



SAFRA DUCREAY

USER INTERACTION DESIGN



# EXAMINING RBC'S FRAUD DETECTION PROCESS

REIMAGING RBC'S MOBILE BANKING APP



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**APPENDIX**





**Bank**

**BMO**



It's 2023, and legacy banks are adopting new ways to attract customers.



**2**

Number of tasks to complete.



**2**

Bank accounts to choose from.



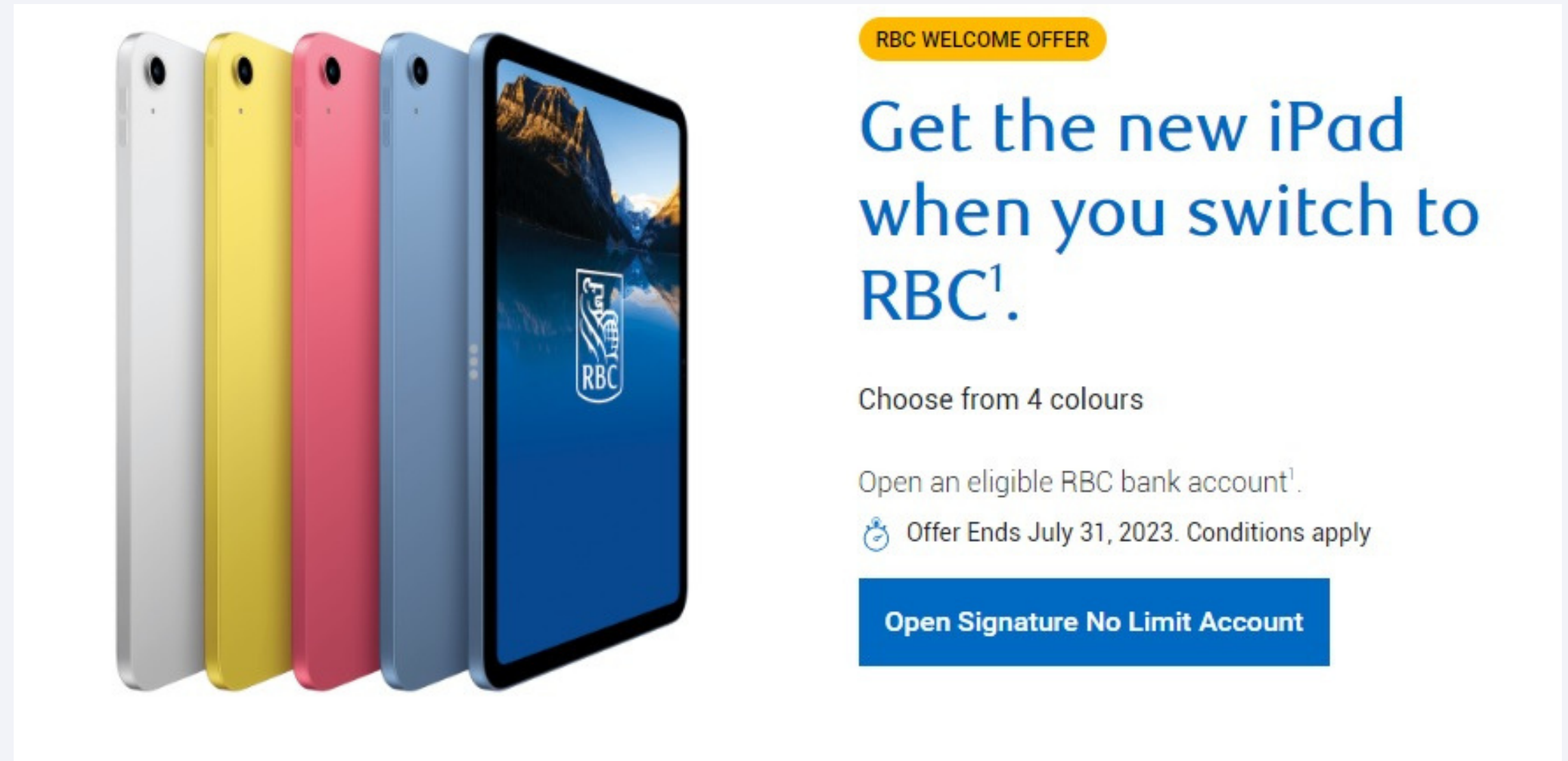
**\$350**

Sign on bonus from RBC.



**4**

iPad colours to choose from.



RBC offered a very enticing promotion: getting a free iPad when you switched to them. The T&C are very clear, and there is an option to open your account online.



# PROBLEM

## FRAUD FACTORS

According to reports, fraud has increased in Canada, with phishing, smishing, fishing, investment scams, and romance and online scams being the most common types of fraud activities.



**218%**

Increase in digital fraud attempts against financial service companies (2021).

**\$530m**

Canadian Anti-Fraud Centre received fraud and cybercrime reports in victim losses (2022).

**43%**

Canadians have knowingly been victims of fraud or scams in their lifetimes.





# LEGACY BANKS NEED TO DO BETTER. THE CURRENT INFRASTRUCTURE IS BROKEN.

I was part of an ambitious project to redesign RBC's fraud verification process for its mobile banking app experience.



# A MORE ACCESSIBLE PROCESS

Our goal for this project was to create a process matching RBC's core values:  
**Client first, collaboration, accountability, diversity and inclusion, and integrity.**

## DIGITAL PRODUCTS

Better integration



# UX TEAM



**01**

## DESIGNER

Makes product or service usable, enjoyable, and accessible.



**02**

## WRITER

Creates copy for apps, websites, and other digital products that help users navigate the product.



**03**

## PROGRAM MANAGER

Oversee the long-term achievement of strategic goals





# UX TEAM



04

## RESEARCHER

Systematically study target users to collect and analyze data that will help inform the product design process.



05

## PRODUCT MANAGERS

Sits at the intersection of business, tech and design while ensuring what is being done to serve the needs of customers makes business sense



06

## DEVELOPER

Builds out the prototype to look and function as closely to the real application as possible.



# MY ROLE

I lead the content design (UX Writer) for this project from May 2023. I expect the project to be completed by August 2023. This is not going to be a complete overhaul. Rather, the intent is to find a simple solution for RBC's existing fraud detection process.

**SAFRA DUCREAY**

Content Designer





# TIMELINE



**MAY**

**PHASE 01**

Organize the project.



**JUNE**

**PHASE 02**

Determine the deliverables.



**JULY**

**PHASE 03**

Design sprint



**AUGUST**

**PHASE 04**

Execute.



# \*DESIGN THINKING



**01**

## DISCOVERY

The preliminary phase involves researching the problem space, framing the problem to be solved, and gathering enough evidence and initial direction on what to do next.



**02**

## EMPATHIZE

Research what your users do, say, think, and feel.



**03**

## DEFINE

Combine all your research and observe where your users' problems exist. In pinpointing your users' needs, begin to highlight opportunities for innovation.



# \*DESIGN THINKING



**04**

## IDEATE

Brainstorm a range of crazy, creative ideas that address the unmet user needs identified in the define phase.



**05**

## PROTOTYPE

Build real, tactile representations for a subset of your ideas.



**06**

## TEST

Return to your users for feedback.



# USER INTERVIEWS

User Interview / Research Notes

Primary research questions  
How do people feel about RBC?

Question 1: How long have you been building with RBC?

Question 2: What made you decide to open an account with RBC?

Question 3: What made you decide to open an account online?

Question 4: Can you walk me through the process that you took to open your account? Start from the very beginning.

Question 5: What happened after you finished opening your account?

Question 6: How did you intend to use your bank account?

Question 7: Did you view your banking bank account?

Question 8: What was the very first transaction that you made on your account?

Question 9: What services and city do you use it?

Question 10: What is the name of the closest bank to you?

Question 11: How often do you do online banking?

Question 12: What is your occupation?

User Research Notes & Quotes

Quote 1: I love it. It's really nice. It's really nice. I like it. I like it. I like it.

Quote 2: I signed up online because it was convenient and straightforward.

Quote 3: I like it. It's really nice. I like it. I like it. I like it.

Quote 4: I like it. It's really nice. I like it. I like it. I like it.

Quote 5: I like it. It's really nice. I like it. I like it. I like it.

Quote 6: I like it. It's really nice. I like it. I like it. I like it.

Quote 7: I like it. It's really nice. I like it. I like it. I like it.

Quote 8: I like it. It's really nice. I like it. I like it. I like it.

Quote 9: I like it. It's really nice. I like it. I like it. I like it.

Quote 10: I like it. It's really nice. I like it. I like it. I like it.

Quote 11: I like it. It's really nice. I like it. I like it. I like it.

Quote 12: I like it. It's really nice. I like it. I like it. I like it.

Quote 13: I like it. It's really nice. I like it. I like it. I like it.

Quote 14: I like it. It's really nice. I like it. I like it. I like it.

Quote 15: I like it. It's really nice. I like it. I like it. I like it.

Quote 16: I like it. It's really nice. I like it. I like it. I like it.

Quote 17: I like it. It's really nice. I like it. I like it. I like it.

Quote 18: I like it. It's really nice. I like it. I like it. I like it.

Quote 19: I like it. It's really nice. I like it. I like it. I like it.

Quote 20: I like it. It's really nice. I like it. I like it. I like it.

Primary research questions  
Why do you want to close your account with RBC?

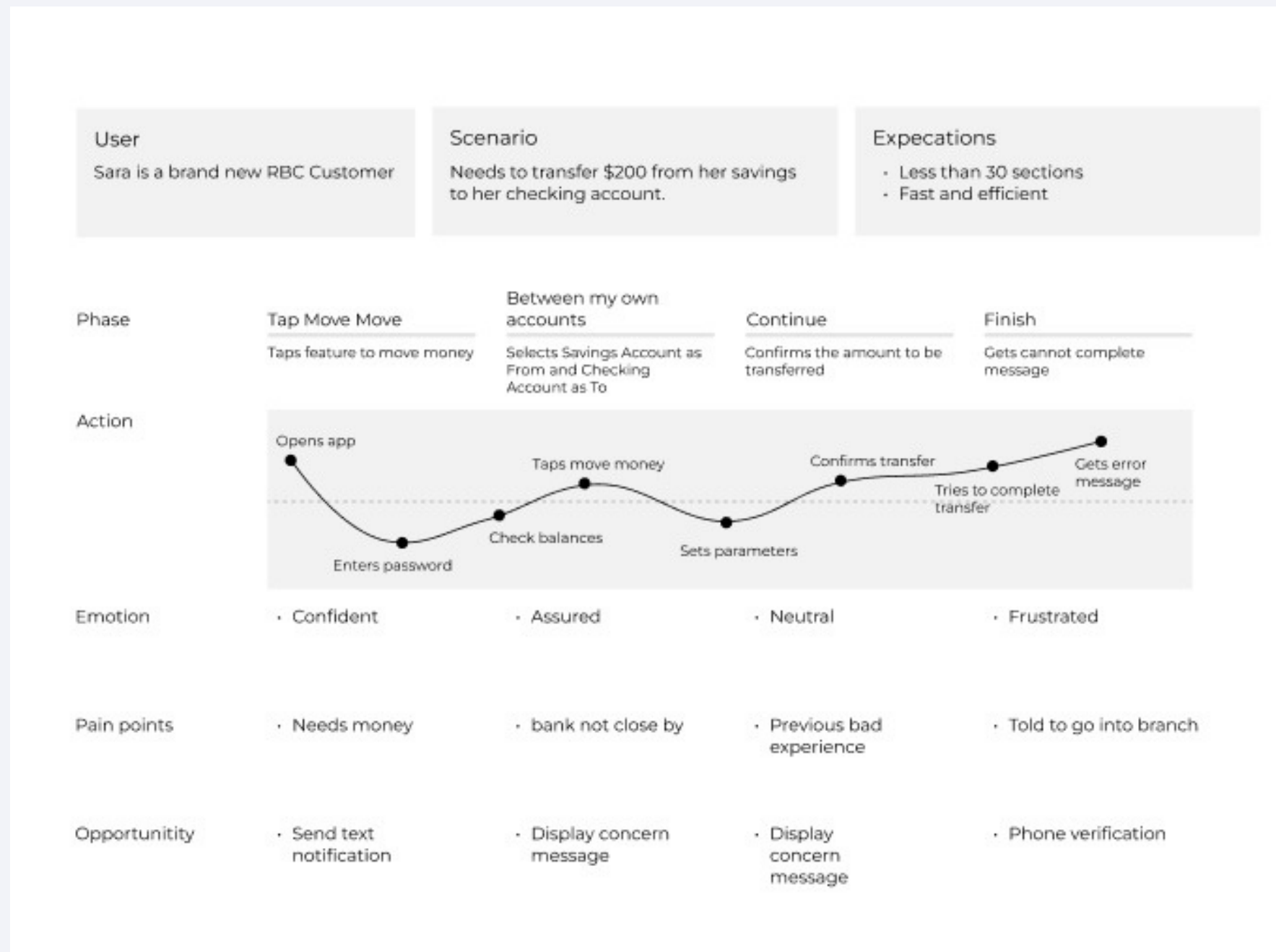
Primary research questions  
Looking back at your negative experience, what could RBC have done better?



# CONTEXT MAPPING



# CUSTOMER JOURNEY MAPPING







Sara

39, Single Parent/Student

FOCUSED

INDEPENDENT

SERIOUS

MULTITASKING

“I’m very busy being a parent, student, and freelancer. My time is important.”

**ABOUT**

Sara is a single parent living in Toronto. She’s studying nursing at Athabasca University. She has two children, Tyler, 6, and Lindsey, 4. She lives in a two-bedroom apartment in downtown Toronto.

Her apartment is very expensive, however, she has lived in the apartment since 2010, so she only pays \$1,800 a month plus utilities. She works full-time as a Personal Support Worker while going to school. She completed a PSW certification however, it doesn’t pay that well, so she’s getting her degree. To supplement her income, she started a virtual consulting business to clients in her parent’s home country.

**GOALS**

- Upgrading her skills by obtaining her degree.
- Recently decided to supplement her income by starting a virtual consulting business for overseas clients.
- Focused on building a stable life for herself and her children.

**FRUSTRATIONS**

- Newly divorced and has to incur a lot of debt.
- Has not been able to grow her finances as she initially hoped.
- Has had trouble accessing bank loans and mortgages.

# USER PERSONA

# "SARA"



“really excited with where things are heading. I've worked hard to get here.”

**ABOUT**

Michael is a Management Consultant living in Toronto. The MBA grad is preparing to leave his full-time job at a major firm to start his own consultant gig. He's taken a huge interest in helping businesses in emerging markets (Africa, APAC, LATAM, etc) build agile teams and organizational change management.

He's very exciting because he's been getting a lot of interest in his business, and he's very excited to go solo. He's been doing a lot of research on the top banks in Canada because he wants to expand his business.

**GOALS**

- Build clients through cold outreach and networking.
- Gathering resources to build a solid business plan.
- Seriously considering establishing his business in America.

**FRUSTRATIONS**

- Canadian banks can be very restricting.
- Feels there is a tight restriction on building wealth in Canada.
- Eager to expand his business to international markets.

# USER PERSONA

# "MICHAEL"





“To be among the world's most trust and successful financial institution

**ABOUT**

“The most significant corporations, institutional investors, asset managers, private equity firms, and governments around the globe recognize RBC Capital Markets as an innovative, trusted partner with an in-depth expertise in capital markets, banking, and finance. We are well-established in the largest, most mature capital markets across North America, Europe, and the Asia Pacific region, which collectively encompasses 81% of the global investment banking fee pool.”

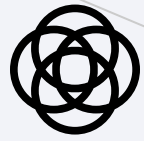
**GOALS**

- Client First: We will always earn the right to be our clients' first choice
- Diversity & Inclusion: We embrace diversity for innovation and growth
- Integrity: We hold ourselves to the highest standards to build trust
- Collaboration: We win as One RBC
- Accountability: We take ownership for personal and collective high performance

**FRUSTRATIONS**

- Fraud activity on the rise in Canada
- Not enough customer facing staff to answer queries
- AI framework a lot more complex to implement

# USER PERSONA



# USER INTERACTION DESIGN

**EMPATHIZE**

## THINK & FEEL

Raised voice, stomping  
foot, crying  
Angry



“I’m incredibly frustrated. I  
can’t even access my own  
money.”

## SAY & DO

## HEAR

She hears an automated  
voice telling them to enter  
their bank account  
information.

## SEE

Sara is being flagged  
because she is receiving  
incoming deposits for less  
than \$2,000 into her  
account

## PAIN

She fears she will have to  
go through the same  
process every time she  
works with new clients.

## GAIN

She would like to have a  
respectful and trustworthy  
relationship with their  
bank long term.



# USER INTERACTION DESIGN

**EMPATHIZE**

## THINK & FEEL

Aloof, disassociated  
Fed-up



“I’m trying to start a business and RBC is one of the better banks to do business with.”

## SAY & DO

## HEAR

They hear an automated voice telling them to enter their bank account information.

## SEE

Michael has been making a lot of international transactions in their business account, and it is constantly getting flagged and frozen.

## PAIN

He is trying to build his business but is worried that the influx of transactions into his account will cause issues.

## GAIN

Michael is trying to build his business.





## USER INTERACTION DESIGN

## PROBLEM STATEMENT



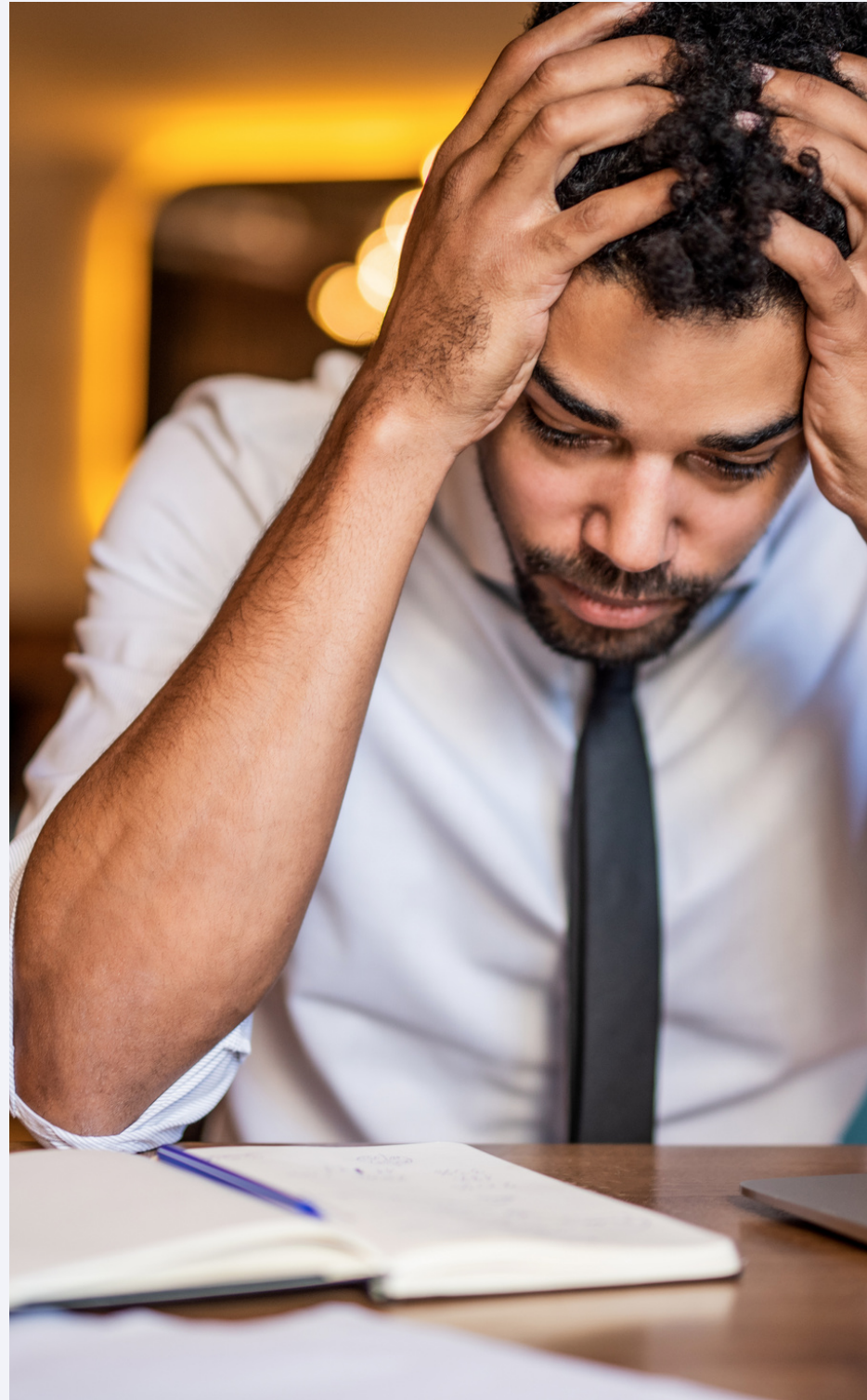
Introduce a new method to reduce false positives in banking anti-fraud systems by using rule induction in distributed tree-based machine learning models, such as Decision Tree, Random Forest, and Gradient Boosting.

Financial institutions can minimize fraud by understanding typical transaction patterns and distinguishing between regular behaviour changes and potential fraud. The future of this technology involves machine learning and real-time data processing, improving the ability to make crucial decisions promptly while anticipating and understanding changes in customers' behaviour.



USER INTERACTION DESIGN

PROBLEM STATEMENT



**BUT IS IT  
FEASIBLE?**





## USER INTERACTION DESIGN

## PROBLEM STATEMENT



As I started to plan out the process, I started to think about how this would actually come together in the real world.

My initial problem was based on emotion.

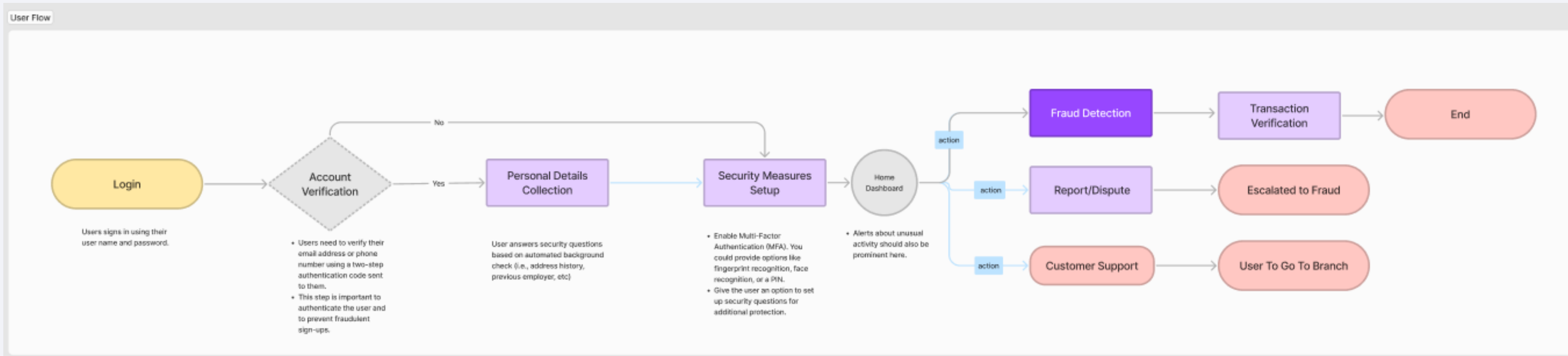
Once I was able to remove negative emotions, I had to ask myself honest questions, "Does RBC actually have the architecture to implement a more streamlined solution around fraud?"

Nonetheless, I started to strip the process down and think about how to really implement the solution.



# USER INTERACTION DESIGN

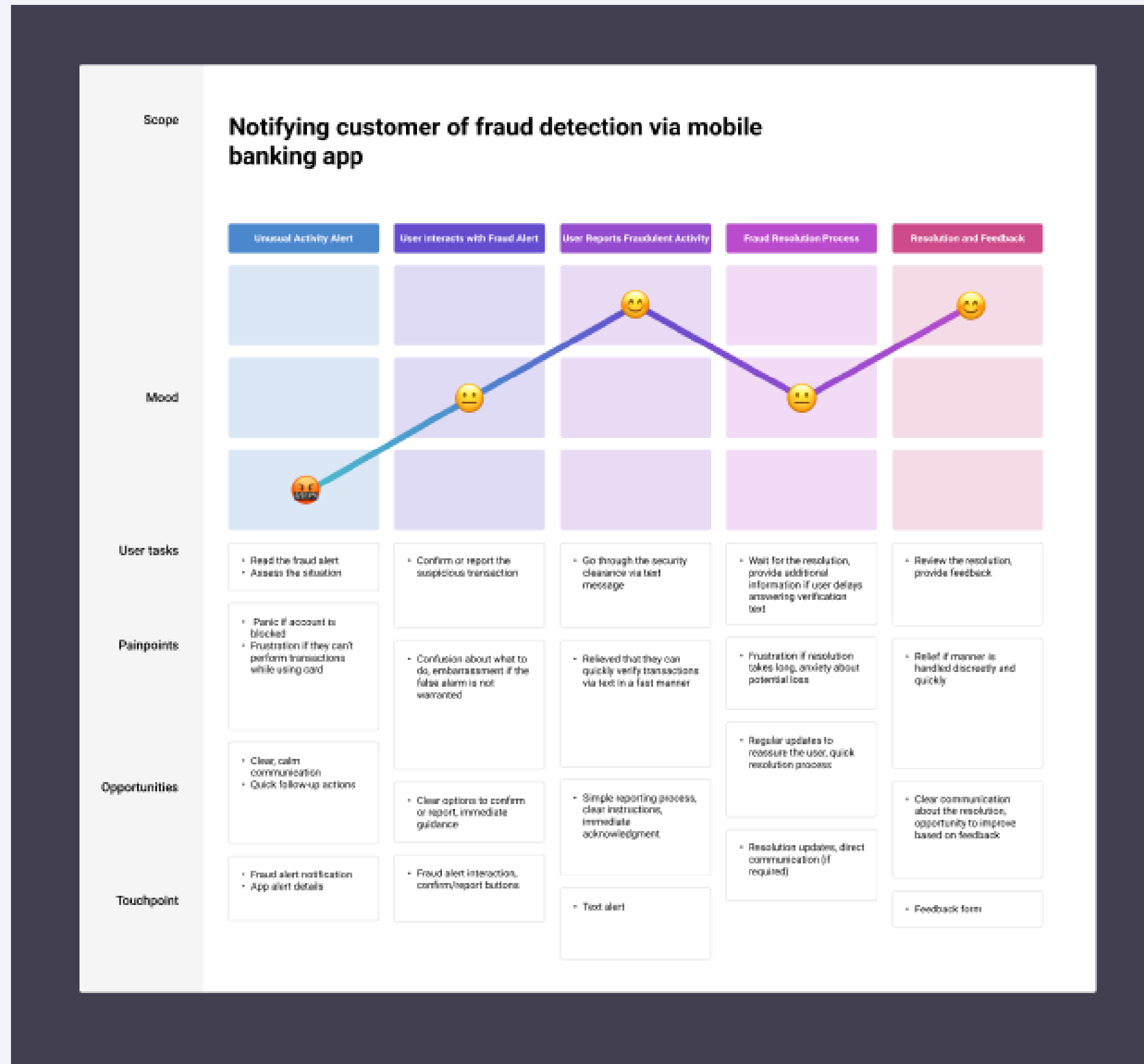
# USER FLOW





# USER INTERACTION DESIGN

# USER FLOW

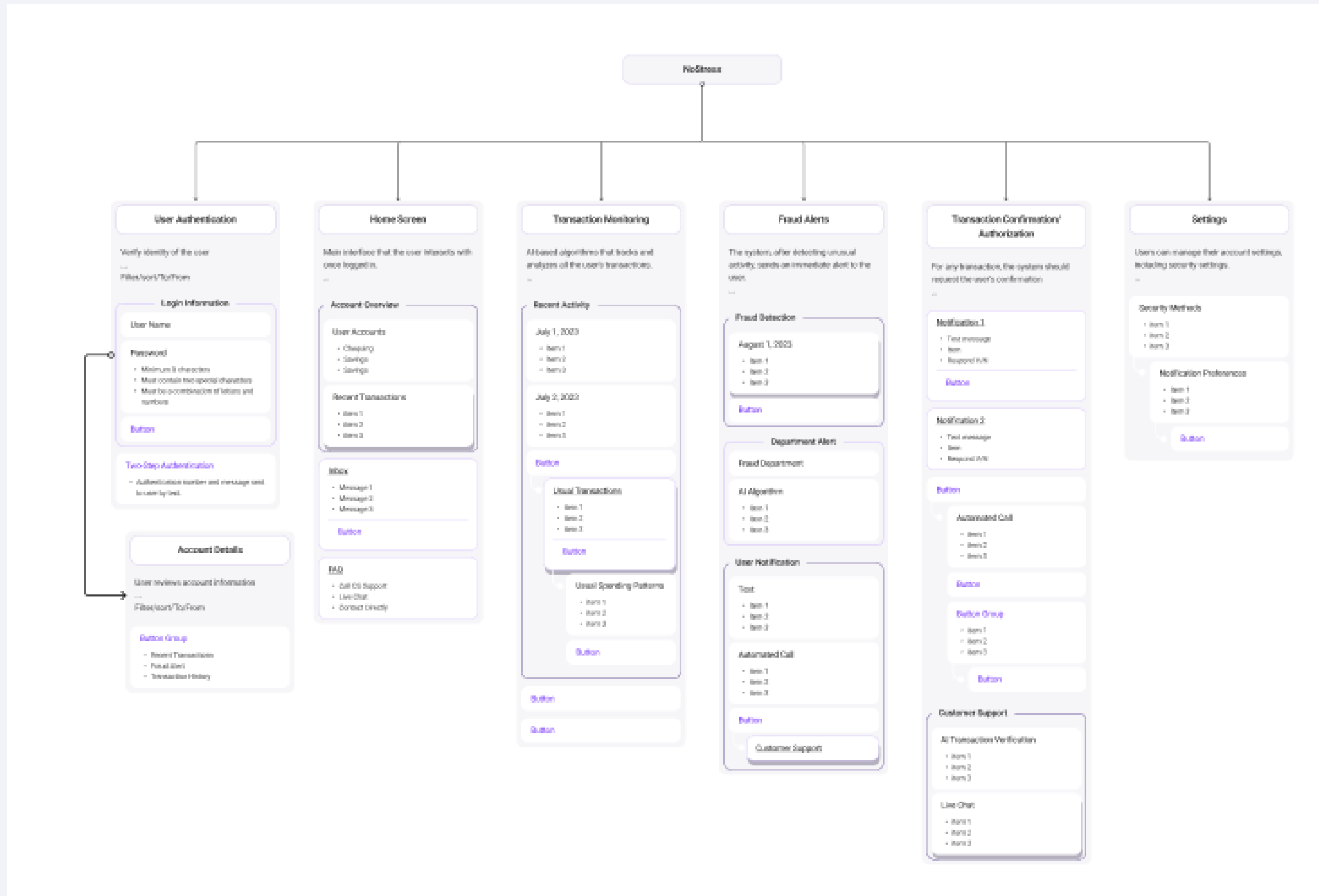






# USER INTERACTION DESIGN

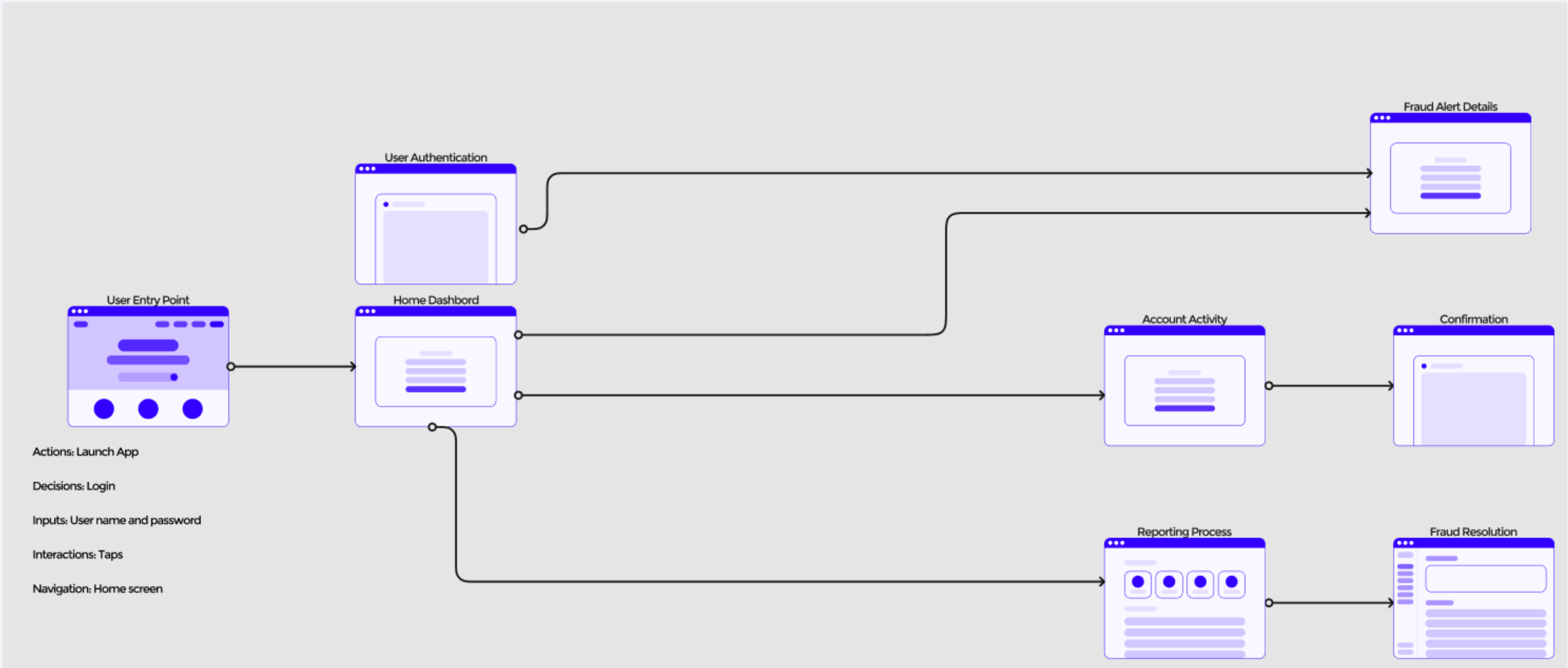
# INFORMATION ARCHITECTURE





# USER INTERACTION DESIGN

# DETAILED USER FLOW

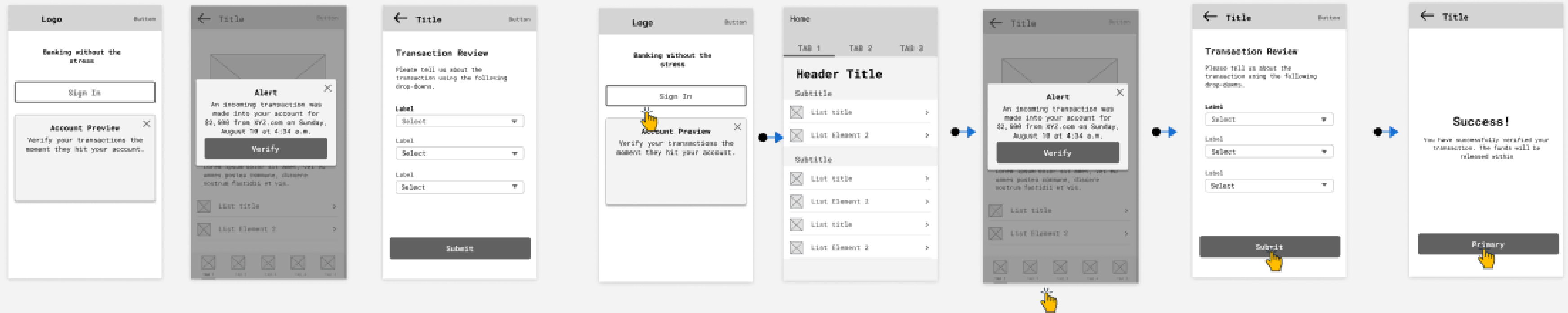




# USER INTERACTION DESIGN

# LOW FIDELITY MOCKUPS

## FLOWS







## USER INTERACTION DESIGN

## ASSESSING THE PROBLEM



As I gathered more research, I realized this wasn't about reinventing the wheel. Creating a new app or introducing a third-party app is not the solution. Instead, introducing a new process inside RBC's current infrastructure made more sense.

RBC's current process for dealing with fraud and false red flags is convoluted and frustrating. However, it is still a bank that has been in operation for 159 years.

RBC's primary target audience is white men at least 40. The bank has an established customer base and may not need a third-party app to help them with their banking.

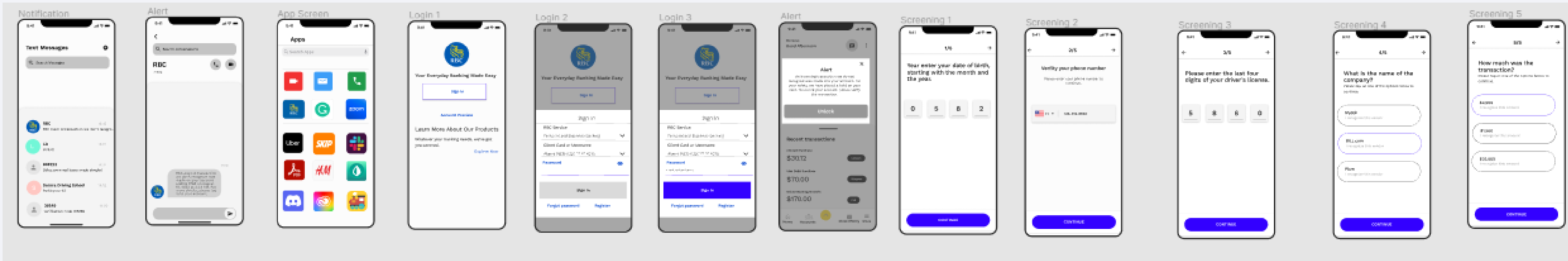
Additionally, the bank generates over \$49 billion in revenue, offering several services besides commercial banking.

Having said that, I felt the best approach was to focus on a simple, seamless process the bank should use when handling "suspicious activity on a customer's account.



# USER INTERACTION DESIGN

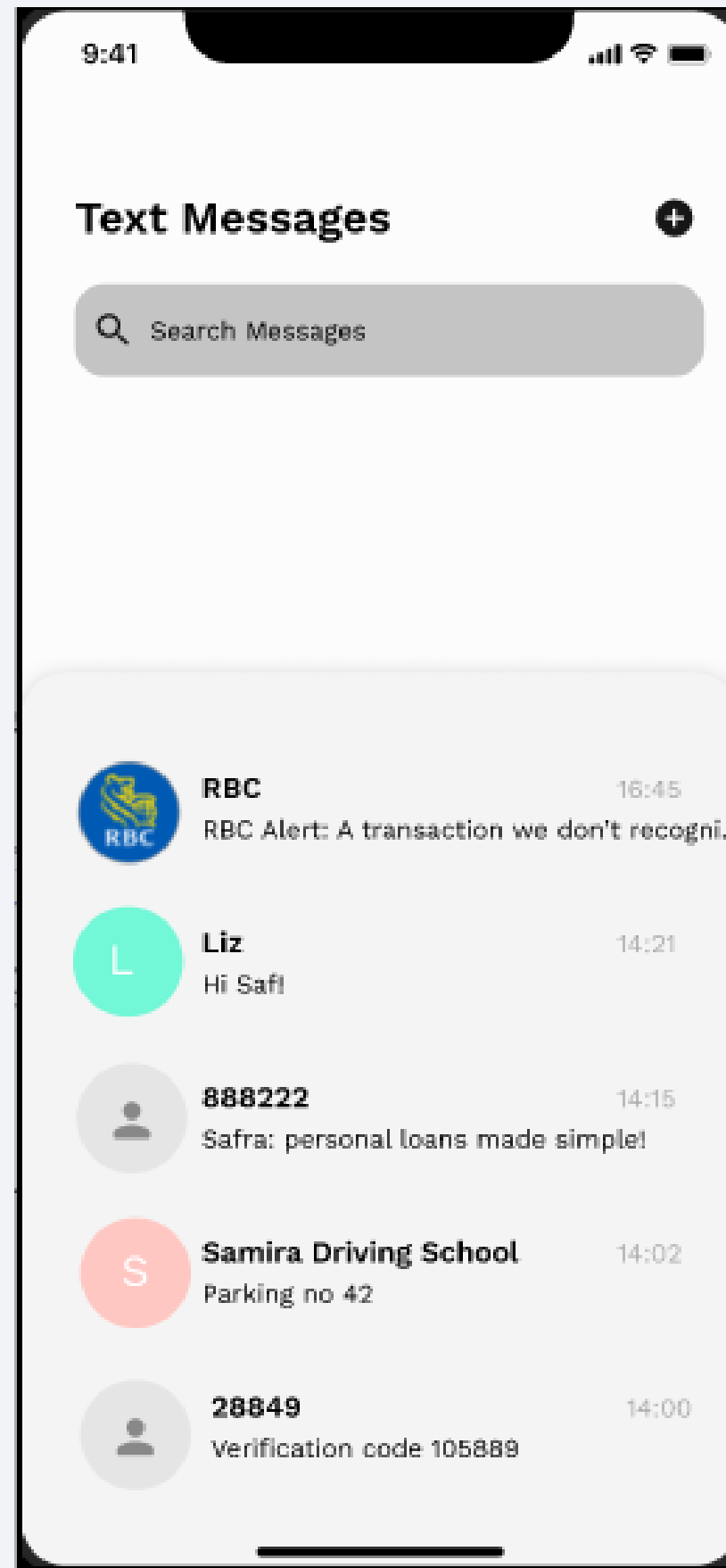
# HIGH FIDELITY MOCKUPS





## USER INTERACTION DESIGN

## FINAL MOCKUP



\*Click [here](#) to view.





## USER INTERACTION DESIGN

## LEARNINGS

In addition to red flags, I had also come to learn that even if you deposit a certified cheque from the Government of Canada into your account, RBC will still place a five-day hold. Regarding their fraud detection and security processes, ongoing issues remain to work through.

As pointed out in RBC's customer persona, its core values are:

- **Client First:** We will always earn the right to be our clients' first choice
- **Collaboration:** We win as One RBC
- **Accountability:** We take ownership of personal and collective high performance
- **Diversity & Inclusion:** We embrace diversity for innovation and growth
- **Integrity:** We hold ourselves to the highest standards to build trust

Unfortunately, their core values do not align with their current information architecture. They still seem quite comfortable using very rigid, outdated processes.

The solution that I would implement is a small step towards making the client feel they come first and that RBC is empathetic to different experiences. While I do believe they will have to change their process as younger, more dynamic competitors enter the market, there needs to be stronger advocacy for users in their existing framework.





# SOURCES

Fraud is too Common in Canada: Nearly Half (43%) of Canadians Have Knowingly Been Victimized by Fraud or Scams in their Lifetime. [Ipsos](#)

Fraud Prevention Month 2023: Fraud losses in Canada reach another historic level. [RCMP](#)

Financial Services Digital Fraud Attempts in Canada Rise 218%. [TransUnion](#)

Ways to protect yourself from common frauds and scams. [TD](#)

Learn more about how banks are protecting Canadians from fraud. [CBA](#)

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# THANK YOU

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