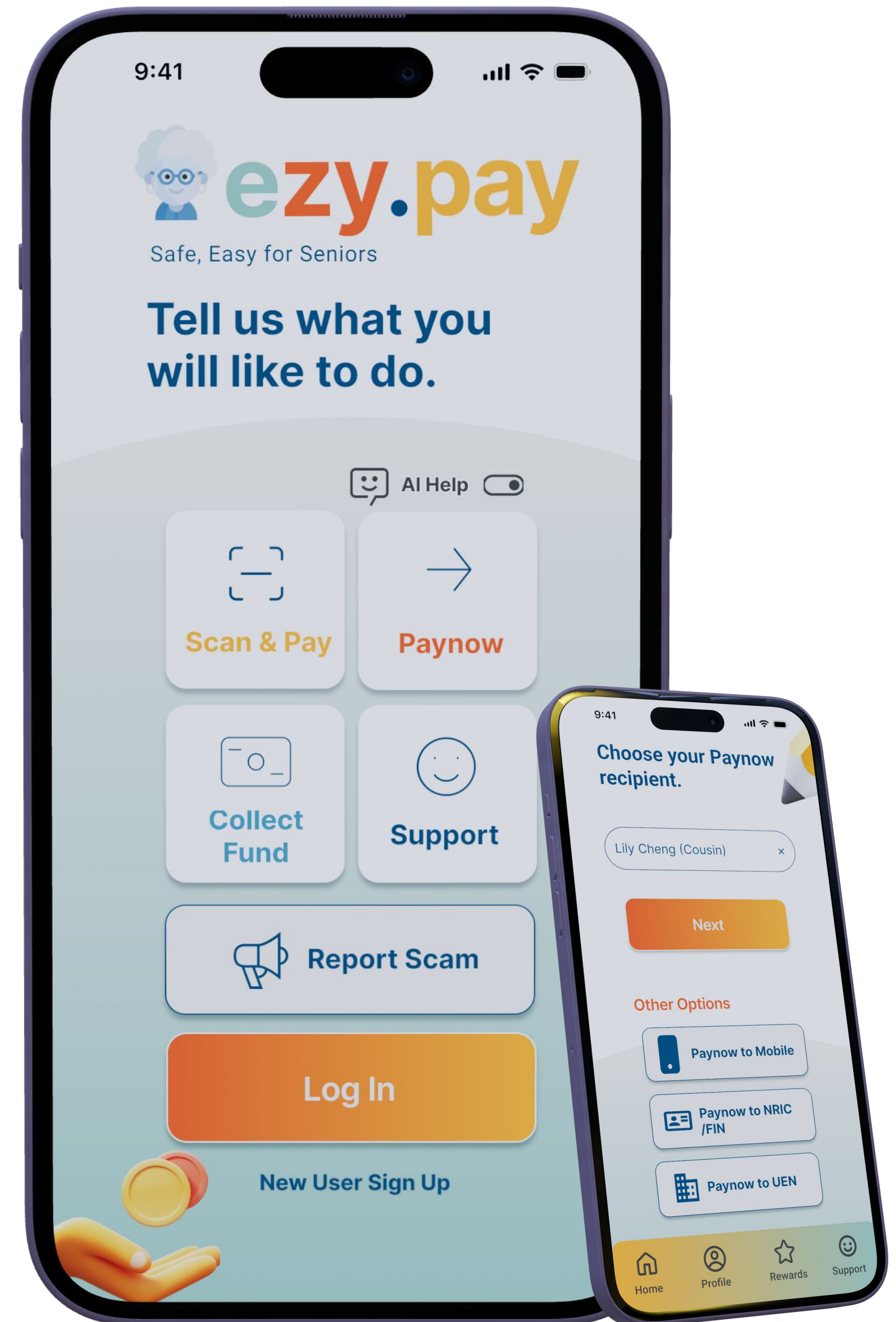




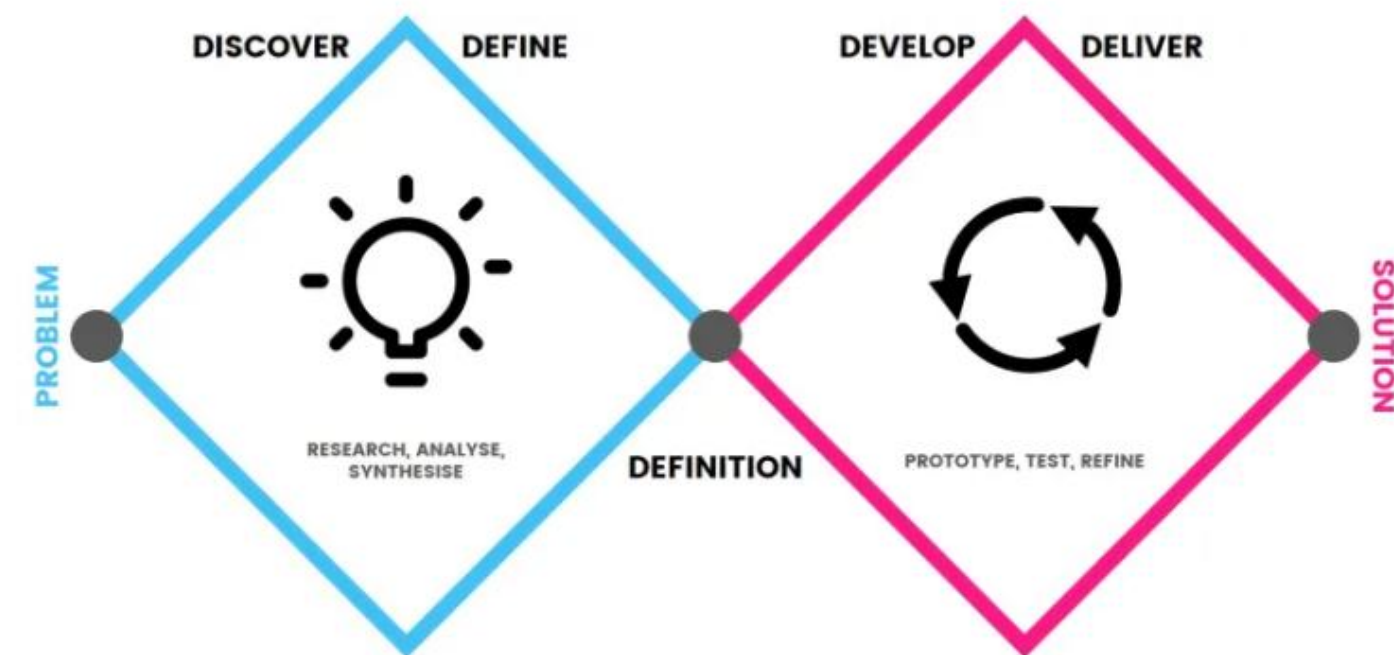
ezy.pay

Making digital payments safe and easy for seniors

By: Stephanie Tiu



piecing it together...



Discovery

Landscape Research (Secondary Sources)
User Research (Affinity Mapping & Card Sorting)

Testing: of concept

Usability Test & Key Calibration

Defining: the problem

HMW statement
User Personas

Learnings

Market Lessons & Personal Takeaways

Finding: the solution

User Stories
MoScow Priorisation
Sitemap
User flow

Acknowledgements

Birthing: of concept

Low Fidelity
Mid Fidelity
High Fidelity

SG seniors leads with highest digital payment adoption in Asia

Since the pandemic, Singapore has emerged as a pioneer in digital payment adoption among its senior citizens in Asia.

They have steadily increased their digital access and gadget ownership, as well as transacted online more.

This positive phenomenon can be linked to a confluence of factors, including widespread smartphone use, supportive government policies and robust financial institution engagement among others.

Security and falling for scams remain SG seniors' top concern

Compared to general population, local seniors are less confident in identifying scams.

So the government and banks have progressively rolled out extensive campaigns to teach seniors about secure online practices.

They include IMDA's 'Seniors Go Digital' programme and OCBC's 'Digital Silvers Programme', among others.

Growth rates among SG Seniors

38%

**Growth in
home internet
access**

23%

**Growth in
computer
access**

15%

**Growth in
smartphone
ownership**

26%

**Growth in
Singpass
usage**

23%

**Growth in mobile app
payments for in-
person transactions**

78%

**Growth in
e-payment for
online transactions**

Somewhat
concerned
about becoming
a scam victim

99%

**Seniors aged
60 & above**

96%

**General
Population**

Moderately
confident about
identifying scams

44%

**Seniors aged
60 & above**

52%

**General
Population**

Generally, seniors are less inclined to use digital payments for these top reasons

Lack of Tech Familiarity

Uncomfortable/ unsure about using new technologies, especially those involving financial transactions. They may find learning curve steep and prefer familiarity of traditional payment modes.

Security Concerns

Often targeted by scammers who exploit their trust and vulnerability. Concerns about data breaches, identity theft and online fraud also deter them from adopting digital payments.

Preference for Cash & Checks

Long-standing habits of using cash and checks for their transactions. They may find these methods more tangible and reliable, particularly for budgeting and tracking expenses.

Accessibility Issues

Physical limitations or cognitive impairments can make using digital devices and apps challenging for some seniors. Small screen, complex interfaces and a lack of accessibility features may hinder their adoption.

Current solutions in market are mostly tailored for the general population:

Mobile Banking Apps

Most major banks in Singapore offer mobile apps with simple interfaces for checking balances, transferring funds and making payments. These include DBS, OCBC, UOB and others.

PayNow

Singapore's national transfer system allowing users to send and receive money using just a mobile number or NRIC/FIN number.

NETS

A widely accepted payment method in Singapore, NETS offers a mobile app for easy payments and top-ups.

QR Code-based Payments

Many merchants in Singapore accept payments via QR codes, including those generated by mobile banking apps and e-wallet platforms.

Others:

Digital Wallets (eg ApplePay, Google Pay, AliPay)

Cryptocurrency (eg BltPay, Binance Pay)

Buy Now, Pay Later (eg Atome, Fave Pay Later)

The Challenge

NO customised digital payment solution for seniors in terms of senior-friendly UX/UI to cater to their needs/preferences

Their perceived pain points:

- Complex login/logout steps
- Non-intuitive user interface
(routing to different layers with multiple steps)
- Small fonts and non senior-friendly colour scheme/graphics
- Unclear features/next steps for easy follow through
- Chatbot-based assistance that doesn't offer immediate solutions
(require DIY/self service)
- Live support/chat not available or not easy to locate for urgent requests such as report of scams/unauthorised login

A user interview was conducted with 5 seniors with differing tech savviness to uncover:

current digital payment usage
motivations and pain points
current experience
desired experience

- Age
- Occupation
- Gadget used
- How tech-savvy do you consider yourself?
- Do you use digital payments? Why?
- (For non-users) What will motivate you to use?
- How often do you use digital payments?
- Which digital payment platforms do you use?
- What do you use the digital payments for?
- How would you rate your experience with your current digital payment platform(s)?
- What issues have you encountered?
- What are the most important factors for you in a digital payment platform?
- What features would you like to see in an improved digital payment platform?
- How likely would you switch to a new digital payment platform offering improved experience?
- Any other comments or suggestions?

User findings - Affinity Mapping & Card Sorting

Tech Issues		Trust/Privacy		Security		UX/UI	
Don't have a smartphone to use these apps	Not good with tech so digital payments are confusing	Feel like losing control of my money	I like the touch of paying with cash	Hackers/ scammers might steal my money	Don't want to share my personal info online	Apps are too cluttered and confusing	Many steps to complete a simple transaction
Don't understand how digital wallets work	Don't trust all this digital stuff. It's too complicated	Like to keep track of my spending with cash	Prefer cash. It's real money in my hand.	Not safe online. I prefer going to the bank	Don't trust companies with my data	Wish the fonts were larger and easier to read	Sometimes slow and laggy
I have trouble remembering all my passwords	What if the power goes out or my batt dies	Afraid of losing my money if I use card or phone	Don't want to rely on tech for everything	Functionality		Support	
The website and apps are too complicated	Hard to keep up with all security/app updates	I'm worried about making mistakes	Don't understand all the fees and charges				
				Can't use in some stores or restaurants	Wish I can use my card for more things	Impossible to talk to a real person when I have a problem	Online help is useless
				Not enough options for paying bills online	Don't always have good internet connection	Spend hours on hold when I call customer service	Don't know where to find support

The Goal

How might we **design and build**
a safe and easy-to-use payment
platform for our seniors to encourage
or increase their usage?

(for the non-digitally savvy to digitally-savvy)?

Selected User Insights for Concept Development

Caveat: This concept does not
cover seniors with special needs
and physical impairments/
conditions, as well as non-English
options for now

Trust/Security		Support		UX/UI		
Afraid of losing my money if I use card or phone	Hackers/scammers might steal my money	Impossible to talk to a real person when I have a problem	Don't know where to find support	Apps are too cluttered and confusing	Many steps to complete a simple transaction	Wish the fonts were larger and easier to read

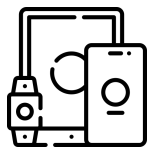
Uncle Lui



76, Married with Grandkids, Family Business Owner



- Limited internet usage, but likely uses IE or a basic browser if necessary
- Face-to-face meetings with financial advisors
- Traditional mail for correspondence
- Phone calls for inquiries



- Landline phone, basic mobile phone for calls only
- Traditional watch

"Don't trust all this digital stuff. It's too complicated. I like to pay with cash."

- Born and raised in a kampung (village), Uncle Lui experienced significant economic changes and growth during his lifetime
- He is a classic rags-to-riches self-made towkay (boss) who built a successful business in the manufacturing industry
- Growing up in a non-digital era, he has limited exposure to technology, preferring face-to-face interactions

Goals & Aspirations

- Secure financial future for family
- Maintain comfortable lifestyle without significant changes
- Preserve family traditions, values and bonds

Needs & Motivations

- Peace of mind for family's financial security
- Maintaining independence and control over finances
- Seeking personalised and trustworthy advice
- Building a legacy for future generations

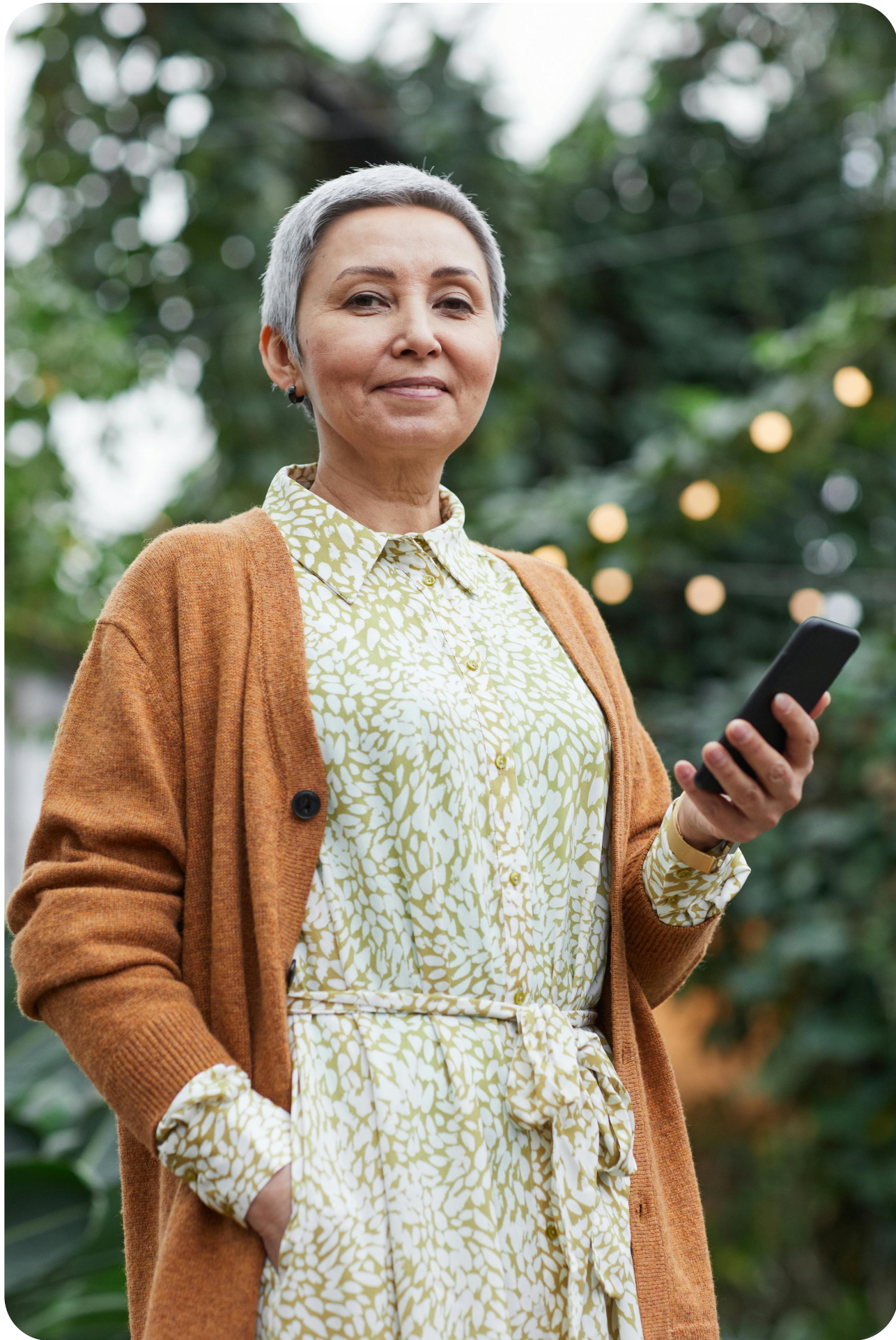
Hobbies

Karoke, Golf, Taichi, Kopi with kakis, Travelling with family, Playing with grandchildren

Frustrations & Challenges

- Difficulty understanding complex financial products
- Overwhelmed by technological advancements
- Lack of trust in online platforms
- Feeling isolated from younger generations due to technology gap...

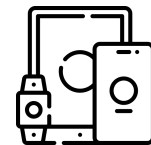
Aunty Zai



68, Single, Former Teacher



- Chrome, Safari, or Firefox
- Online banking and financial management tools
- Social media platforms (eg Facebook, WhatsApp)
- Email for communication
- Online forums and communities



- Smartphone, tablet, laptop
- Smartwatch or fitness tracker

“Many steps to complete a simple transaction. Wish the fonts were larger and easier to read.”

- Growing up in an urban environment, exposed to early technological advancements
- Worked in a knowledge-based profession as a long-time teacher and coach
- Continuously learning and adapting to new technologies

Goals & Aspirations

- Maintain financial independence and security
- Stay connected with family and friends
- Explore new interests and hobbies
- Contribute to the community

Needs & Motivations

- Personal growth and development
- Staying active and engaged in life
- Helping others and giving back to the community
- Achieving financial stability for retirement

Hobbies

Painting, gardening, photography, travelling with family and friends, trekking, pilates, online learning, news and trend surfing, online discussions/chats

Frustrations & Challenges

- Difficulty finding reliable information online
- Concerns about online scams and fraud
- Limited access to age-appropriate technology and services
- Feeling isolated from peers who are less tech-savvy...

Login

S

As a user, I want password-free login

S

As a user, I don't want to type or recall my password

S

As a user, I want a 2-step login process

Functionality

M

As a user, I want send and receive money in few simple steps

S

As a user, I want to see all my activities in 1 view

S

As a user, I want embedded intelligence to prompt or guide next steps

Notification

S

As a user, I want to receive alerts or notifications when I approach my spending limit

S

As a user, I want reminders to do perform certain activities

Loyalty

C

As a user, I want loyalty programs that rewards frequent use

C

As a user, I want track my loyalty points and redeem them for rewards

Settings/Profile

S

As a user, I want to manage my account settings and security preferences

S

As a uer, I want to be able to update my profile info

S

As a user, I want to customise language, font size, and notification

Tracking/Logs

S

As a user, I want to be able to track my spending and set budgets

S

As a user, I want to view my transaction history in an organised manner

S

As a user, I want to search for specific transactions by date or category

UI

M

As a user, I want good reading font size

S

As a user, I want simple, opt-out features for those I don't use/ can disable

Security/Support

M

As a user, I want anti-scam security features

S

As a user, I want support within 1 minute

M

As a user, I want to easily contact live support

Sign Up

W

As a user, I want to know why your app is better than others

S

As a user, I want to refer another friend

Authentication

S

As a user, I want fingerprint or facial recognition

M

As a user, I want MAS/govt authentication

Onboarding/Edu

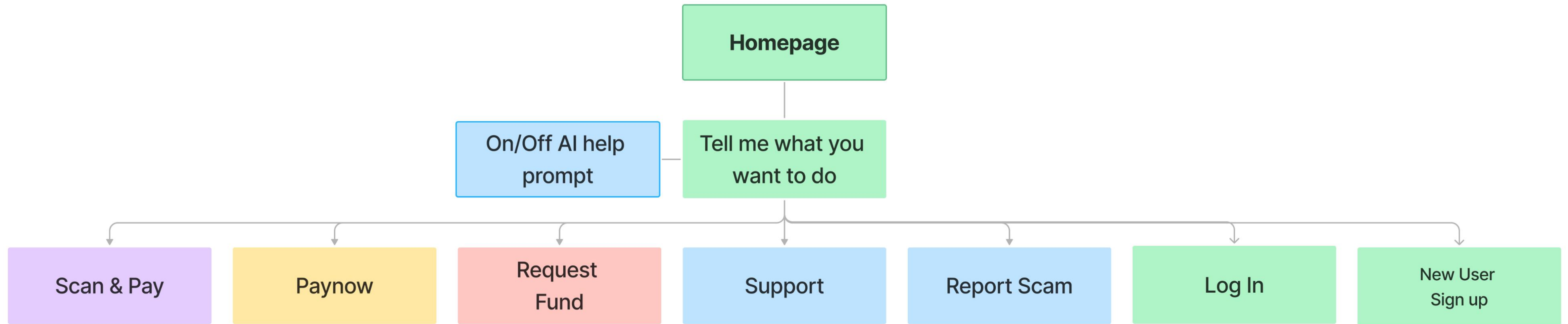
S

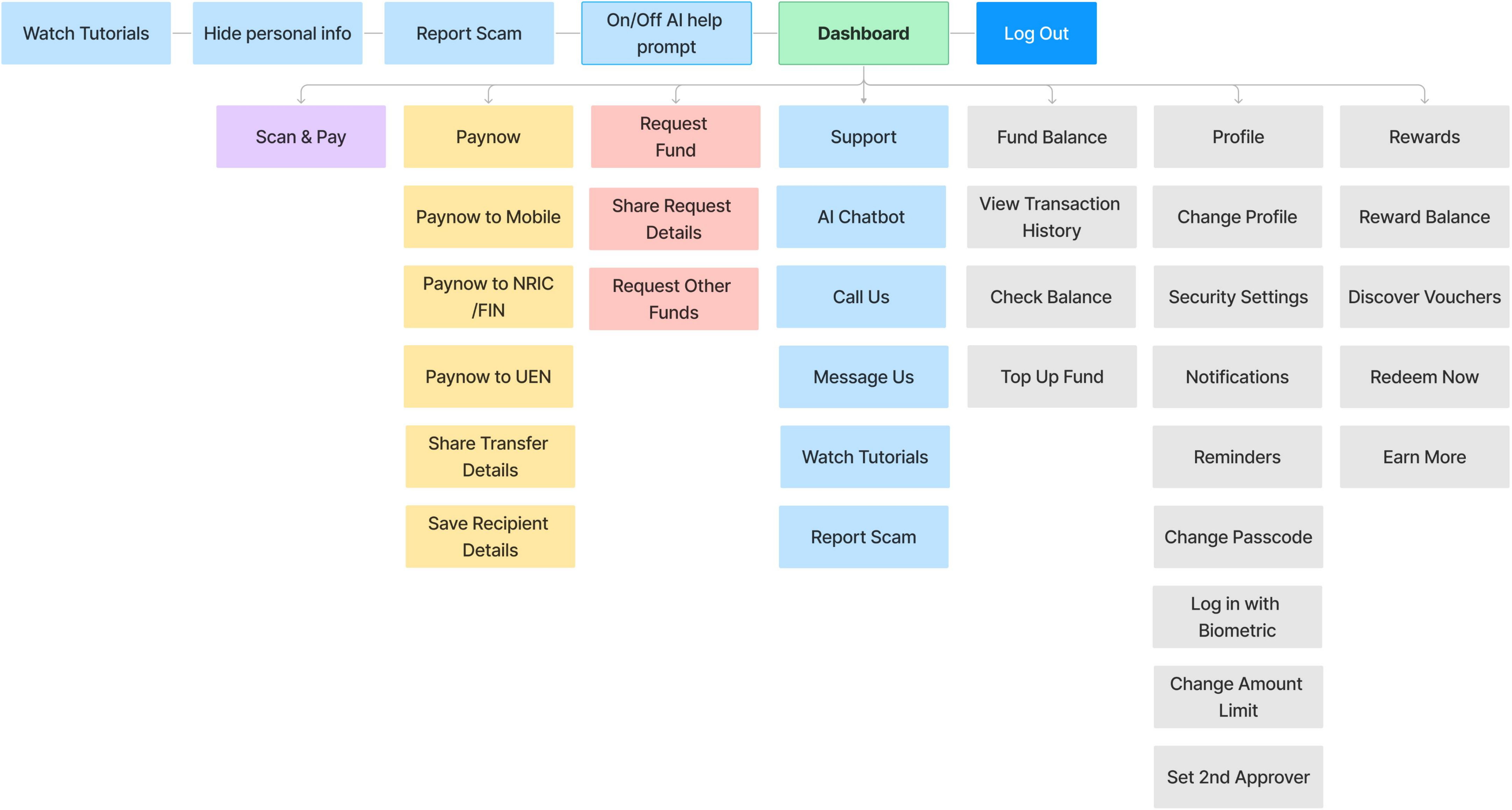
As a user, I want videos on how to use the app

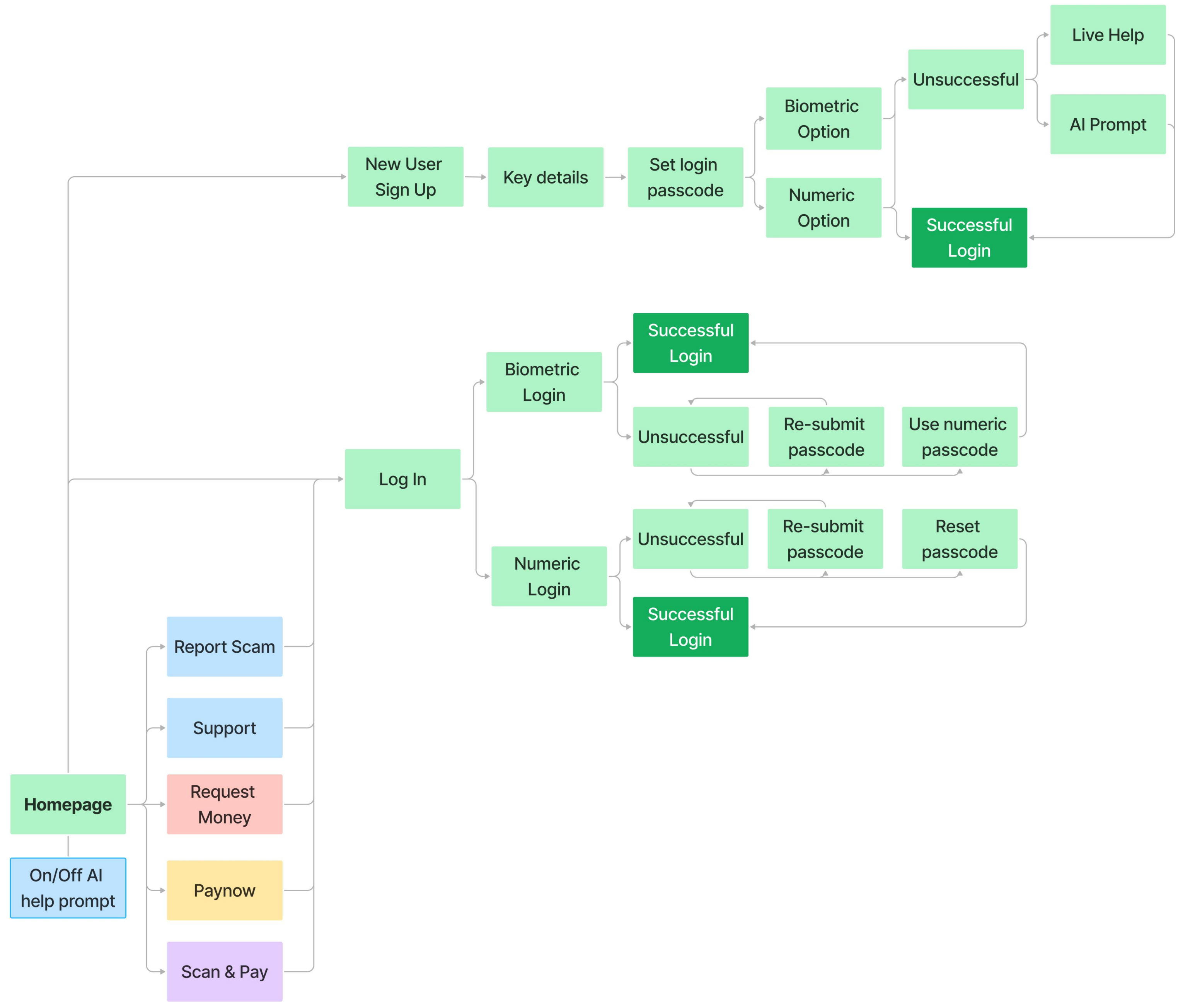
S

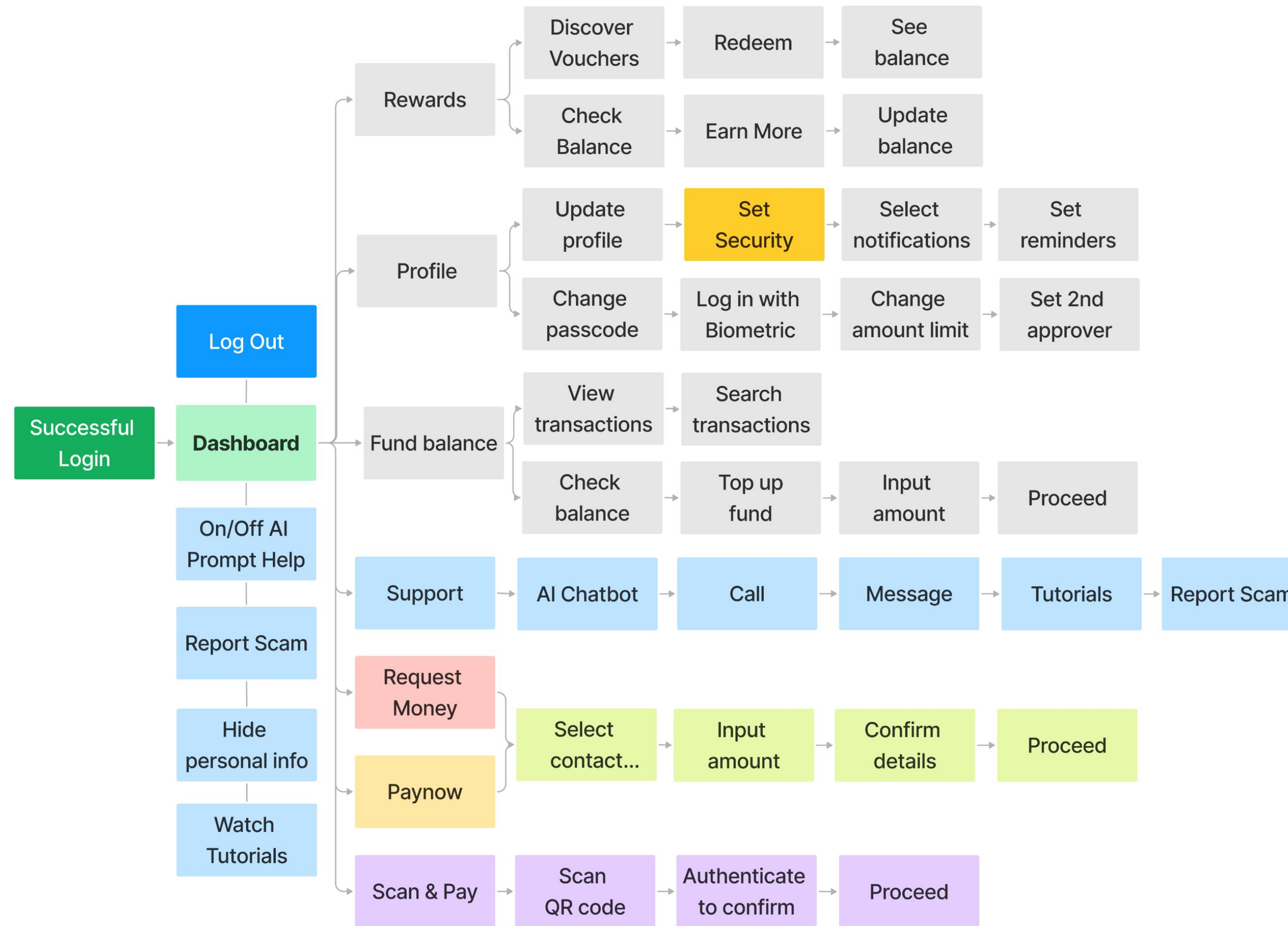
As a user, I want useful tips & features

- M Must have features
- S Should have features
- C Could have features
- W Won't have features

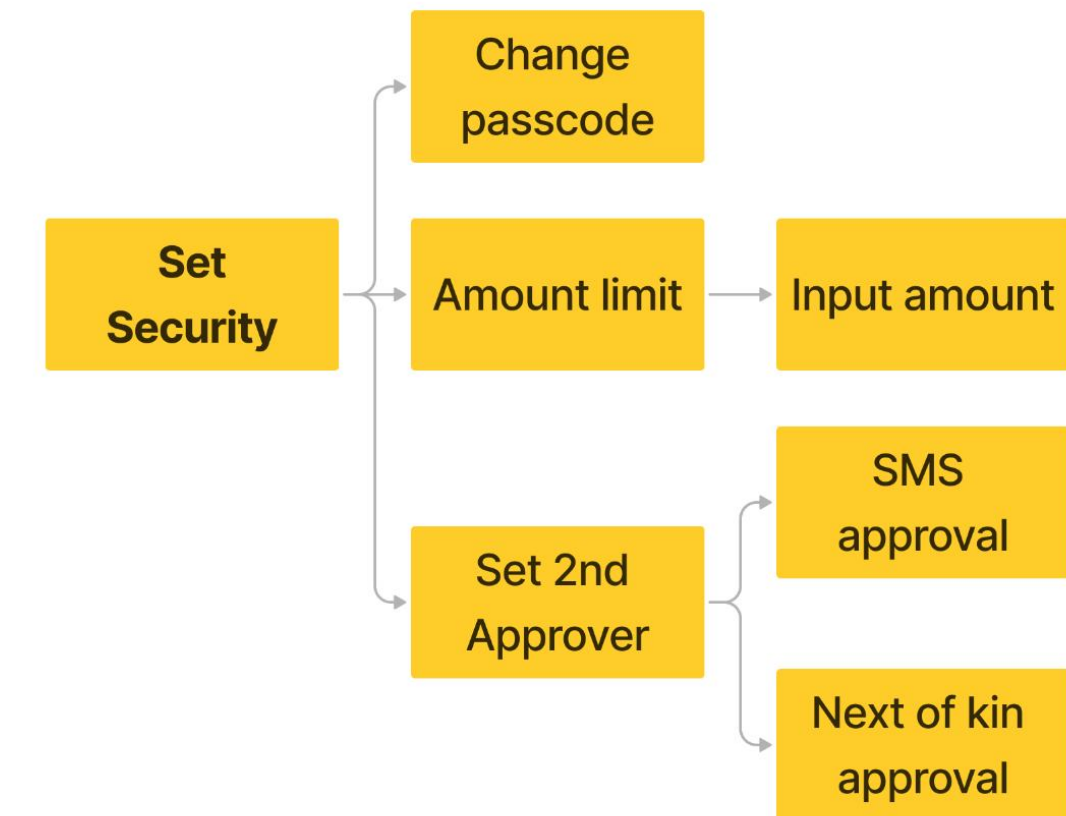








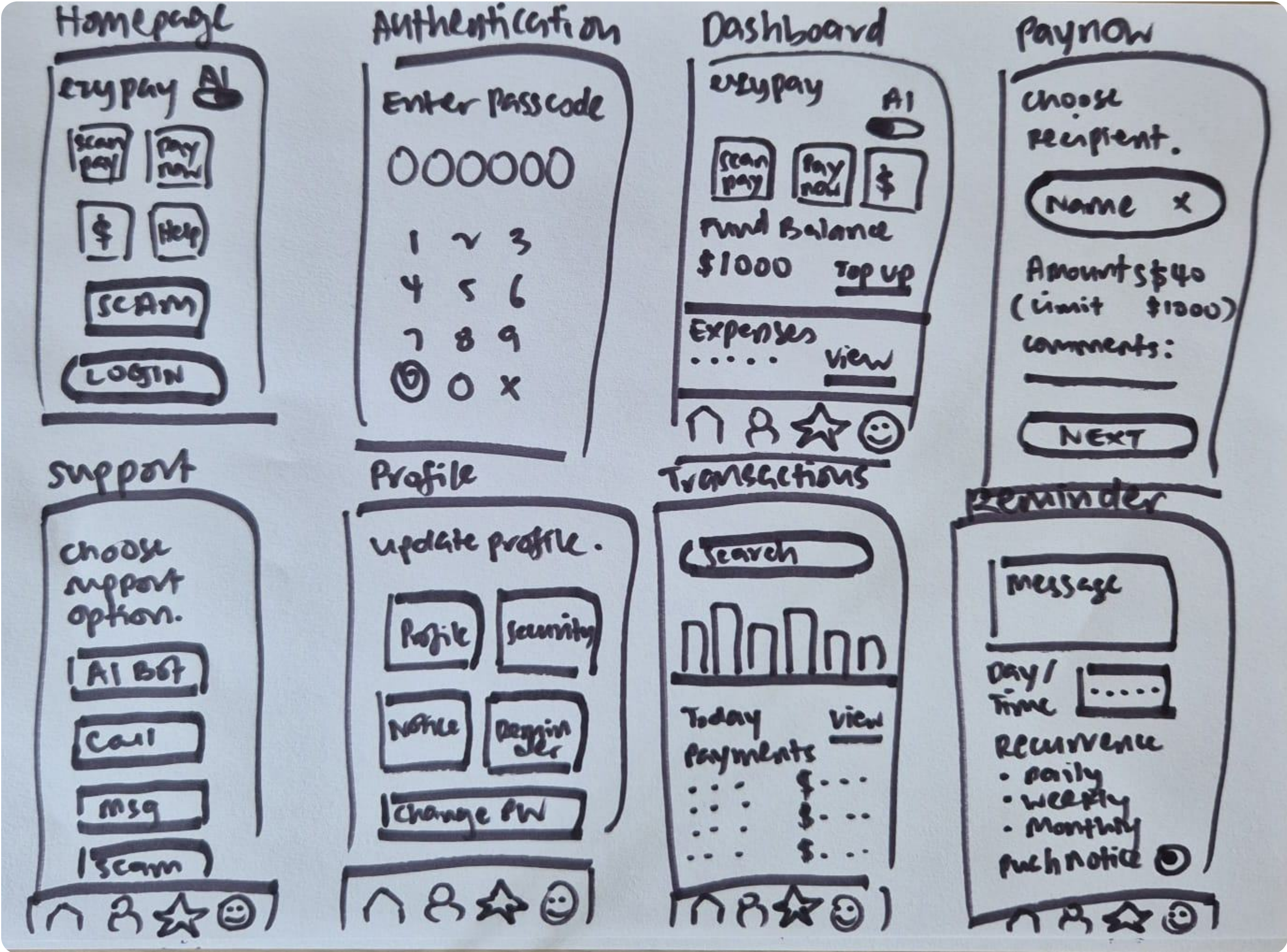
finding the solution: user flow > dashboard + security settings



Targeted at senior users, this digital payment platform offers a simple, safe and ease-of-use experience to them

Key Homepage Features:

- Perform direct payments (Scan & Pay, Paynow, Request for Funds)
- Support
- Report Scam
- Login
- New User Sign Up



Key Features

Homepage:

- Perform direct payments
(Scan & Pay, Paynow, Request for Funds)
- Support
- Report Scam
- Login
- New User Sign Up

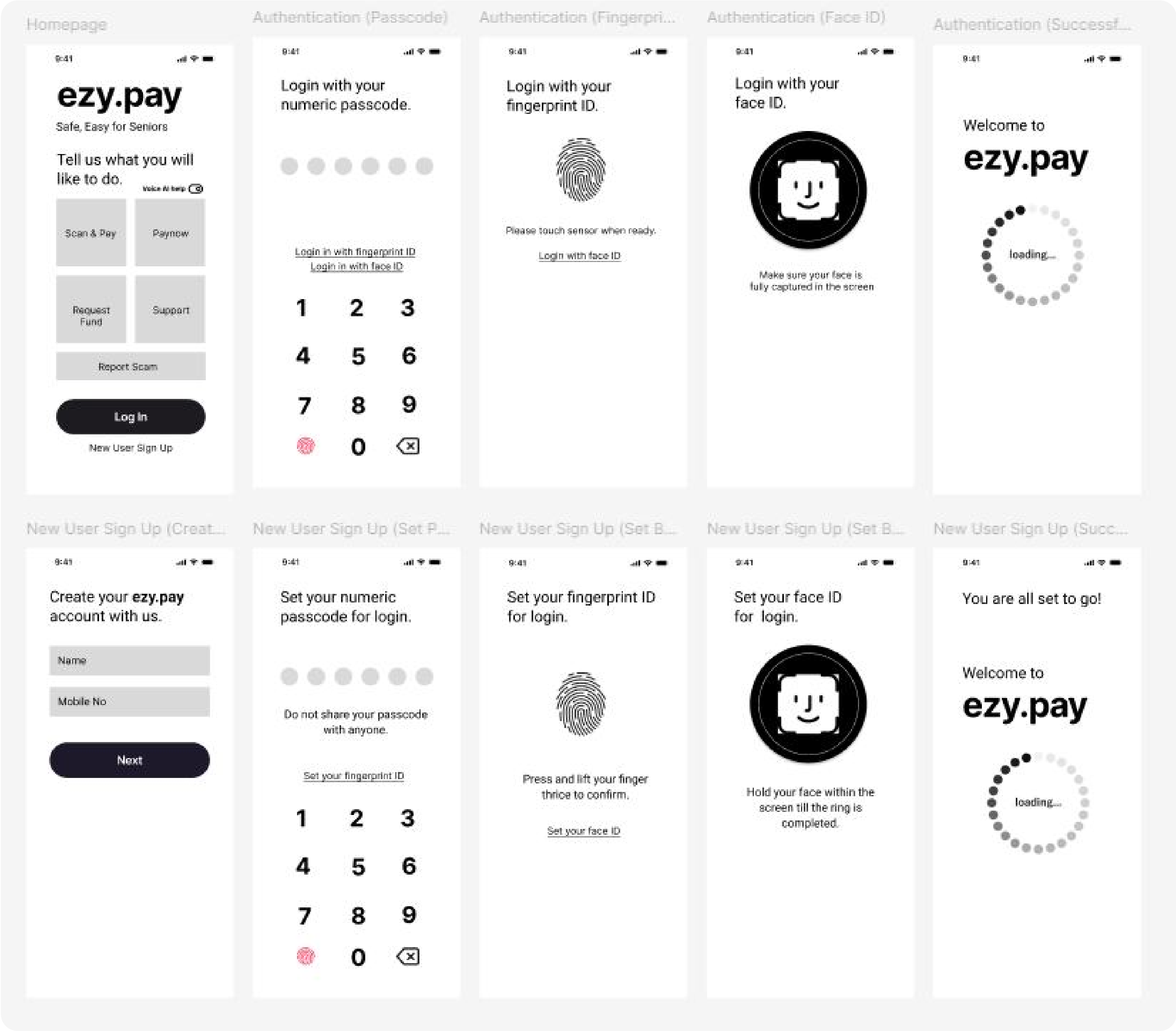
Authentication (3 Ways):

- Numeric passcode
- Fingerprint ID (biometric)
- Face ID (biometric)
- Up to 3 tries and account is locked
- Successful login will lead to dashboard
- For unsuccessful login, users can choose to reset passcode or call support hotline

New User Sign Up:

- Account Creation
- Set Numeric passcode, Fingerprint ID, Face ID
- Successful creation will lead to dashboard
- Unsuccessful creation will lead to user support

birthing the concept: mid fidelity prototype > homepage + authentication + account creation



Key Features

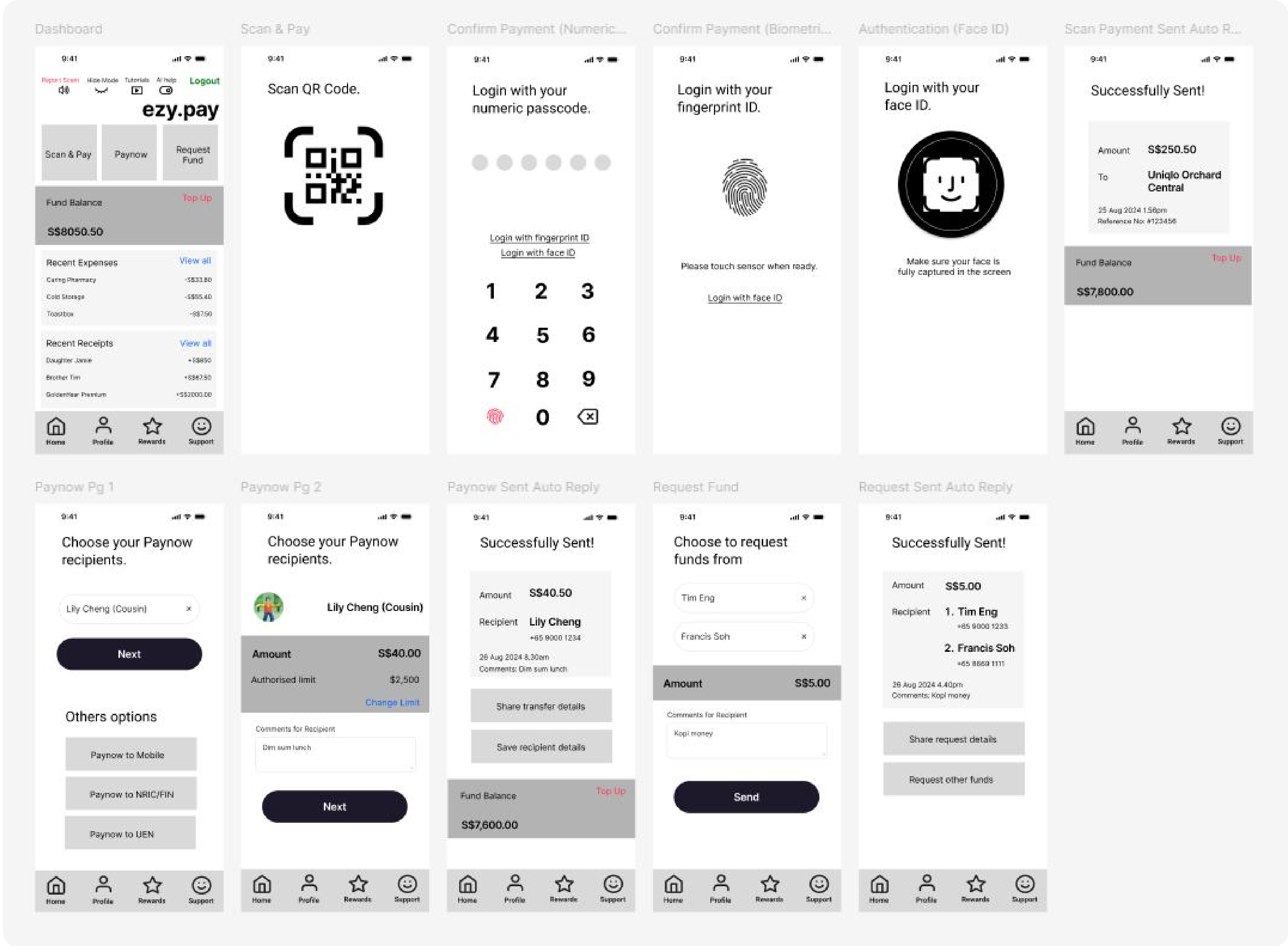
Dashboard:

- Key Transaction Functions (Scan & Pay, Paynow, Request Fund)
- View Fund Balance, Recent Expenses & Recent Receipts
- Salient Feature Callout (Logout, Report Scam, Hide Mode, Tutorials, Voice AI help toggle)

Transaction Functions:

- User selection of function (Scan & Pay, Paynow or Request Fund)
- Authentication or next steps are prompted
- Confirmation of payment or sent request will appear as auto replies to users

birthing the concept: mid fidelity prototype > dashboard + scan & pay + paynow + request fund



Key Features

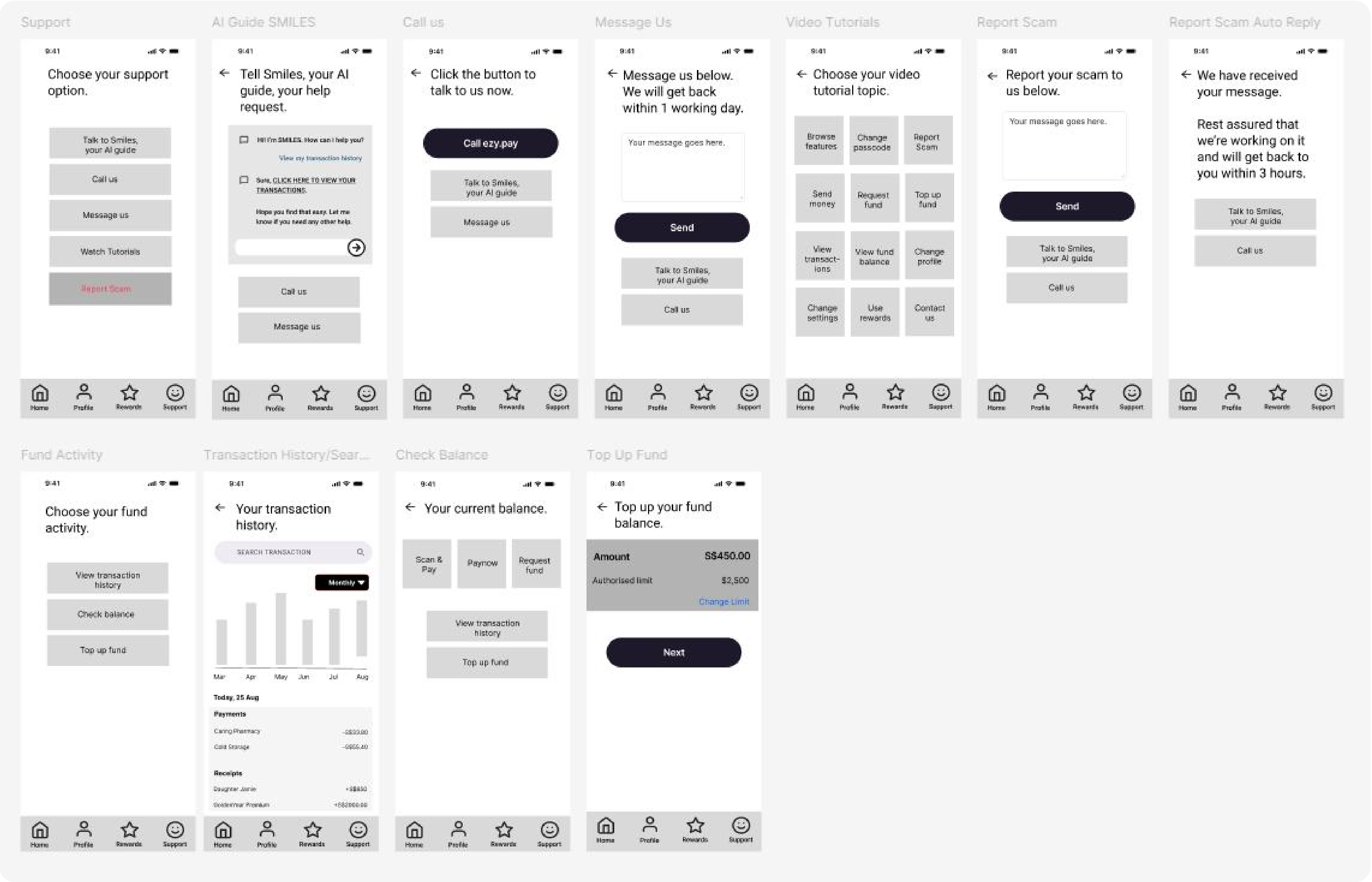
Support (5 Options):

- AI guide
- Call hotline
- Message
- Video tutorials
- Report Scam

Fund Activity (4 Options):

- View transaction history
- Search transactions
- Check fund balance
- Top up fund

birthing the concept: mid fidelity prototype > support + view fund activity

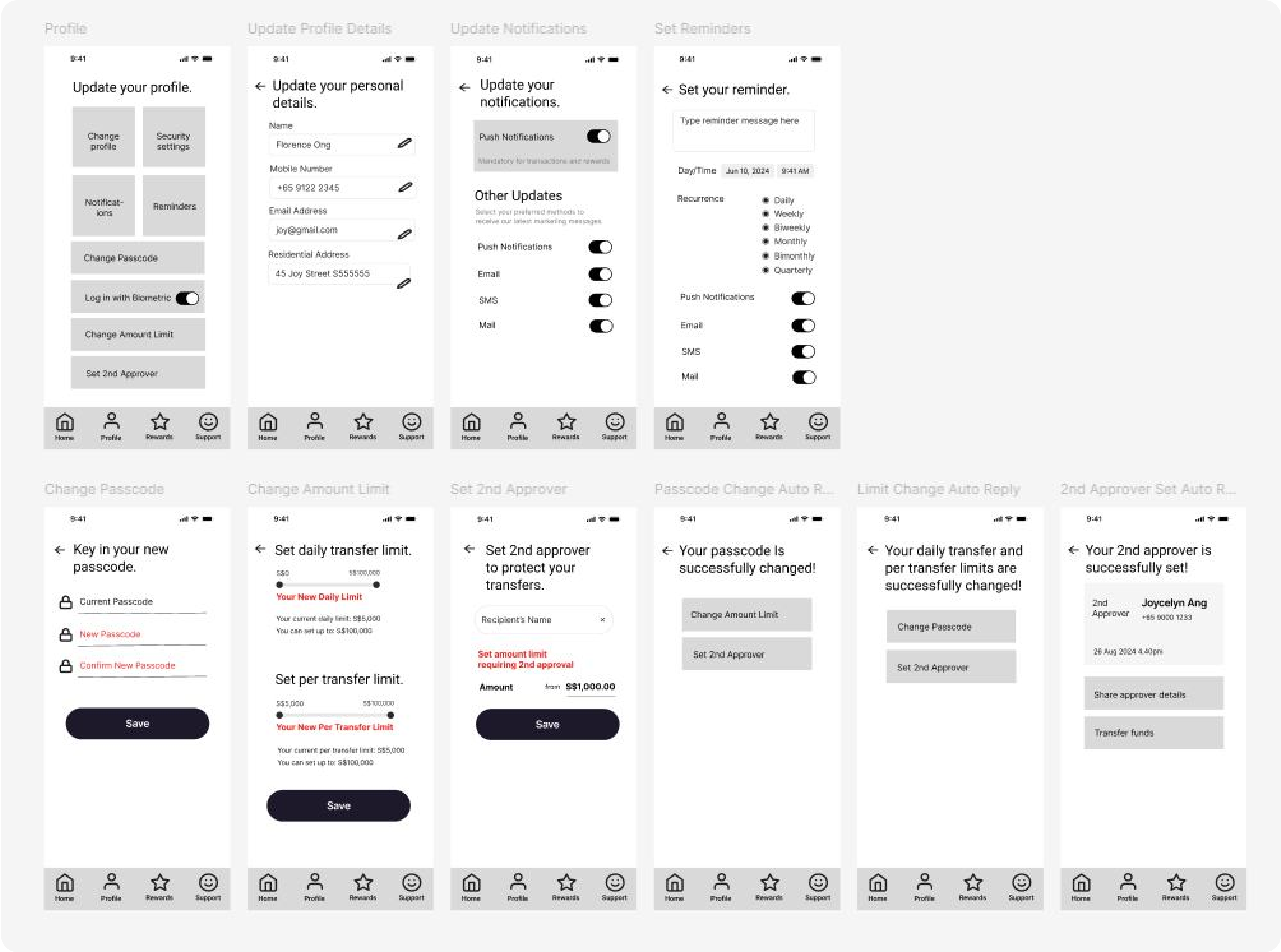


Key Features

Profile Update (8 Options):

- Profile details
- Update security preferences
- Update notifications
- Set reminders
- Change passcode
- Log in with Biometric
- Change amount limit
- Set 2nd approver

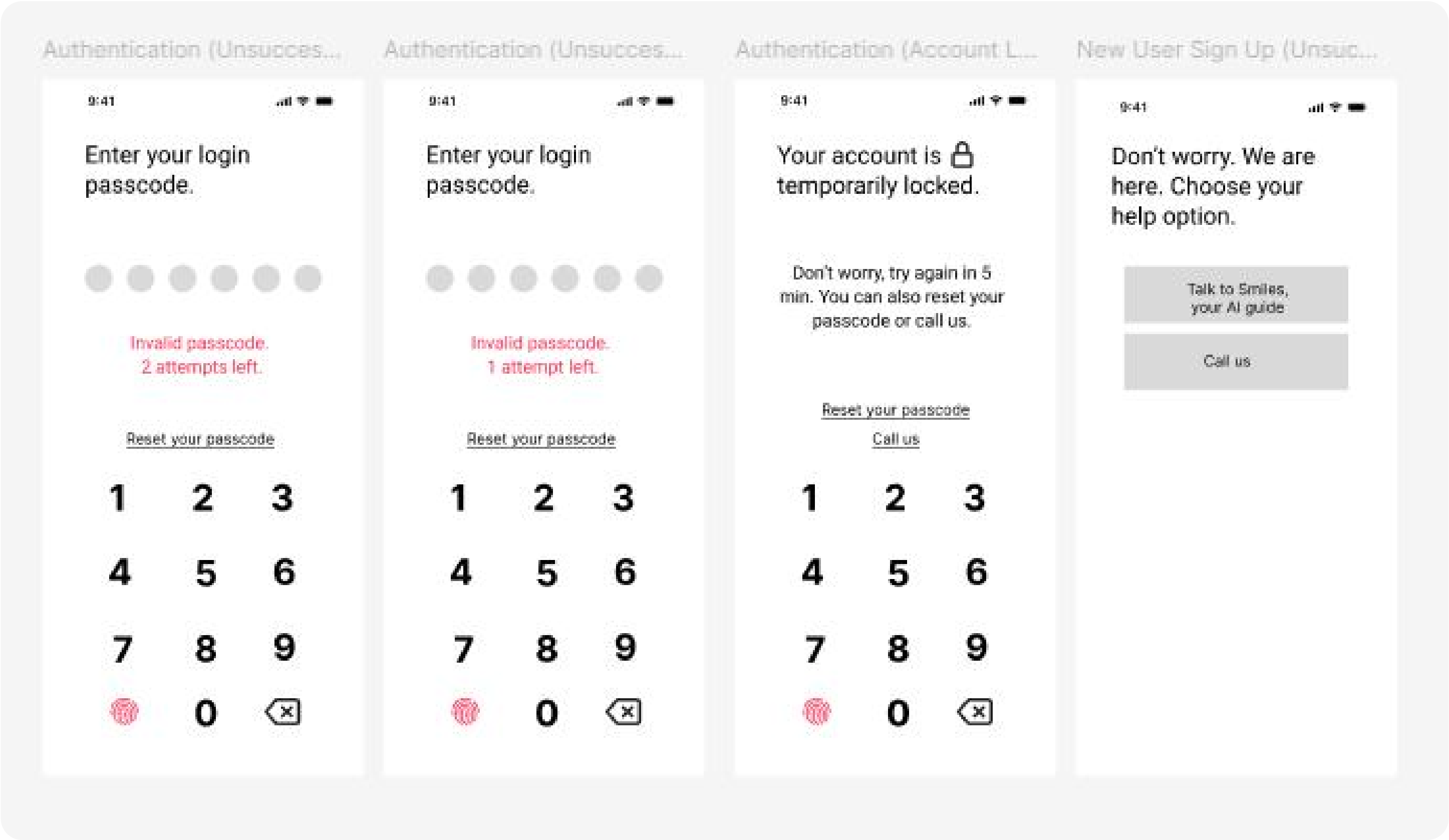
birthing the concept: mid fidelity prototype > update profile



Other Features

Authentication Failure & Support:

- Up to 3 attempts
- Support when account is temporarily locked



ezy.pay is the friendly and trusted companion and guide for seniors to navigate the digital world with confidence and ease

Personality

Friendly
Calm
Trustworthy

Tone

Clear
Inviting
Assuring

Gradients**Illustrations**

LOGO

Primary Logo
(full colour)



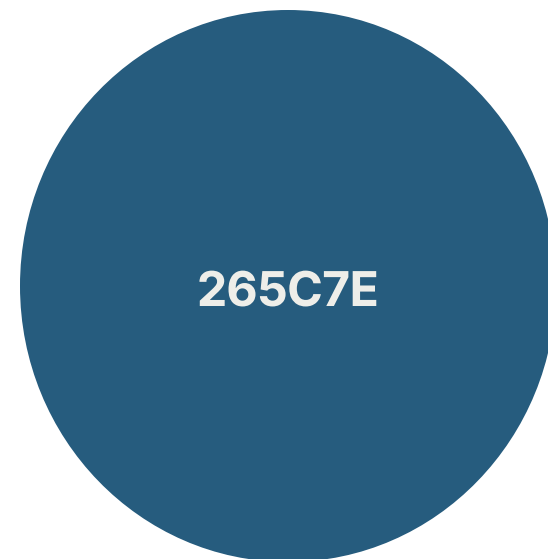
Safe, Easy for Seniors

Secondary Logo
(full & mono colours)

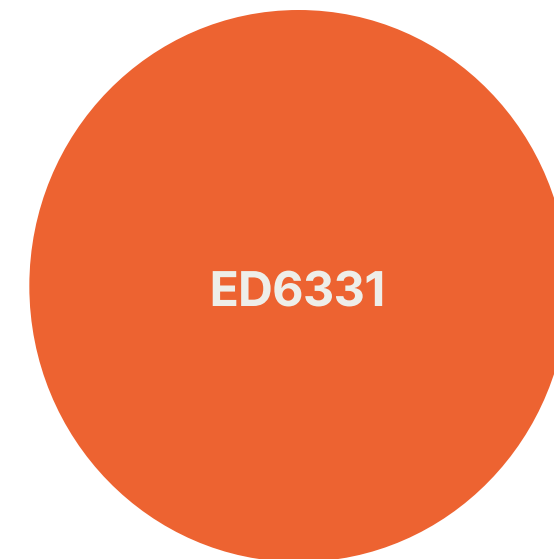
ezy.pay
ezy.pay

COLOURS

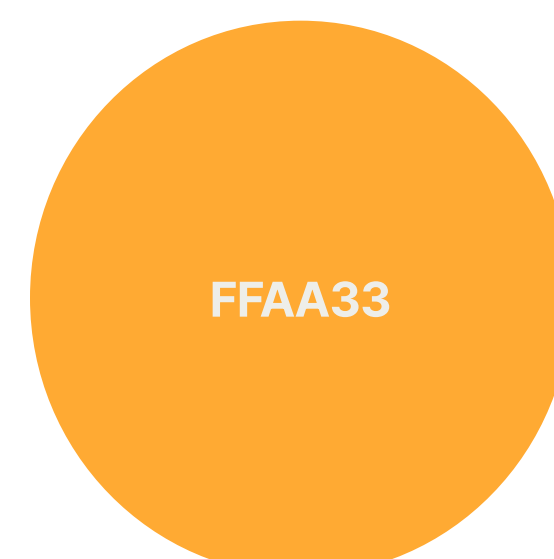
Primary Hues



265C7E

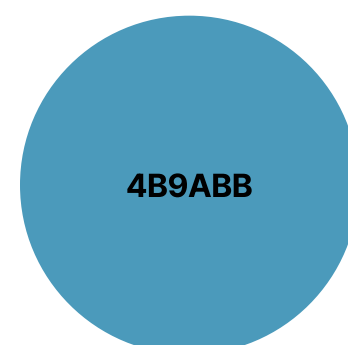


ED6331



FFAA33

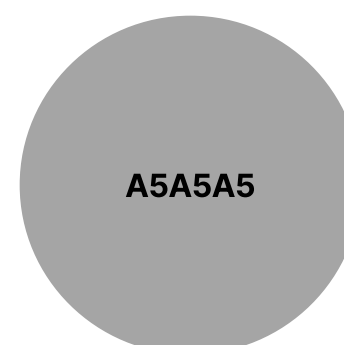
Secondary Hues



4B9ABB



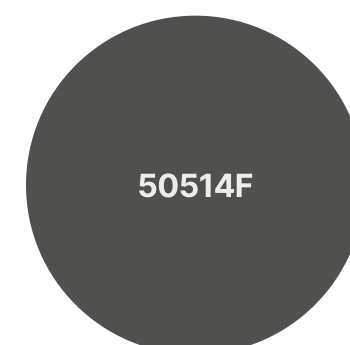
8FC2B7



A5A5A5



EEEEEE9



50514F

TYPOGRAPHY

Aa

Inter

Heading

Clear, simple, easy to read

Subheading

Clear, simple, easy to read

Button Text

Clear, simple, easy to read

Body Text

Clear, simple, easy to read

Sub Text

Clear, simple, easy to read

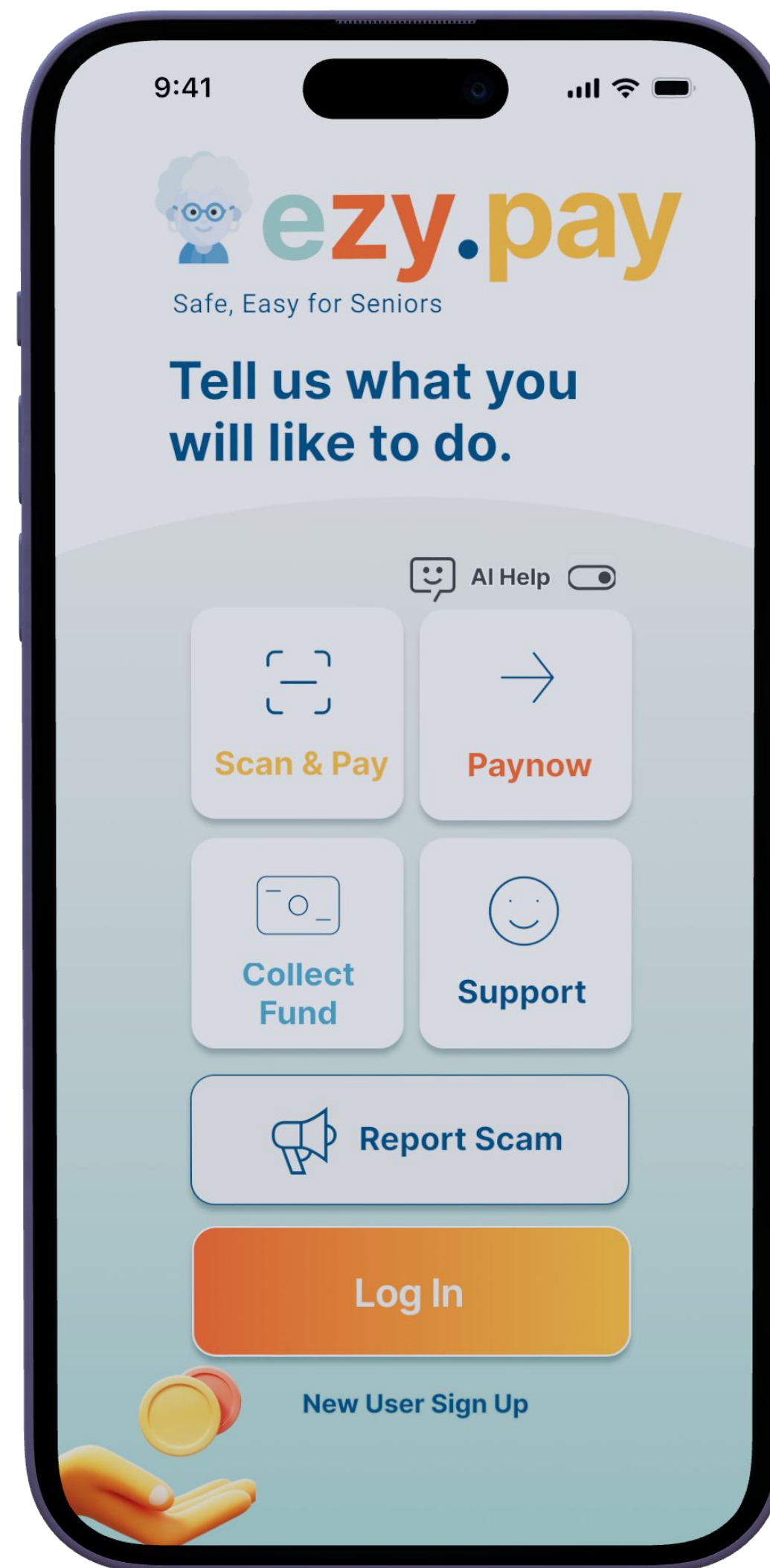
Bringing ezy.pay to life, the first-in-SG safe & easy digital payment solution for seniors

Scan QR Code
or click on link
for interactive
prototype



<https://bit.ly/4dPt72Y>

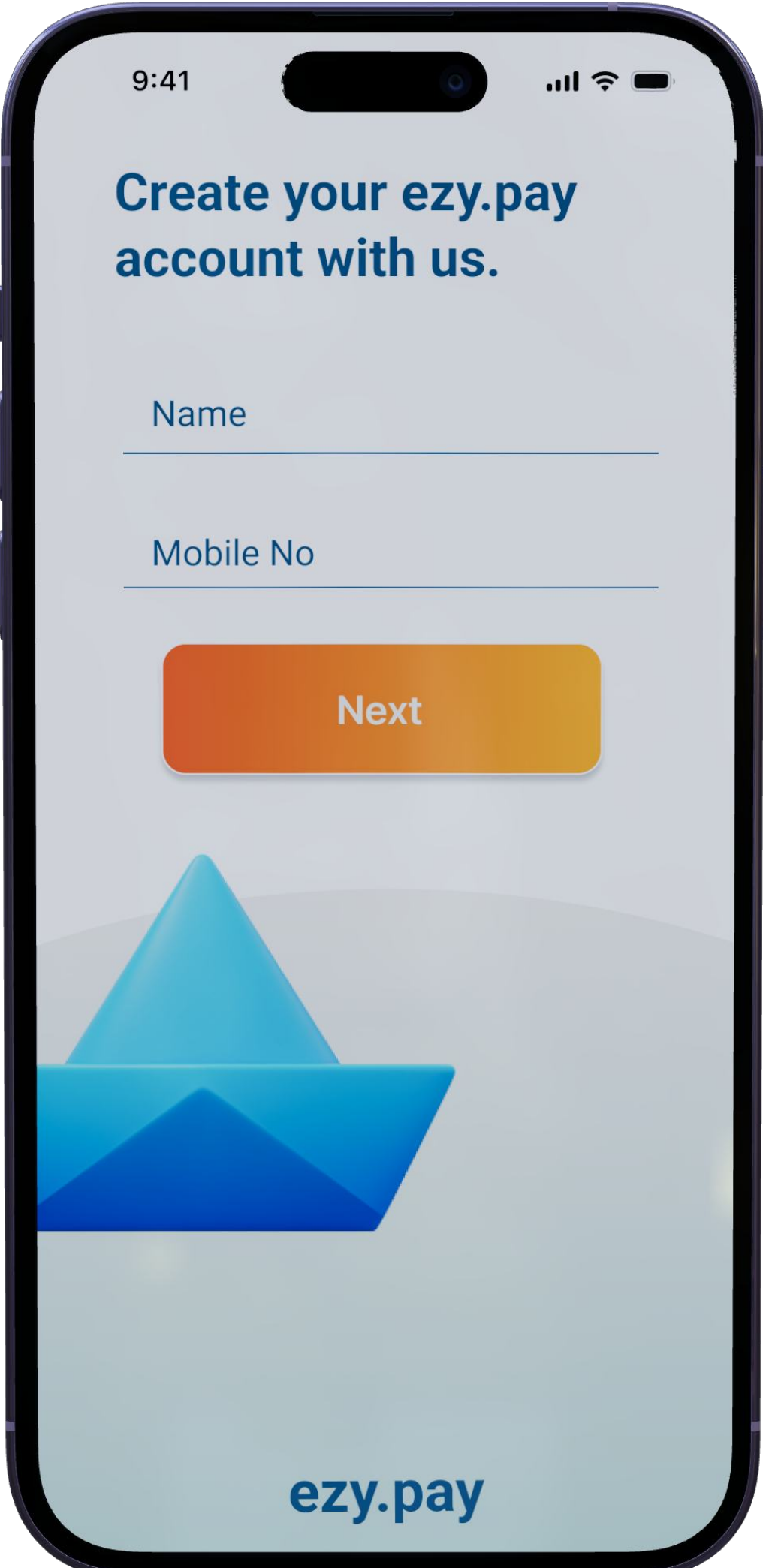
Homepage



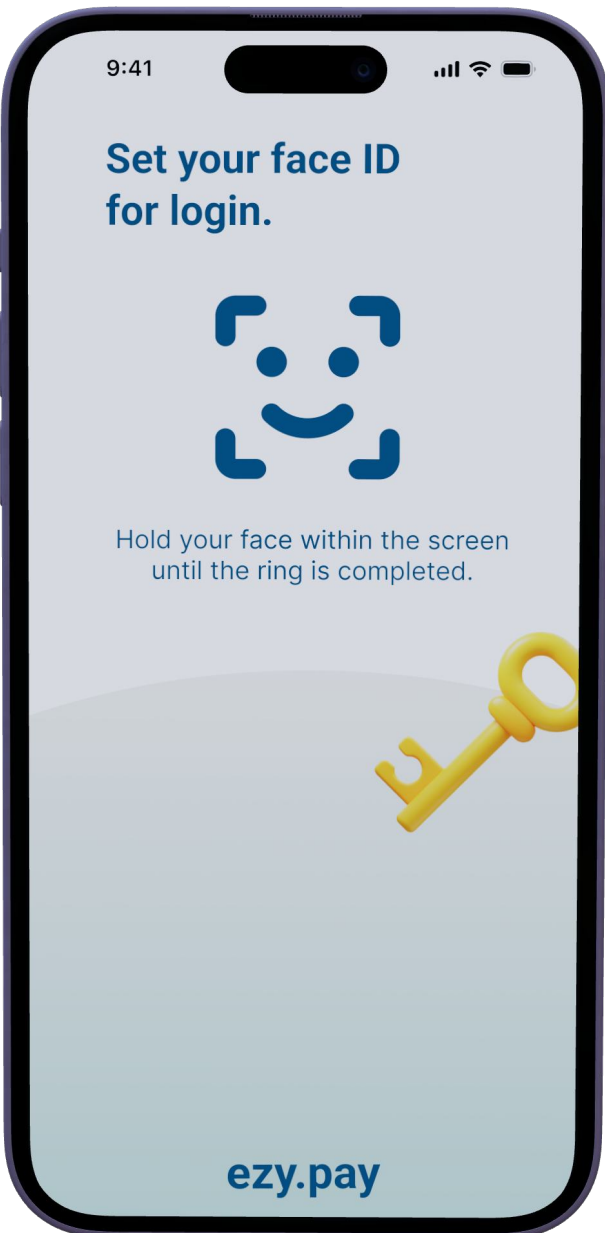
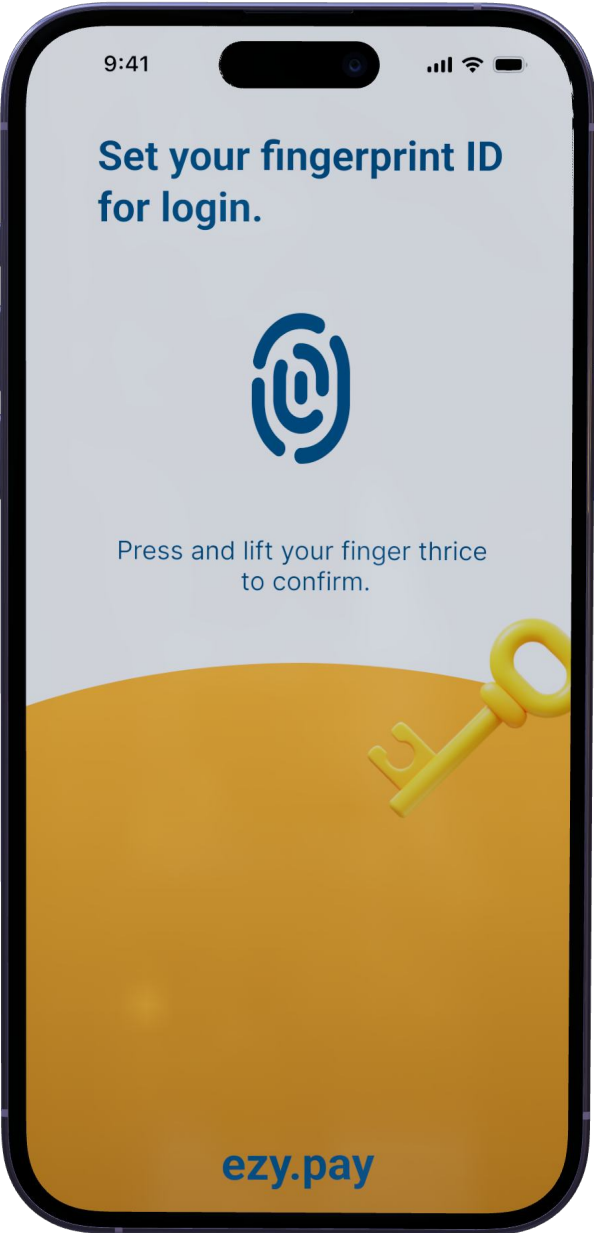
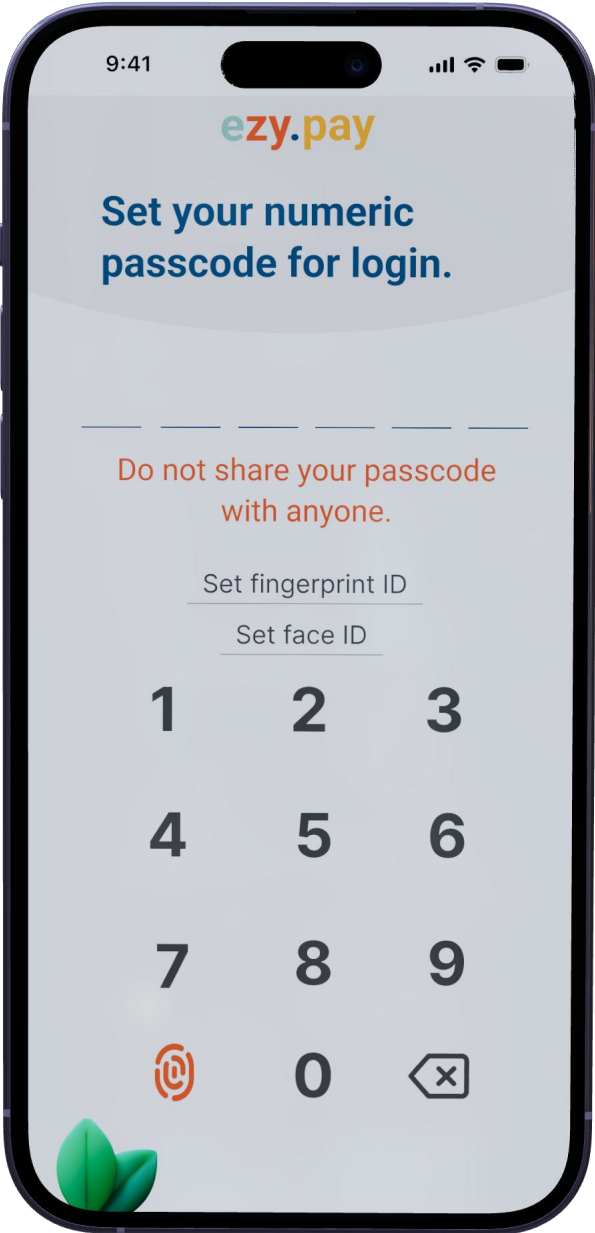
Authentication and Login



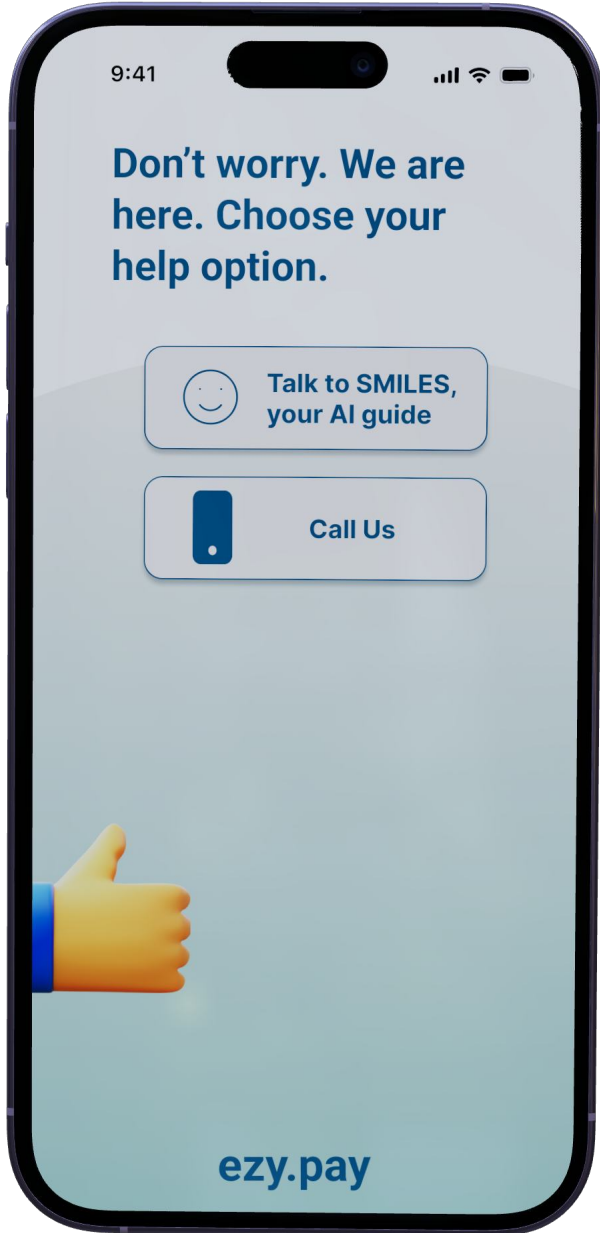
Account Creation



Set Authentication ID



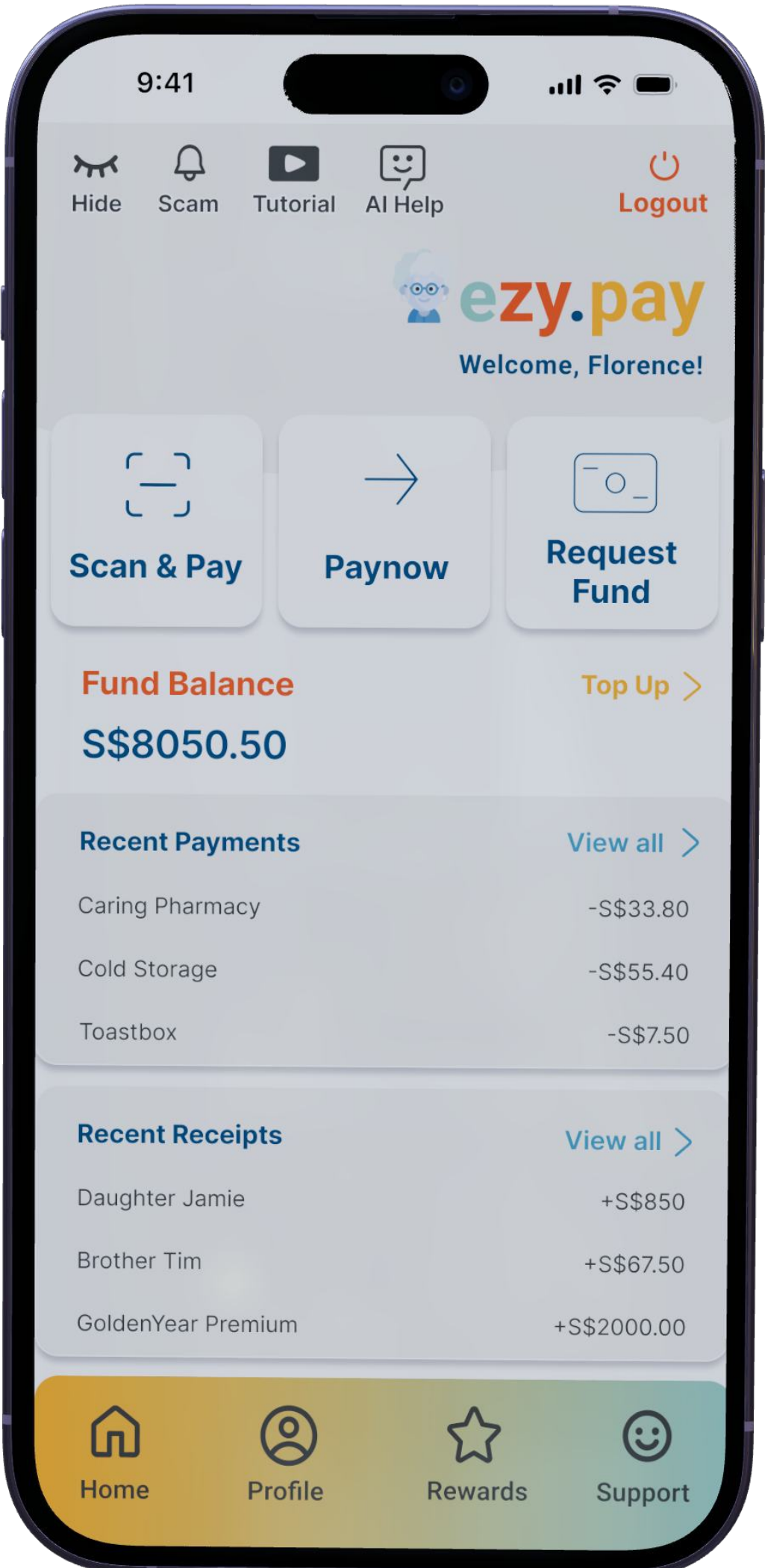
Troubleshoot



Login Success



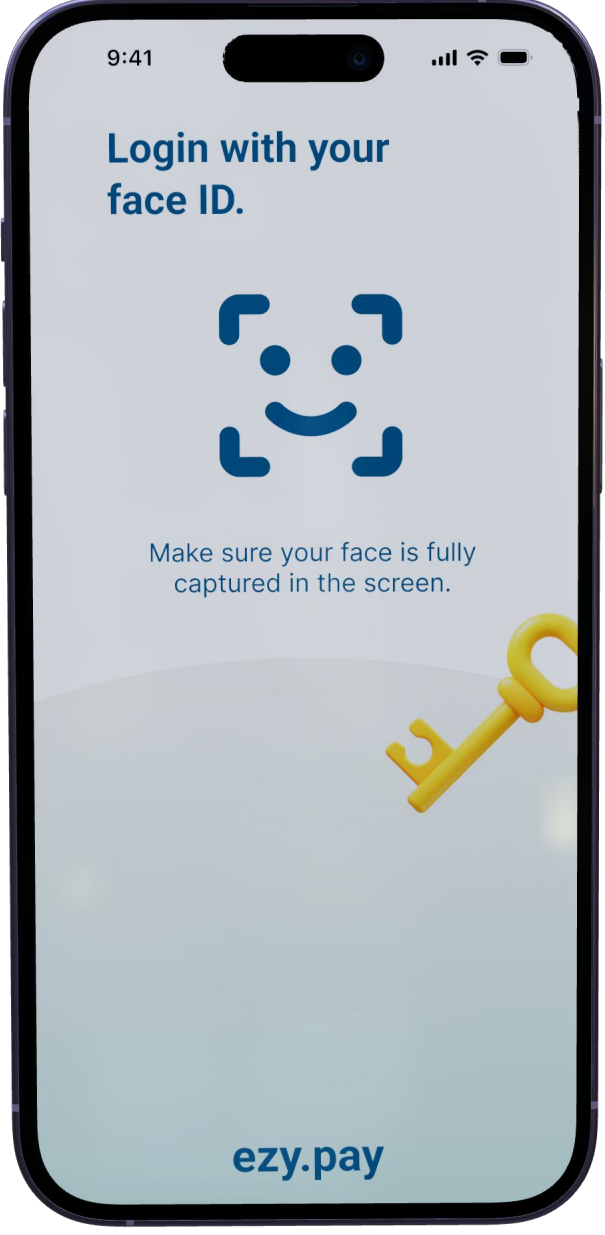
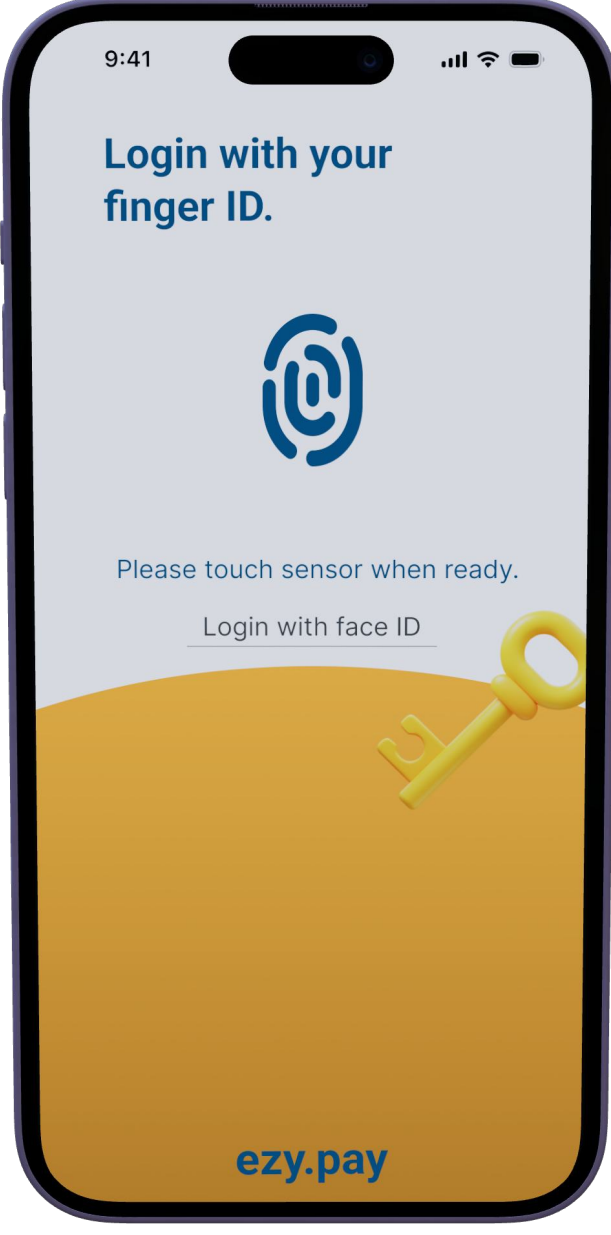
Dashboard



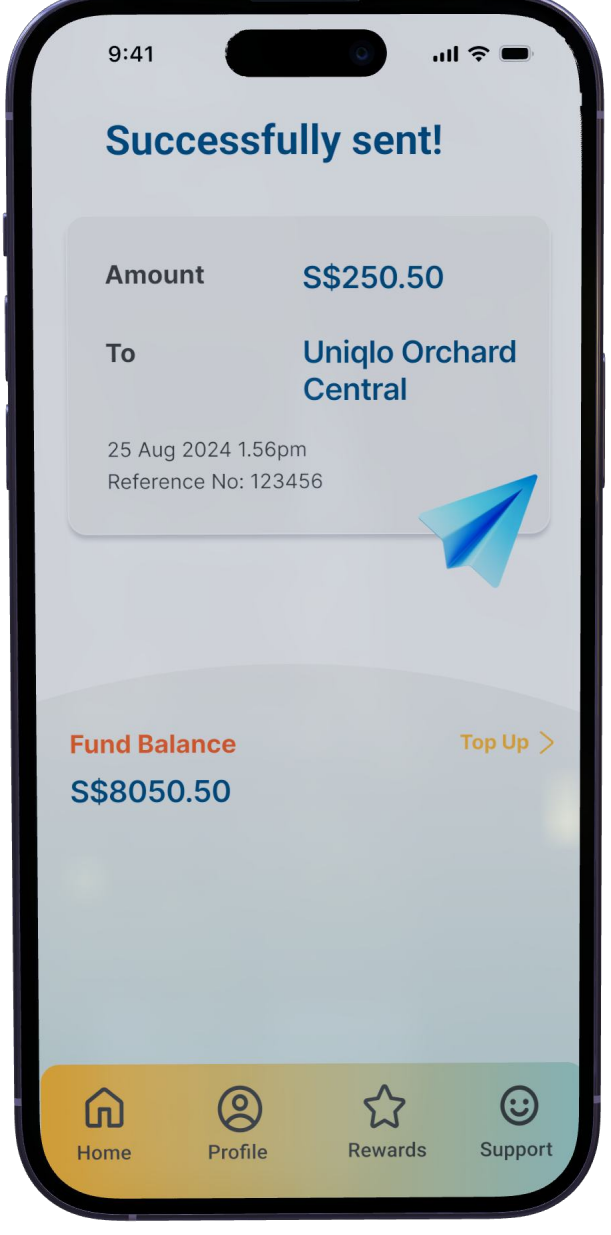
Scan & Pay



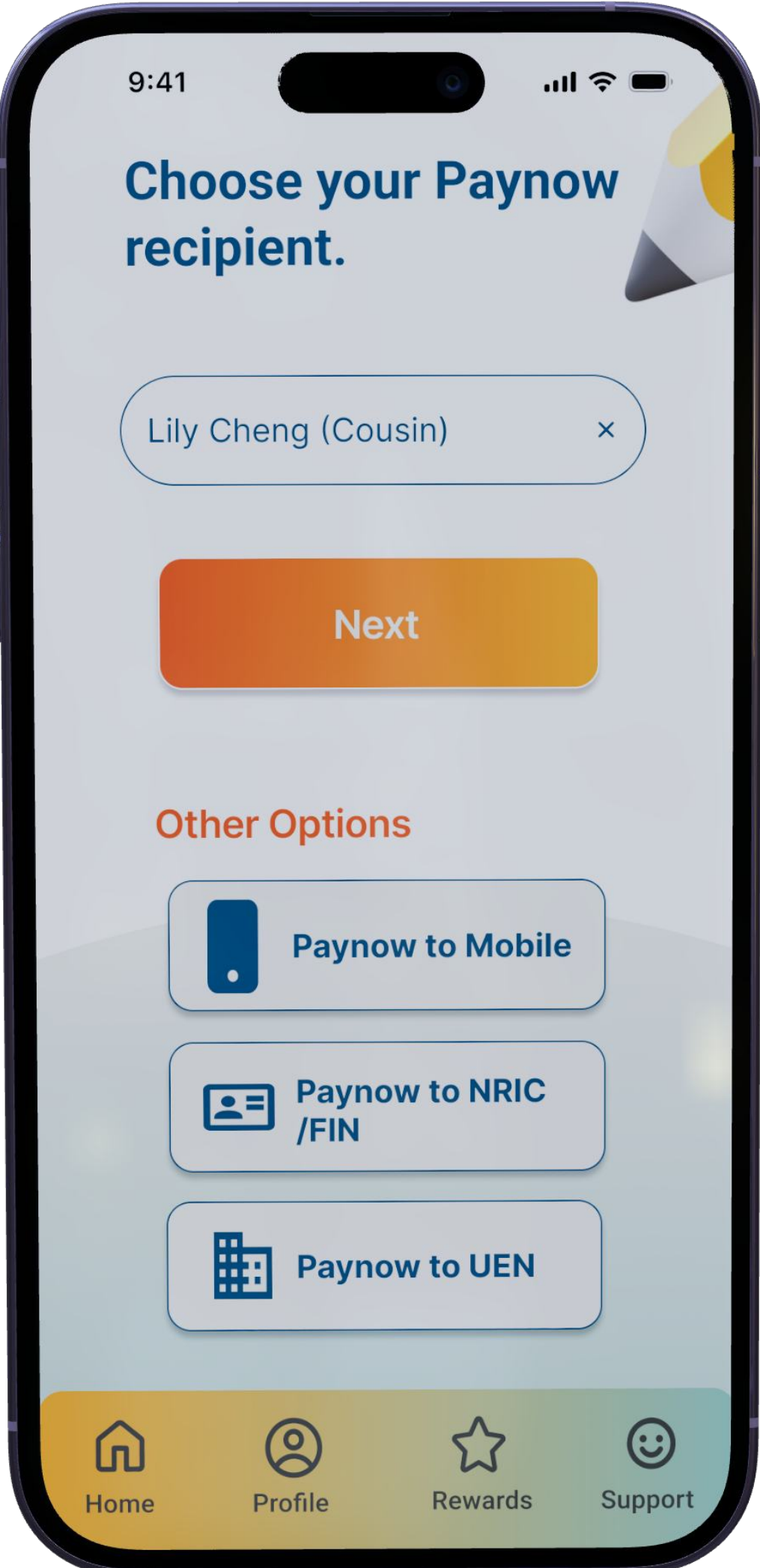
Authenticate



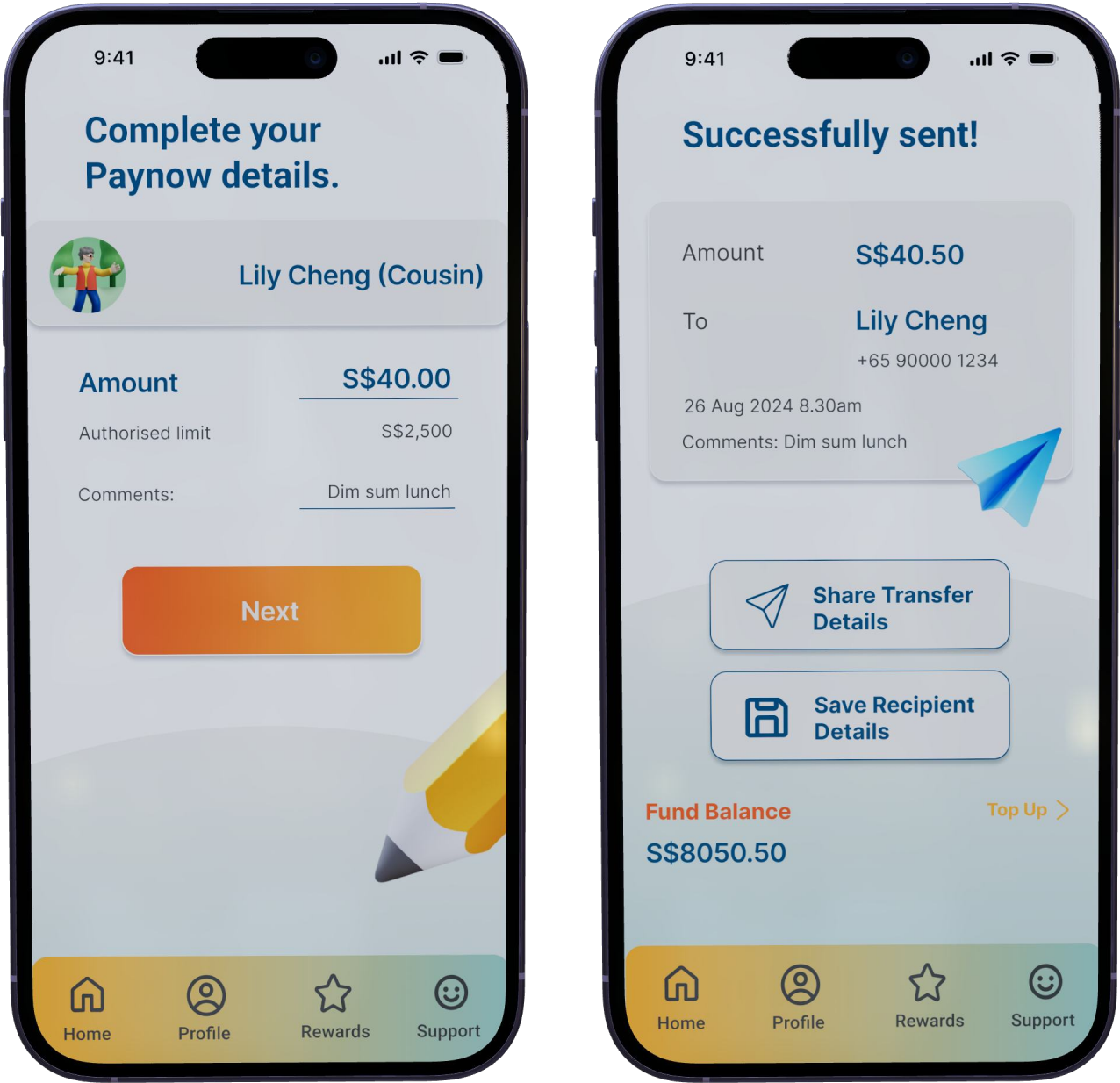
Payment Success



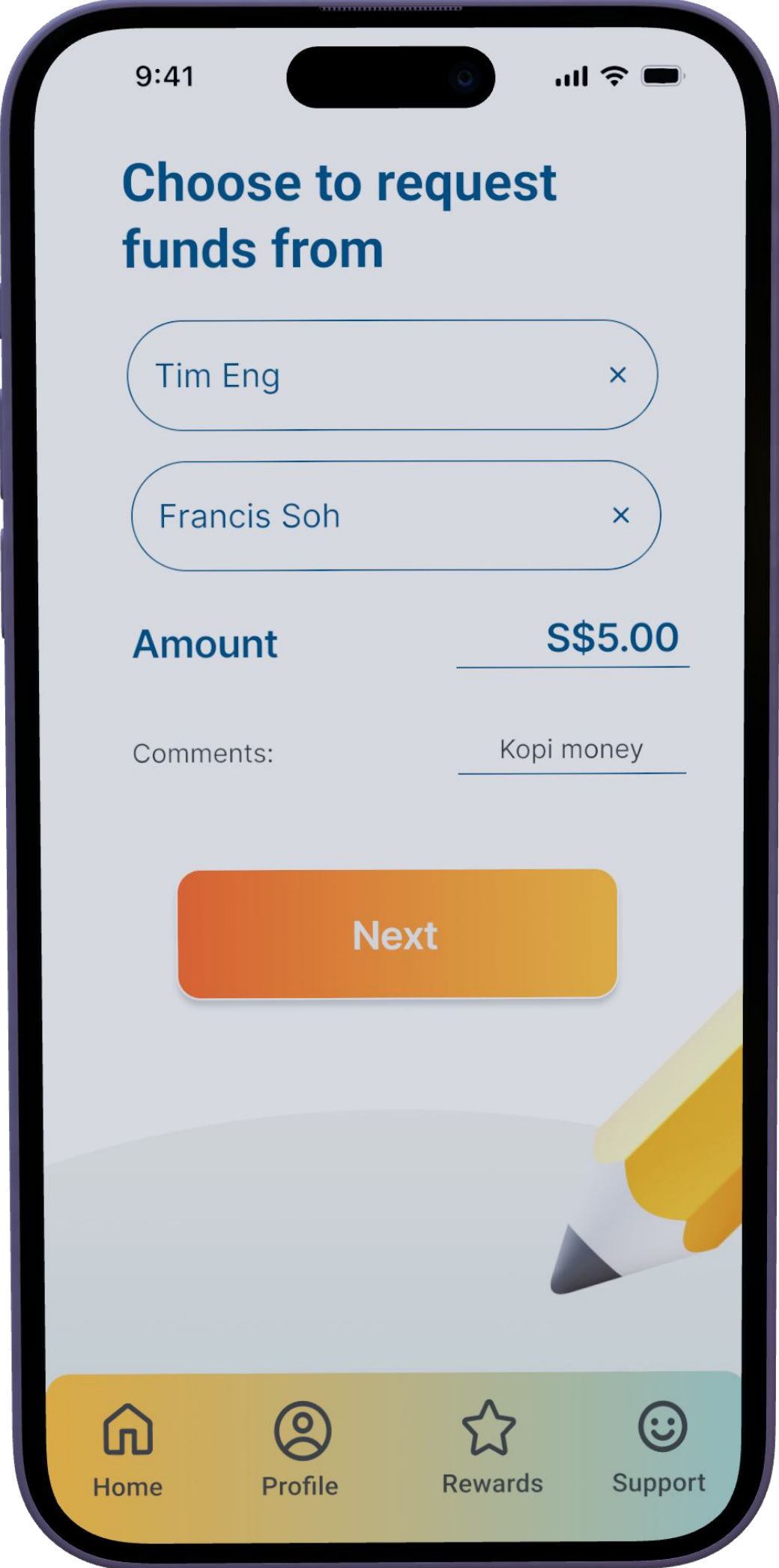
Paynow



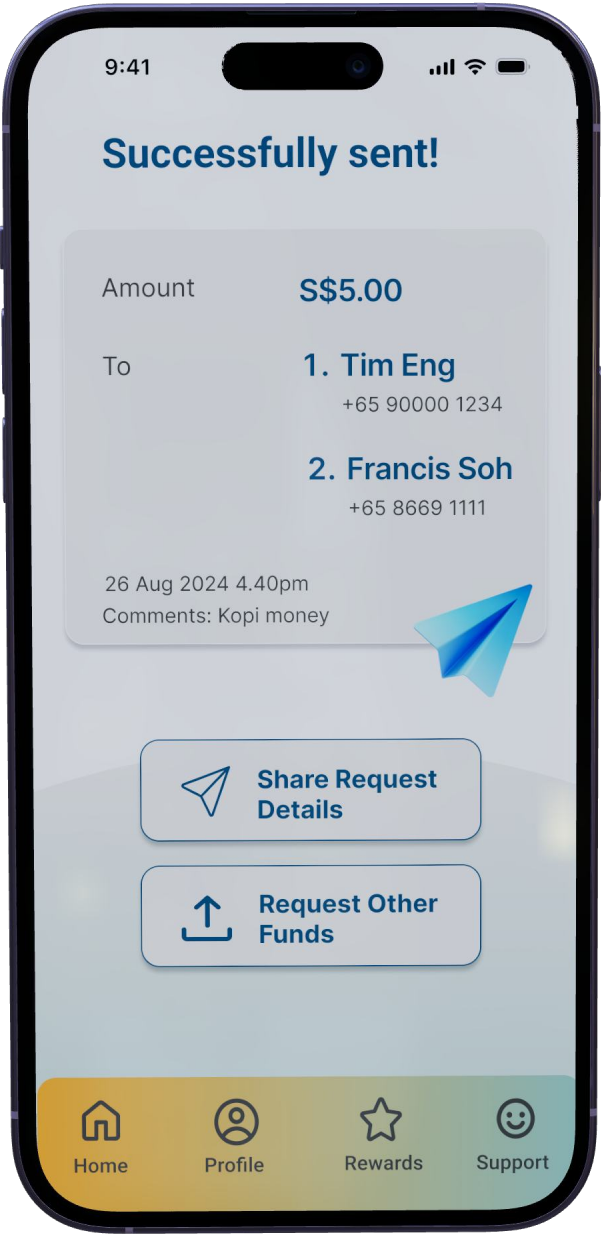
Complete Details & Payment Success



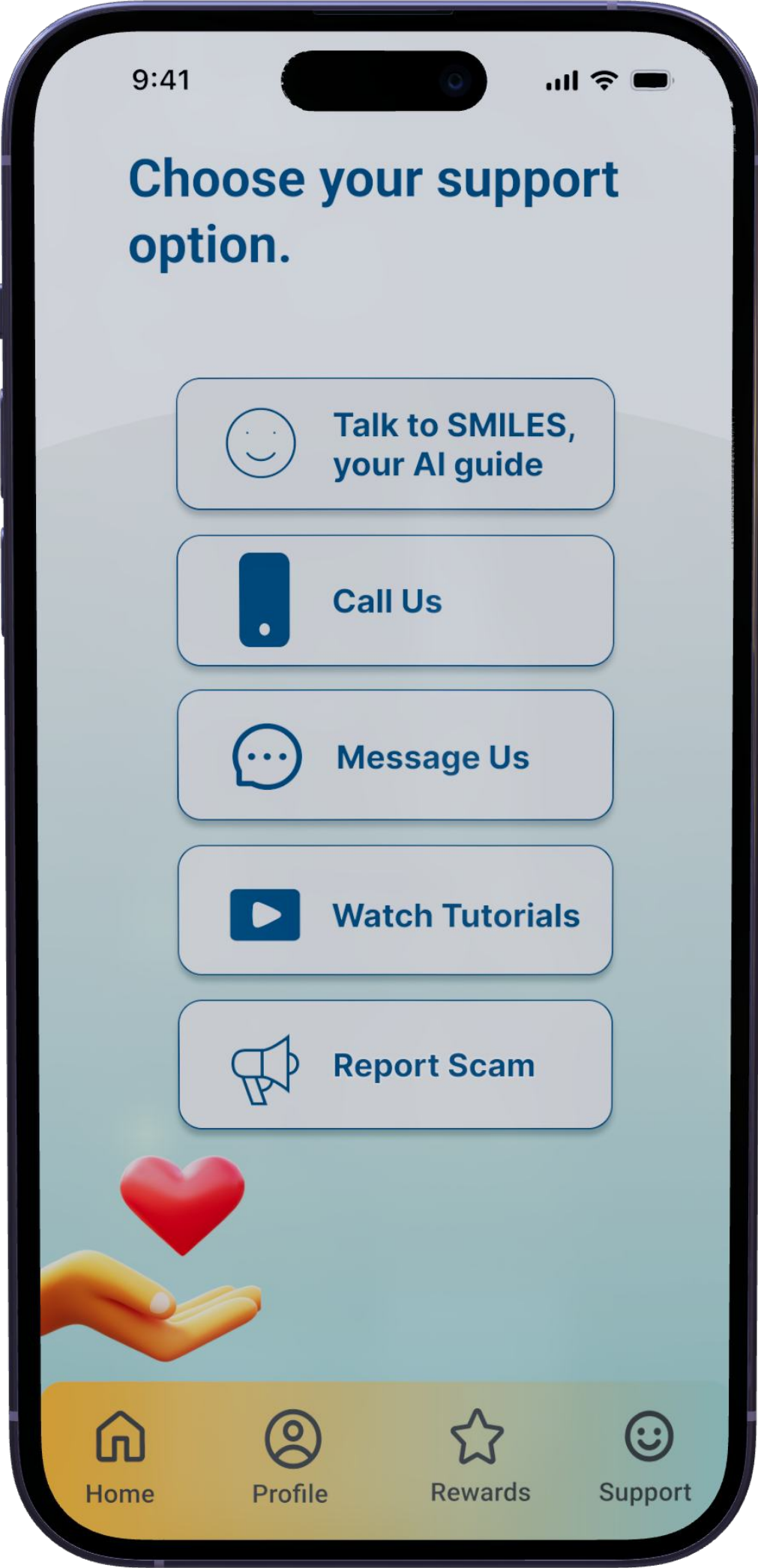
Request Fund



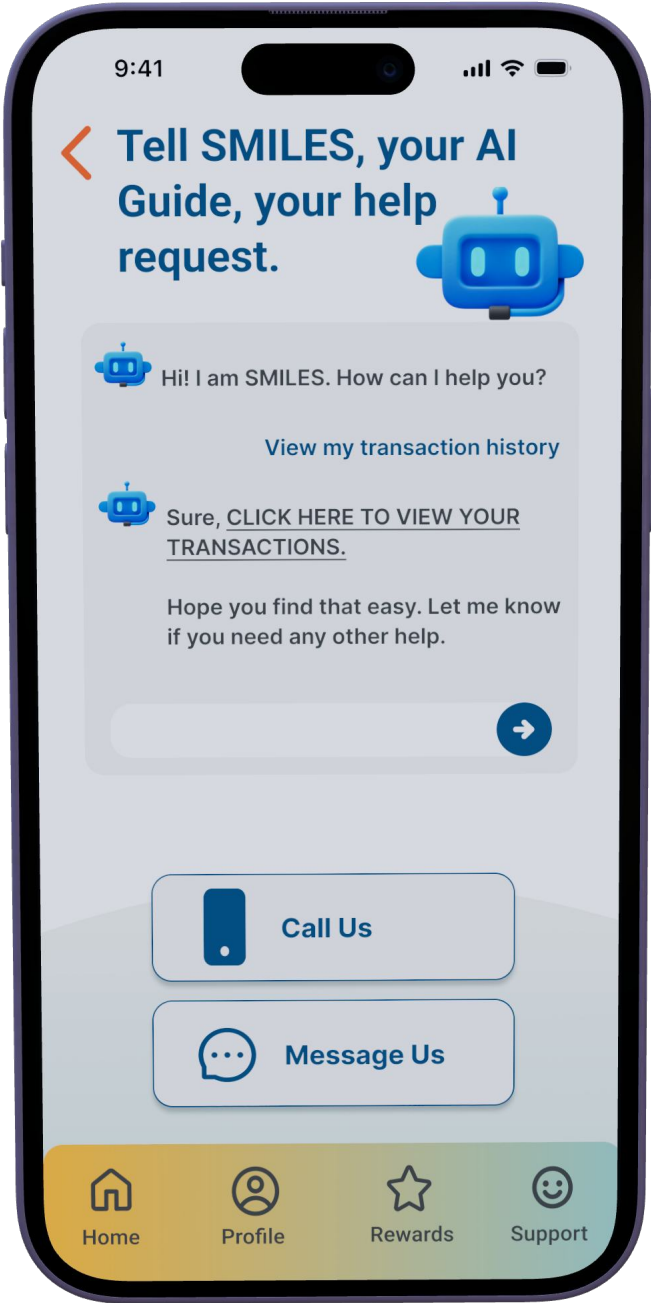
Sent Success



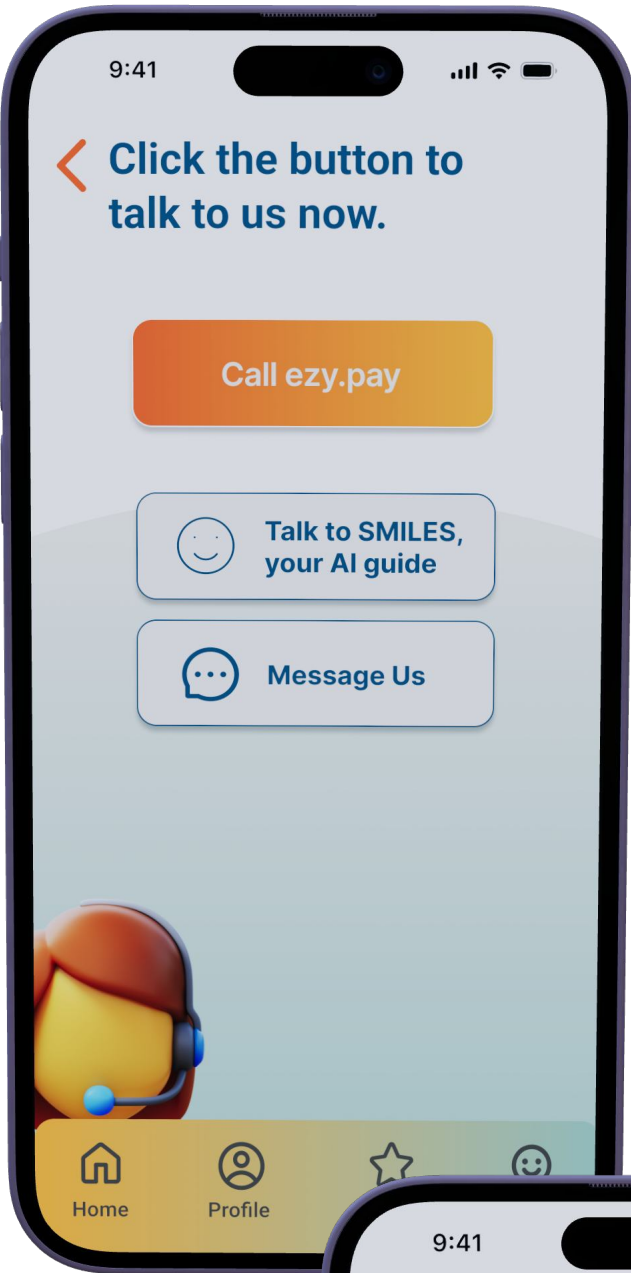
Support



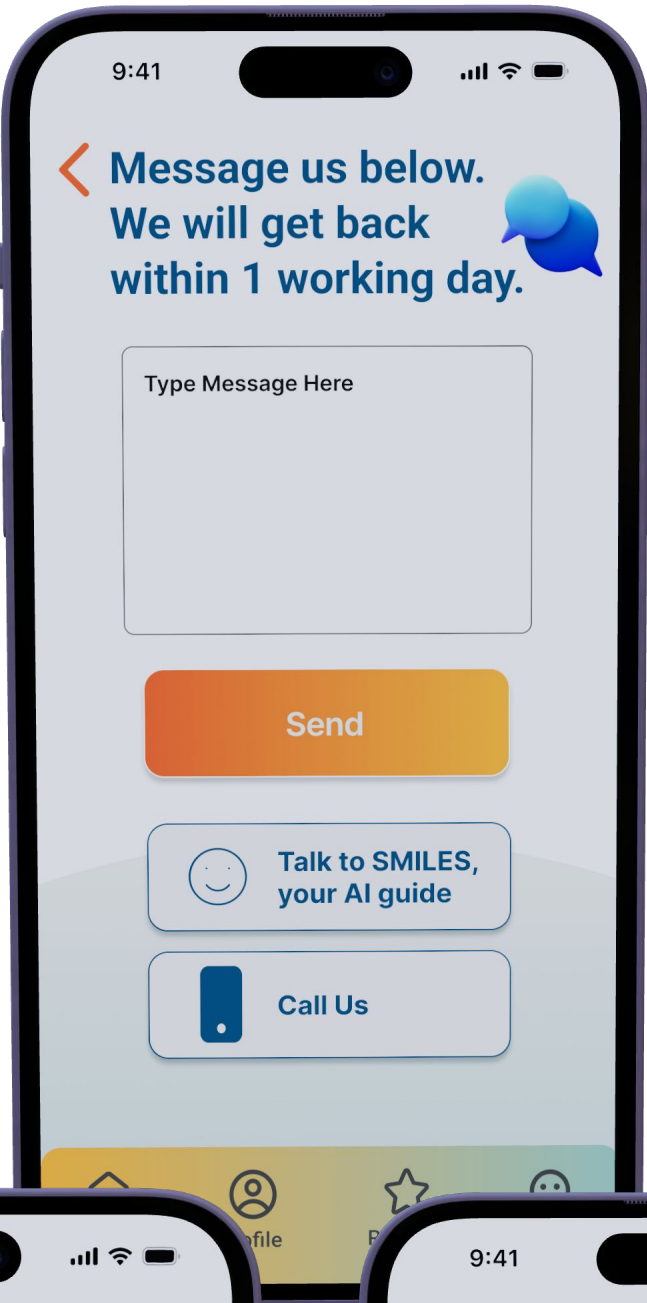
AI Chatbot



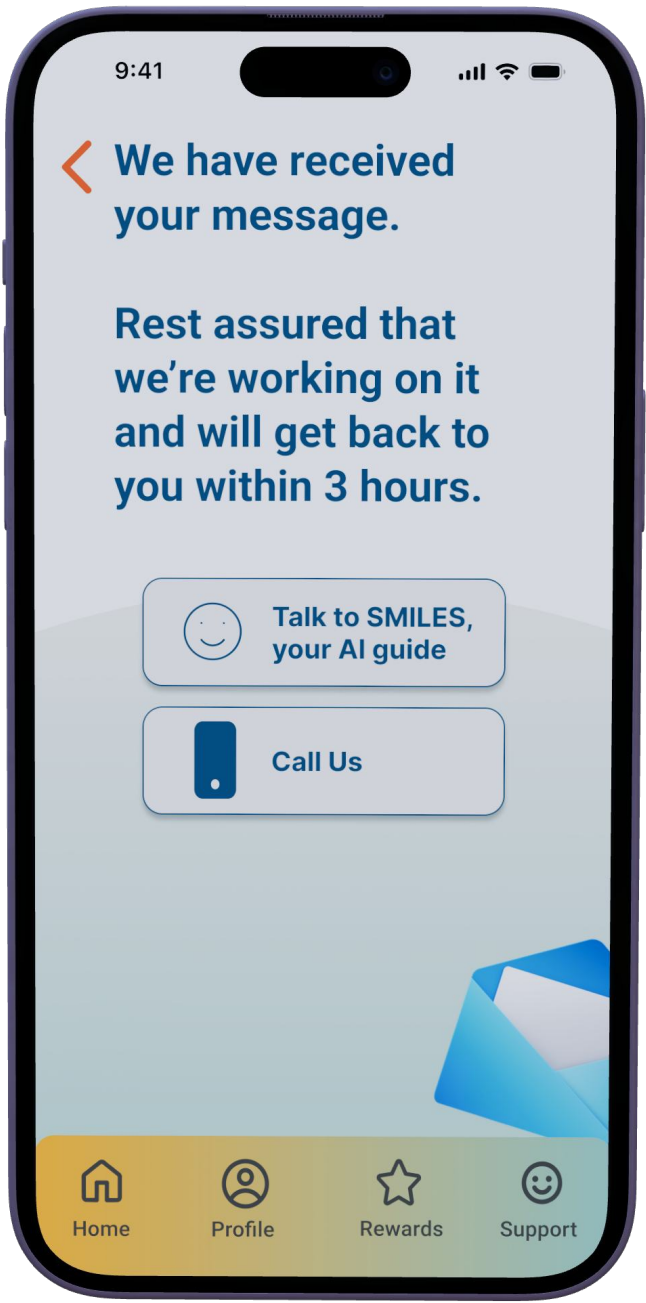
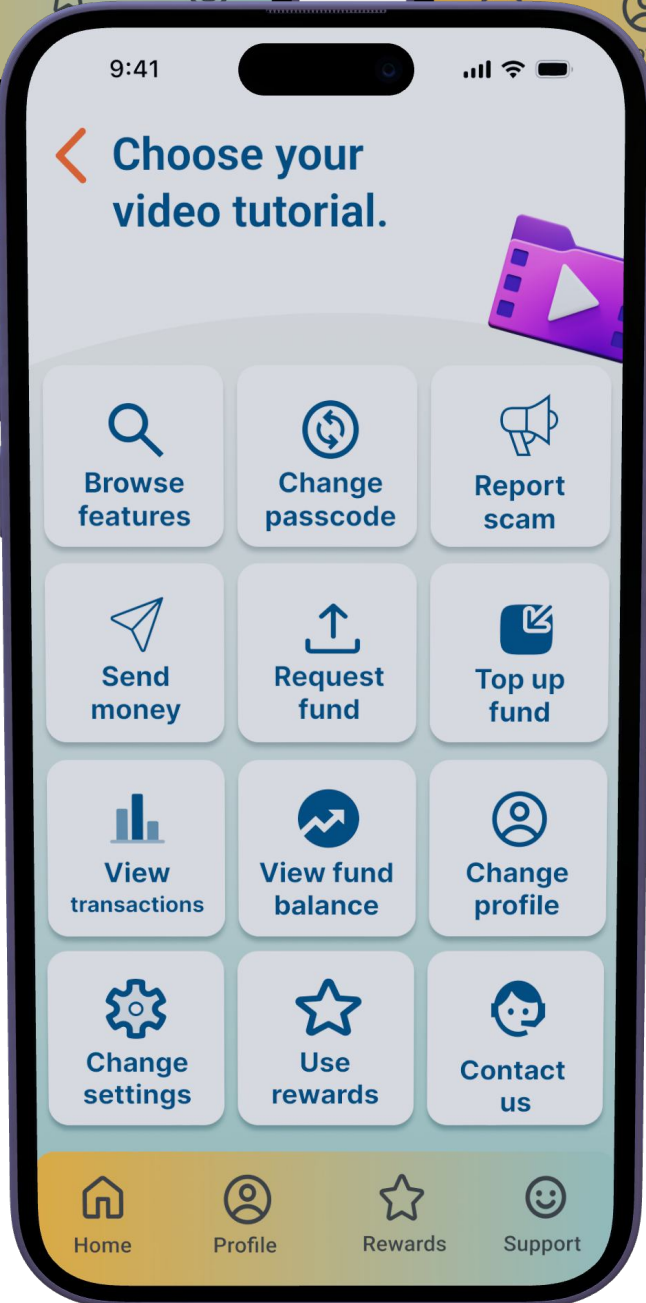
Call Hotline



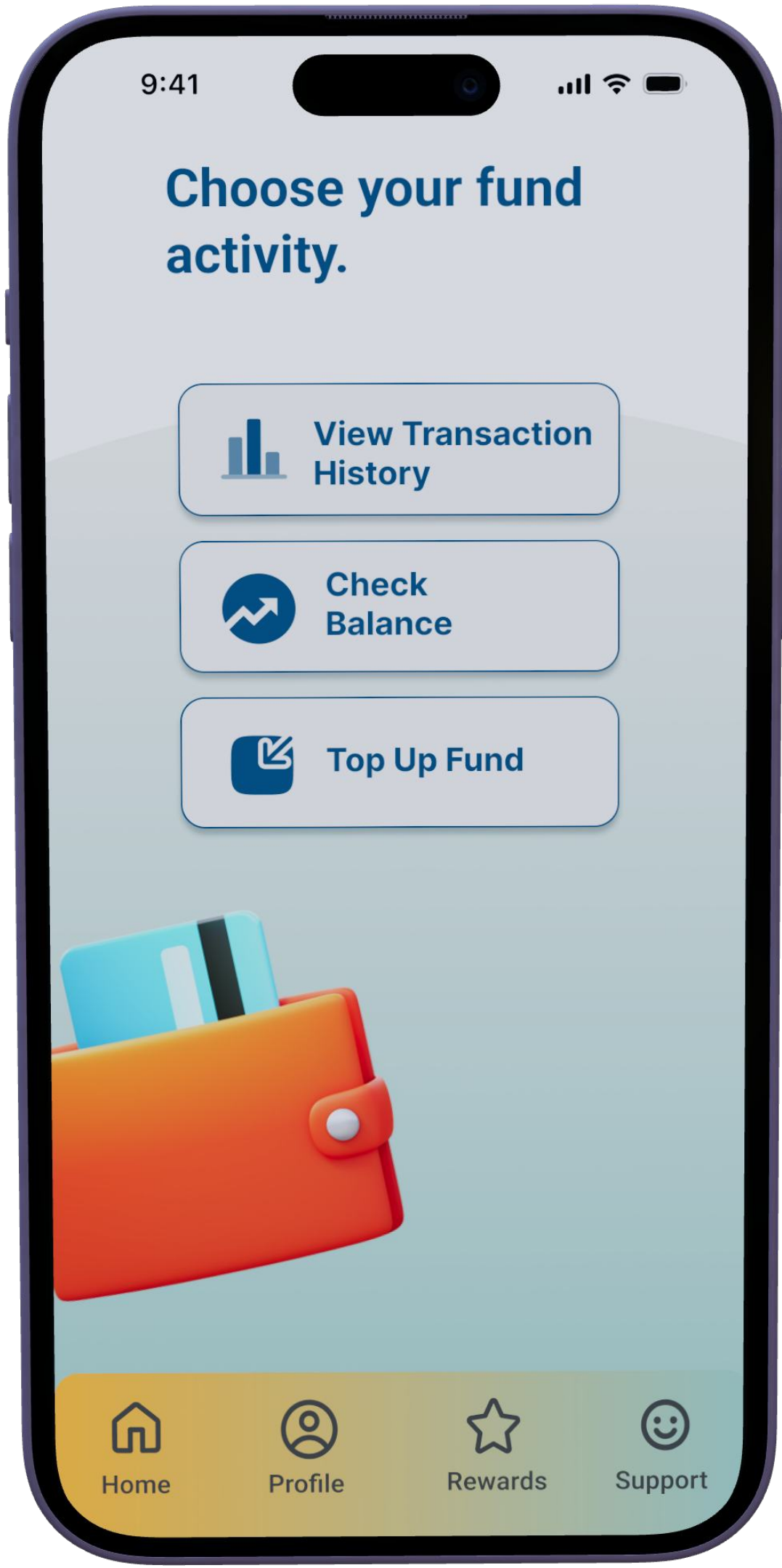
Message



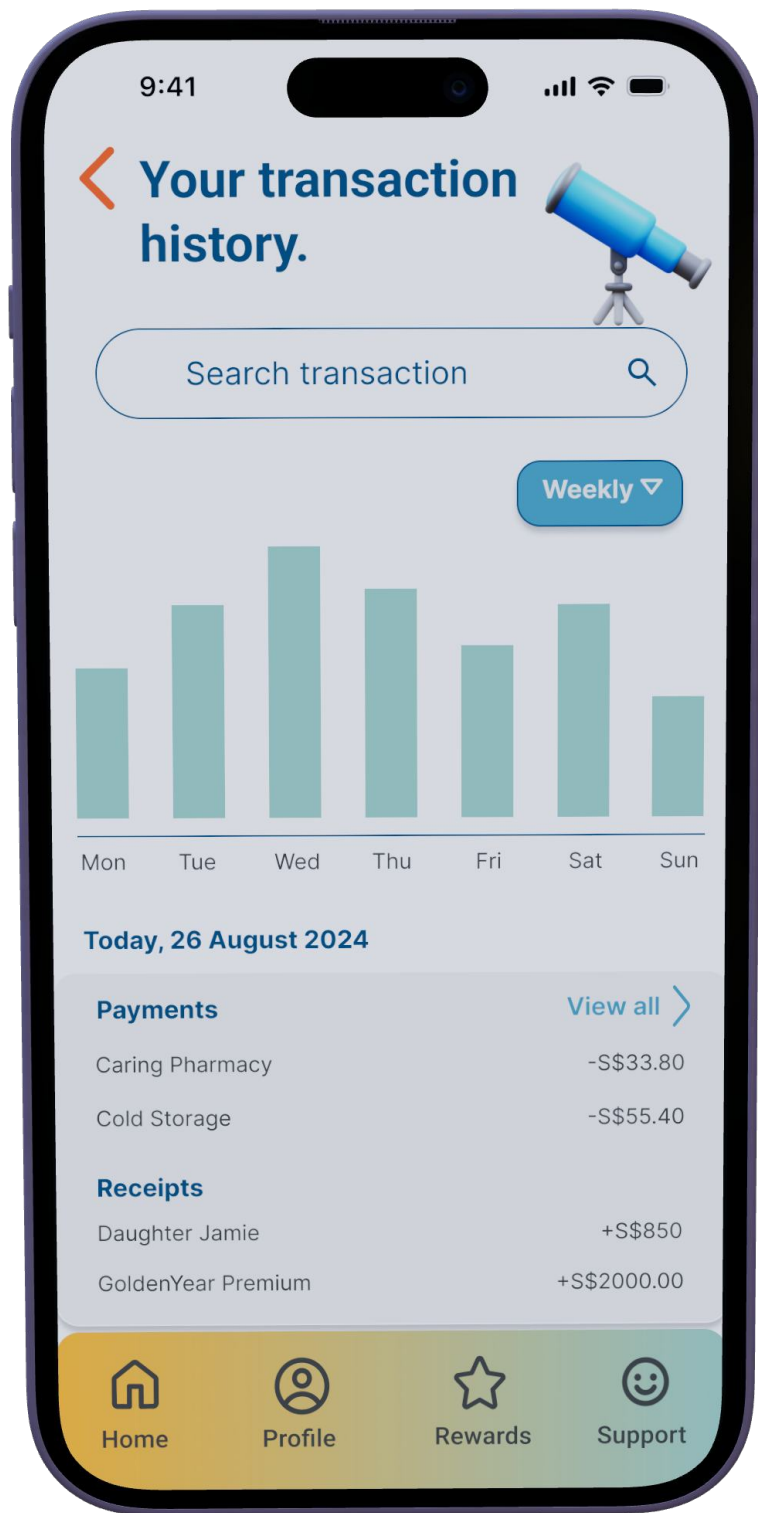
Report Scam



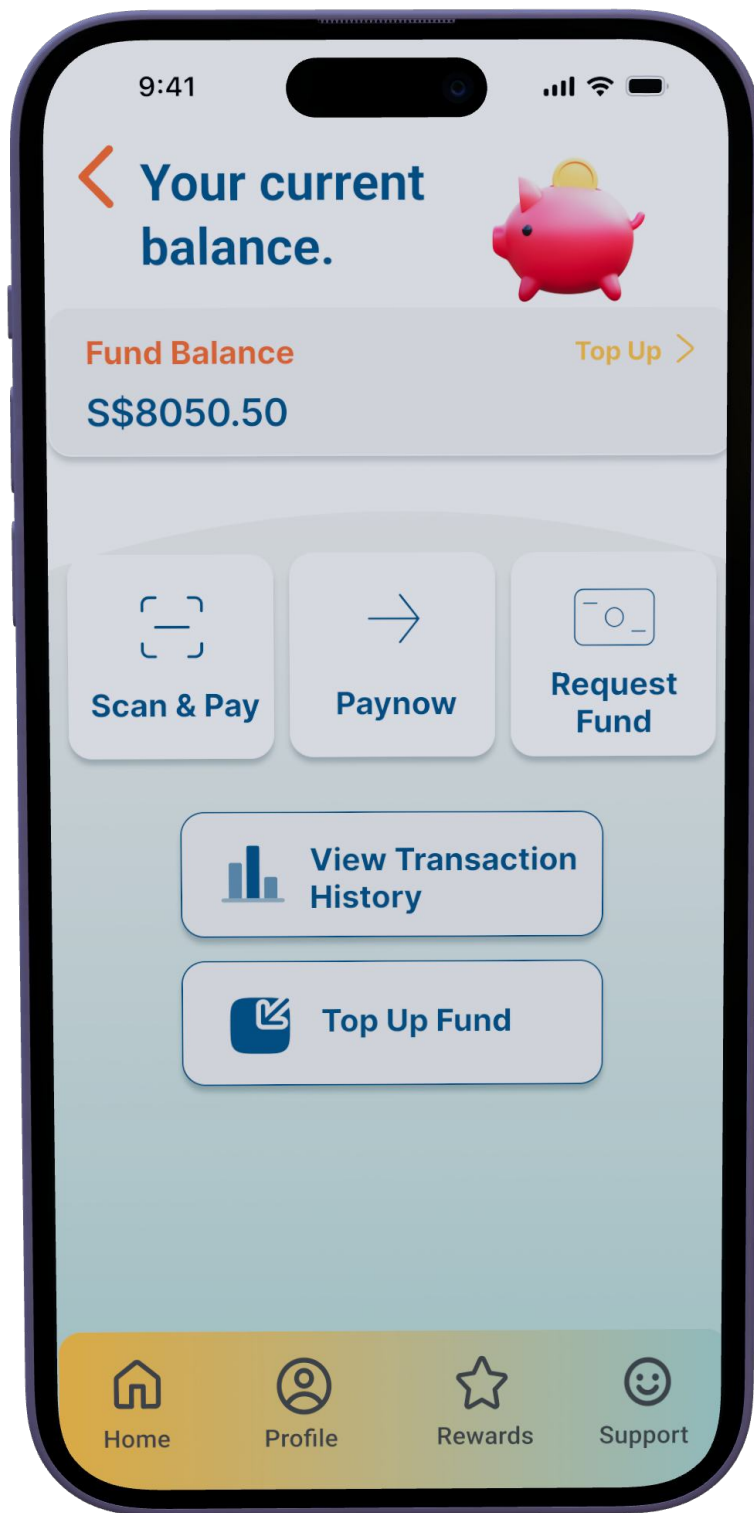
Fund Activity



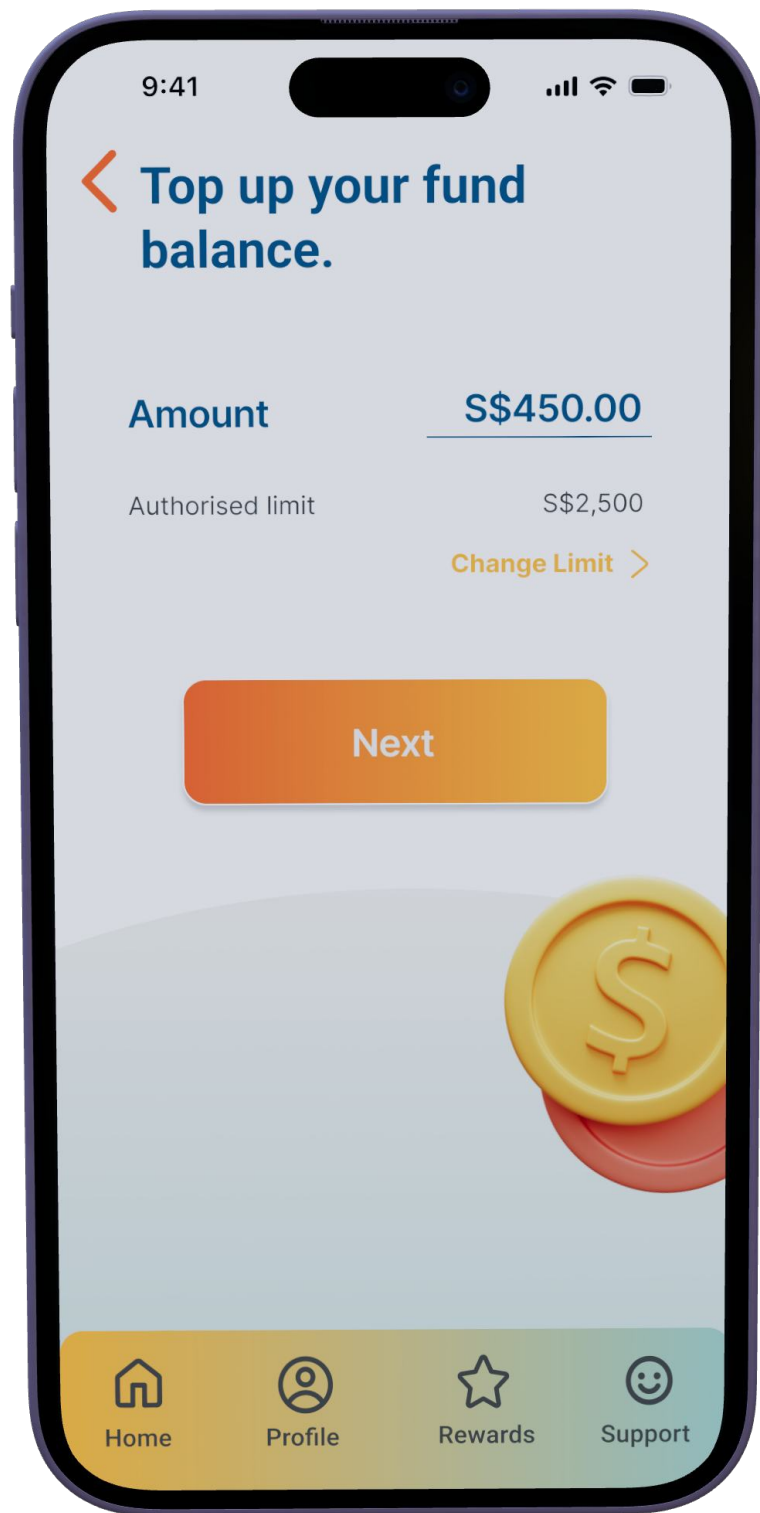
Transaction History



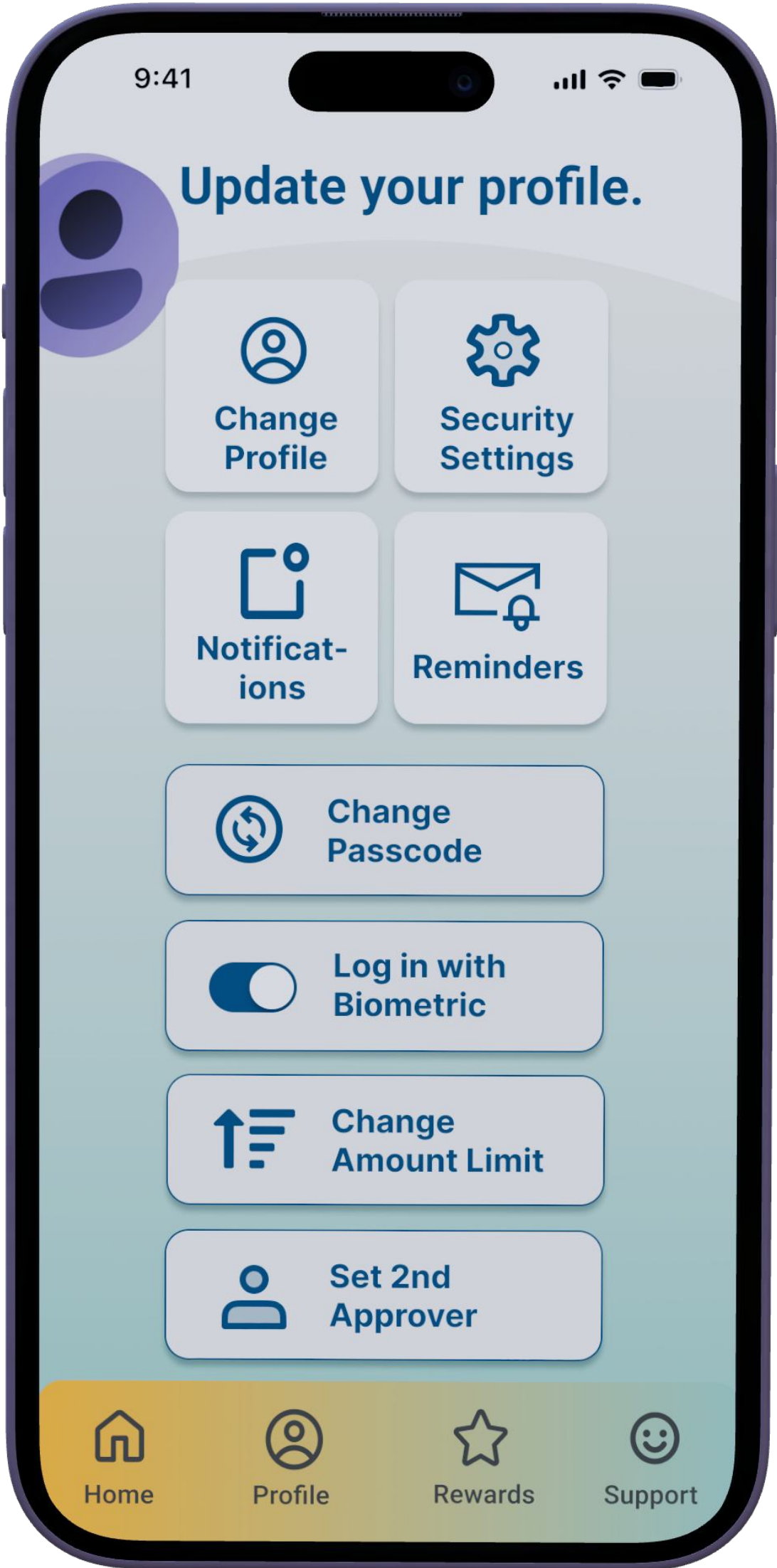
Current Balance



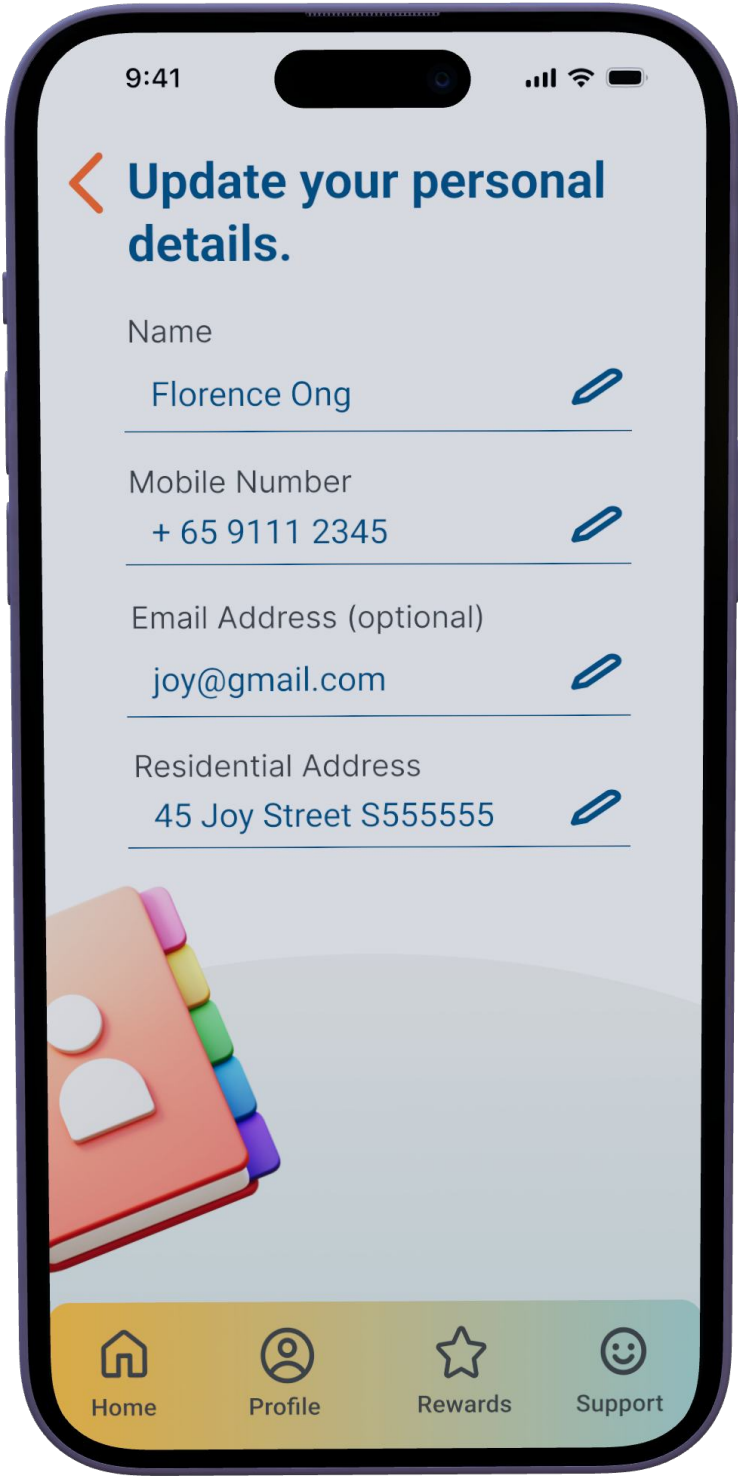
Top Up Fund



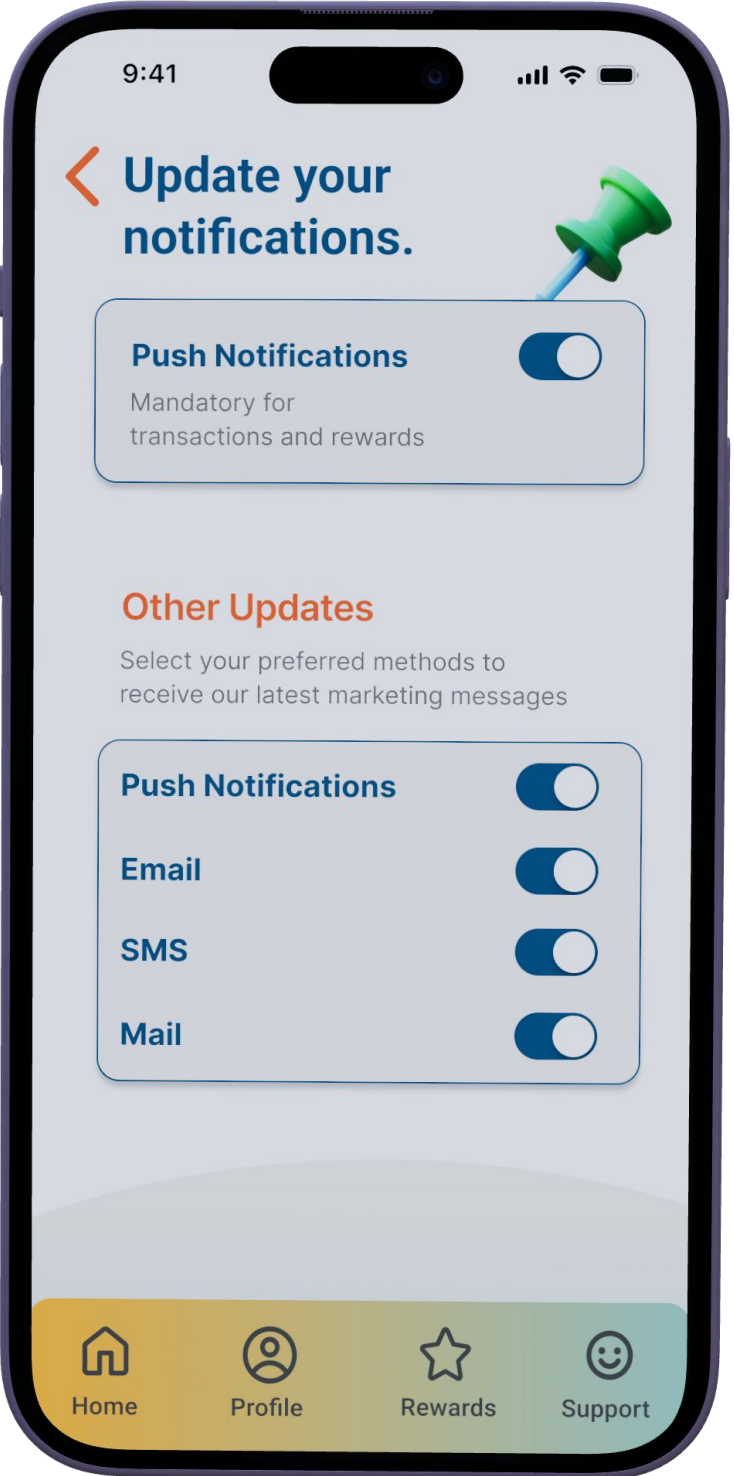
Profile



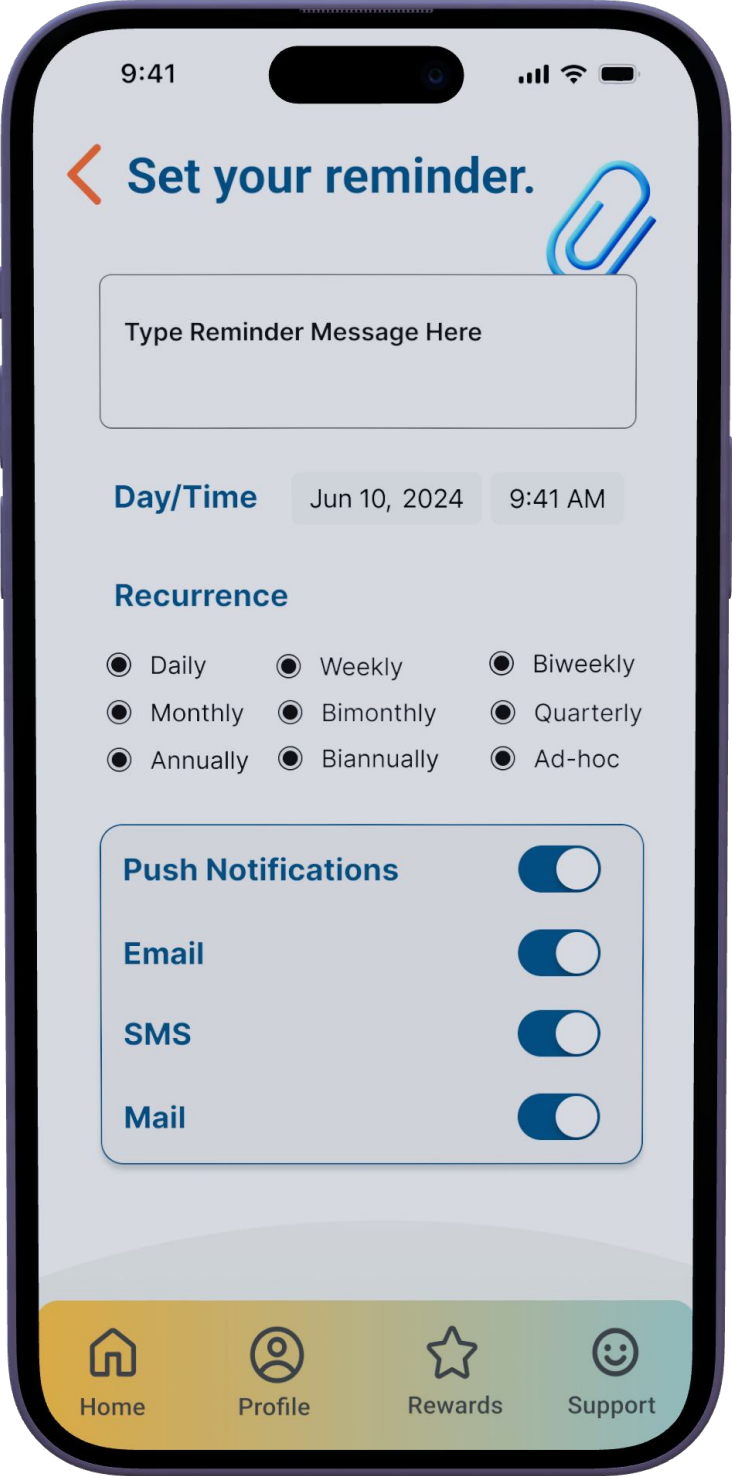
Update Profile



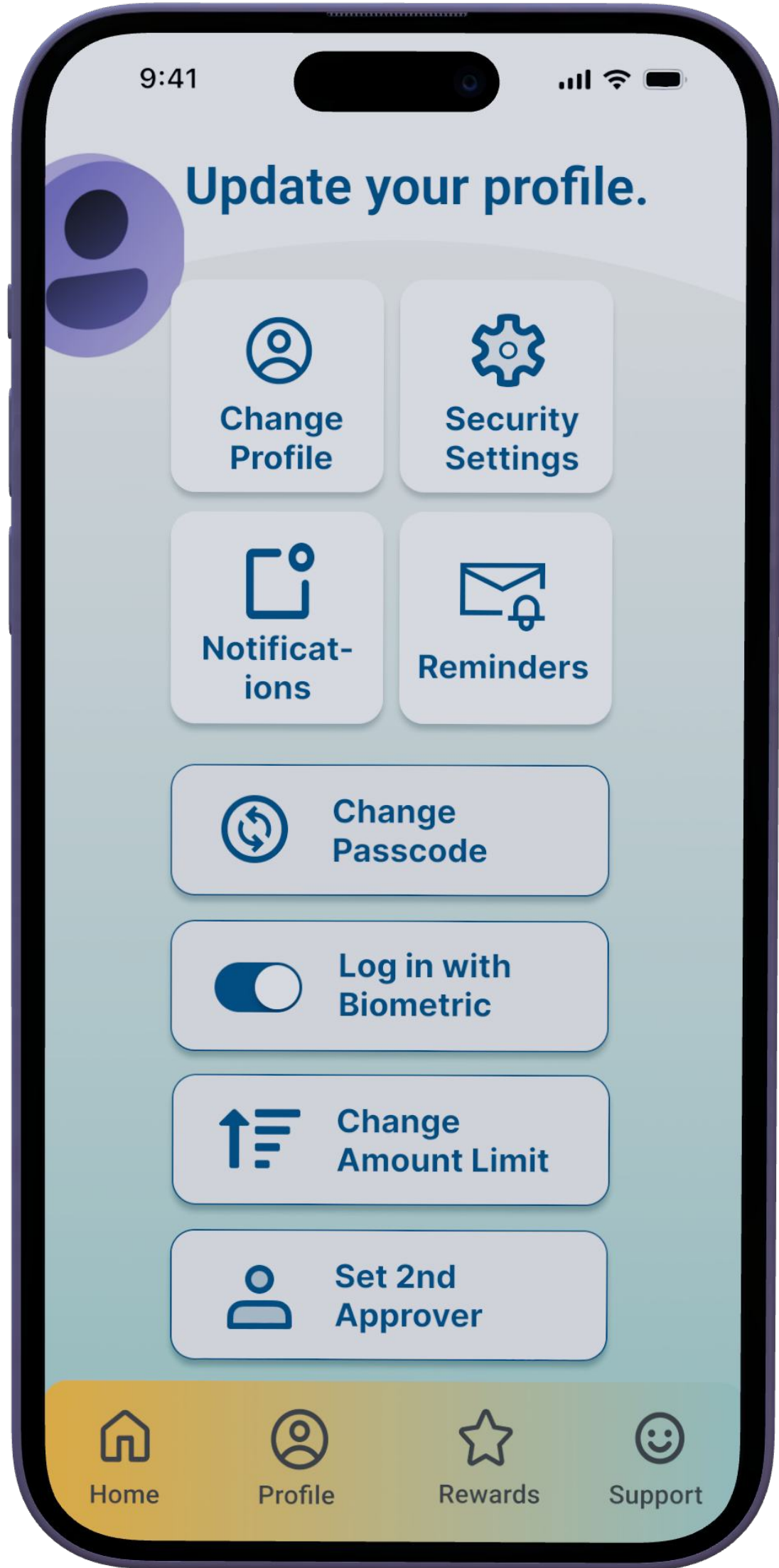
Notifications



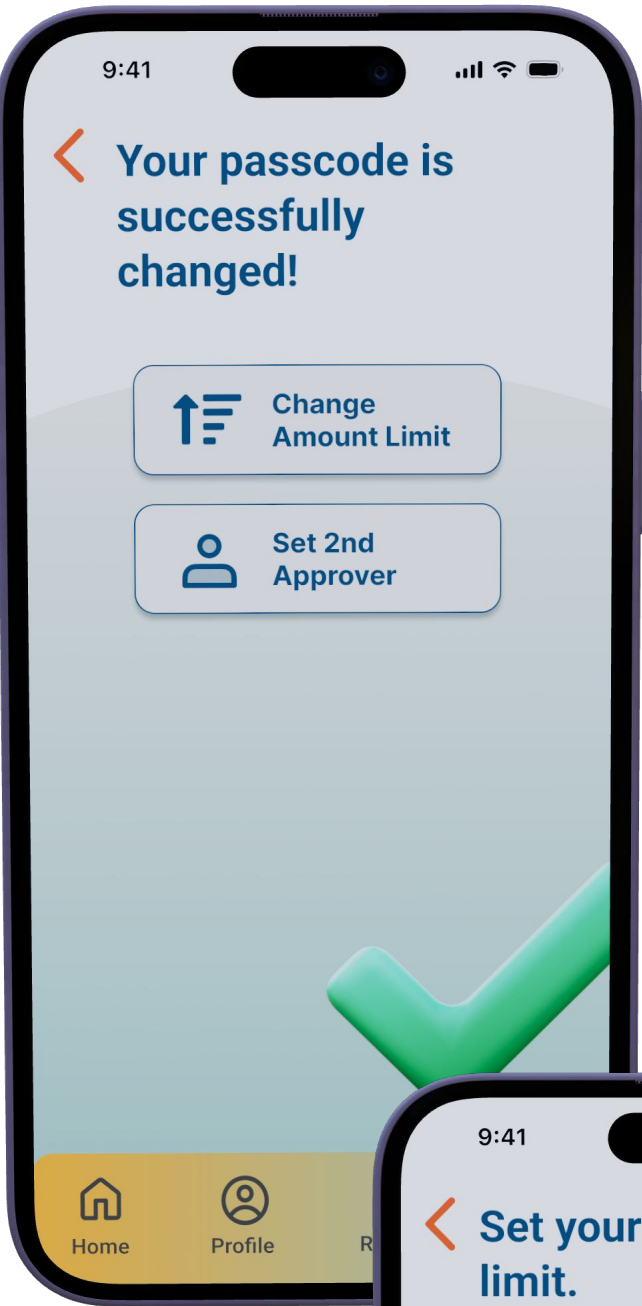
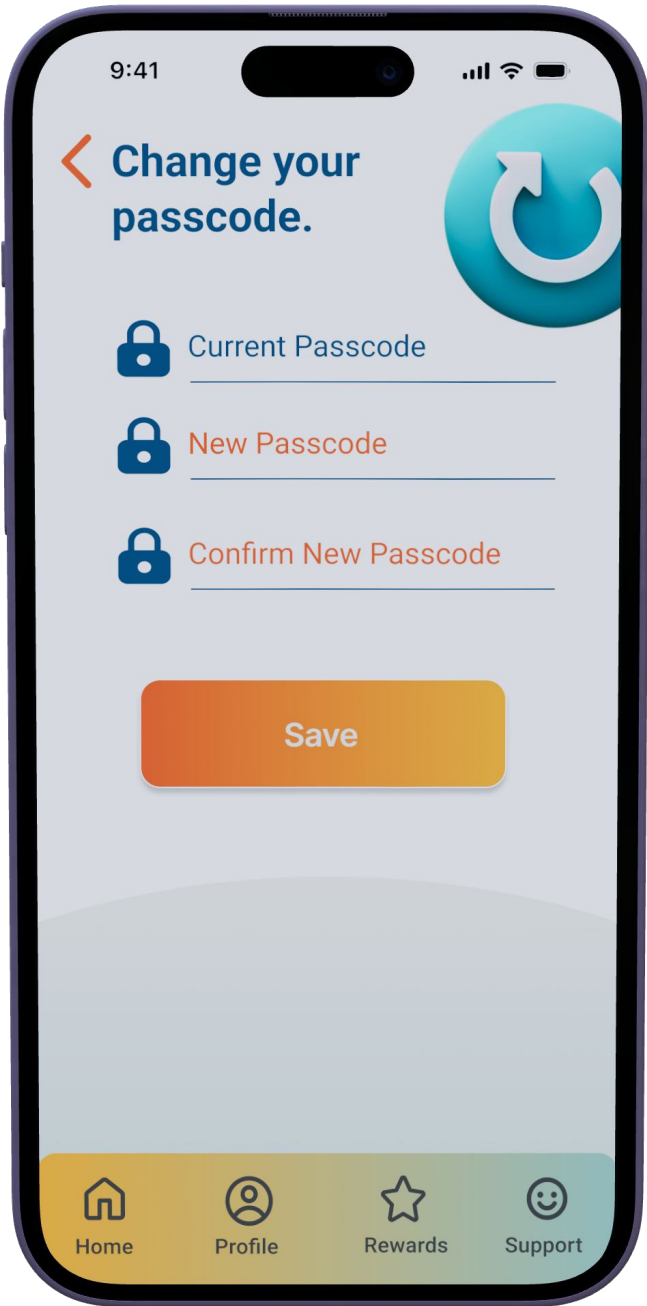
Set Reminder



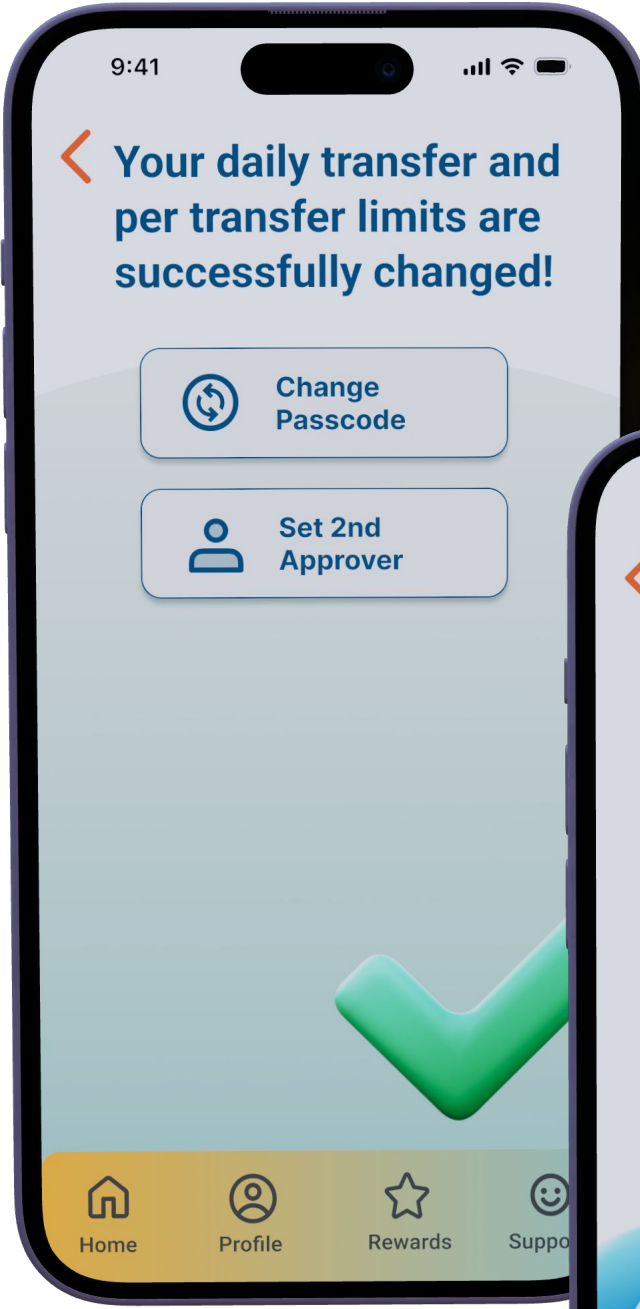
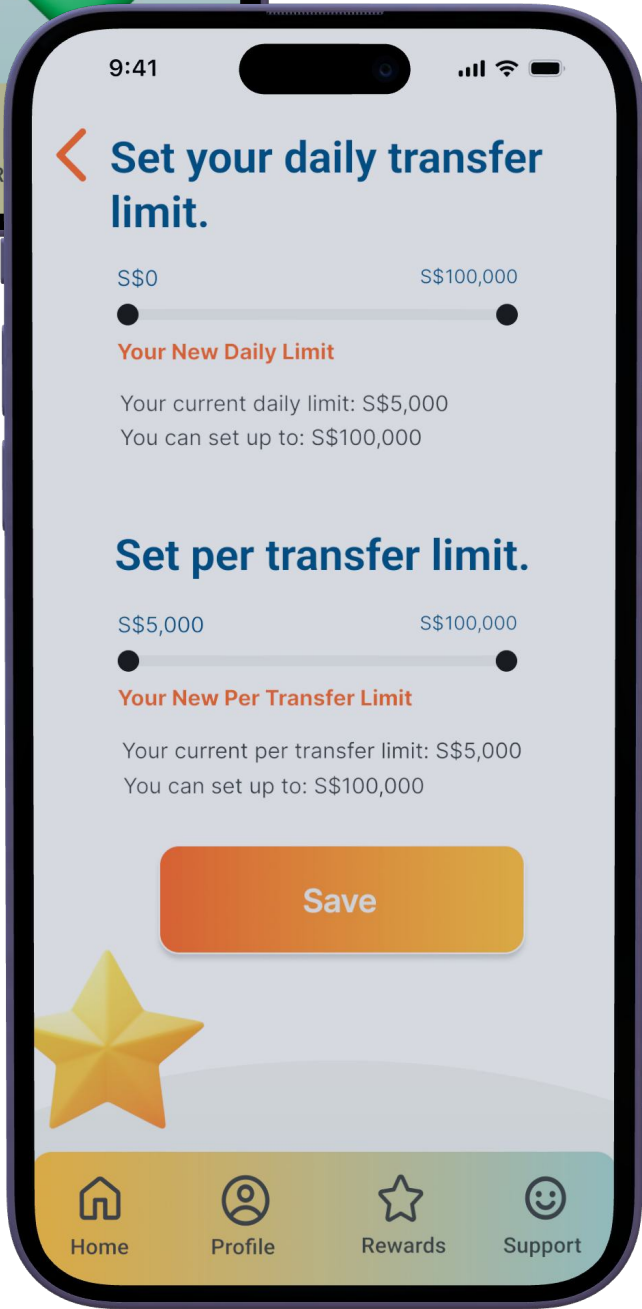
Profile



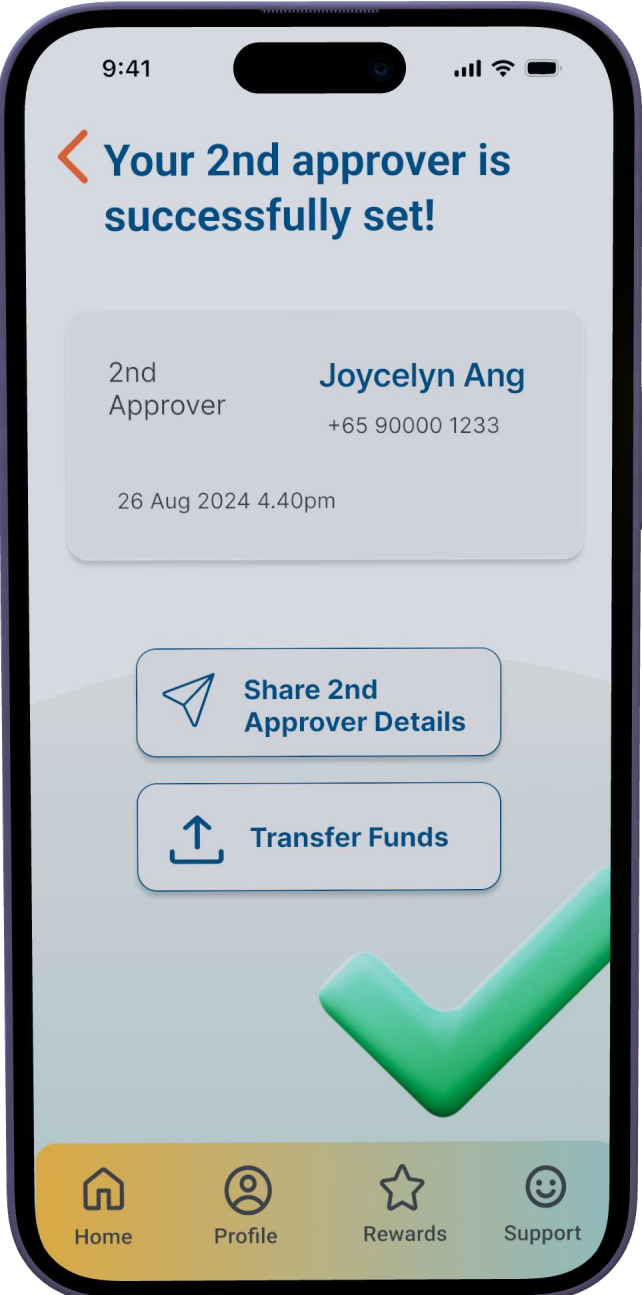
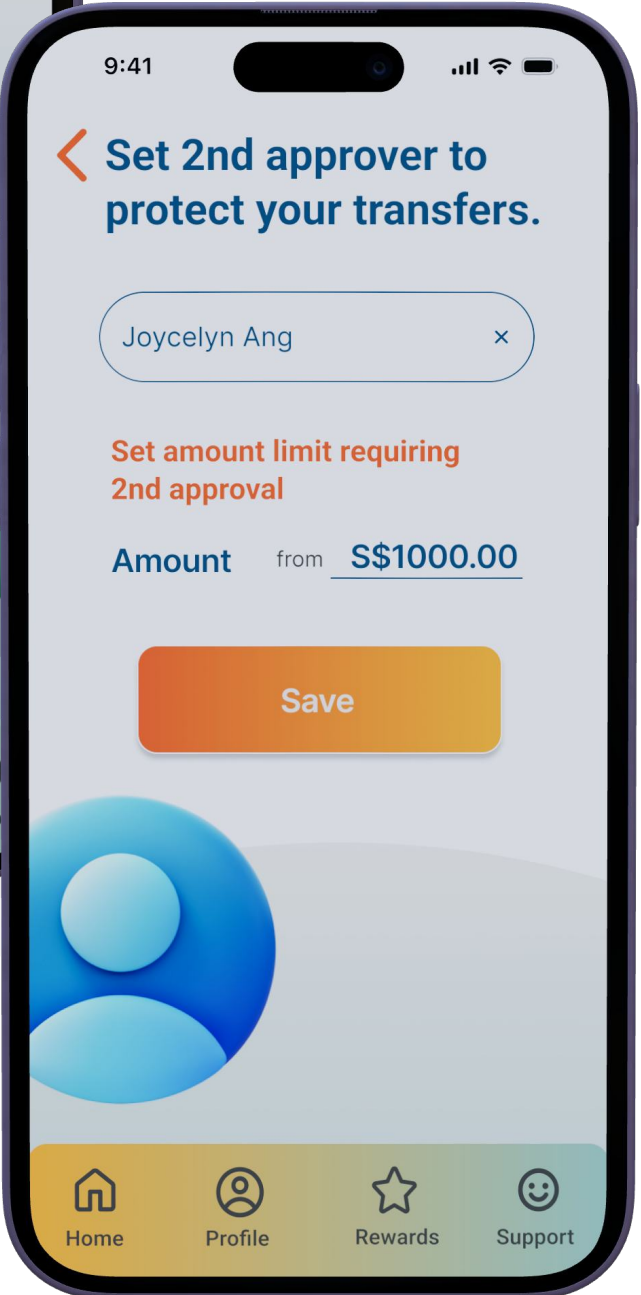
Change Passcode



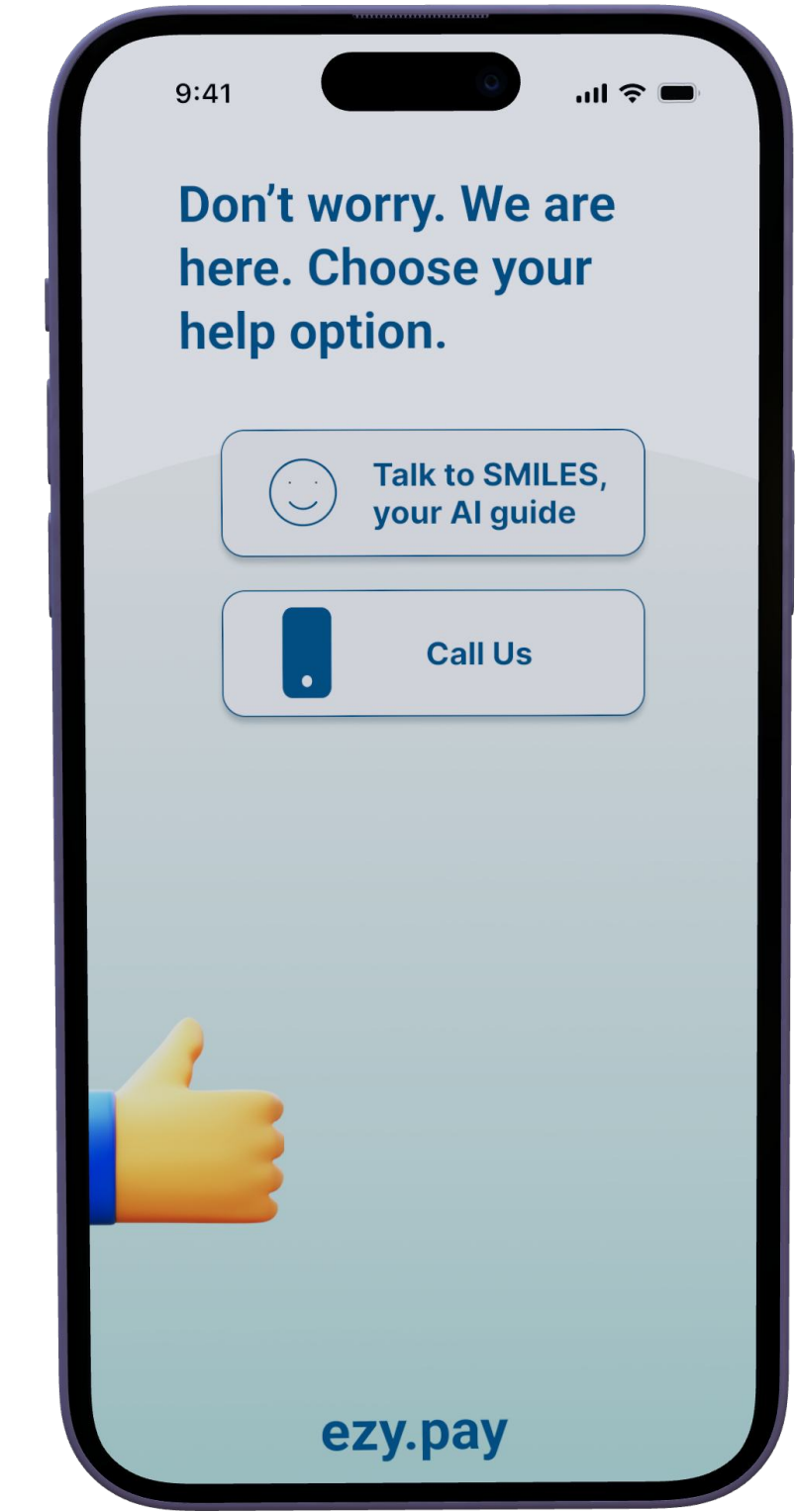
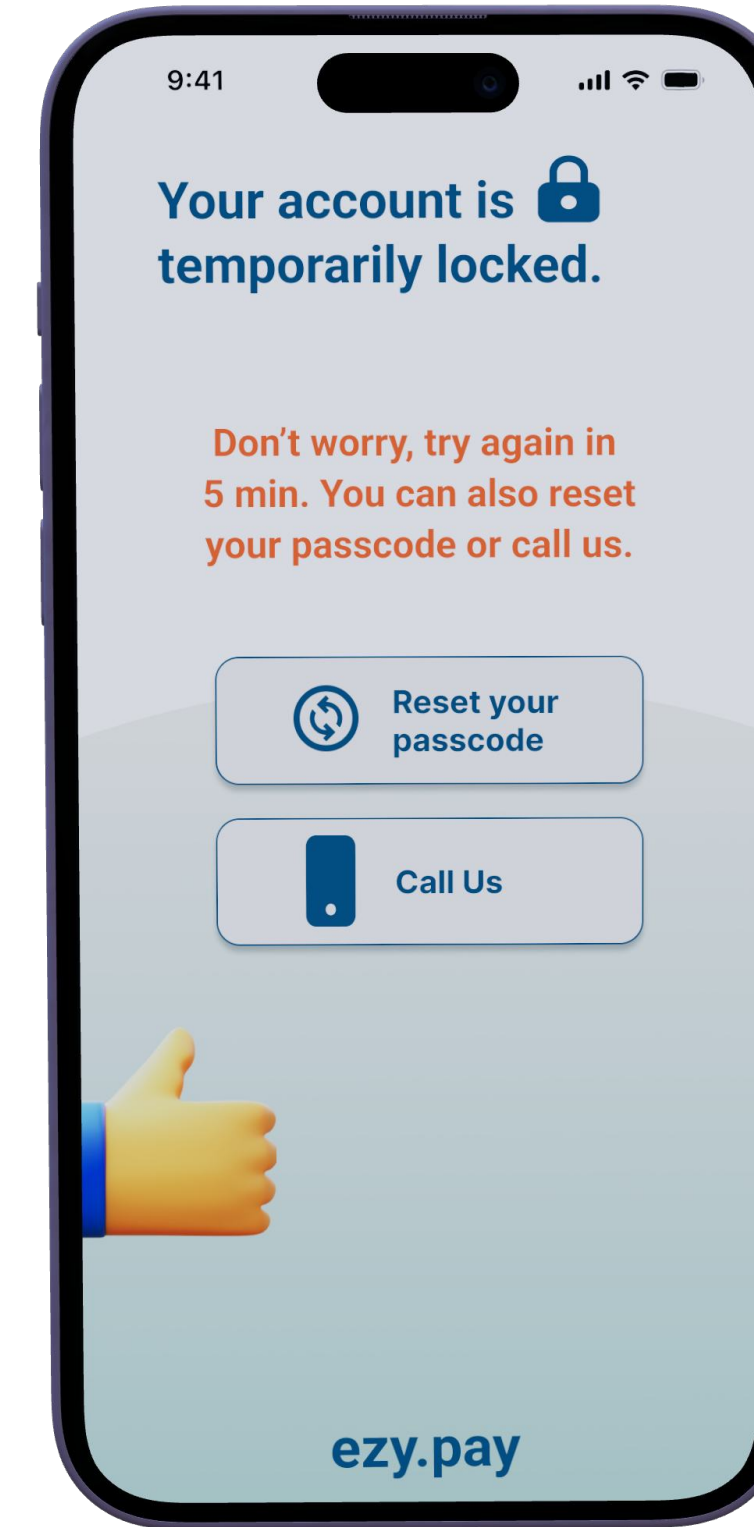
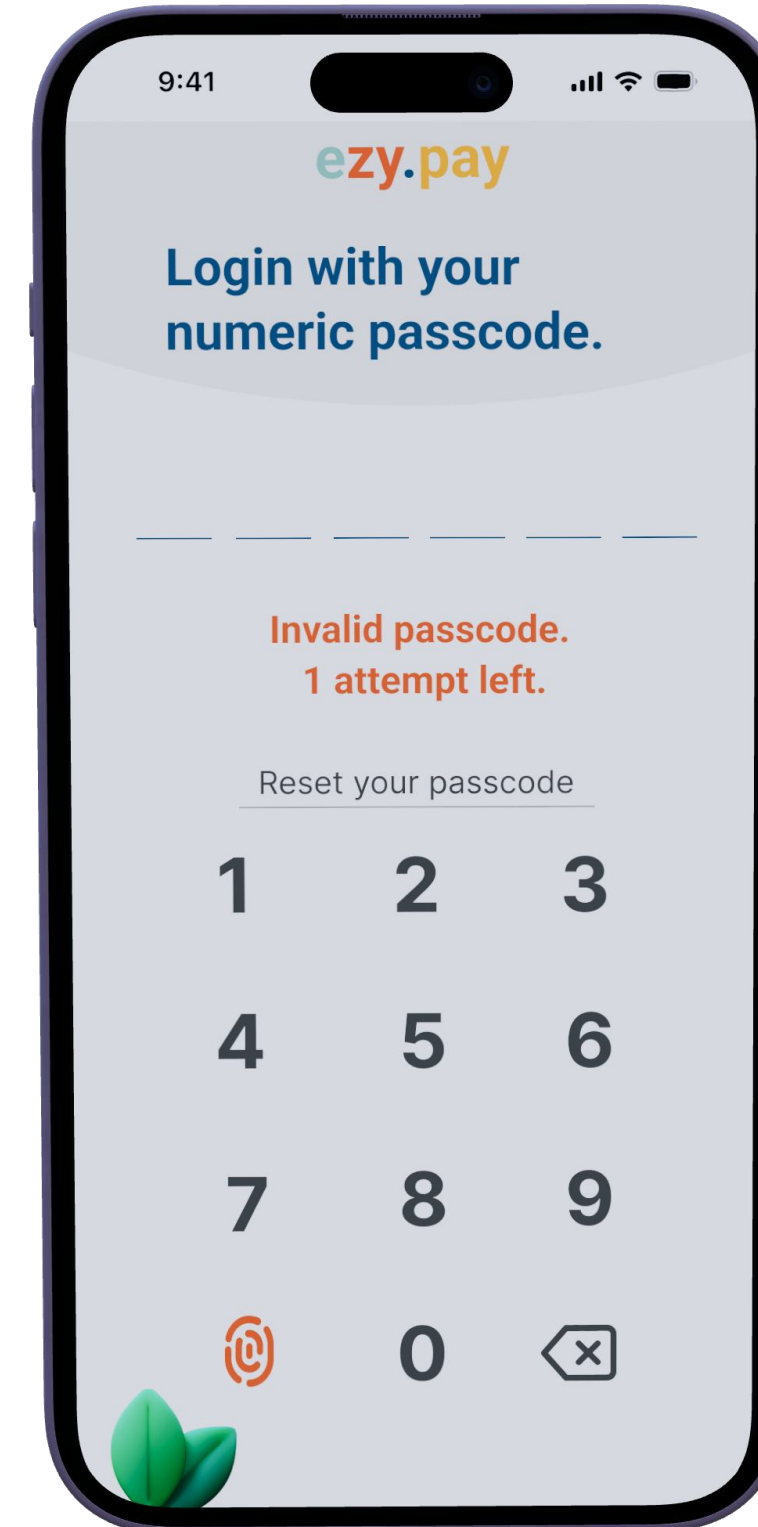
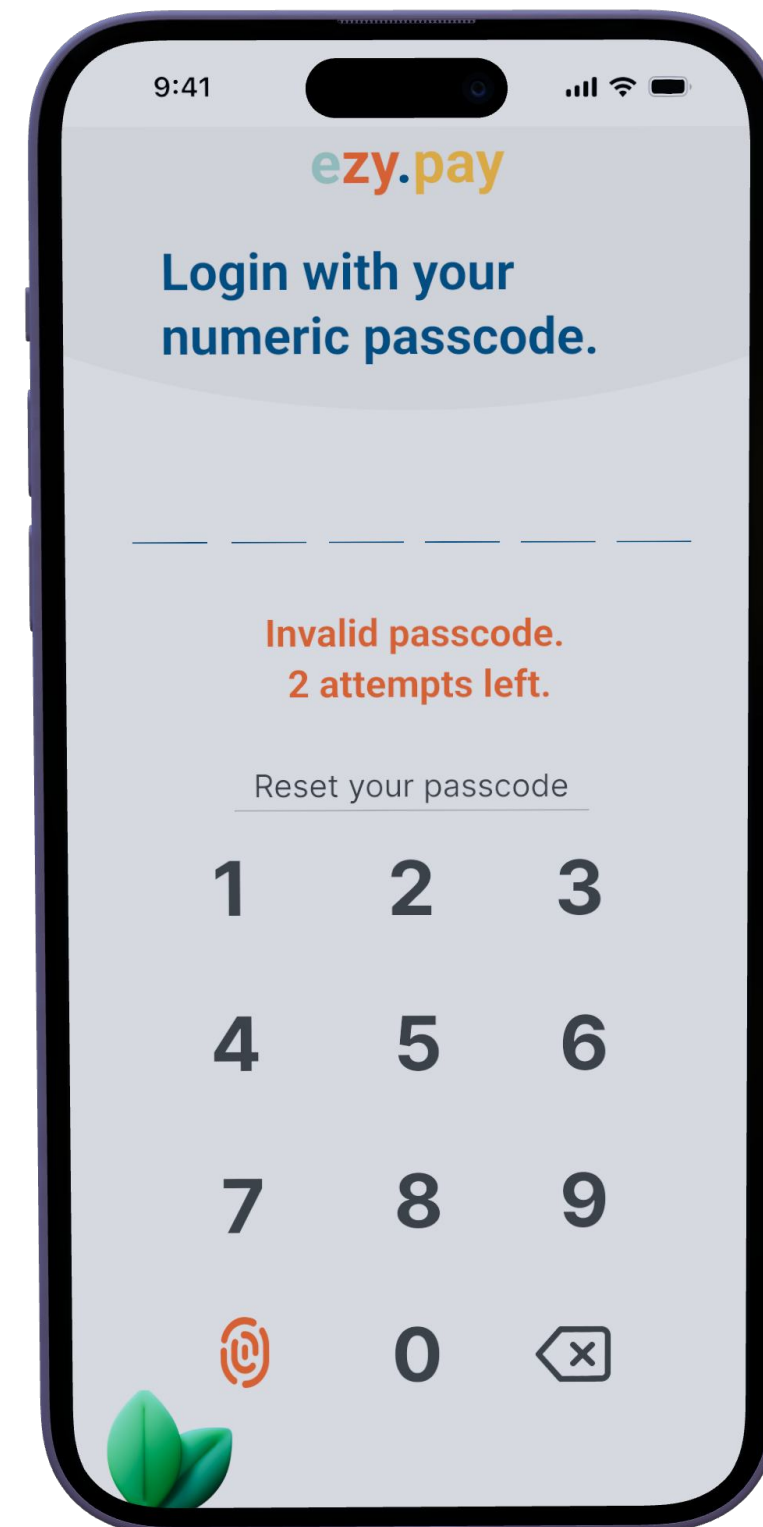
Transfer Limits



Set 2nd Approver



Authentication Failure & Support



Scope of Usability Test with 2 Seniors

1. Overall Satisfaction Score (based on 0-5):

- Your Likes
- Your Dislikes

2. Ease of use (based on 0 - 5):

- Create Account
- Conduct Payments
- View Transaction History
- Customer Support
- Update Profile & Security Settings

3. Suggestions/Improvements:

- What to keep
- What to remove
- What to add/change

4. Will you use it if this is launched?

5. Will you recommend others to use?

Overall Satisfaction

4.75/5

Likes

- Very clean design, not so cluttered, so less intimidating, font size is good for seniors

Dislikes

None

Ease of Use

Create Account

4.5/5

Conduct Payments

5/5

View Transactions

4/5

Customer Support

4/5

Update Profile/
Security Settings

4/5

What to Keep

- Icons

What to Remove

None

What to Add/ Change

- Make the 3 types of activity more visually prominent as the dashboard page is currently the busiest
 - maybe use different colours
- 'Request fund' isn't as clear, thought it's bank loan. Perhaps use 'collect fund/money or 'reimbursement'
- For funds received, the transactions should be encrypted by blockchain technology

Adoption & Recommendation

Will use if launched

- Yes
- Yes if approved by MAS and government

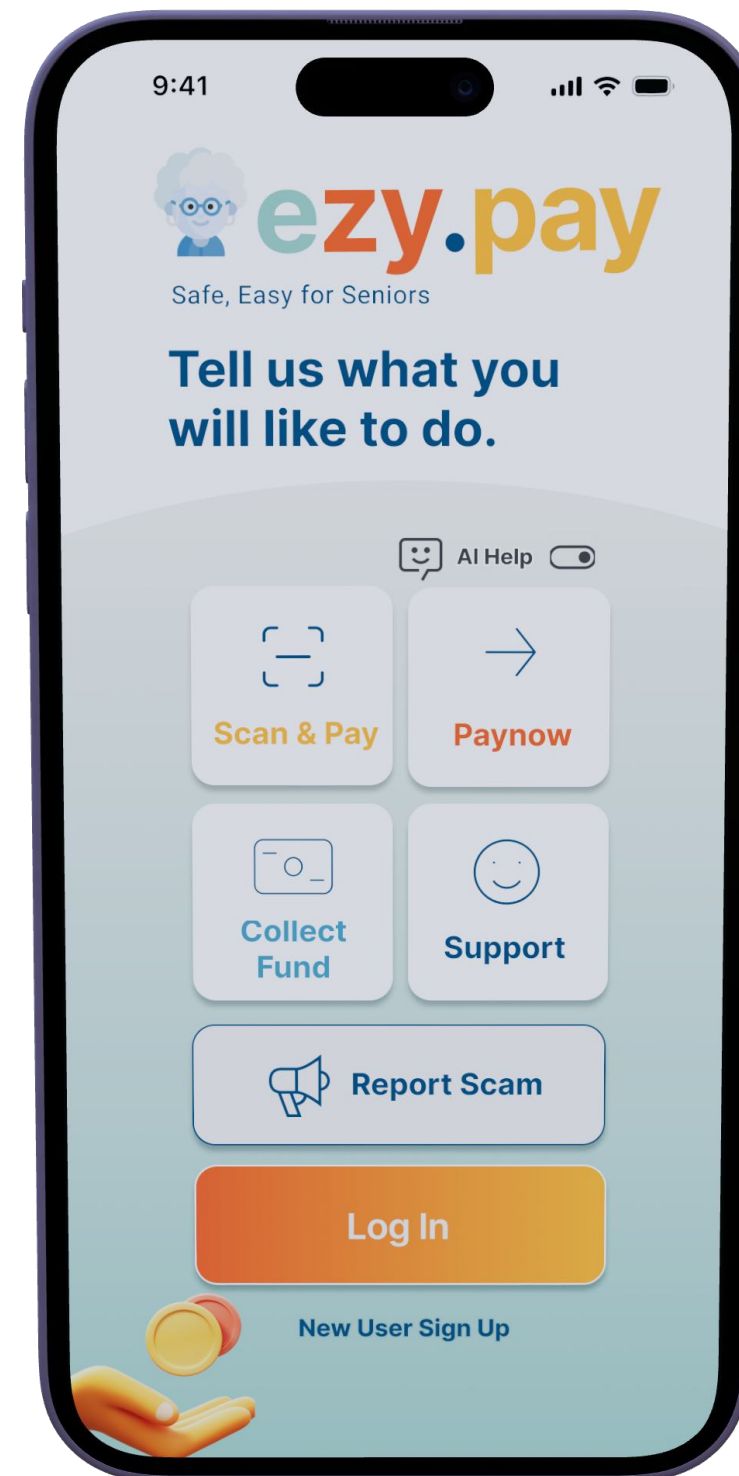
Will recommend to others

- Yes
- Yes after MAS and government endorse it

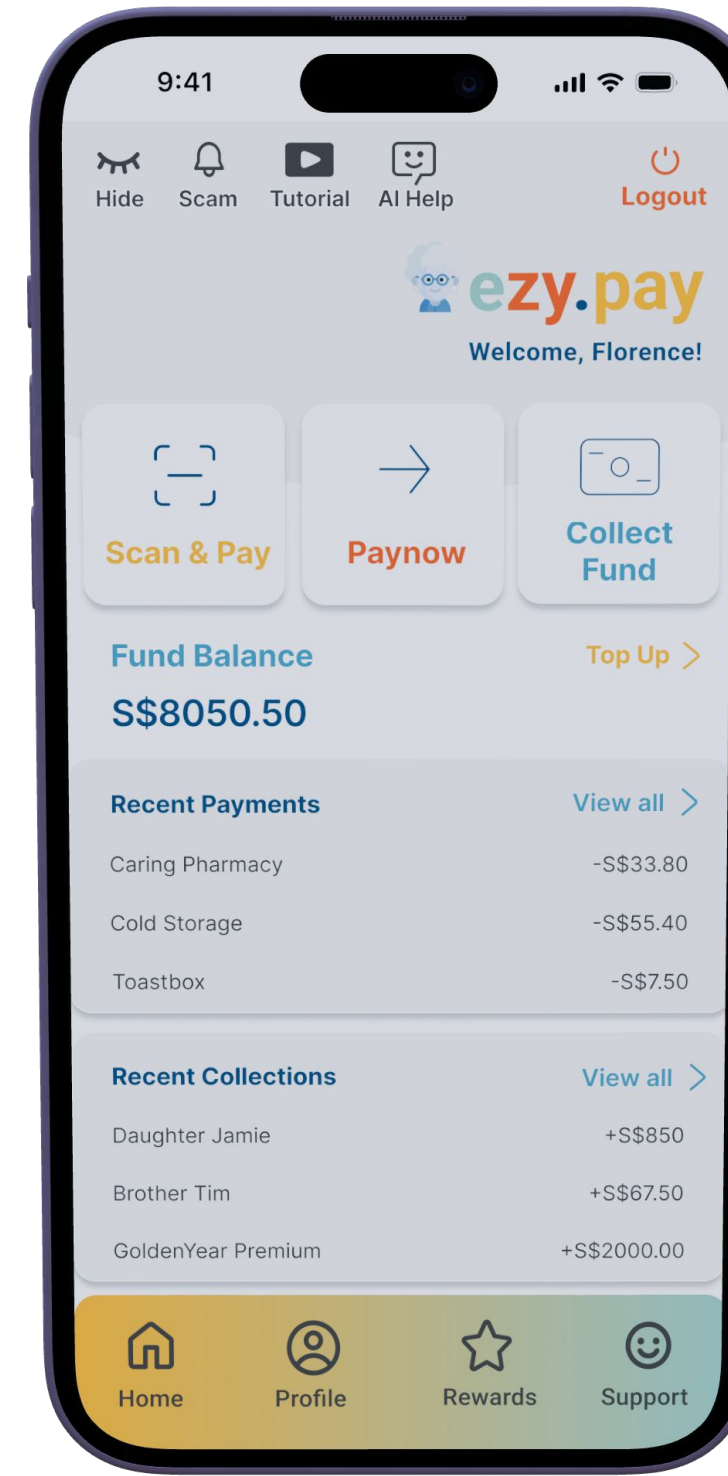
Post Usability Test Adjustments

- Differentiated 3 types of activity (Scan & Pay, Paynow and Collect Fund) with coloured fonts for greater distinction - on Homepage, Dashboard, Current Balance
- Renamed 'Request Fund' to 'Collect Fund' for greater clarity of meaning

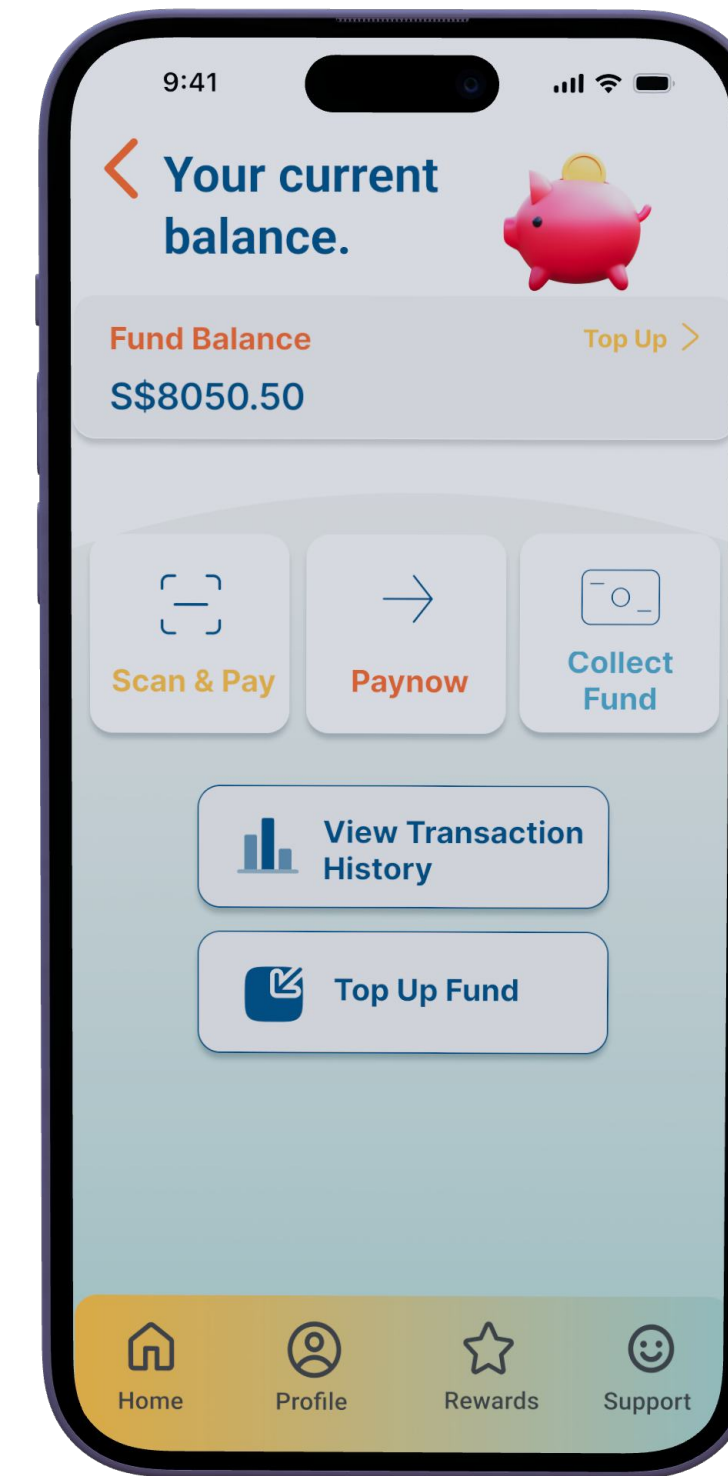
Homepage



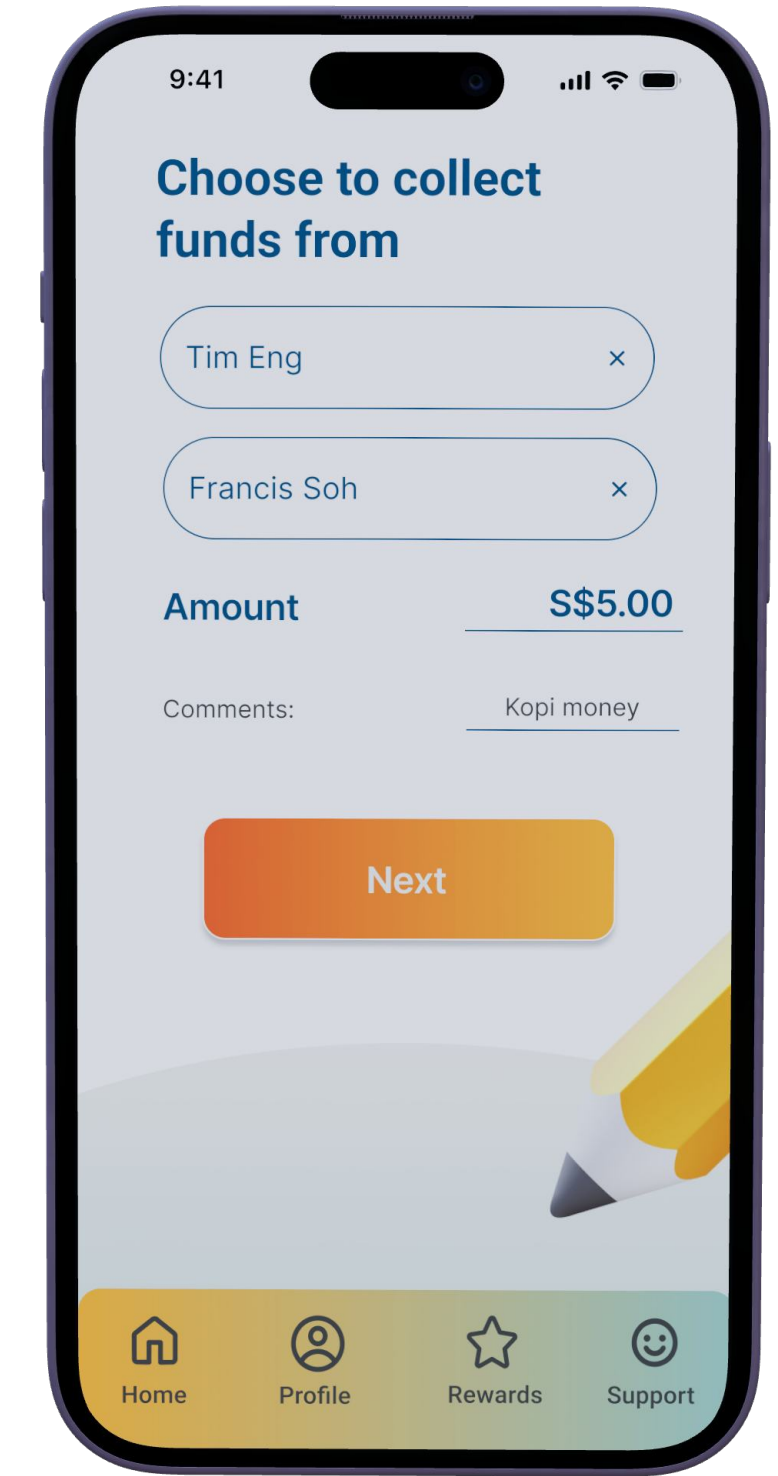
Dashboard



Current Balance



Collect Fund



Market Lessons

- The future for elder/senior-centric solutions is bright and lucrative: Globally, the projected elderly population will hit 1.5 billion in 2060. Singapore is also set to become a ‘super-aged’ society in 2026 (where 1 in 4 citizens will be 65 and above).
- This demographic shift creates an urgent demand for effective and scalable senior care solutions that can enhance the quality of life for our elderly citizens.
- Given this rising phenomenon, this proposed senior-friendly digital payment seems to be an afterthought that companies can quickly act upon (as well as tailor their offerings towards besides serving the general population), to seize this immense elderly segment and drive their future profitability.
- This prototype, ideally, can also cater to wider groups of seniors with varying needs and conditions to have pervasive efficacy - with the integration of innovative features and technologies.

Personal Experience/Takeaways

- As someone without design background, I can immediately relate more to UX as a regular consumer on this capstone project.
- UI however demands more design and creative abilities. It also takes much practice and experience to build both form and function into the solution.
- Given this experience, I believe I can provide a stronger UX POV with more in-depth market and user research.
- While UI will require further skills training and development to hone and refine down the road.
- All in all, the culmination of both UX and UI in this digital payment prototype brings immense satisfaction and joy to create and bring to life.
- I believe the prototype has also largely delivered on the defined scope below, derived from my user insights at the outset.

Selected User Insights for Concept Development

Caveat: This concept does not cover seniors with special needs and physical impairments/conditions, as well as non-English options for now

Trust/Security		Support		UX/UI		
Afraid of losing my money if I use card or phone	Hackers/scammers might steal my money	Impossible to talk to a real person when I have a problem	Don't know where to find support	Apps are too cluttered and confusing	Many steps to complete a simple transaction	Wish the fonts were larger and easier to read

This capstone project leveraged tools, illustrations and icons from these places:

- Figma
- Miro
- Canva
- Adobe
- Survey Monkey
- Google Form
- Icons8
- Flaticons
- Freepik
- Pexels
- Pixabay
- Unsplash

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Thank you