Finspire

A reflection-driven app for Gen Z's financial mental health

Pause. Reflect. With intention.

UX Case Study · Lean UX Process · Research to Hi-fi Prototype

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1. Introduction

1.1. Background

With the rapid development of the digital economy, Generation Z (born between 1997–2012) continues to grow in economic and social influence, reshaping global consumer markets through their digital fluency and value-driven behaviors (NielsenIQ, 2025). However, despite their technological sophistication, many Gen Z individuals lack access to systematic financial education, which contributes to common challenges such as overspending, debt-related stress, and difficulty in establishing long-term savings habits (Pašiušienė et al., 2023).

These financial challenges are often compounded by emotional factors. Research in behavioral economics and psychology suggests that everyday spending decisions are frequently influenced by mood states such as anxiety (Cachón-Rodríguez et al., 2024), boredom, loneliness (Peng et al., 2022), or the desire for instant gratification (Iyer et al., 2019). For Gen Z users—who are particularly active in mobile commerce and social media environments - these emotional triggers may result in impulsive purchases that are misaligned with their financial goals or values.

While a range of mobile applications exist to help users track budgets and categorize expenses, most tools emphasize numerical control rather than emotional awareness (Iyer et al., 2019c). As a result, users may monitor how much they spend, but not why they spend. There is a growing need for finance tools that not only manage transactions but also promote reflection, self-awareness, and healthier relationships with money. This project addresses this gap by exploring how digital interfaces can support financial decision-making through emotional reflection and personalized feedback, ultimately contributing to improved financial mental health among Gen Z users.

1.2. Motivation

The design motivation stems from the recognition that financial tools often prioritize control over understanding. Many users, especially Gen Z, are not looking for strict rules—they seek tools that help them understand why they spend and how to make more intentional choices.

Finspire aims to shift the focus from punishment to gentle reflection, offering a moment of pause between emotional impulse and financial action. Through small moments of awareness - like choosing your emotion before purchasing or seeing

how a payment impacts your savings goal - the design encourages long-term change grounded in empathy and self-knowledge (Oaklander, 2014).

1.3. Aims and Objectives

The aim of this project is to design and evaluate a mobile application that supports Gen Z users in developing healthier financial habits by promoting reflection and emotional awareness around everyday spending.

Rather than focusing solely on budgeting and numerical tracking, the app encourages users to pause before purchases, recognize emotional triggers, and consider how each transaction aligns with their long-term financial goals and psychological well-being.

To achieve this aim, the project sets out to:

(1) Investigate the emotional and psychological factors influencing impulse spending among Gen Z users through literature, market analysis, and user interviews.
(2) Identify user needs and behavior patterns that reveal gaps in current personal finance tools, particularly around emotional awareness and reflective decision-making.
(3) Design an interactive mobile experience that includes emotion tagging, reflective prompts, and visualized spending impact to foster mindful financial behavior.
(4) Prototype and evaluate key features in a mid-fidelity interface using user-centered design methods, such as scenario testing and feedback sessions.
(5) Assess the potential impact of reflection-based interactions on user awareness, spending control, and perceived financial mental health.

1.4. Method

Lean UX is a design approach that emphasizes rapid experimentation, cross-functional collaboration, and continuous feedback to build user-centered solutions efficiently. Unlike traditional UX methods, Lean UX focuses less on detailed deliverables and more on iterative learning through lightweight artifacts and early testing (Gothelf and Seiden, 2013).

The Lean UX process is often framed around three iterative phases: **Think, Make, and Check.**

- **Think:** involves defining the problem, forming hypotheses, and brainstorming ideas collaboratively.

- **Make:** refers to rapidly building prototypes—often in low- to mid-fidelity—to explore and express design ideas.
- **Check:** includes testing assumptions with real users through usability tests, feedback sessions, or other forms of validation to inform the next iteration (Maurya, 2012).

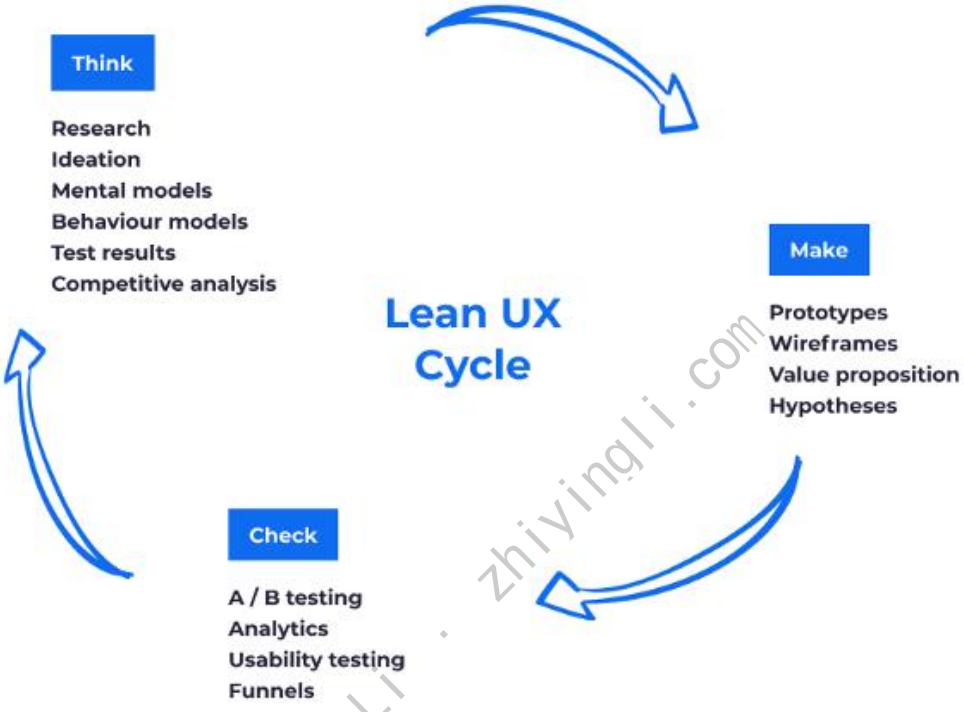

Figure 1. Lean UX Cycle

2. Think

2.1. Literature Review

(1) Definitions and Triggers of Impulse Spending

Impulse spending, also referred to as impulse buying, is commonly defined as a sudden and compelling urge to purchase something immediately, without prior planning or consideration of the consequences (Rook, 1987). Unlike habitual or need-based purchases, impulse buying is spontaneous and emotionally charged, often leading to post-purchase regret or dissatisfaction. It represents a breakdown in self-regulation, where short-term gratification overrides long-term financial intentions (Baumeister, 2002).

A key factor in impulse spending is emotional vulnerability. Negative emotions such as stress, boredom, loneliness, and anxiety have been consistently linked to impulsive purchase behavior, especially among younger consumers ((Verplanken and Herabadi, 2001).

Environmental triggers play a critical role in encouraging impulsive purchases, particularly in digital shopping environments. Interface features such as one-click payments, countdown timers, and limited-time offers are designed to reduce friction and expedite decision-making. These elements often exploit psychological principles like the scarcity heuristic, which leads consumers to perceive scarce or time-limited items as more valuable (Sundar & Kim, 2005). While effective in increasing conversion rates, such designs minimize opportunities for self-reflection and contribute to impulsive spending, especially when combined with emotional states like anxiety or boredom.

(2) Behavioral Strategies to Reduce Impulse Buying

Impulse buying can be reduced through behavioral strategies that enhance self-awareness and delay gratification. One effective method is mental budgeting, where individuals allocate fixed amounts of money to specific categories or goals. This technique increases spending awareness and helps people avoid spontaneous, emotionally driven purchases. Antonides, De Groot and Van Raaij (2011) found that mental budgeting significantly improves household financial management by reducing the likelihood of overspending.

Another approach is introducing a cooling-off period between the urge to buy and the actual purchase. According to Kahneman (2011), slowing down decisions shifts cognitive processing from fast, intuitive (System 1) thinking to slower, reflective

(System 2) thinking, allowing users to reassess whether a purchase aligns with their goals (Kahneman, 2011). In addition, mindfulness practices have been shown to reduce impulsive behavior by fostering present-moment awareness. A study by Vihari et al. (2022) demonstrated that mindfulness helps consumers regulate emotions and decrease automatic purchase responses, particularly in emotionally charged situations.

(3) Reflection and Mindfulness as Intervention Tools

Impulse buying often occurs automatically, without conscious awareness of the emotional or situational triggers behind it. Mindfulness—a practice of paying attention to the present moment in a non-judgmental way—has been shown to help individuals pause, observe their impulses, and reduce reactive decision-making. Setionago (2023) found that mindfulness, especially when paired with self-compassion, significantly reduced materialistic attitudes and improved impulse control, suggesting it is a promising approach for managing emotion-driven spending.

In digital contexts, mindfulness can be embedded through small reflective interventions, such as self-check-in prompts or brief moments of pause before completing a purchase. Liu, Karahalios and Wang (2021) demonstrated that introducing distraction and reflection techniques before buying helped reduce impulsive shopping behavior in online settings. These findings support the integration of mindful interaction patterns into app design as a way to foster more intentional financial behavior.

2.2. Technology Review

(1) Personal Finance Apps

Personal finance applications such as Mint and You Need A Budget (YNAB) have become widely used tools for managing budgets, tracking expenses, and setting savings goals. These apps primarily focus on numerical control, offering features like expense categorization, real-time account syncing, and budget allocation.

Mint, previously one of the most popular free budgeting apps, enabled users to connect multiple financial accounts for centralized management. YNAB adopts a zero-based budgeting method, encouraging users to assign every dollar a purpose. It promotes proactive financial planning and habit-building through a structured system and educational support. Although it is subscription-based, YNAB has received positive reviews for improving users' financial awareness and discipline (Tindall, 2025).

While effective in facilitating financial control, these tools rarely address the emotional or psychological factors that influence spending behavior. Their design overlooks the role of mood, stress, and impulse, leaving a gap for solutions that integrate emotional reflection with personal finance management.

(2) Emotional Well-being Tools

Several digital tools have emerged to support users in managing stress, anxiety, and emotional awareness. Apps such as Reflectly, Moodnotes, and Headspace use mood tracking, journaling, and guided mindfulness to promote self-reflection and emotional regulation. For example, Reflectly uses AI-generated prompts to encourage daily emotional journaling, based on principles from positive psychology and cognitive behavioral therapy. Moodnotes applies CBT techniques to help users identify thought patterns and reduce cognitive distortions through mood tracking. Headspace offers structured mindfulness exercises designed to reduce stress and increase focus through daily meditation routines.

While these tools effectively support emotional well-being, they do not address financial behaviors or the emotional drivers behind spending. This highlights a gap in the current landscape—one that could be filled by integrating emotional reflection features into personal finance tools.

(3) Integration Opportunities

The divide between financial management tools and emotional well-being apps presents a unique design opportunity. While budgeting applications excel at tracking expenses and setting savings goals, they often overlook the emotional triggers that drive spending decisions. Conversely, emotional health apps promote mindfulness and self-awareness but lack integration with financial data or behaviors.

Bridging these two domains offers potential for a more holistic approach to personal finance - one that not only manages transactions but also fosters emotional reflection. Integrating features such as mood-based prompts, reflective spending check-ins, and personalized goal framing into financial apps can encourage users to become more mindful of their habits. This approach aligns with the growing recognition of financial mental health as a key aspect of overall well-being.

Such integration would position products like Finspire to meet emerging user needs: supporting not only what users spend, but also why they spend - turning everyday transactions into opportunities for self-awareness and behavioral change.

2.3. Interview

(1) Protocol

- **Participants:**
  1) Inclusion Criteria
     - Aged 18-28 years
     - Self-reported impulsive spending tendencies
     - Regular online shopping experience
  2) Exclusion Criteria
     - Current financial distress (debts >50% of income)
     - Professional background in behavioral economics / UX design

- **Meeting Details:**
  1) Data Collection Period: March 20-30, 2025
  2) Session Duration: Approximately 20 minutes
  3) Platform: Microsoft Teams (recorded with consent)

- **Materials:**
  1) One-page infographic summarizing:
     - Project goal
     - Key features
  2) Interactive Figma prototype (mobile interface) containing:
     - Emotion selection screen (Anxious/Bored/Happy/I'm Okay)
     - 3 dynamically generated reflection questions per emotion
     - Simulated checkout flow with intervention points

- **Open Questions:**
  1) Have you ever experienced impulse spending?
  2) Can you describe a recent non-essential purchase that you regretted? What factors prompted your decision to make the purchase at that time?
  3) Have you tried to use any methods to control impulse spending behaviour?
  4) Do you think there is a relationship between impulse spending behaviour and your mood at the time of purchase?
  5) Do these questions touch on your real considerations when making decisions?

(2) Findings

- **Impulsive Consumption Behavior:**
  1) 100% of participants reported engaging in impulsive spending behaviors.
  2) 100% of participants agreed an association between impulsive spending and emotional states.

- **Utilization of Spending Control Tools:**
  1) 67% of respondents had experimented with budgeting applications.
  2) 18% maintained consistent usage of budgeting tools.
- **Payment interruption tolerance:**
  1) 100% of participants deemed three pre-purchase questions acceptable.
  2) 66% reported five questions impaired transaction experience.
- **Behavioral influence efficacy:**
  1) 100% confirmed quantifiable impact affected purchasing decisions.
  2) 83% acknowledged emotional projection influenced choices.
  3) 33% indicated social comparison impacted decision-making.

2.4. Problem Statement

Current digital financial tools often prove ineffective in curbing impulsive spending habits, primarily because they employ judgmental language that can provoke user resistance. Finspire adopts a research-based approach incorporating neutral, non-critical feedback systems and an efficient three-question cognitive activation method designed to promote thoughtful purchasing decisions without overwhelming users. By combining behavioral economics concepts from nudge theory with user interface design principles that minimize mental strain, this solution helps consumers independently manage impulsive buying tendencies through improved self-awareness and scientifically-supported behavior change methods.

Many young consumers, particularly Gen Z, struggle with impulsive spending that is closely tied to emotional triggers such as stress, boredom, and anxiety. While traditional finance apps focus on budgeting and expense tracking, they often fail to support users in recognizing the emotional contexts that drive their decisions.

As a result, users may repeatedly engage in unplanned purchases without understanding the underlying emotional patterns, leading to financial stress, regret, and a lack of long-term progress toward their savings goals. There is a need for a more empathetic and reflective financial tool - one that not only tracks spending but also helps users pause, reflect, and connect their financial behavior with their emotional well-being.

2.5. Early Lean UX Canvas

A high-resolution version is available at the following link:
https://kingstonuniversity-my.sharepoint.com/:f:/g/personal/k2438742_kingston_ac_uk/EtaFLNNsYg5MshKPD07PgfsB1IOzhh9uUyen7kBc7V6gnQ?e=Ewzi3i

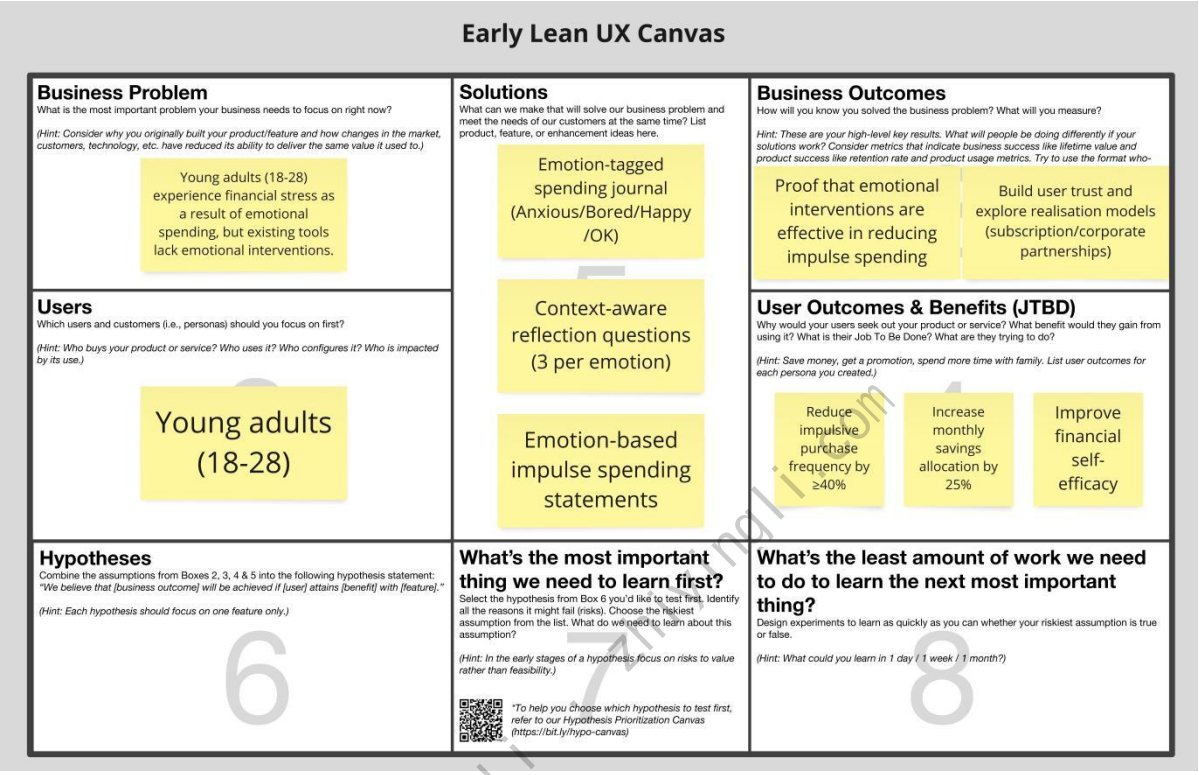

Figure 2. Early Lean UX Canvas

2.6. Assumptions

Assumptions are not facts but educated guesses about user behaviours and expected business outcomes. They are essential for developing hypotheses that get tested later in the project (Interaction Design Foundation, 2021).

(1) Business Assumptions

Business Assumptions	
The customer needs to...	Control impulse spending and reduce financial regret without taking the fun out of shopping!
The customer needs will be solved by...	Emotion recognition + behavioural interventions
The customers are (or will be)...	18-28 year old internet natives who are highly receptive to digital tools
The customer wants... from our service	Instant consumer insights + actionable alternatives.
The customer can also get ... from our service	Social recognition (e.g. 'You spend more healthily than 70% of your peers').
I will get my customer base by...	Advertisement & friends' recommendations
I will make money by...	Subscription & cooperate with banks
My primary competition is...	Bookkeeping apps & behavioural intervention tools
We will beat the competition by...	Differentiation, emotional design, seamlessly embedded in payment scenarios
My biggest risk is...	User resistance markers (feeling pried into or judged)
We will solve the risk by...	Transparent data usage + user control
What are the assumptions we have that if proven false will make the project fail?	- Users are willing to pause and answer emotional questions before paying - Emotional interventions reduce impulse spending by ≥25% - Financial institutions are willing to pay for consumer behaviour data

Table 1. Business Assumptions Table

(2) User Assumptions

User Assumptions	
Who is the user?	People aged 18-28 with impulsive spending problems
Where will our product fit in the user's life?	- Decision-making moments before shopping - Spending impulses late at night or during mood swings - Spending health report during monthly financial review
What problems does the product solve for the user?	- Help users identify emotional spending and reduce non-essential expenses - Provide immediate intervention to avoid regret afterwards - Visualise spending habits to develop long-term financial health
In what context does the user use the product?	Impulse spending before checkout
What features are essential for the user? And why?	- Affective Spending Tracking (identifies spending triggers) - Dynamic Reflection Prompts (activates deliberative cognition) - Quantified Spending Impact (establishes healthy consumption patterns)
How should the product look and behave?	- Neutral behavioral feedback - Avoids evaluative language - ≤3 pre-purchase decision points, prevents cognitive overload in flows

Table 2. User Assumptions Table

2.7. Ideation

(1) How Might We

During the ideation phase, potential solutions for each "how-mightwe" question were brainstormed (Fig.3).

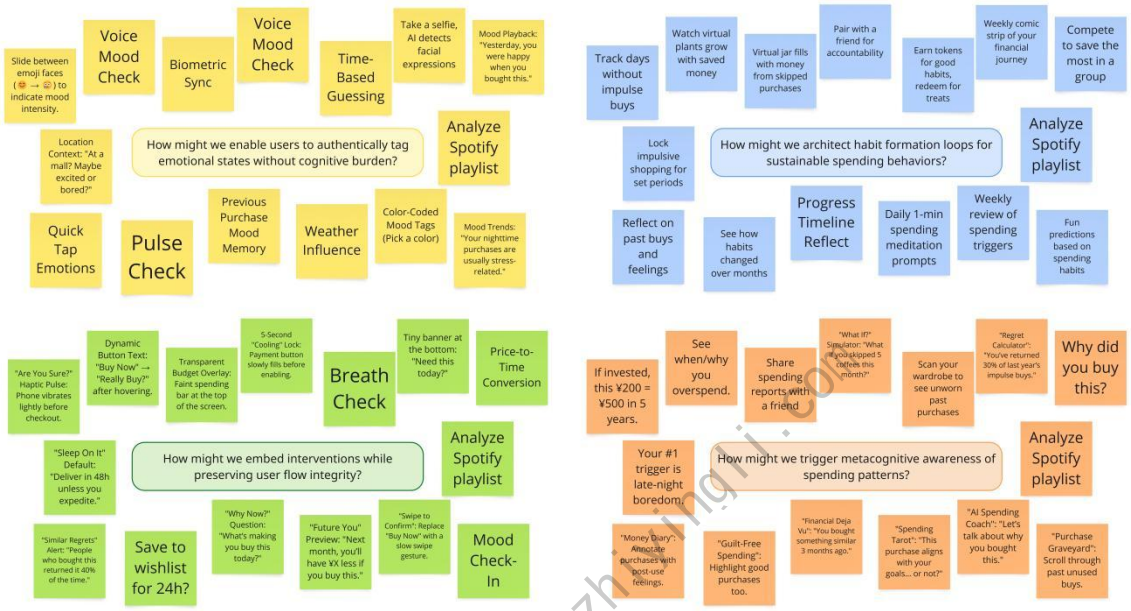

Figure 3. How Might We

(2) Crazy 8's

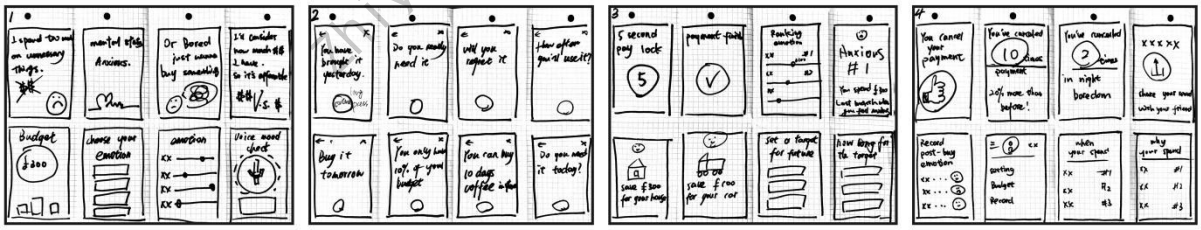

Figure 4. Crazy 8's

(3) MoSCoW

MoSCoW (Fig.5) prioritization is used to categorize features into four levels: Must-Have, Should-Have, Could-Have, and Won't-Have. This framework supports decision-making by aligning features with user needs, technical feasibility, and emotional impact.

Must-Have	Should-Have	Could-Have	Won't-Have
Select emotion before payment	Spending calendar	AI suggestions	Bank integration
Reflection questions	Top emotions in spending	Custom emotion tags	Ads
Spending impact visualization	Time-based spending trends	Emoji mood tracker	Leaderboards
Hold for 5 seconds to confirm	Goal setting and targets	User-defined labels	In-app therapy
Cancel anytime	Behavior dashboard	Peer support space	Counseling service
Spending history with emotions	Progress tracking	Alternative activity tips	

Table 3. MoSCoW Table

(4) Bull's Eye

The Bull's Eye framework (Fig.6) helps prioritize features by impact. Core functions like budgeting and emotional tracking sit at the center, while less critical ideas are placed in outer rings. This ensures focus on what matters most to users.

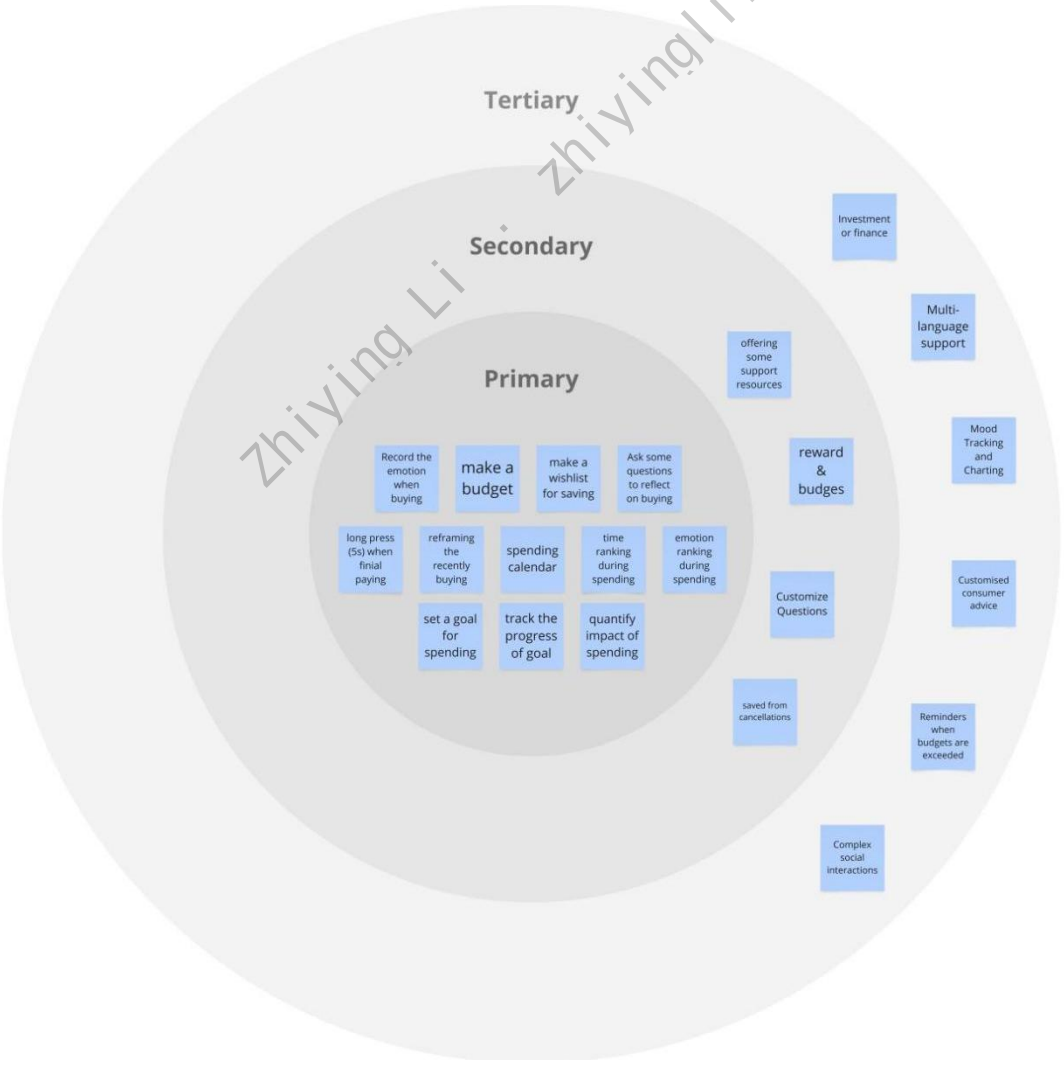

Figure 5. Bull's Eye

2.8. Assumption Prioritizations

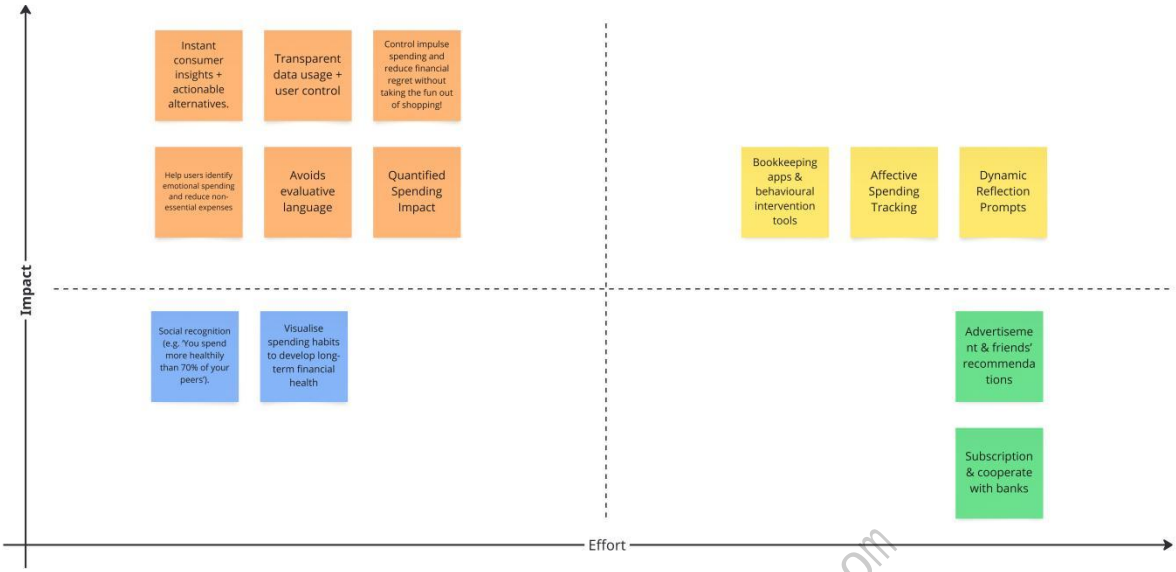

Figure 6. Assumption Prioritizations

2.9. Mental Models

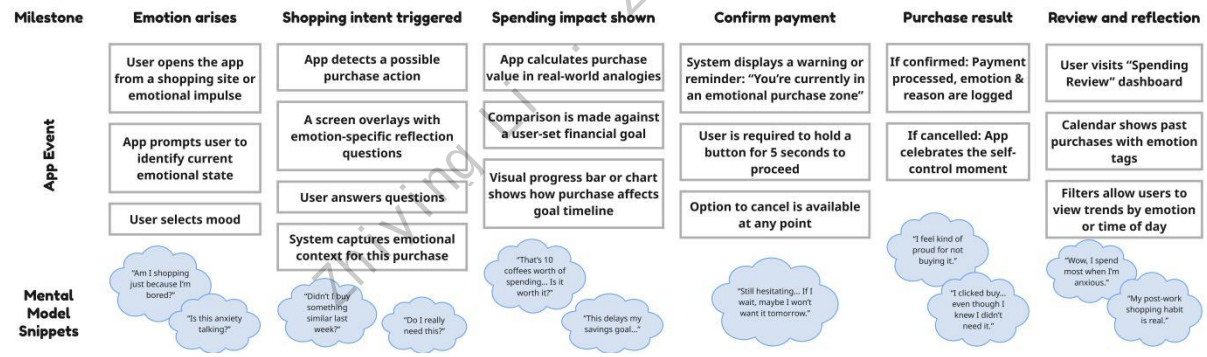

Figure 7. Mental Models

2.10. Personas

"This bag costs just 3 days' salary... but now my car down payment is behind schedule."

AGE	28
JOB TITLE	Designer
Salary	¥18k/month
LOCATION	Shanghai

Alex

ABOUT

Alex, 28, a tech professional earning ¥18k/month with no debt but minimal savings. Alex enjoys the finer things—designer clothes, latest gadgets, and trendy cafes—viewing them as deserved rewards for hard work. While financially comfortable, Alex realizes annual savings fall short of goals (like a ¥50k car down payment). Spending brings instant joy, but post-purchase reflection is rare. Traditional budgeting apps feel punitive, and vague warnings like "You're overspending!" are ignored. Alex needs subtle, non-judgmental nudges that link splurges to long-term aspirations without killing the fun. High-ticket impulse buys (¥3k+) are the primary challenge, often justified as "affordable" in the moment.

GOALS

- Short-term: Curb non-essential spending without lifestyle sacrifice
- Long-term: Save ¥50k in 12 months for a car down payment

NEEDS

- Frictionless saving mechanisms
- Progress visualization
- Guilt-free spending limits

PAIN POINTS

- Finds budgeting apps too restrictive
- Only realizes overspending during annual reviews
- Resents judgmental interventions

PREFERENCES

- High-ticket items: Luxury goods, electronics, influencer-hyped dining
- Key Intervention Point: Single impulsive purchases >¥3000

Figure 8. Persona - 1

"I know I can't afford it, but that limited-time discount got me."

AGE	21
JOB TITLE	Product Operator
Salary	¥5k/month
LOCATION	Guangzhou

Jamie

ABOUT

Jamie, 22, is a recent grad earning ¥5k/month, juggling rent and credit card payments. Small indulgences—¥200 makeup palettes, daily bubble tea—add up, leaving Jamie cash-strapped by month-end. Discount alerts and peer pressure ("Everyone's getting this!") trigger guilt-ridden purchases. Post-checkout regret is immediate, but willpower crumbles during flash sales. Jamie needs real-time barriers to pause impulses, like a "cooling-off" lock or spending impact previews. Micro-transactions (under ¥300) are the silent budget killers, often dismissed as "just this once." Anxiety fluctuates between "I deserve this" and "Why can't I control myself?"—a cycle demanding gentle interruption, not shame.

GOALS

- Short-term: Avoid borrowing money before payday
- Long-term: Build sustainable spending habits

NEEDS

- Instant spending blockers
- Micro-spending alerts
- Peer-pressure coping tools

PAIN POINTS

- No cooling-off period during checkout
- indifferent to purchases of less than¥100
- Struggles to decline group-buying/ trendy items

PREFERENCES

- High-frequency items: Fast fashion, beauty products, food delivery
- Key Intervention Point: Recurring purchases of ¥50-200

Figure 9. Persona - 2

2.11. User Flow

Here is the user flow for payment (Fig.10). This user flow illustrates Finspire's core purchase intervention process. Before confirming a payment, users are prompted to reflect on their emotional state, answer two tailored questions, and view the impact on their savings goals. Users can cancel at any stage or confirm by holding for 5 seconds.

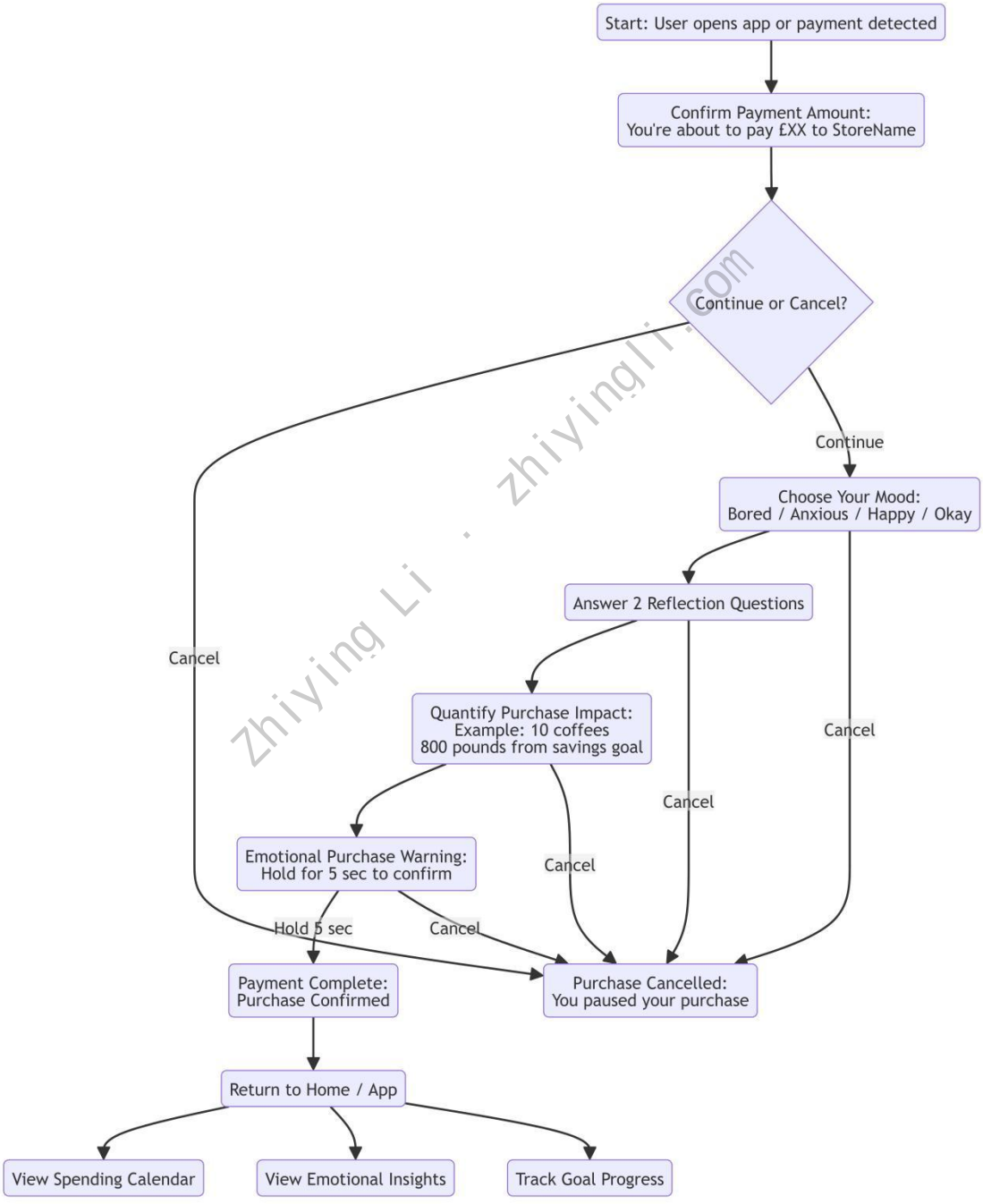

Figure 10. User Flow

2.12. Customer Journey Map

This customer journey map (Fig.11) outlines the user experience across key stages of the payment process, from emotional awareness to post-purchase review. It highlights pain points, emotional states, and corresponding design opportunities, guiding how Finspire supports mindful spending through reflection and emotional insight.

A high-resolution version is available at the following link:
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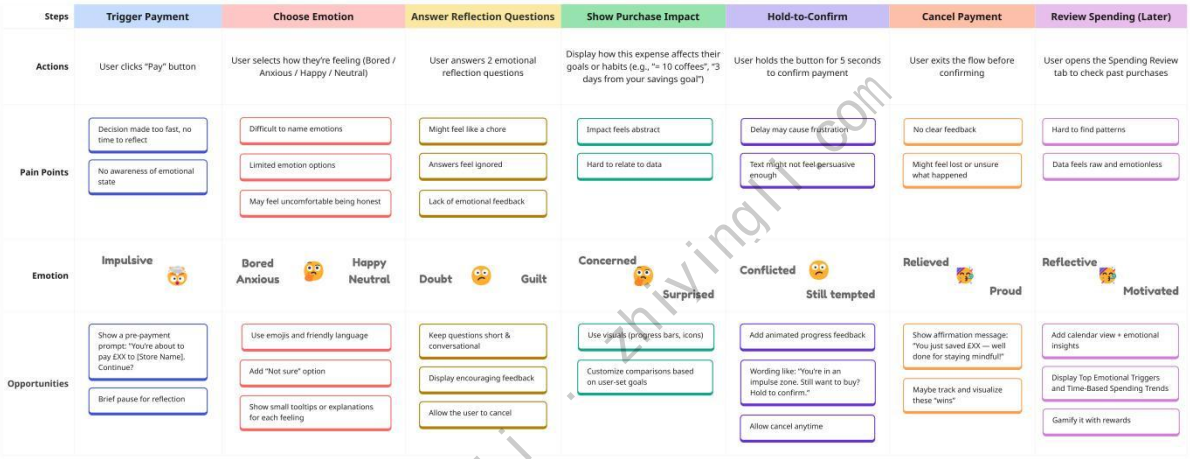

Figure 11. Customer Journey Map

3. Make

3.1. Hypothesis

(1) Hypothesis Statements

- **I believe that we will** achieve a reduction in emotion-driven spending **if** young online shoppers **can** recognize their emotional triggers **with** the emotion selection and reflection question feature.
- **I believe that we will** improve user commitment to financial goals **if** budget-conscious users **can** visualize how each purchase impacts their long-term savings **with** the spending impact comparison.
- **I believe that we will** reduce impulse purchases during emotional spikes **if** emotionally-driven buyers **can** pause and reconsider their decision **with** the 5-second hold-to-confirm payment feature.
- **I believe that we will** increase user engagement and retention **if** reflective users **can** track and learn from their past purchases and emotional patterns **with** the spending-emotion history dashboard.
- **I believe that we will** strengthen positive user sentiment and loyalty **if** users who cancel emotional purchases feel **reward**ed and affirmed **with** supportive feedback messages and badges.

(2) Hypothesis Table

We will achieve... (Business Outcomes)	If this user... (Persona)	Can achieve... (User Outcomes)	With this feature. (Features)
Reduce emotion-driven spending behavior	Amy – a 26 y/o online shopper who shops to relieve stres	Recognizes when she is emotionally triggered before purchasing	Emotion tagging & mood selection before checkout
Improve user financial awareness	Jordan – a 30 y/o freelancer trying to save for travel	Understands how each purchase affects his savings goal	Spending impact visualization
Increase retention through emotional insight	Leah – a student who often regrets late-night purchases	Reflects on past purchases and emotional states	Emotion-linked spending history dashboard
Increase user self-control at point of purchase	Chris – a compulsive buyer with budget anxiety	Has time to pause and reflect before completing a purchase	5-second hold-to-confirm payment button
Build a sense of accomplishment and motivation	Sam – a self-improvement enthusiast tracking spending habits	Feels rewarded for resisting impulse purchases	Positive feedback message when cancelling a purchase
Strengthen emotional connection with app	Eva – a design-sensitive user who enjoys reflective UI	Feels emotionally supported and not judged	Gentle UX tone + personalized insights

Table 4. Hypothesis Table

(3) Hypothesis Prioritization

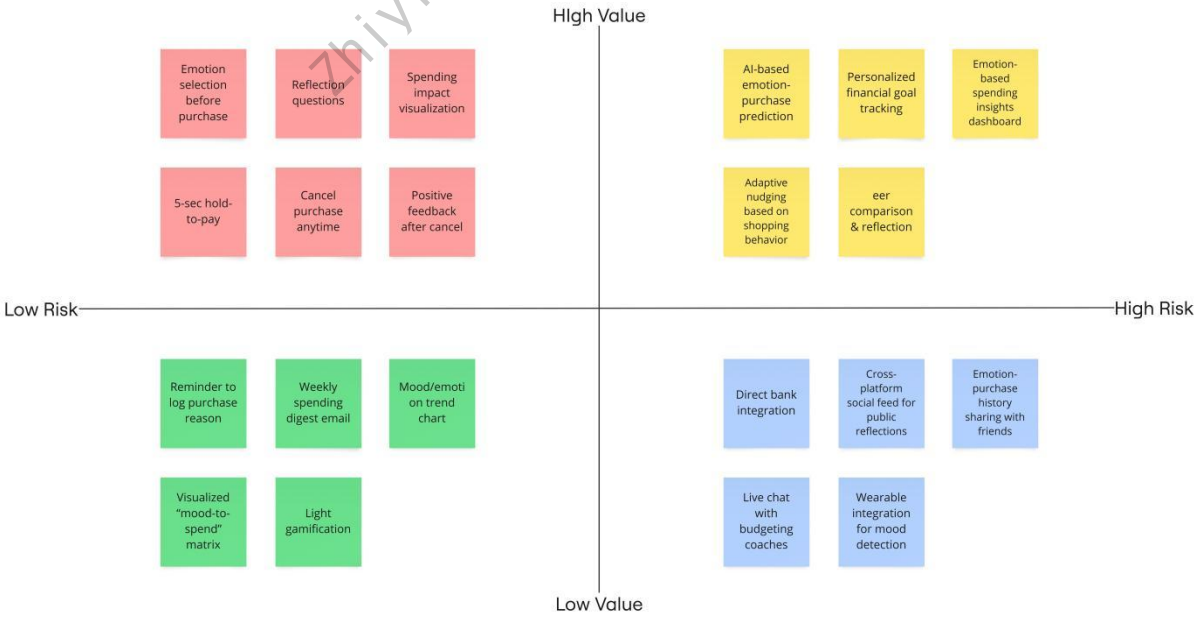

Figure 12. Hypothesis Prioritization

3.2. Information Architecture

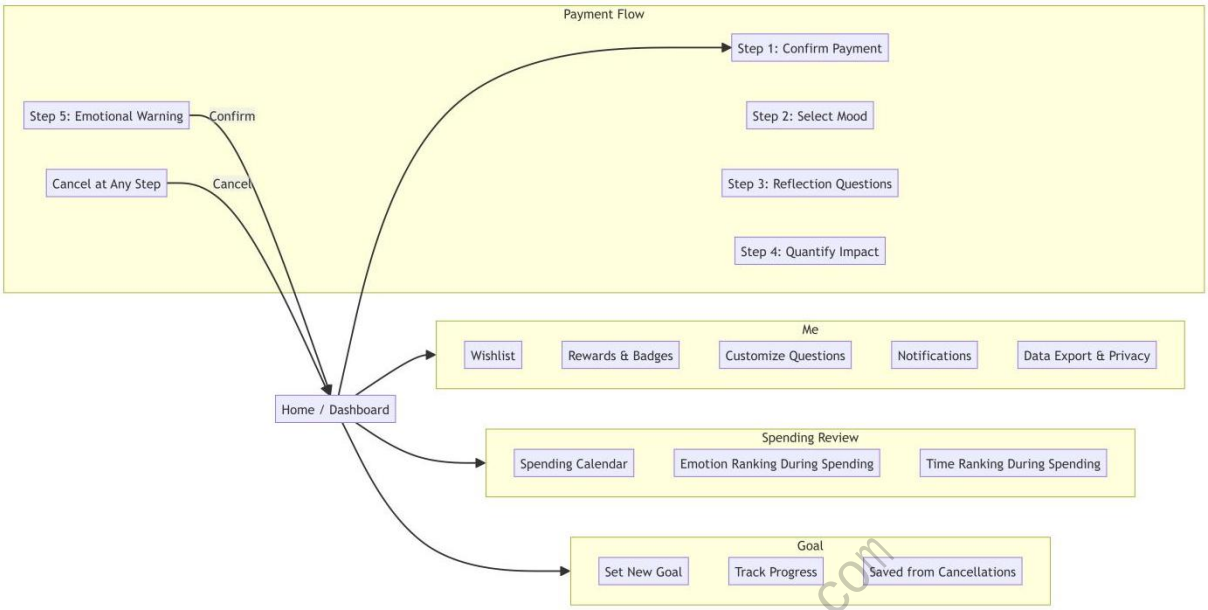

Figure 13. Information Architecture

3.3. Lo-fi Paper Prototype

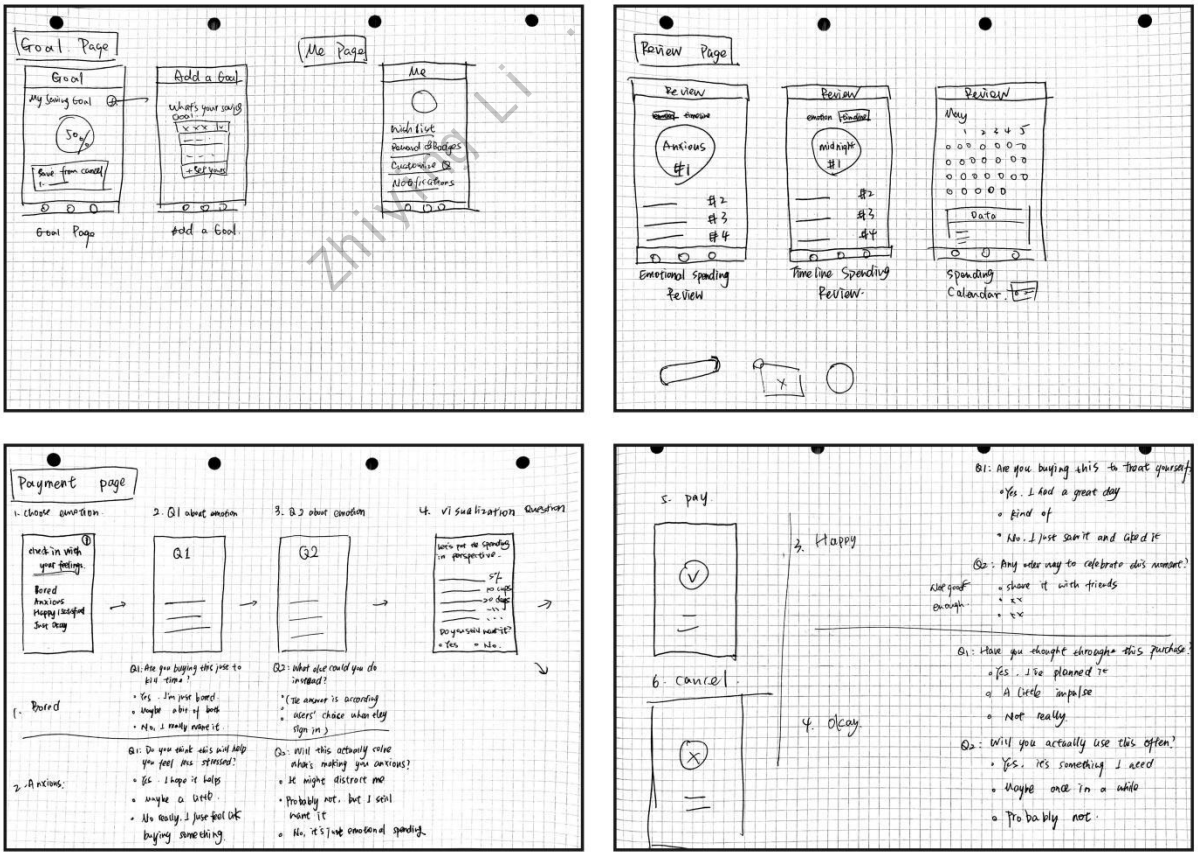

Figure 14. Lo-fi Paper Prototype

3.4. Midi-fi Wireframe

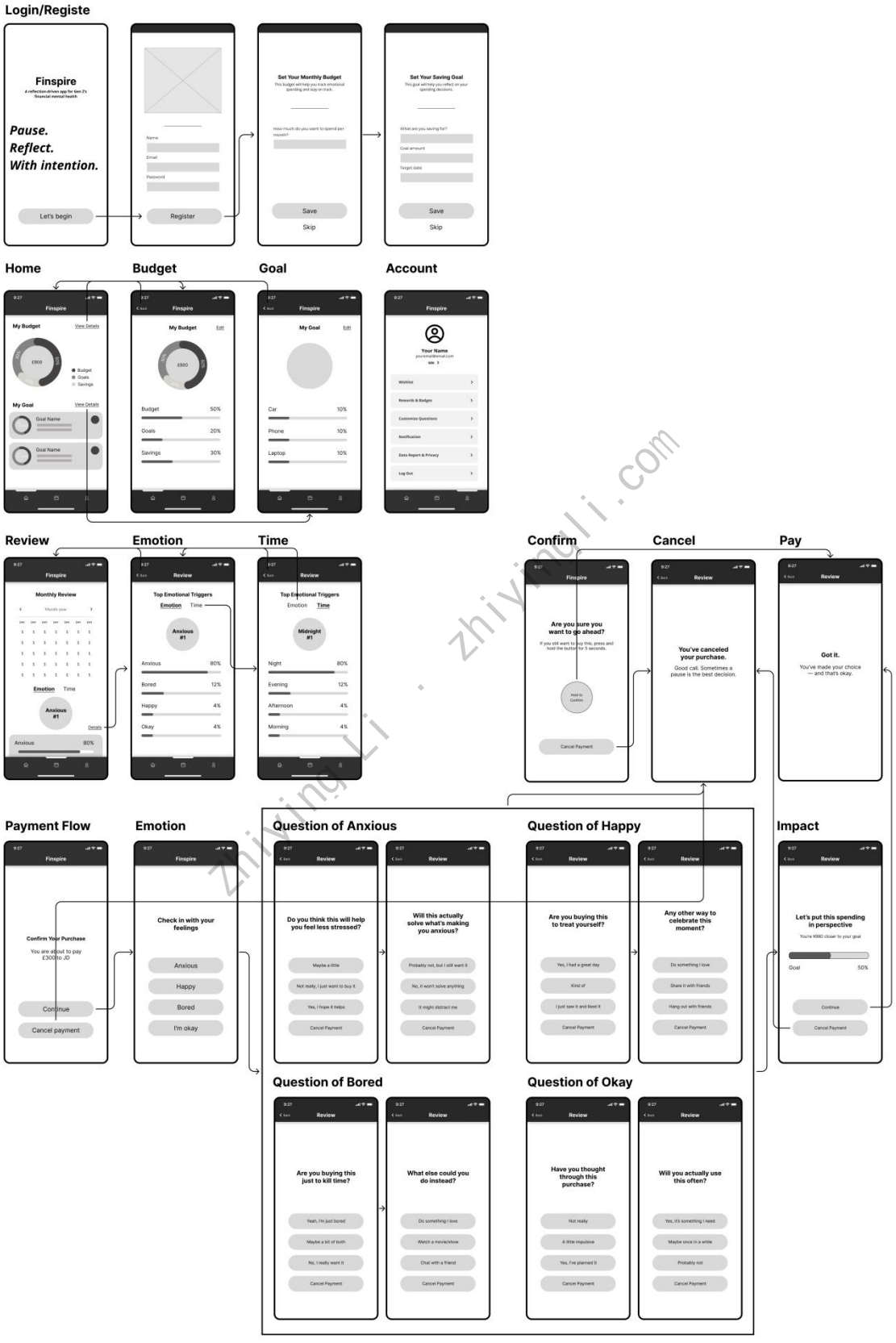

Figure 15. Midi-fi Wireframe

3.5. Style-Guide

The Finspire Style Guide (Fig. 16) defines the core visual identity of the product, aligning its appearance with its core values: mindfulness, emotional awareness, and financial clarity.

The primary color, Deep Brown, conveys stability and trustessential for a finance-related experience—while the accent Earth Orang brings warmth and approachability. A soft Ivory background reduces cognitive load and enhances legibility. Typography is set in the Urbanist type family, chosen for its modern yet approachable character. Font sizes are clearly defined to ensure hierarchy and clarity. Buttons and icons maintain rounded corners and soft contrast to emphasize empathy and reduce friction in interactions. The color-coded system also supports emotional cues, using greens for positive actions like saving or canceling impulsive spending.

Overall, the style guide supports a calm, intentional, and emotionally supportive user experience.

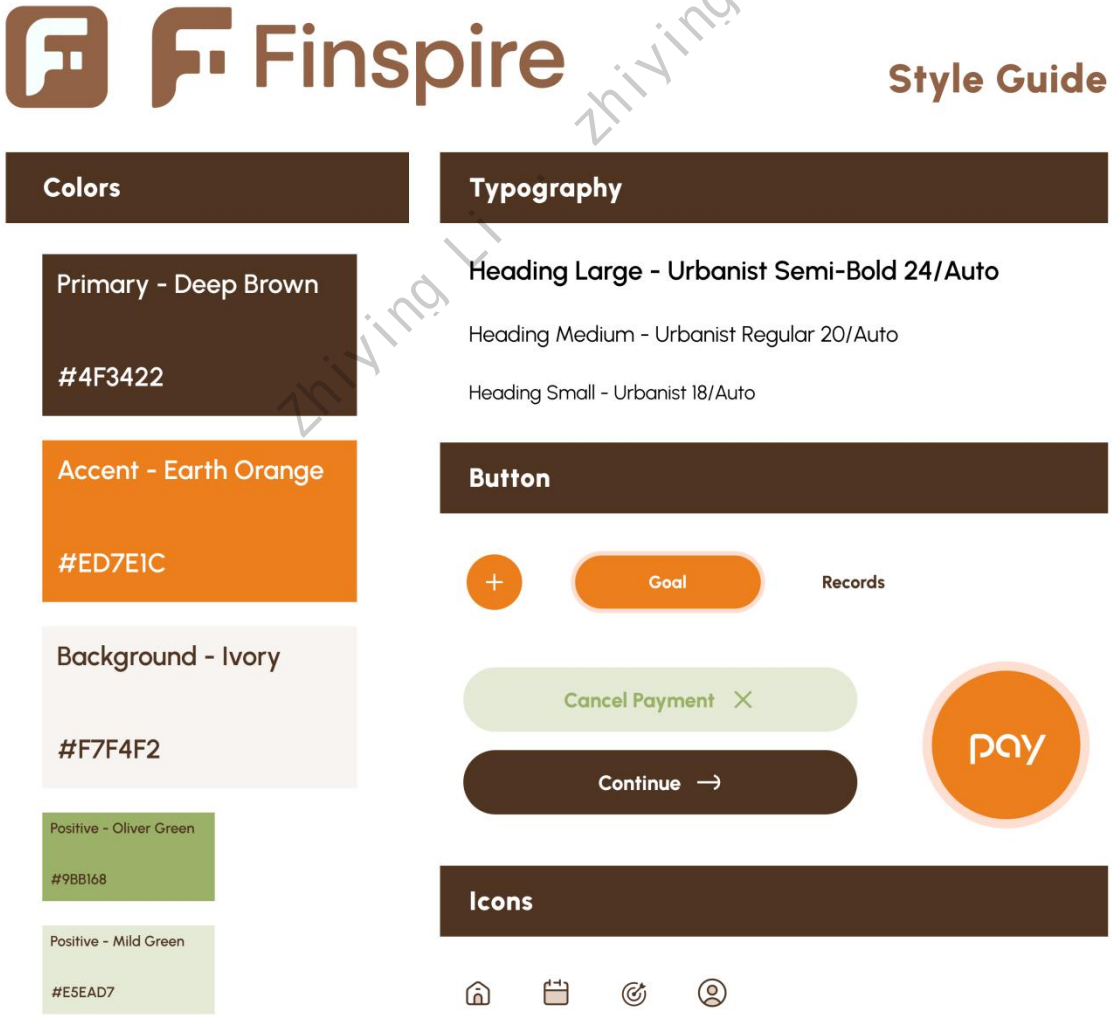

Figure 16. Style Guide

3.6. Hi-fi

Below are several key high-fidelity screens that demonstrate the core functionalities of Finspire (Fig.17).

Figure 17. Style Guide

The complete set of interactive flows and high-fidelity screens (FIg.18) can be accessed via the following Figma link:
https://www.figma.com/design/N8vcSgDyDDdnTRBz5mnJcr/Finspire?node-id=0-1&t=h5ihiGcj29jInOhg-1

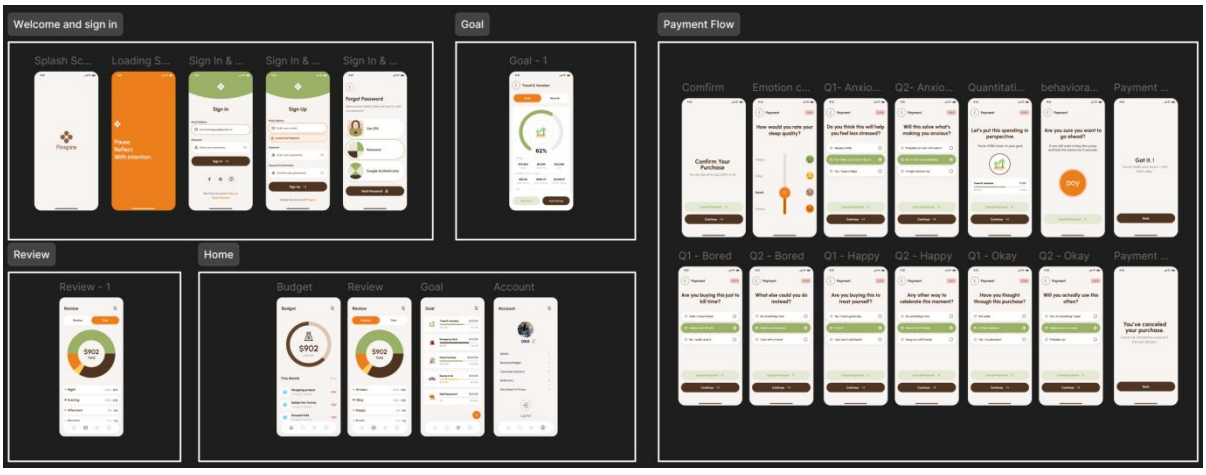

Figure 18. Style Guide

3.7. Lean UX Canvas

A high-resolution version is available at the following link:

https://kingstonuniversity-my.sharepoint.com/:f:/g/personal/k2438742_kingston_ac_uk/EtaFLNNsYg5MshKPD07PgfsB1IOzhh9uUyen7kBc7V6gnQ?e=Ewzi3i

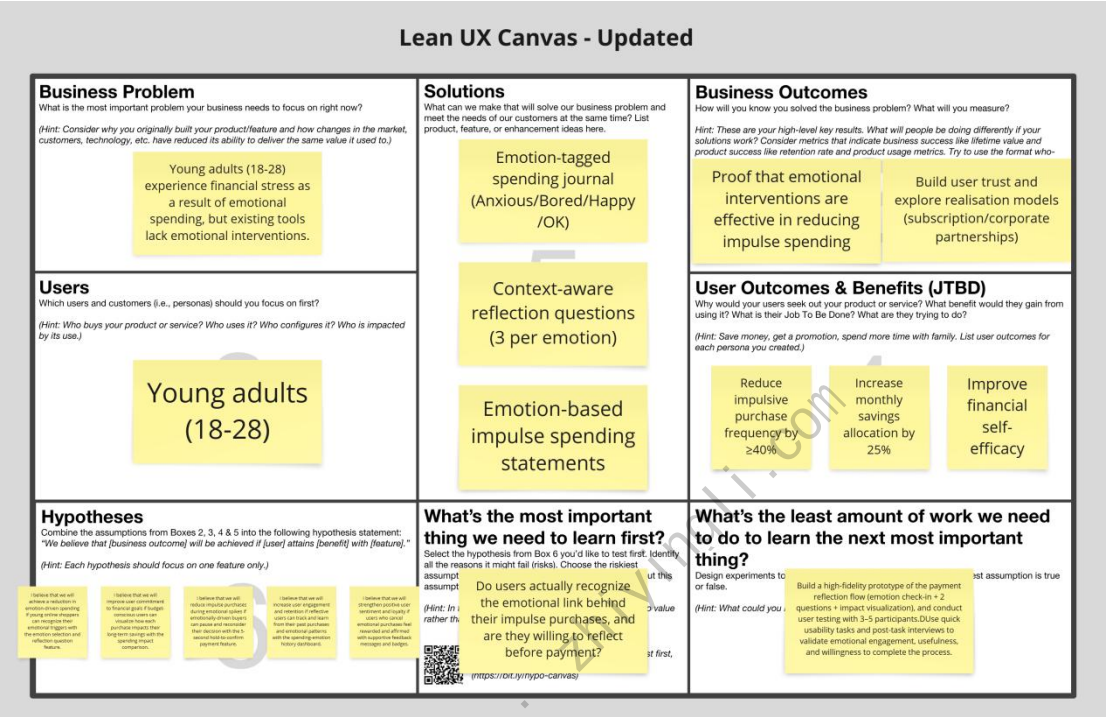

Figure 19. Lean UX Canvas - Updated

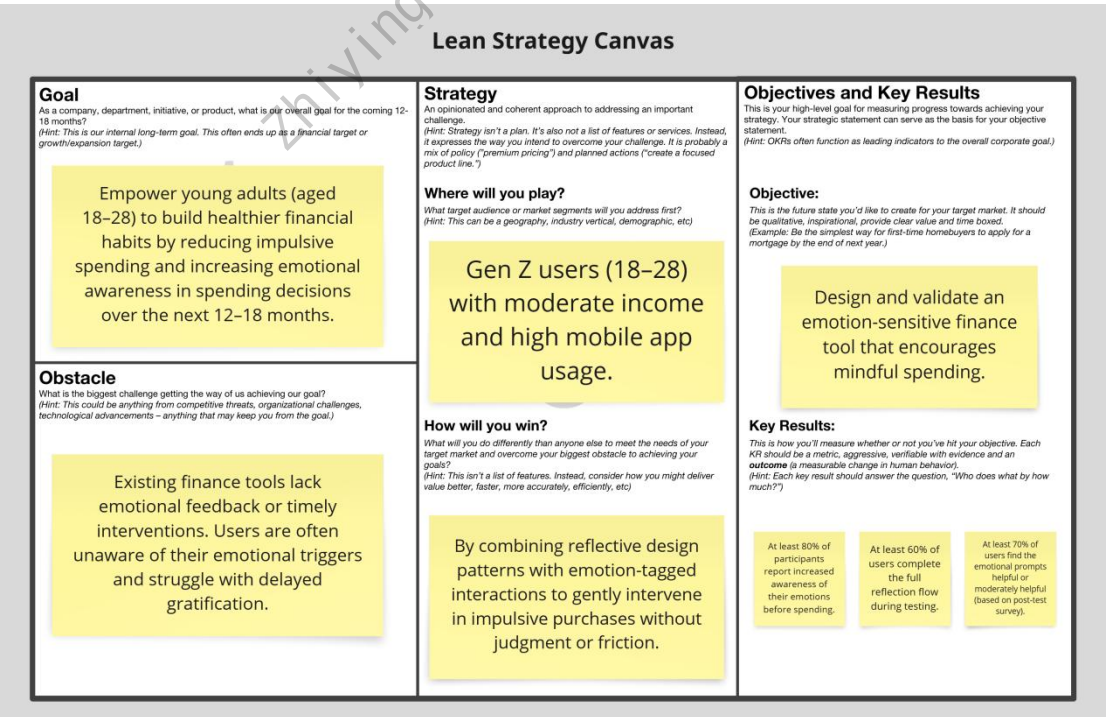

Figure 20. Lean Strategy Canvas

4. Check

4.1. Feedback Testing

Following the completion of the high-fidelity prototype, a round of usability testing was conducted with five anonymous participants to evaluate the emotional check-in and payment flow. All participants successfully completed the assigned tasks and responded positively to the reflection questions, suggesting that the prompts encouraged mindful consideration before confirming a purchase.

This approach aligns with Nielsen and Landauer's (1993) recommendation that testing with five users can reveal up to 85% of usability issues due to diminishing returns. Overall, participants found the flow intuitive and appreciated the opportunity to pause before completing a transaction, supporting the app's goal of promoting emotionally aware financial behavior.

Paticipant ID	Task Completion	Reflection questions helpful?	Overall Flow Feedback
Participant 1	Yes	Yes	The steps felt smooth and not overwhelming. I liked how it made me think before buying.
Participant 2	Yes	Yes	1. Simple and intuitive, though I wasn't sure what the target comparison really meant at first. 2. Some questions were a bit too vague.
Participant 3	Yes	Yes	Good structure. I appreciated the option to cancel without pressure.
Participant 4	Yes	Yes	1. I liked the emotion check—it reminded me to slow down. 2. Having to answer two questions felt a bit much—I just wanted to buy quickly.
Participant 5	Yes	Yes	1. The experience felt calm and helpful, not like a budgeting app that scolds you. 2. It was a nice idea, but the process delayed me more than I expected

Table 5. Feedback Testing Result Table

User feedback revealed both strengths and areas for improvement in the current design. While participants appreciated the emotion-based prompts, several noted that the fixed three-question format made the process feel unnecessarily long and occasionally intrusive. In response, two future design directions are proposed. First, allow users to self-adjust the number of reflection prompts based on the intensity of their emotional state. Second, implement an AI-driven system to gradually learn from user behavior and automatically tailor the number and type of reflection questions, balancing guidance with user autonomy.

4.2. Usability Testing

Based on predefined hypothesis statements, this usability test (Table 6) aimed to validate whether core features supported users in reducing impulse spending and improving financial awareness. Five participants were recruited to complete tasks aligned with each hypothesis. Each task was mapped to a specific feature, allowing clear evaluation of function usability and user reactions. Usability testing provided practical insight into real user behavior and helped validate design directions through task success rates and qualitative feedback.

To ensure a consistent and objective evaluation of usability testing performance, a normalized scoring system was employed. This approach assigns each participant a standardized score between 0 and 1 across three key dimensions: time on task, number of errors, and level of assistance required. The scores were calculated as follows:

- Time Score = 1 − (Actual time taken / Maximum allowable time)
- Error Score = 1 − (Number of errors made / Maximum allowed errors)
- Assist Score = 1 − (Number of assists received / Maximum allowed assists)

Each dimension was weighted based on its relevance to task performance: time (50%), errors (25%), and assistance (25%). The final score was computed using the formula:

$$\textit{Final Score} = (\textit{Time Score} \times 0.5) + (\textit{Error Score} \times 0.25) + (\textit{Assist Score} \times 0.25)$$

In this test, the maximum allowable time was set to 90 seconds, with 0 errors and 0 assists as the performance benchmark.

Hypothesis	Usability Test according to Hypothesis Statement
H1	Select an emotion and complete reflection questions before payment.
H2	Review spending impact visualization
H3	Attempt payment with 5-second hold feature.
H4	Explore the Spending Review dashboard (emotion & time breakdown).
H5	Cancel a purchase and read the post-cancellation affirmation message.

Table 6. Usability Task Table

(1) Hypothesis One

Participants were asked to choose their current emotional state (e.g., anxious, bored) and answer two short reflection questions before confirming a purchase. The task aimed to test whether this step promotes mindful financial decision-making.

Paticipant ID	Time	Number of Errors	Number of Assists	Result
P1	48 Sec	0	0	Pass
P2	62 Sec	0	0	Pass
P3	56 Sec	0	0	Pass
P4	35 Sec	0	0	Pass
P5	50 sec	0	0	Pass
Average	50.2 Sec	0	0	
Score	44.44%	1	1	
Final Score	72.22%			

Table 7. Task Result Table 1

(2) Hypothesis Two

Participants were shown how a potential purchase would impact their savings goals and asked to interpret the meaning. This task assessed whether the visual representation of trade-offs increased spending awareness.

Paticipant ID	Time	Number of Errors	Number of Assists	Result
P1	20 Sec	0	0	Pass
P2	35 Sec	0	0	Pass
P3	26 Sec	0	0	Pass
P4	18 Sec	0	0	Pass
P5	32 sec	0	0	Pass
Average	26.2 Sec	0	0	
Score	70.89%	1	1	
Final Score	85.45%			

Table 8. Task Result Table 2

(3) Hypothesis Three

Users had to confirm a purchase by pressing and holding a button for five seconds, simulating a delay to reflect on the decision. This tested whether the intentional pause reduced impulse-driven actions.

Paticipant ID	Time	Number of Errors	Number of Assists	Result
P1	10 Sec	0	0	Pass
P2	11 Sec	0	0	Pass
P3	9 Sec	0	0	Pass
P4	7 Sec	0	1	Pass
P5	12 sec	0	0	Pass
Average	9.8 Sec	0	0.2	
Score	89.11%	1	90%	
Final Score	92.06%			

Table 9. Task Result Table 3

(4) Hypothesis Four

Participants were instructed to view and interpret past spending patterns through the app's dashboard, which included emotional triggers and time-based summaries. This task examined whether users could derive useful insights for future behavior.

Paticipant ID	Time	Number of Errors	Number of Assists	Result
P1	51 Sec	0	1	Pass
P2	63 Sec	0	0	Pass
P3	68 Sec	0	0	Pass
P4	72 Sec	0	1	Pass
P5	48 sec	0	0	Pass
Average	60.4 Sec	0	0.4	
Score	32.89%	1	0.8	
Final Score	61.44%			

Table 10. Task Result Table 4

(5) Hypothesis Five

Participants went through a purchase flow, chose to cancel it, and were then shown an encouraging affirmation. This task aimed to determine if positive feedback could reinforce reflective choices.

Paticipant ID	Time	Number of Errors	Number of Assists	Result
P1	40 Sec	0	1	Pass
P2	58 Sec	0	0	Pass
P3	46 Sec	0	0	Pass
P4	52 Sec	0	0	Pass
P5	61 sec	0	0	Pass
Average	51.4 Sec	0	0.2	
Score	42.78%	1	0.9	
Final Score	68.89%			

Table 11. Task Result Table 5

(6) Conclusion

All five participants successfully completed all assigned tasks, resulting in a 76.01% task success rat. This supports the usability and clarity of the high-fidelity prototype. According to Nielsen and Landauer (1993), testing with five users is sufficient to uncover most usability issues, which reinforces the reliability of the observed results.

4.3. Calculation and Validation

The usability testing focused on evaluating the effectiveness, efficiency, and satisfaction of the proposed mid-fidelity prototype. Based on the five hypothesis statements, five participants were recruited to complete corresponding tasks reflecting key user flows.

All participants successfully completed their assigned tasks with no critical errors or system breakdowns. Most participants found the reflection questions helpful and appreciated the emotional awareness embedded in the flow. The five-second confirmation was recognized as a useful pause to reconsider, although some suggested making it more visually engaging. Feedback was also collected to improve clarity and reduce potential friction during the emotional check-in.

Key Findings:

- All participants completed the tasks without assistance and with a 76.01% success rate.
- The core features were easy to find and understand, especially budget tracking and spending impact comparison.
- Participants felt the app was intuitive and emotionally supportive, with reflection questions prompting thoughtful moments.
- Some suggested improving the visual feedback on progress and reducing repetition in questions.

Overall, the user experience was perceived as engaging, relevant, and distinct from traditional financial apps.

These findings validate the effectiveness of the core interaction model and support the proposed direction for high-fidelity prototyping.

5. Discussion and Conclusion

This project explored how digital interventions can reduce emotion-driven impulse spending among Gen Z users by combining financial tracking with emotional reflection. Through the Lean UX methodology, the project followed a structured process of research, ideation, prototyping, and testing. Initial insights were gathered from literature review, competitive analysis, and user research, highlighting the gap in existing finance tools that often overlook users' emotional triggers and reflection needs.

Ideation techniques such as How Might We, Crazy 8s, MoSCoW prioritization, and Bull's Eye helped refine a feature set focused on mindful decision-making. The resulting hi-fidelity prototype incorporated emotion selection, reflection prompts, spending impact visualization, and a 5-second hold-to-confirm feature. These were mapped to five hypothesis statements that guided the usability testing.

A round of feedback testing with five participants was conducted to evaluate key features. All users successfully completed the tasks, and the majority responded positively to the reflection process and emotional flow. However, some found the fixed three-question format too rigid and time-consuming. Based on this feedback, two improvements are recommended: enabling users to adjust the number of reflection questions based on emotional intensity, and using AI to personalize the prompt flow over time.

Overall, the project validated the potential of emotion-based interventions in personal finance tools. The proposed design successfully blended cognitive prompts with financial behavior tracking to support self-awareness and mindful spending. The user-centered, iterative process ensured the concept remained grounded in real needs, and the insights gained will inform future high-fidelity development and evaluation. This project offers a promising foundation for designing emotionally intelligent tools that promote both financial health and mental well-being.

6. Referance

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