



SafeMilo

Your Shield Against Scams.



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Project Overview



The Problem

In today's digital age, scams are a growing concern for seniors aged 65 and above, who may be less familiar with the technology and common fraud tactics. This makes them easy targets for scammers through fake calls, emails, or websites. With rising online fraud, seniors need a solution that both educates them on recognizing scams and actively helps them avoid falling victim.



Pain Point

Seniors struggle to identify scams due to a lack of awareness and familiarity with fraud tactics. Technology can be overwhelming, making it hard to tell genuine messages from scams. Once scammed, recovering lost money or data is difficult. Even those who haven't been scammed live in fear, making it hard to trust interactions. Accessibility issues like reading small text or using complex apps add to the challenge. Without real-time support, they have no easy way to verify suspicious messages. SafeMilo helps by offering scam education, real-time updates from trusted sources, and an AI-powered chatbot in a simple, user-friendly format.

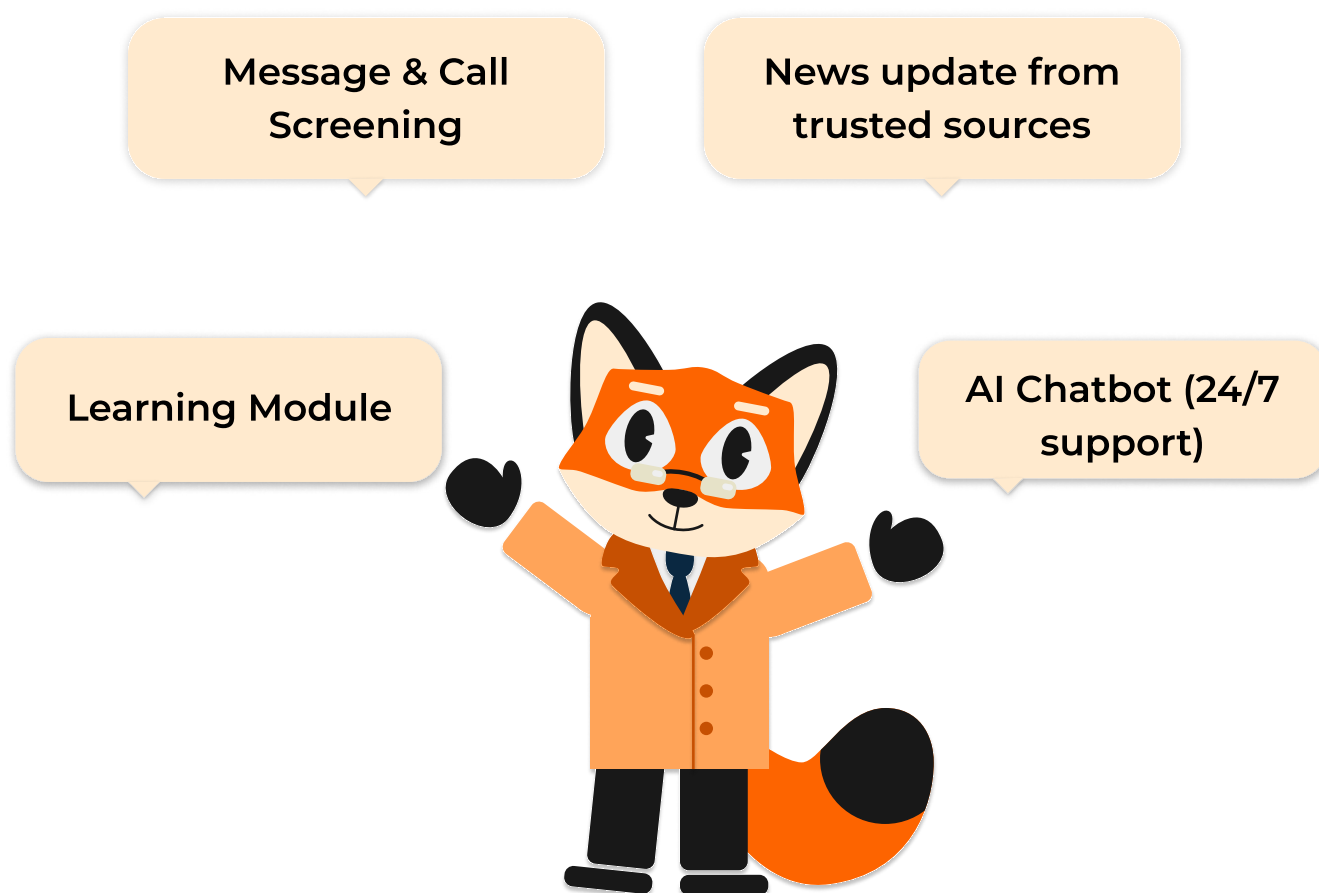


User Motivation

Seniors want to feel safe, especially when using technology. While many are aware of scams, they often don't know how to recognize or protect themselves from them. Technology and scam tactics can be overwhelming and confusing. SafeMilo empowers them with the knowledge and tools to stay safe, giving them confidence and peace of mind. Our goal is to help them feel supported and in control of their online interactions, ensuring they can use technology without fear of fraud.

| The Solution

SafeMilo is a simple and easy-to-use mobile app designed to protect seniors from scams by providing easy-to-understand lessons about different types of fraud, like phishing and fake calls. The app has voice assistance for those who need it, and includes short videos and quizzes to make learning engaging. It alerts seniors about suspicious calls and messages, giving them a warning before they answer. The app also features a chatbot where seniors can ask questions and get instant help with scam-related concerns. Trusted sources like banks and law enforcement provide updates about the latest scams, so seniors can stay informed and safe.





Main Features

| Main Features



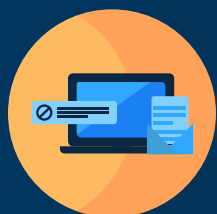
1. Learning Module

SafeMilo provides short, simple scam awareness lessons to educate seniors on fraud types like phishing, fake calls, and online scams. The lessons are easy to read, with voice assistance for those who have difficulty reading. To make learning engaging, the module includes short videos and interactive quizzes.



2. Message & Call Screening

The app automatically flags calls and messages from suspicious numbers to warn seniors before they answer, helping prevent scams like fake lottery calls, tech support fraud, and phishing SMS. Instead of blocking calls, it provides alerts, allowing users to decide how to respond.



3. AI Chatbot (24/7 support)

Seniors can type or use voice commands to ask the chatbot scam-related questions, like checking a website link or verifying suspicious content. The chatbot analyzes the information and provides instant feedback, helping users verify situations without needing to ask anyone else.



4. New Updates from Authorized Organizations

SafeMilo has an organization-side login for trusted sources like banks, insurance companies, and law enforcement agencies to share scam-related news. These updates help seniors stay informed about the latest scams, keeping them alert and better protected from fraud.



Competitive Analysis

Competitive Analysis

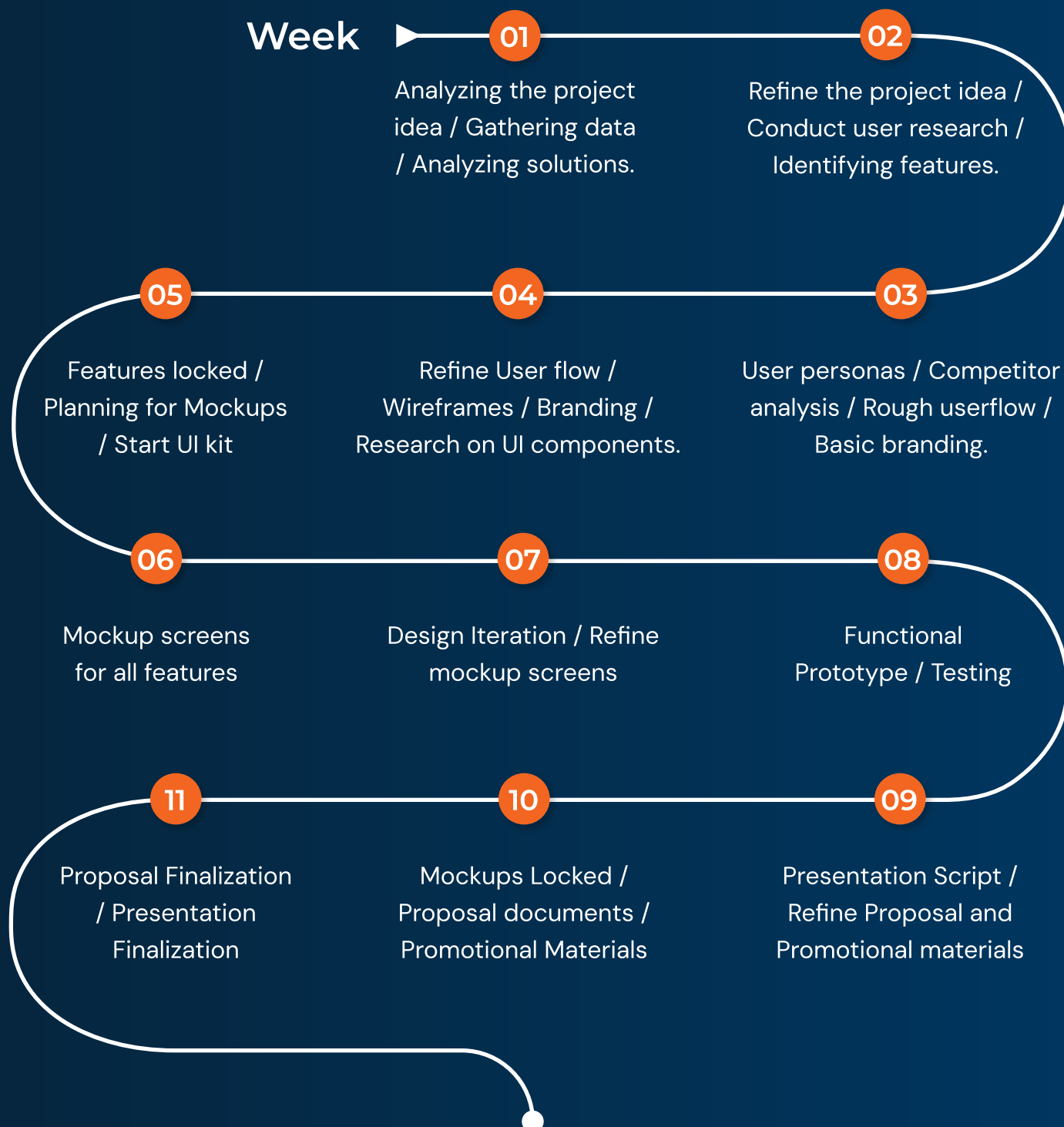
SafeMilo stands out because it offers more than just call and message screening. Apps like Scam Shield only focus on screening, but SafeMilo also has a Learning Module to teach seniors about different scams. Unlike Verify Scams, SafeMilo gives real-time updates from trusted organizations, keeping seniors informed about the latest scams. Plus, the 24/7 AI Chatbot in SafeMilo helps users instantly, which apps like Trend Micro Scam Check don't offer.

				
FEATURES				
Learning Module	✓	×	×	×
AI Chatbot	✓	×	✓	✓
Call & Message Screening	✓	✓	✓	✓
News Update	✓	×	×	×



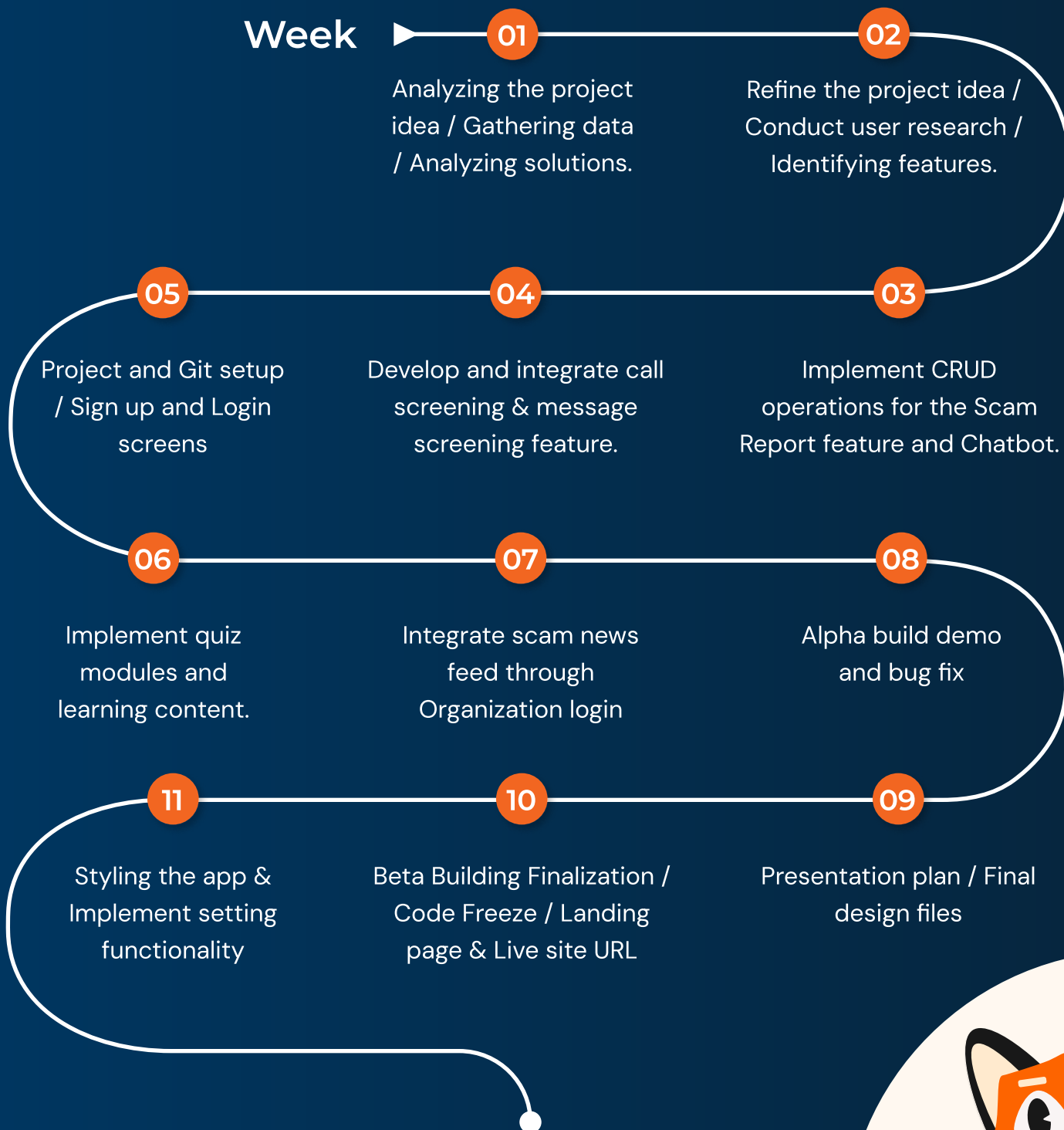
Project Milestones

Design Plan



Final Presentation

Development Plan



Final Presentation

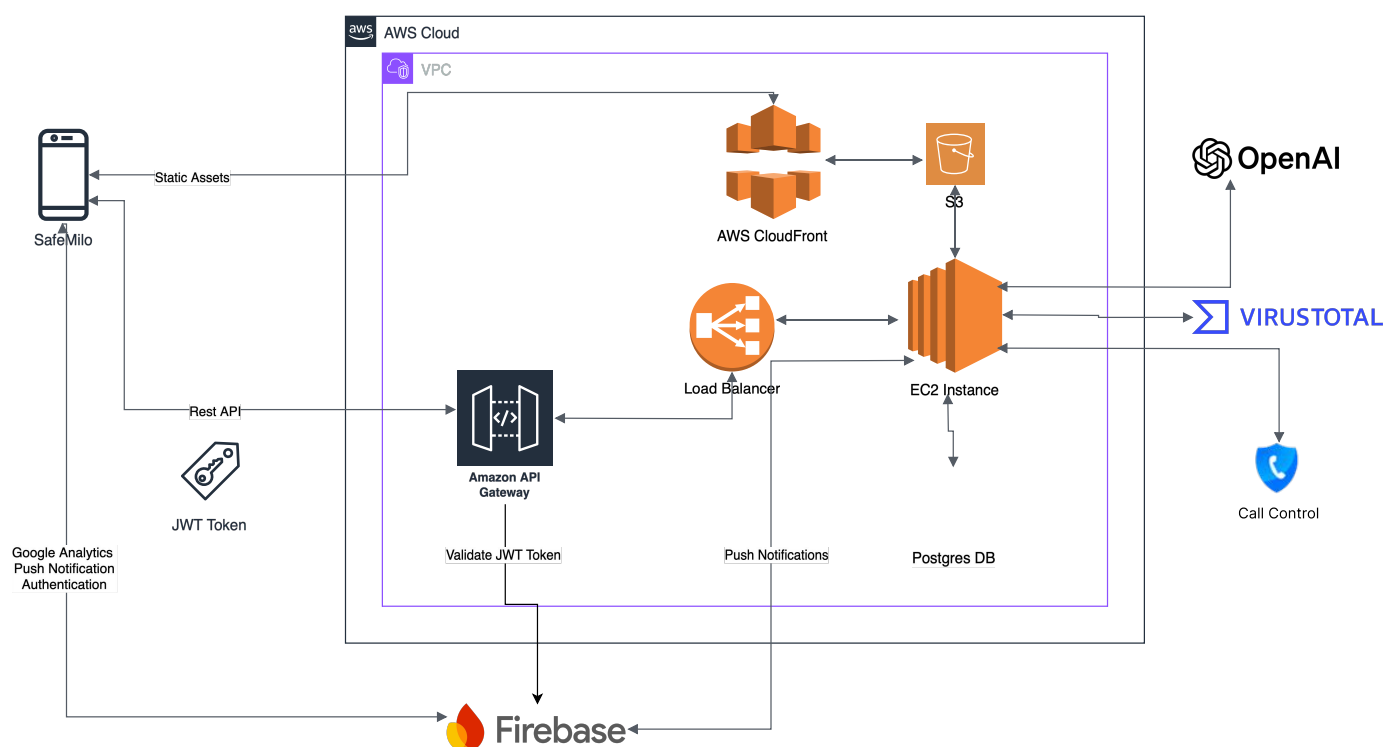




Technical Overview

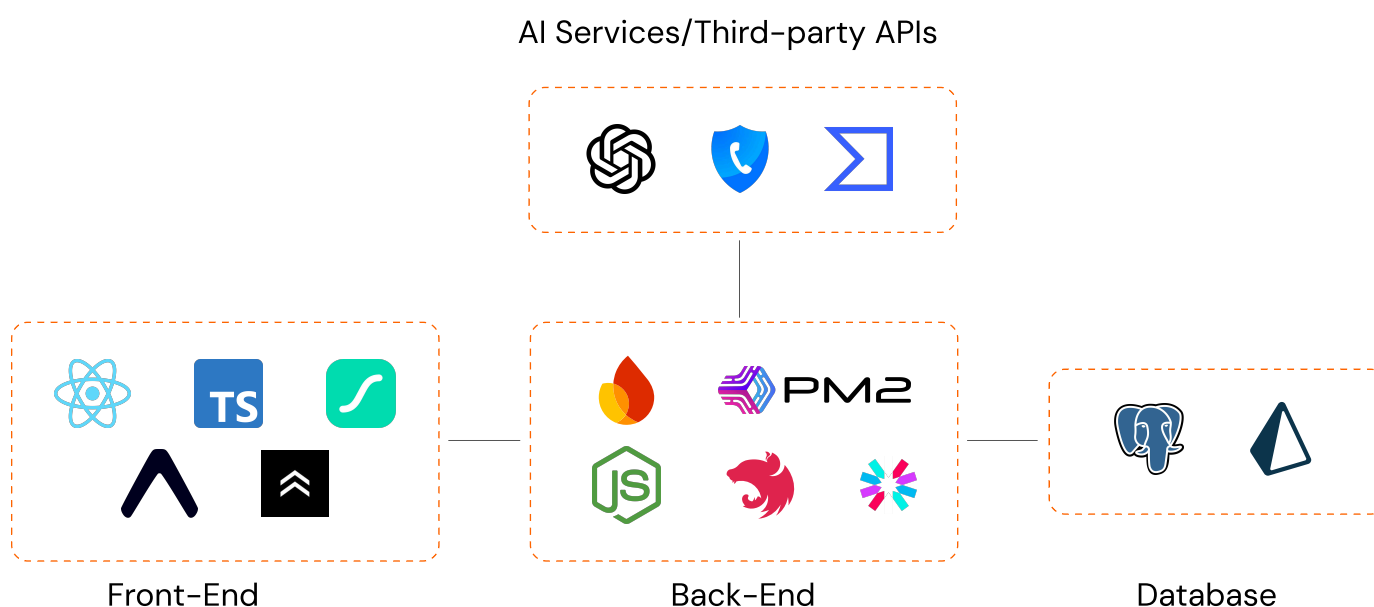
System Architecture

SafeMilo scans incoming calls and messages, sending the data to the backend for spam identification via a Spam Detection Service. For calls and messages, the backend queries a third-party spam detection API (Call Controller) to flag spam, while for URLs, the backend queries VirusTotal to verify and flag spam. The flagged spam data, such as spam phone numbers, is stored in the backend, and the mobile app fetches updated spam data through API requests. Users receive push notifications when a call or message is identified as spam. Users can access lessons and quizzes related to spam, and the Learning Management Service on the backend tracks their progress while providing new lessons and quizzes. Additionally, when users query the app with questions like “What is financial services scam?” or “How do I avoid it?”, the backend routes the query to the Chatbot Service, which communicates with OpenAI’s GPT model to generate and return a response.



Tech Stack

The frontend is built using React Native, while Firebase is used for authentication. The backend uses Node.js and NestJS to handle the business logic and API management, ensuring a scalable and maintainable architecture. For third-party integrations, we incorporate OpenAI GPT for the chatbot functionality, Call Control for spam detection in calls, and VirusTotal for URL verification. The database is managed with PostgreSQL, supported by Prisma as the ORM for efficient and type-safe database interactions. Our cloud infrastructure relies on AWS, utilizing services like EC2 for compute, S3 for storage, and API Gateway for routing and securing our APIs.

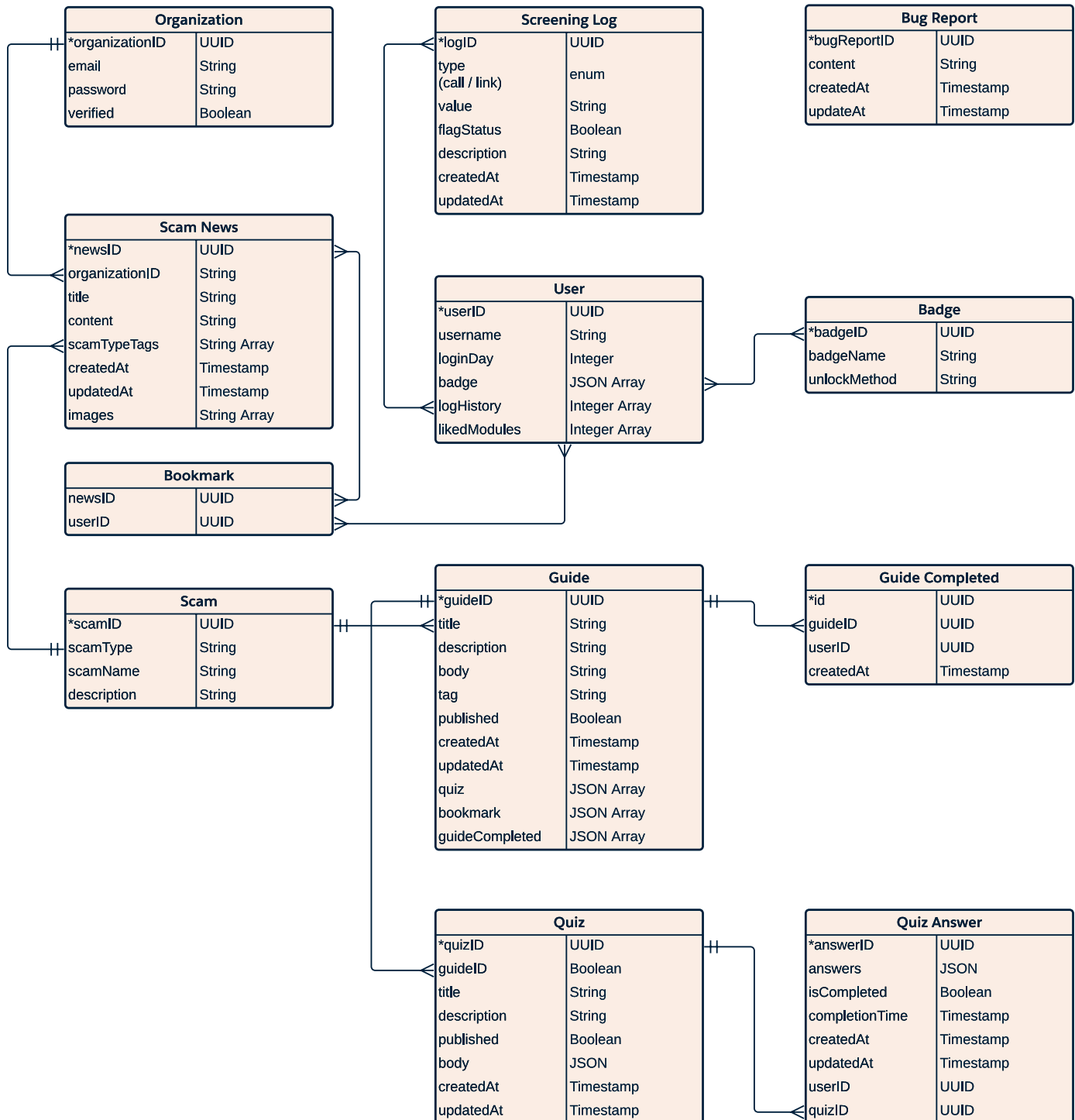


Design Software

Our design team primarily used Figma for the design process (userflow/wireframes/mockups/prototypes). Adobe Illustrator to create Icons and Illustrations. Our proposals and documents were also created using Indesign.



Data Model





User Persona

USER PERSONA #1

Albert Johnson

AGE	65
JOB TITLE	Retired
STATUS	Married
LOCATION	Vancouver, BC

Tech Comfort Level



About

Albert is a retired accountant who lives with his wife. He uses a smartphone, laptop, and smart TV daily, enjoying tasks like reading the news, checking emails, and managing his finances digitally. He is very anxious about financial scams and is always looking to stay alert about new scams

Goals

- Avoid falling for scams, especially financial fraud.
- Stay updated on new scam tactics.
- Protect his personal and banking information.

Digital Behaviour

- Uses email, online banking, and YouTube regularly.
- Skeptical but not always sure what's real or fake.

Pain Points

- Feels frustrated when security advice is too complex
- Struggles to verify legitimate messages from his bank or Medicare.

Opportunities

- Quick, bite-sized lessons to help spot scams easily.
- Verified scam news from respective organizations

Apps Used



USER PERSONA #2

Margaret Scott

AGE	72
JOB TITLE	Retired
STATUS	Widowed
LOCATION	Vancouver, BC

Tech Comfort Level



About

Margaret is a retired school teacher living independently. She uses her smartphone to stay connected with family and browse the internet. She enjoys Facebook, email, and online shopping but often feels uncertain about online safety.

Goals

- Wants to be protected from scams
- Feel confident using technology without fear.
- Protect her personal and banking information.

Digital Behaviour

- Uses a smartphone and tablet but prefers simple interfaces.
- Often asks her daughter for help with tech issues.

Pain Points

- Struggles to identify real vs. fake warnings online and confused with technology
- Gets frequent scam calls and suspicious emails.

Opportunities

- Call and message screening and alerts
- Simple and senior friendly UI.
- Quick, bite-sized lessons to help spot scams easily.

Apps Used





UI Kit & Components

UI Kit

Brand Colors

For SafeMilo, we chose a color palette that feels trustworthy, friendly, and safe to build seniors' trust. With enough contrast for readability, the palette creates a sense of security and warmth, making the app feel safe and easy to use. Overall, it balances accessibility with a protective, user-friendly environment for seniors.

Primary Colors



Blaze Orange
#FD6500



Milo Blue
#0A2941

Secondary Colors



Sandy Brown
#FFA45A



Sandy Beach
#FFEACE

Accent Colors



Butter Cup
#F5BB41



Portica
#FCE04A

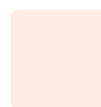


Supernova
#FFCA0A



Picasso
#FEF1AC

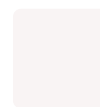
Supporting Colors



Background Linen
#FBEDE5

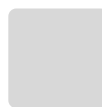


Black
#2C2C2C



White
#F9F4F4

Greyscale



Grey 1
#D9D9D9



Grey 2
#9A9A9A



Grey 3
#7B7B7B



Grey 4
#515151

Alert Colors



Alert Red
#EE0000

| UI Kit

Our Logo

The logo combines two key elements: Milo the fox, the app's mascot, and a shield, which represents protection. Milo adds a friendly and approachable touch, while the shield emphasizes safety and security, aligning with the app's purpose.



App Icon



Logomark



Horizontal Logo

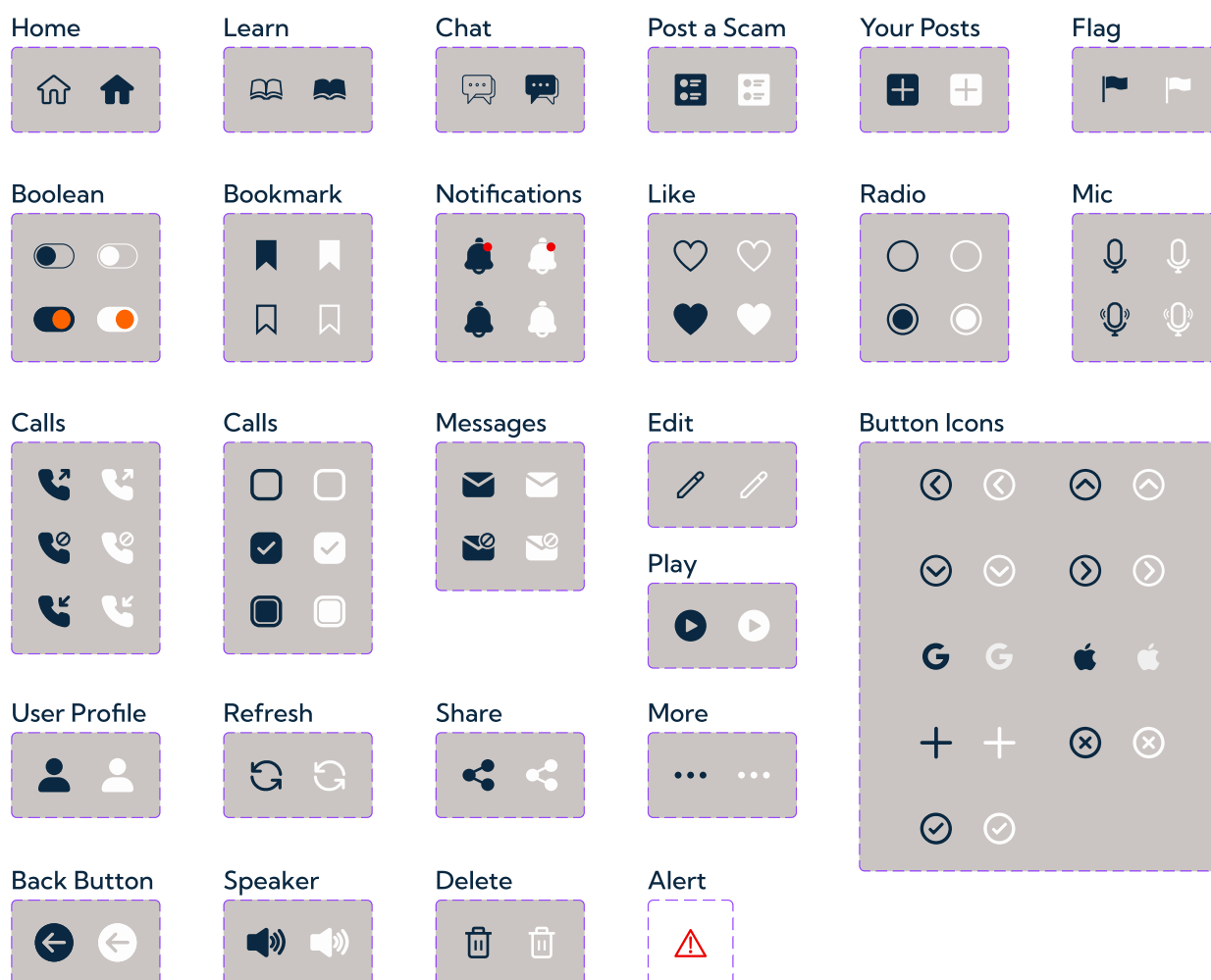


Vertical Logo

UI Kit

Iconography

The app utilizes flat icons to maintain a modern and user-friendly look, ensuring clarity and ease of recognition. This design choice enhances user experience by providing intuitive navigation and visual consistency throughout the interface. Flat icons also contribute to a clean layout, allowing users to understand at a glance.



UI Kit

Typography

Montserrat is a type choice for SafeMilo as it offers clear, readable text that's easy on the eyes, which is important for seniors. Its clean, modern design ensures both headers and body text are legible, creating a consistent and user-friendly experience, aligning with our purpose.

Regular

Medium

Bold

Sm Sm Sm

Type Scale

Weight

Font Size

Line Height

Letter Spacing

H1

Semi Bold

32

43

0

H2

Semi Bold

28

45

0

H3

Semi Bold

26

40

0

H4

Semi Bold

24

38

0

BodyText -1

Medium

20

32

0

Body Text -2

Medium

18

29

0

Captions

Semi Bold

14

Auto

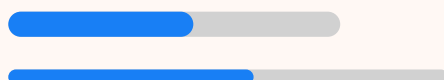
0

UI Kit

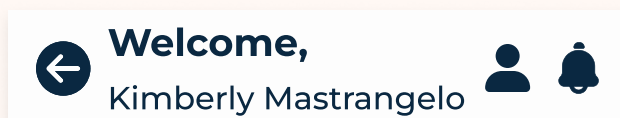
Buttons

	Primary	Secondary	Text Button
Default			
Disabled			

Progress Bar

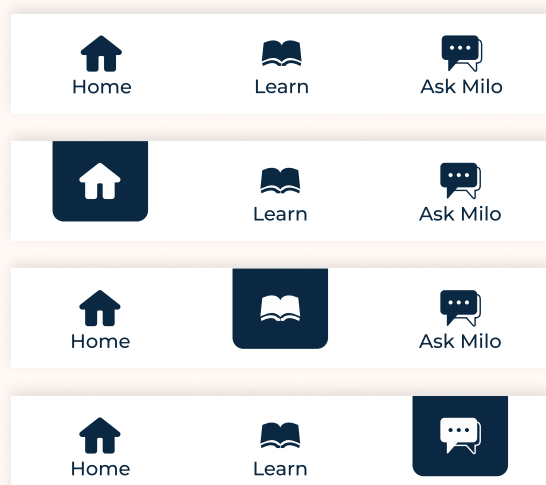


Top Navigation

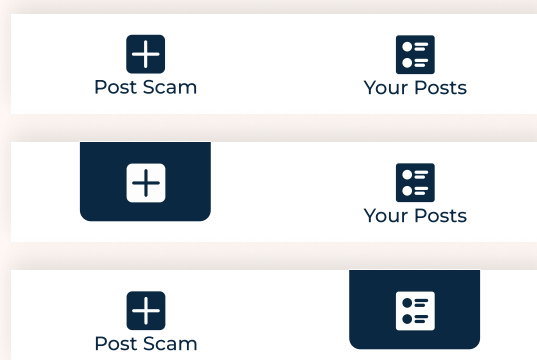


Bottom Navigation

General User



Organization User



UI Kit

Input Fields

Default	Lable Message will be displayed here	Lable Message will be displayed here
Focused	Input Message will be displayed here	Input Message will be displayed here
Typing	Value Ent Message will be displayed here	Value Ent Message will be displayed here
Value Entered	Value Entered Message will be displayed here	Value Entered Message will be displayed here
Error State	Value Entered Message will be displayed here	Value Entered Message will be displayed here
Disabled	Lable Message will be displayed here	Lable Message will be displayed here

Quiz Options

Unselected	Pay immediately to avoid trouble
Selected	Pay immediately to avoid trouble

Illustrations



Cards

 Listen
✕

Did you know...

Never share One time password or codes with anyone—not even your bank?

Do you need assistance?

Ask Milo



Scam Awareness Basics

Lesson 05/10 50% Complete

Continue Learning



Allow Access to your Message

Allowing 'SafeMilo' to access your messages will help protect you from scam messages.

Deny

Allow



Browse Scam Categories

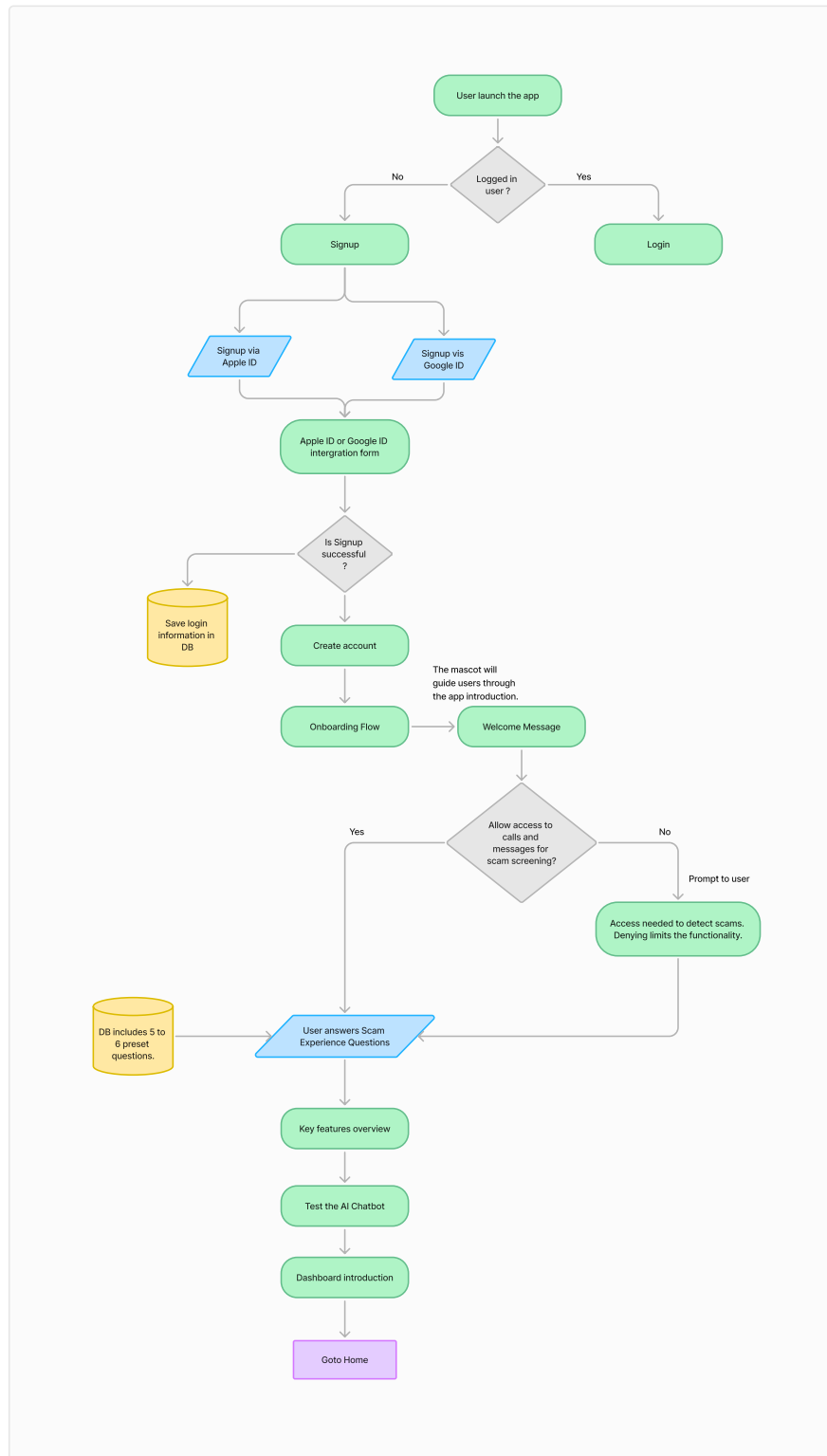
Explore more modules!



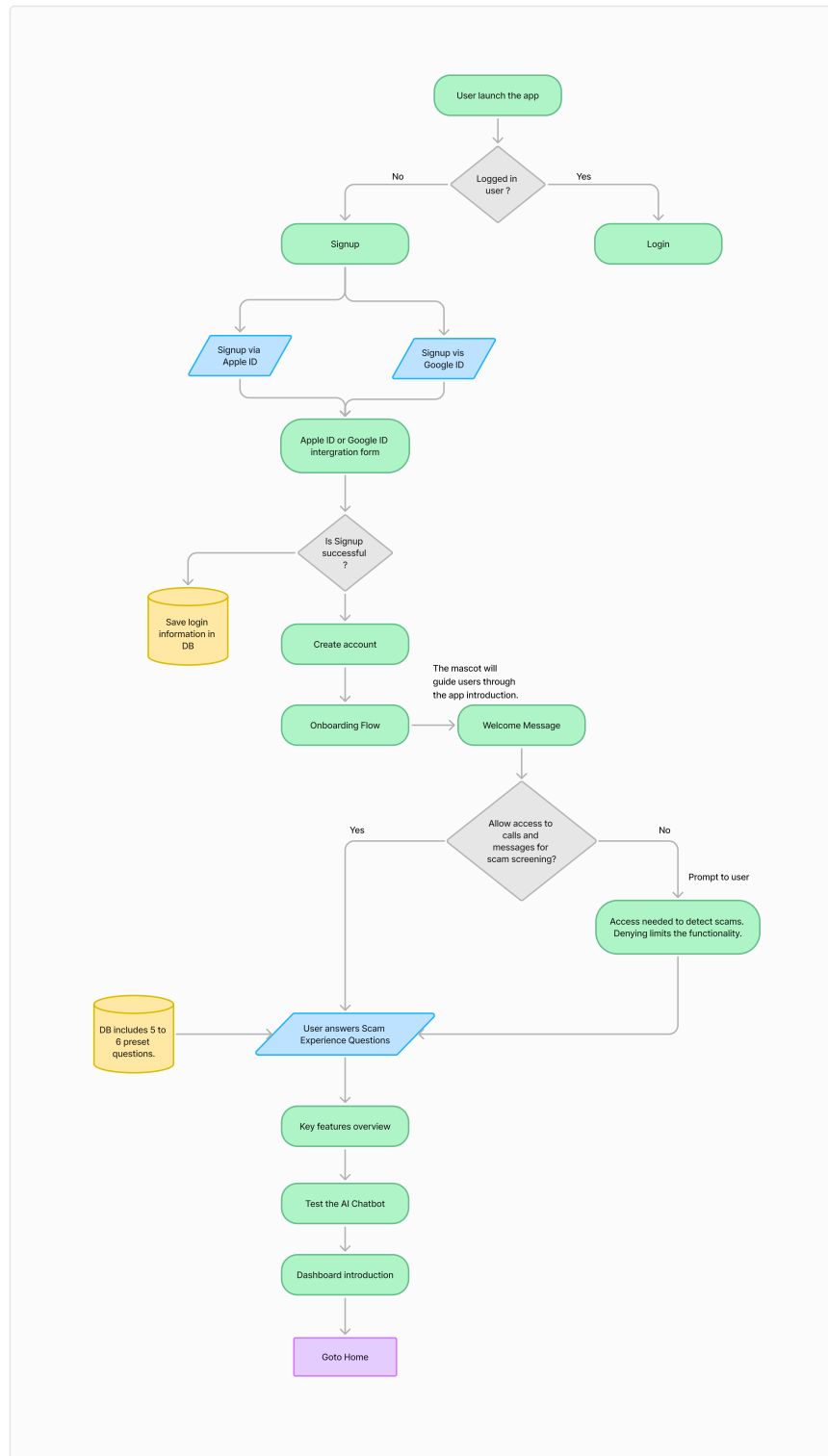


Wireframe & Mockups

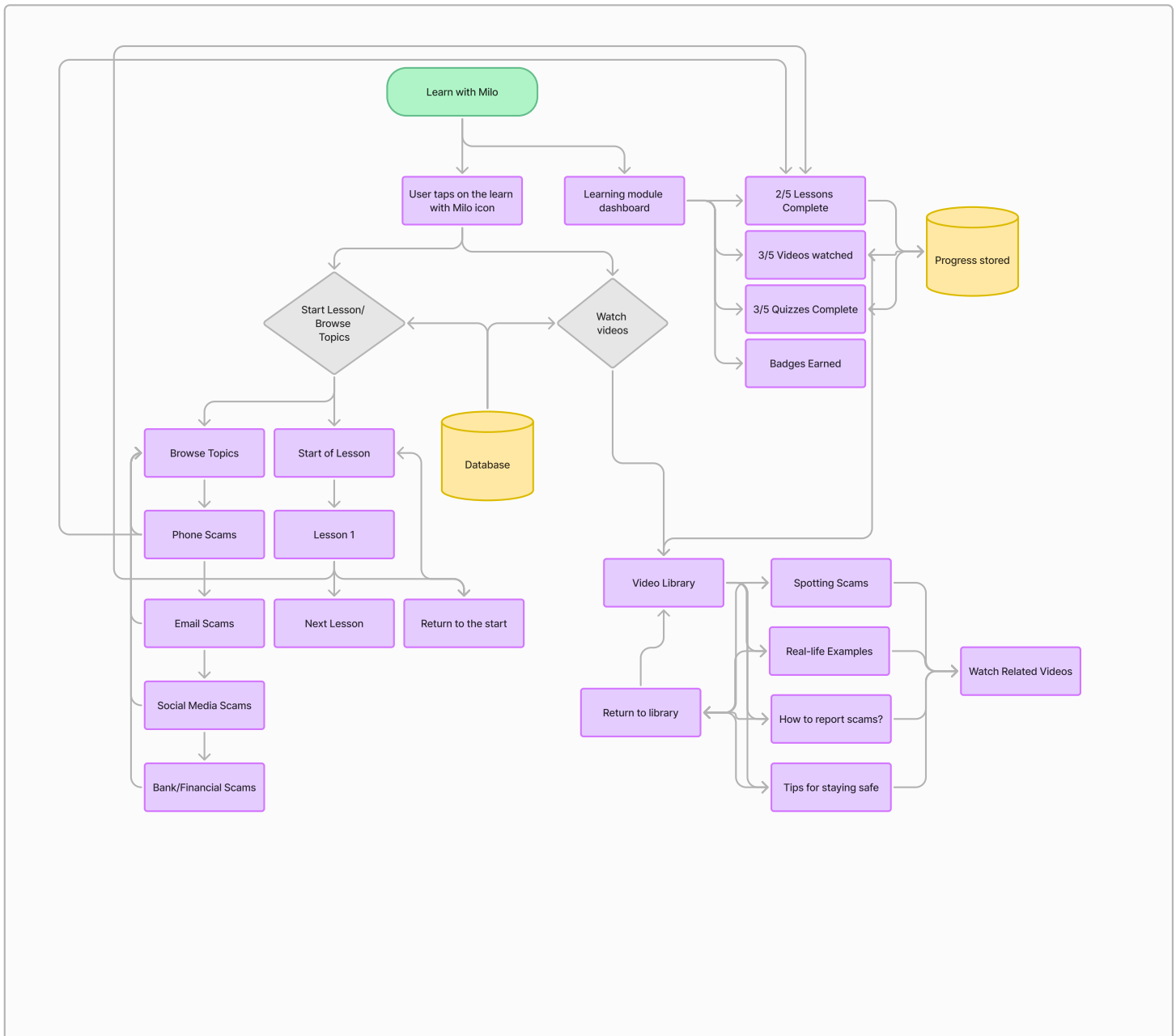
1. Onboarding flow



2. Signup/Signin

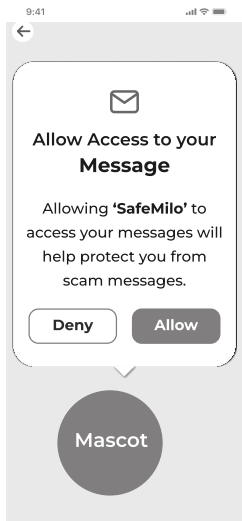


3. Learn Flow

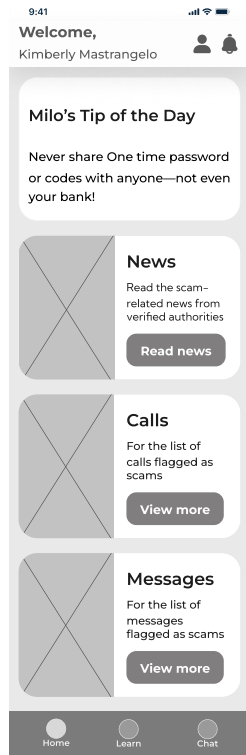


Wireframes & Mockups

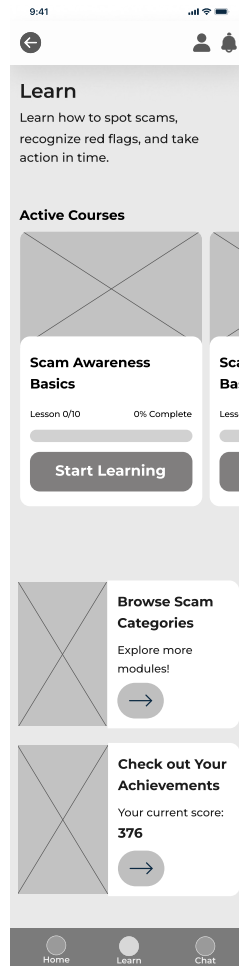
Access Request



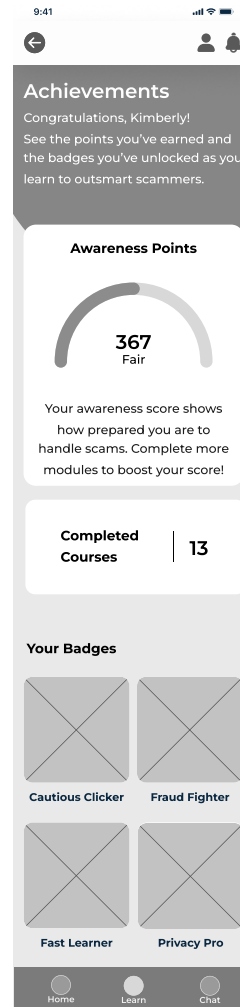
HomePage



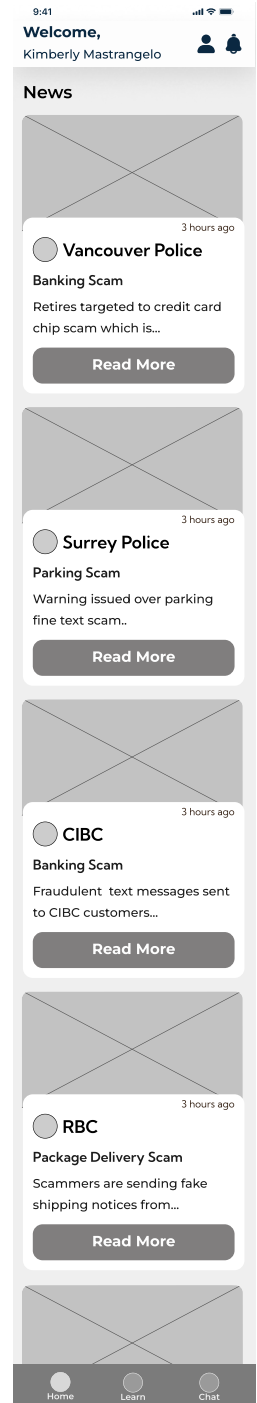
Learn Screen



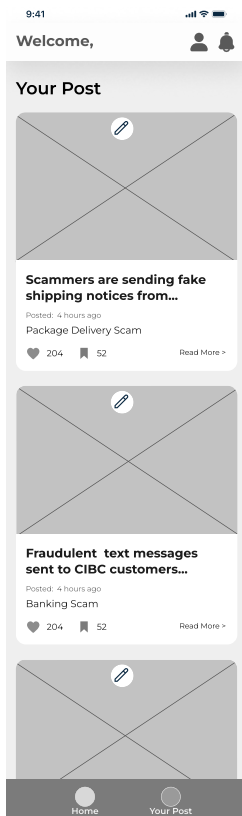
Achievement Screen



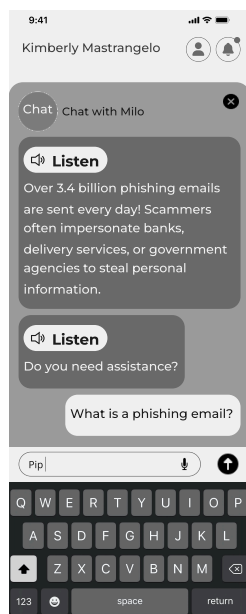
News Screen



Organization Screen



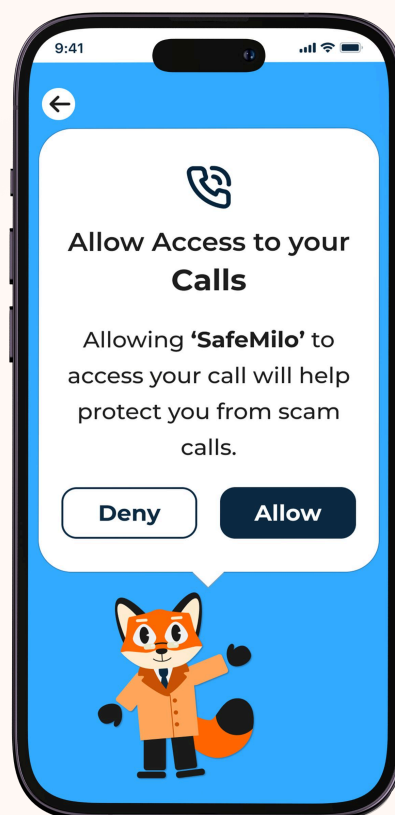
Chatbox



| Wireframes & Mockups

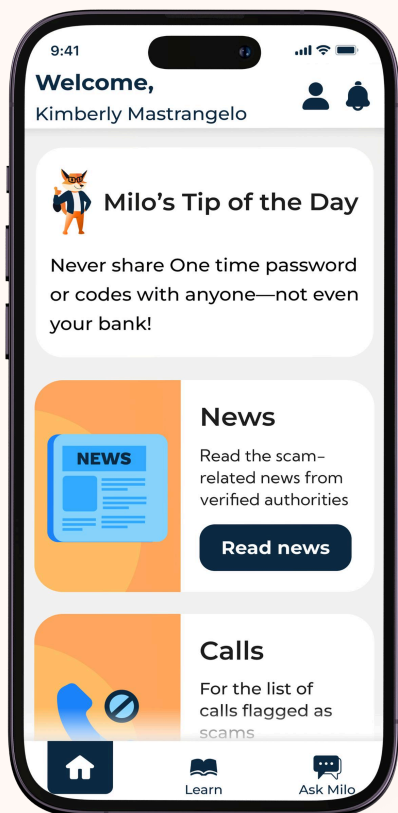


Login Screen

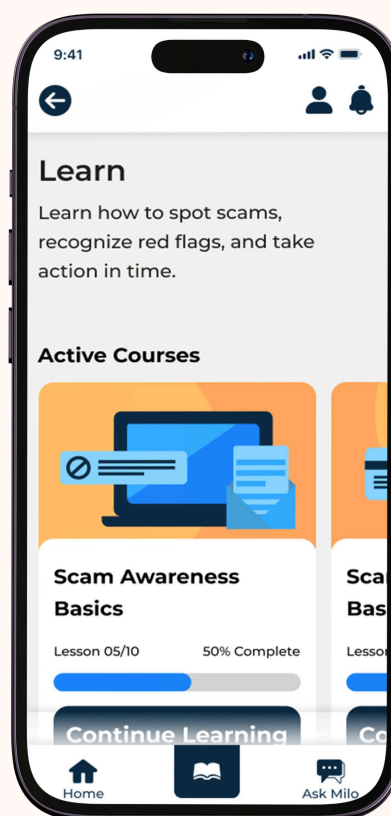


Onboarding

Wireframes & Mockups

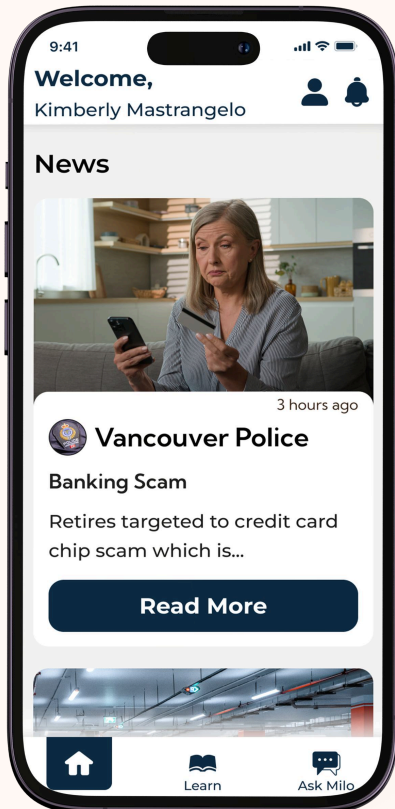


HomePage

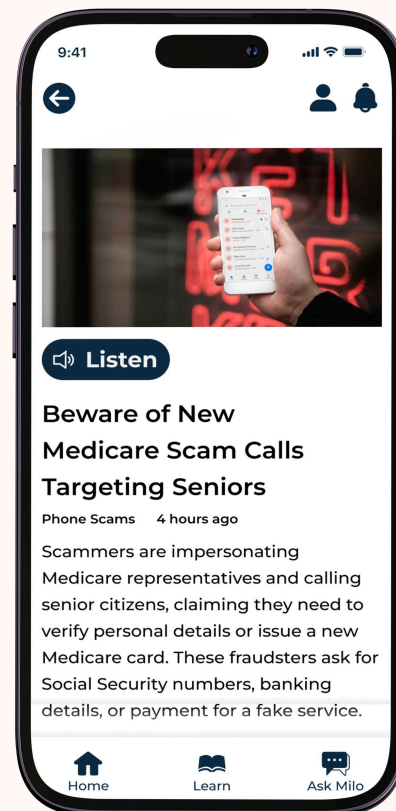


Learn Screen

Wireframes & Mockups

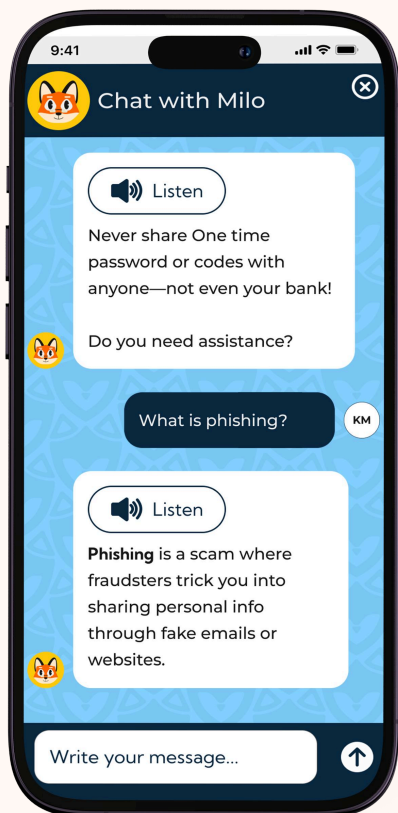


News Screen

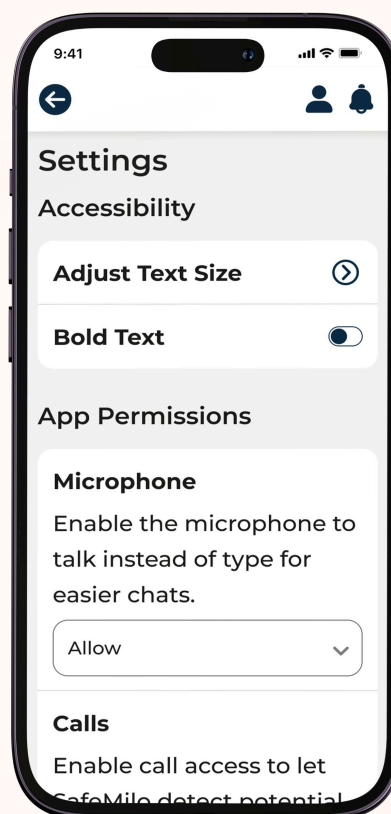


Single News Screen

Wireframes & Mockups



Chatbot



Settings



Business Strategy

| Business Strategy

1. Partnering with Trusted Organizations

SafeMilo collaborates with banks, insurance companies, and law enforcement agencies to provide verified scam alerts and fraud prevention tips. By working with these trusted sources, we ensure that seniors receive accurate, up-to-date information, making SafeMilo a reliable go-to platform for scam awareness. Additionally, these partnerships could play a role in the app's financing, ensuring long-term sustainability and trust in the platform.

2. Building User Trust and Engagement

Seniors often hesitate to use digital tools due to concerns about complexity or reliability. SafeMilo prioritizes a simple and accessible experience with features like voice assistance, text-to-speech, and easy-to-read scam alerts. By focusing on ease of use, we encourage long-term engagement and build confidence in digital safety tools.

3. Community Awareness and Growth

SafeMilo aims to educate not just seniors but also their families and caregivers. By providing shareable scam awareness content and encouraging younger generations to help seniors stay safe, we create a strong community-driven approach that expands user adoption through word-of-mouth.





Future Features

| Future Features

1. Restricting Organization Logins

Currently, anyone can sign up as an organization user. In the future, we plan to add restrictions so that only verified organizations with specific admin credentials can access this feature. This will ensure that scam news and updates come only from trusted sources like banks, insurance companies, and law enforcement agencies. It will also improve security by preventing unauthorized users from posing as organizations.

2. Additional Accessibility Settings

We want SafeMilo to be easy to use for everyone, including seniors with vision or reading difficulties. To improve accessibility, we plan to introduce a dark mode option for better visibility in low light, along with text-to-speech support throughout the app, making it easier for users to listen to scam alerts and learning modules instead of reading them. Additionally, we aim to offer adjustable text sizes and high-contrast themes to improve readability for those with weaker eyesight.

3. Email Scanning for Scam Detection

As of now, SafeMilo helps users by screening scam messages and calls. In the future, we want to expand this to email scanning. Many scams happen through fake emails that look like they are from trusted sources. SafeMilo will scan emails for suspicious links, unusual sender details, and scam keywords. If a scam email is detected, the app will warn the user before they open it, helping them avoid phishing attempts, fake invoices, or fraudulent offers.

These new features will make SafeMilo even more secure, user-friendly, and accessible, ensuring seniors have the best protection against scams.



Meet the Team

| Designers



Andrei Gallardo 

UI/UX Designer

With a strong foundation in UI design and an educational background in object-oriented programming, 3D modelling, texturing, and rendering, he brings a skill set to the table. His expertise includes wire framing, prototyping, and crafting interactive designs.



Sangeetha Ravi 

UI/UX Designer

She is a backend developer with 8 years of experience in Java and Spring Boot, specializing in APIs and microservices. Now, she's expanding into UX and UI design to bridge backend solutions with user-friendly interfaces.



Shashank Panjeti 

UI/UX Designer

He is a UX/UI Designer with a background in graphic design and 3D visualization, blending artistry with user-centered design to create visually appealing experiences. Collaborative and detail-oriented, he's committed to delivering innovative, engaging designs across platforms.



Sudiksha Suresh Kumar 

UI/UX Designer

She is a UX designer with 4 years of industry experience and a background in visual design. Being a research enthusiast, she is currently exploring the areas of user research and behavioral psychology.



Shinu George 

UI/UX Designer

He has 8+ years of experience in IT project management and UI/UX design, specializing in client management and creating intuitive user experiences. He combines creativity with strategic thinking to bridge design and business.

| Developers



Hemant Kumat 

Full-stack developer

He is a Full Stack Developer with over 2.5 years of IT experience. He started as a Talent Acquisition, then moved to Cloud Support at the Google Operations Center, gaining skills in development, troubleshooting, and cloud tech. Now, he focuses on creating and optimizing innovative web and mobile applications.



Mohit 

Full-stack developer

He is a Software Developer specialized in android application development with Kotlin. Nowadays, trying to get a bit more web-sational to create smooth user experiences.



Roy Yeung 

Full-stack developer

He is a Full Stack Developer with over 3 years of experience in the banking industry, with a focus on website revamp project and digital marketing. He is now dedicated to developing modern web and mobile applications.



Uma Maheswar Rao 

Full-stack developer

He is a Full Stack Developer with experience in the Banking & Insurance domains. With a strong focus on backend, he has worked on building robust, scalable solutions that meet business needs. His experience spans both frontend and backend, enabling him to contribute to all stages of development while specializing in backend systems.

Special Thanks

Jessica Ortega	Jason Madar
Tomoko Okochi	Kevin Mc Millan
Tyler Higgs	Reza Etemadi
Josué Menjivar	Reza Abbasi
Jeffrey Ellis	Richard Wong
Lu Yu	Paul Brassard
Ira Zhang	Denis Billette
Marinela Poso	Jacob Tran
Sebastian Ariza	Amandeep Singh
Valentina Abanina	Binazir Farokhi





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