enabling them to take control of their finances early in their careers.
- ❖ **Reduces financial anxiety:** By improving financial literacy, CreditTrax empowers young professionals and alleviates the stress of managing their finances, which is especially important for recent graduates (and young professionals alike) facing student loans and credit card debt.

Legend



Solution Process Flow



What CreditTrax Will Do

- ❖ Track your debt using information you provide
- ❖ Continuously remind you of upcoming bills using notifications that remain until manually cleared
- ❖ Recommend you a budget plan tailored specifically to consider your debts and income
- ❖ Help you easily see your progress with tools that chart your financial journey in a visual way
- ❖ Motivate you to develop and maintain good budgeting habits
- ❖ Keep your information secure

What CreditTrax Will Not Do

- ❖ Directly change your credit score:
 - CreditTrax will not pull or report your credit information to individual credit agencies.
 - CreditTrax will not pay your bills for you.
- ❖ Lend you money to pay bills:
 - CreditTrax will help you budget, but will not create new lines of credit.
 - CreditTrax will not allow you to link bank accounts to the app.
- ❖ Share your information with business partners, advertisers, or credit agencies:
 - CreditTrax is created to help young professionals budget, not harvest information to tailor advertising.

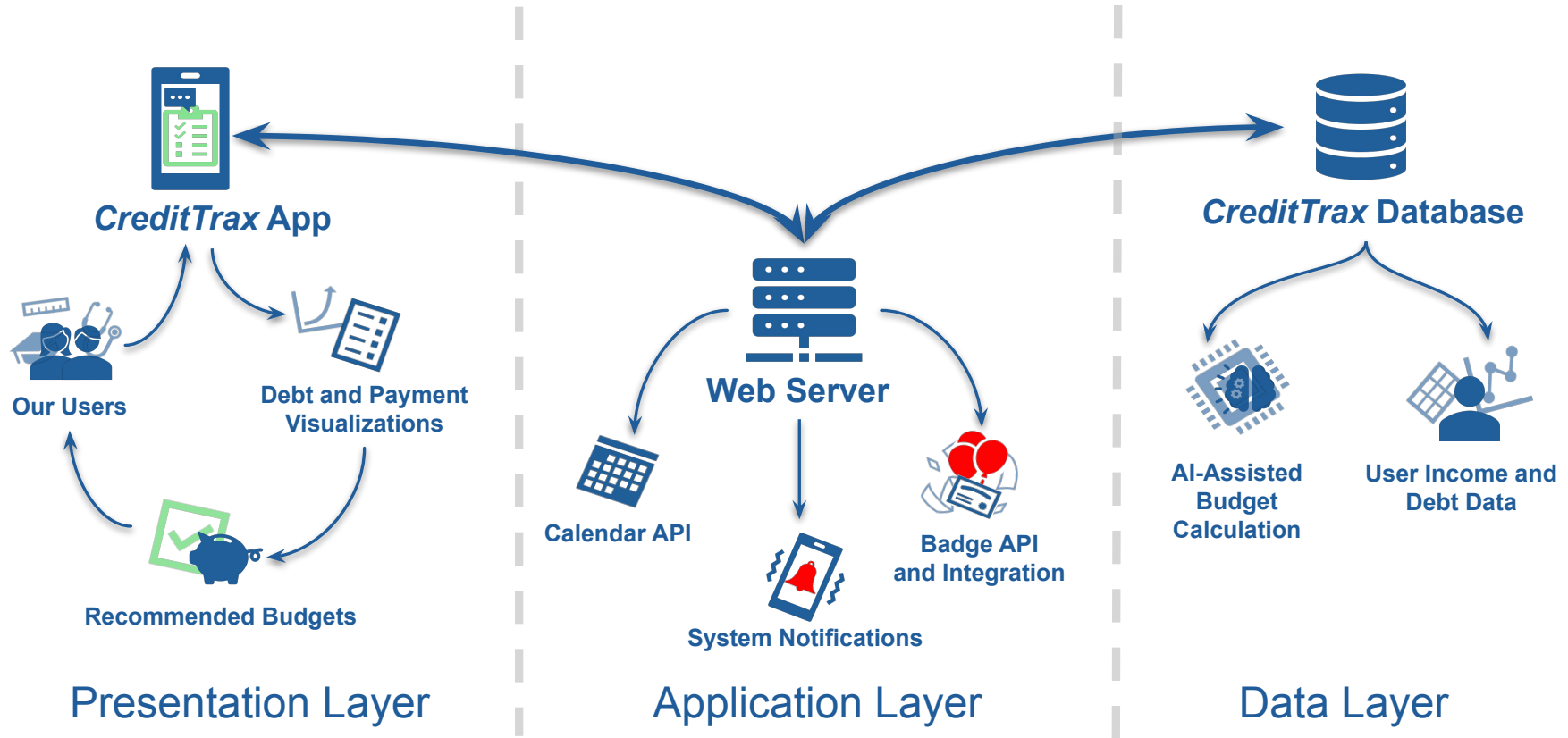
Our Competition

Feature	CreditTrax	EveryDollar	YNAB	Credit Karma	Rocket Money
Debt and Income Tracking	✓	✓	✓	✓	✓
Upcoming Bill Payment Reminders	✓				
Budgeting Suggestions	✓	✓	✓		✓
Debt and Payment Visualization	✓		✓	✓	✓
Badges to Track Progress	✓				
Personalized AI Powered Advice	✓				

Development Tools

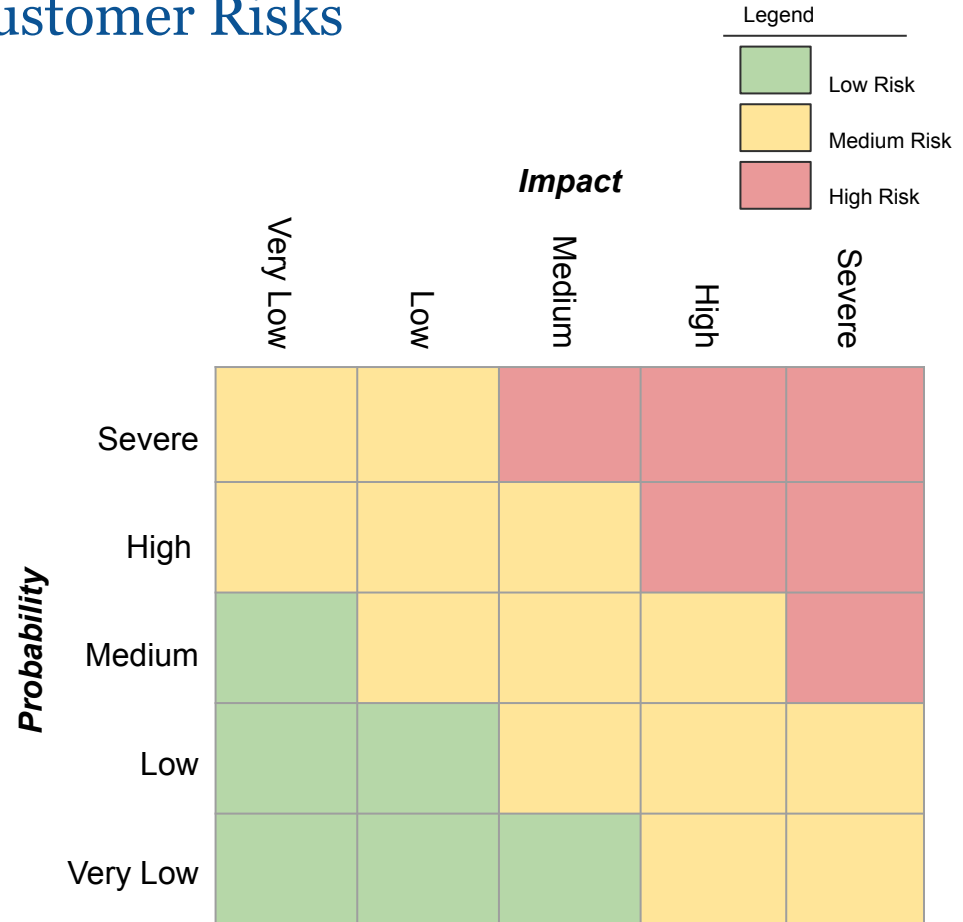
Development Type	Front-End	Back-end
IDE	VSCode	VSCode
Version Control	Github	Github
CI and CD	Github	Github
Language	TBD	TBD
Testing Framework	TBD	TBD
Documentation Tool	TBD	TBD

Major Functional Components Diagram



Customer Risks

- ❖ Customer Risks
 - CR-1
 - Financial
 - CR-2
 - CR-3
- ❖ Risk mitigation
 - CM-1
 - CM-2
 - CM-3



User Risks



User Risks

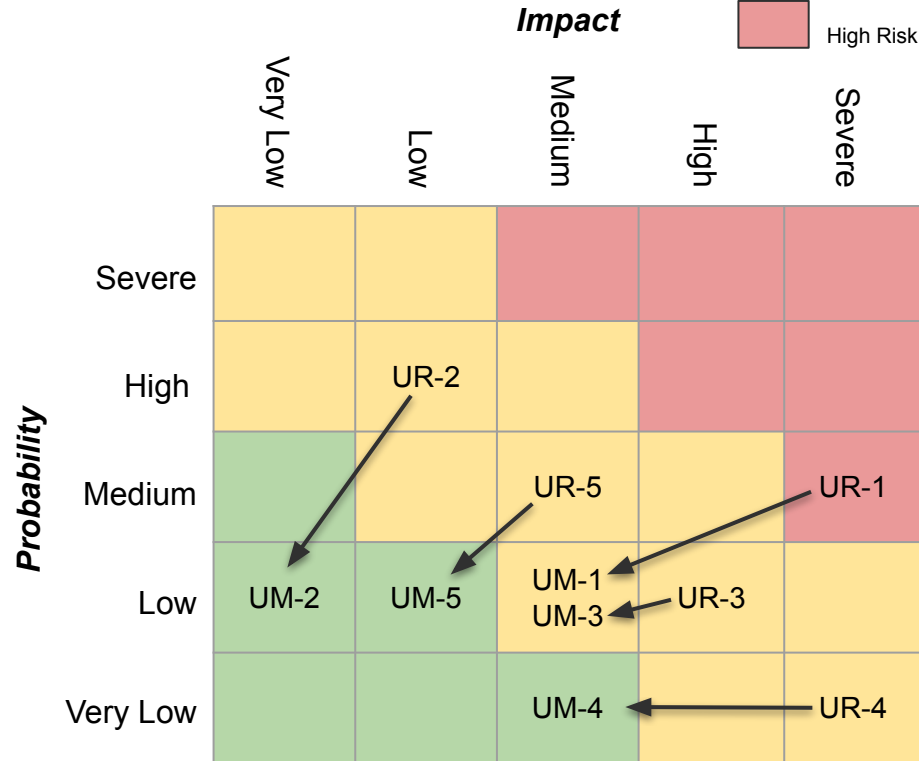
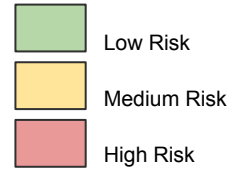
- UR-1: User missed a payment.
- UR-2: User forgot to respond to CreditTrax when monthly bill was paid.
- UR-3: User noticed that a feature is buggy/partially functioning
- UR-4: User's app crashed
- UR-5: User doesn't like their current budget style.



Risk Mitigation

- UM-1: Will increase frequency of reminders, remind them to prioritize their debt.
- UM-2: Asks users if they paid the bill the next time they open the app.
- UM-3: User can send a bug report and developers will patch the bug.
- UM-4: User will be notified for reason of crash and can send a crash report to developers.
- UM-5: CreditTrax can recommend user another budgeting technique (50/30/20, zero-based, etc.)

Legend



Technical Risks



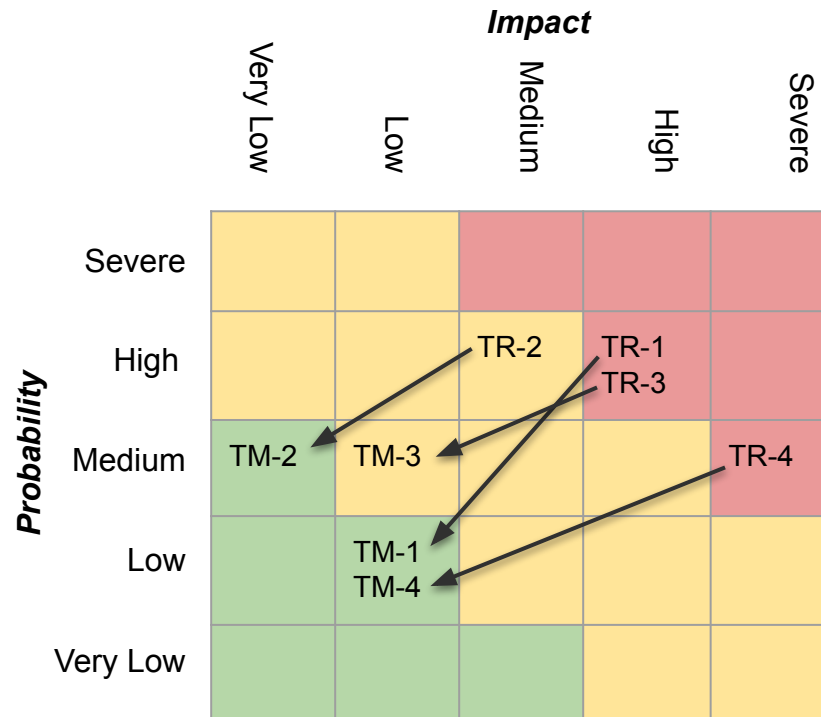
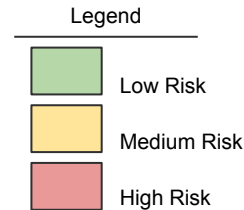
Technical Risks

- TR-1: Integration of AI-driven budgeting recommendations and multiple features can be complex
- TR-2: Ensure the app runs smoothly across different smartphones, operating systems, and versions.
- TR-3: Issues with handling multiple simultaneous users or processes that also may make the application struggle to scale effectively
- TR-4: Developed solution might not fully address users' actual needs and users may not be regularly engaged with the app.
- TR-5:



Risk Mitigation

- TM-1: Break down the development process into smaller, manageable tasks; using modular architecture and thorough testing.
- TM-2: Develop a robust compatibility testing plan that covers a wide range of devices and OS versions.
- TM-3: Implement concurrency control mechanisms and perform load testing with the use of scalable infrastructure and cloud services
- TM-4: Engage with end-users throughout the development process through surveys and interviews, and implement regular updates and feedback mechanisms to keep users engaged.
- TM-5:

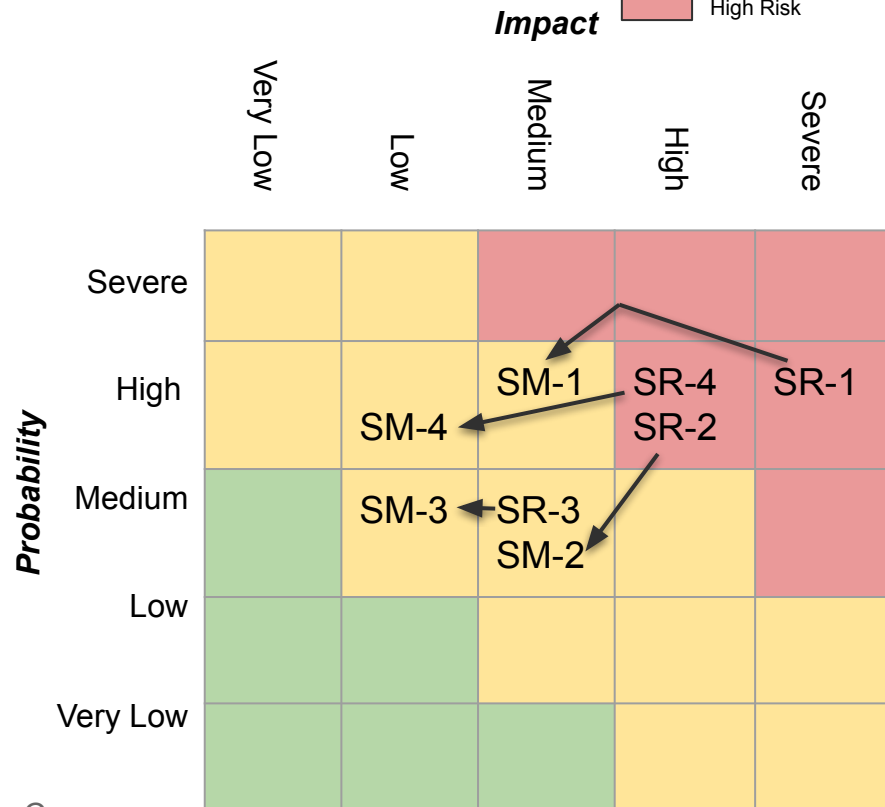


Security Risks

- ❖ Security Risks
 - SR-1: Risks related to data breaches, leading to unauthorized access to user's sensitive financial information.
 - SR-2: Weak encryption mechanisms might expose sensitive data during storage or transmission.
 - SR-3: Inadequate authentication and authorization protocols may allow unauthorized users to access.
 - SR-4: Device gets stolen and criminal can see a local user's finances

- ❖ Risk Mitigation
 - SM-1: Implement robust security practices such as data encryption (both at rest and in transit), multi-factor authentication (MFA), and regular security audits.
 - SM-2: Implement AES-256 encryption, TLS, and RBAC, supported by real-time monitoring and regular audits to thwart breaches.:
 - SM-3: Keep systems updated, conduct ongoing security training, and have a rapid incident response plan to quickly tackle threats.
 - SM-4: Require local users to input a password, no username and use same MFA as mentioned in SM-1

Legend



Legal Risks



Legal Risks

- LR-1: Copyright infringement on competitors
- LR-2: User data privacy violated by data breaches
- LR-3: User fraud and identity theft
- LR-4: AI-generated recommendations harming users' financial health



Risk Mitigation

- LM-1: Extensive research on competitors' features, design, and patents to avoid infringement
- LM-2: Implementation of security software and encryption of user data stored in database
- LM-3: Linking of external user accounts to CreditTrax, which each require their own user identity verification
- LM-4: Statements shown on account creation page informing users of AI usage and that investment advice doesn't have a 100% guarantee of success

Legend



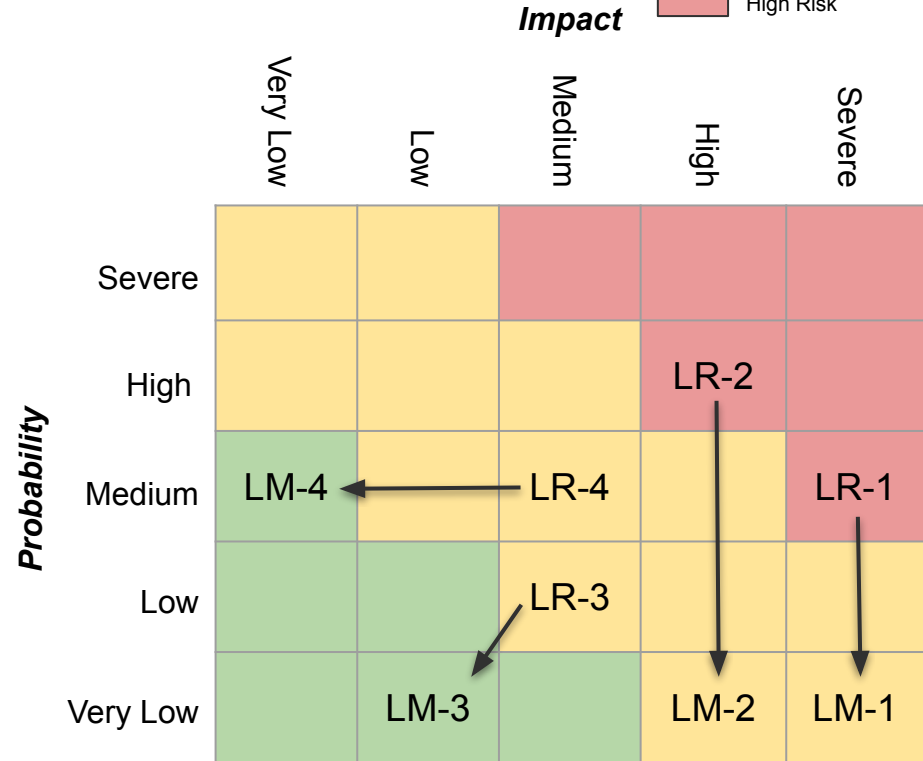
Low Risk



Medium Risk



High Risk



In Conclusion...

- ❖ CreditTrax provides a comprehensive solution for debt management and budgeting, addressing shortcomings of apps like Mint and YNAB.
- ❖ The innovation of the app combines debt tracking, AI-driven budgeting suggestions, and visual tools to foster healthy financial habits.
- ❖ Despite challenges in data privacy and user retention, its holistic approach enhances financial well-being.
- ❖ CreditTrax empowers users to take decisive action, manage debt effectively, and build a more stable financial future.

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Appendix