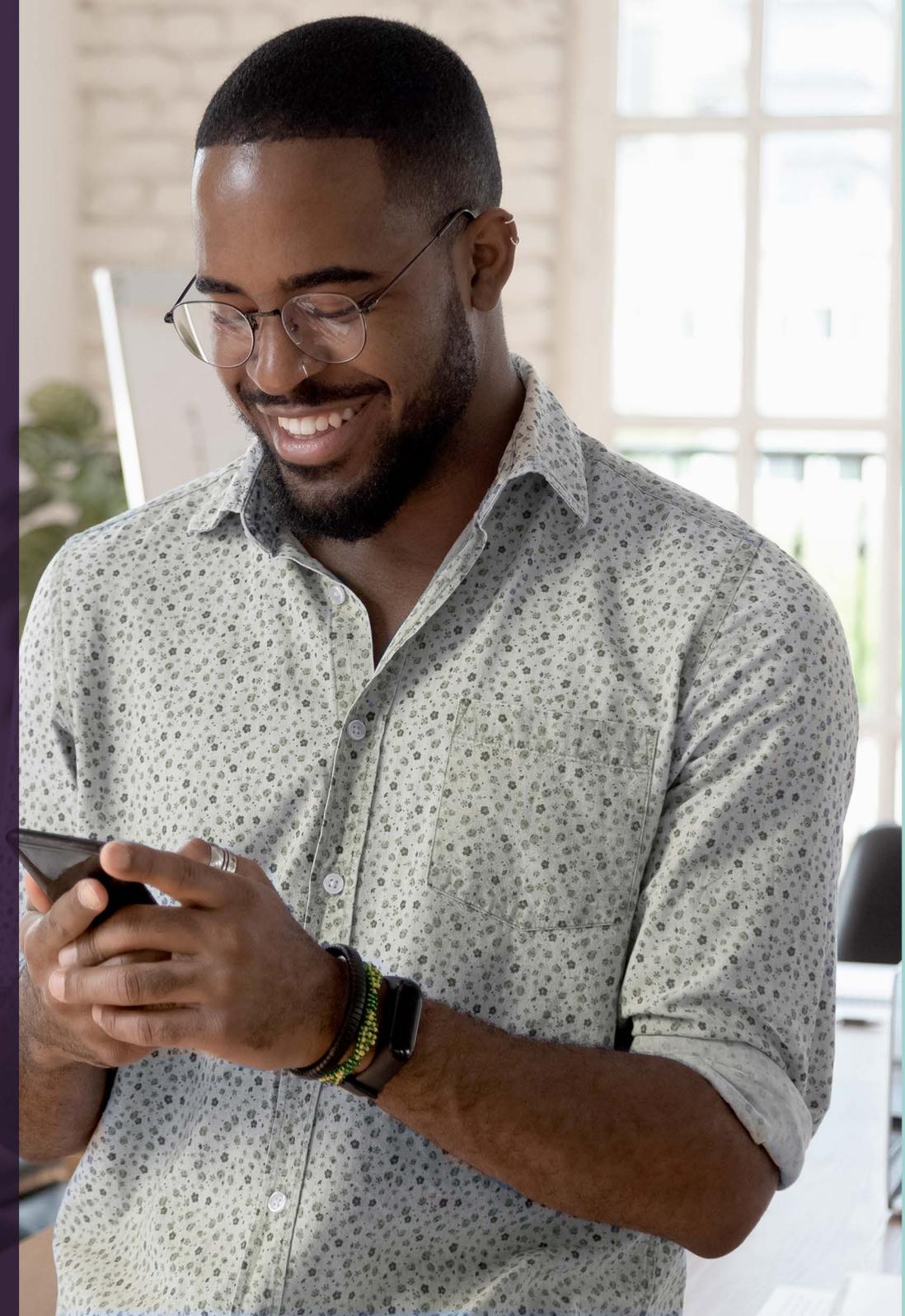Incognia Mobile
App Report 2021

Fintech Onboarding Friction Index

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Introduction

Entering the new year, 2021, there are many changes in consumer behavior that began in 2020 as a result of the pandemic. The transformation of how consumers are choosing to bank and make payments is arguably one of the biggest changes in behavior. With access to physical banks restricted with lockdown and social distancing, consumers are looking to mobile banking and payments apps to fill the gaps.

For many consumers this is the first time using mobile banking. Not only are consumers using mobile banking apps to login to accounts to check balances, they are also managing remote deposits and payments and opening new accounts online. Aite Group reports that digital channel transactions soared by 250% in 2020.

Our first Incognia Mobile App Report for 2021 focuses on the onboarding process, comparing ten of the most popular fintech apps. Creation of new accounts is where the customer experience begins and also ends when the process is too complicated or creates too much friction. New account creation is also the point where identity fraud plays a major role. Once in the door with a fake identity, fraudsters are then equipped for downstream fraud including mule activity, synthetic identity fraud and first party fraud. Catching fraudsters at the front door is not only smart business but also the objective of Know Your Customer (KYC) and Anti Money Laundering (AML) regulations and requirements.

KYC plays an essential role in customer identification to fight financial crime and money laundering. The KYC process is mandatory for financial institutions and requires verifying the identity of customers opening an account and periodically over time. With the shift to mobile, KYC processes need to obtain and verify the required information for customer identification via a mobile interface, requesting and capturing highly sensitive personally identifiable information that mobile app users would not customarily share.

Included in the list of apps reviewed are not only mobile banking apps, but also investing & trading and other financial services apps, such as those that provide credit scores and paycheck advances. We wanted to review the onboarding process across a selection of financial services apps to see how they compared.

Mobile Banking

chime   Dave®   GObank®   MoneyLion   SIMPLE

Investing/Trading

acorns   robinhood   wealthfront

Other Financial

credit sesame   earnin™

This report contains an analysis of the onboarding process for new customers opening a new account using one of the selected fintech mobile apps, including screenshots and a measurement of the steps involved. The data from this analysis is used in the calculation of an Onboarding Friction Index which provides a comparative measure of how easy or difficult the onboarding process is for different fintech mobile apps. In addition to the quantitative analysis, there is also a qualitative analysis and discussion of the different methods used by the apps for identity verification and authentication of new accounts.

Note: Simple announced that it is ceasing operations in 2021 and transitioning services to BBVA USA.

Methodology

This report is based on data collected from October 16 to October 27, 2020, and all information and screen captures were collected during this period. The onboarding process was evaluated both on Android and iOS platforms. To eliminate variability created by different people completing applications, the same person completed the onboarding process for each of the apps.
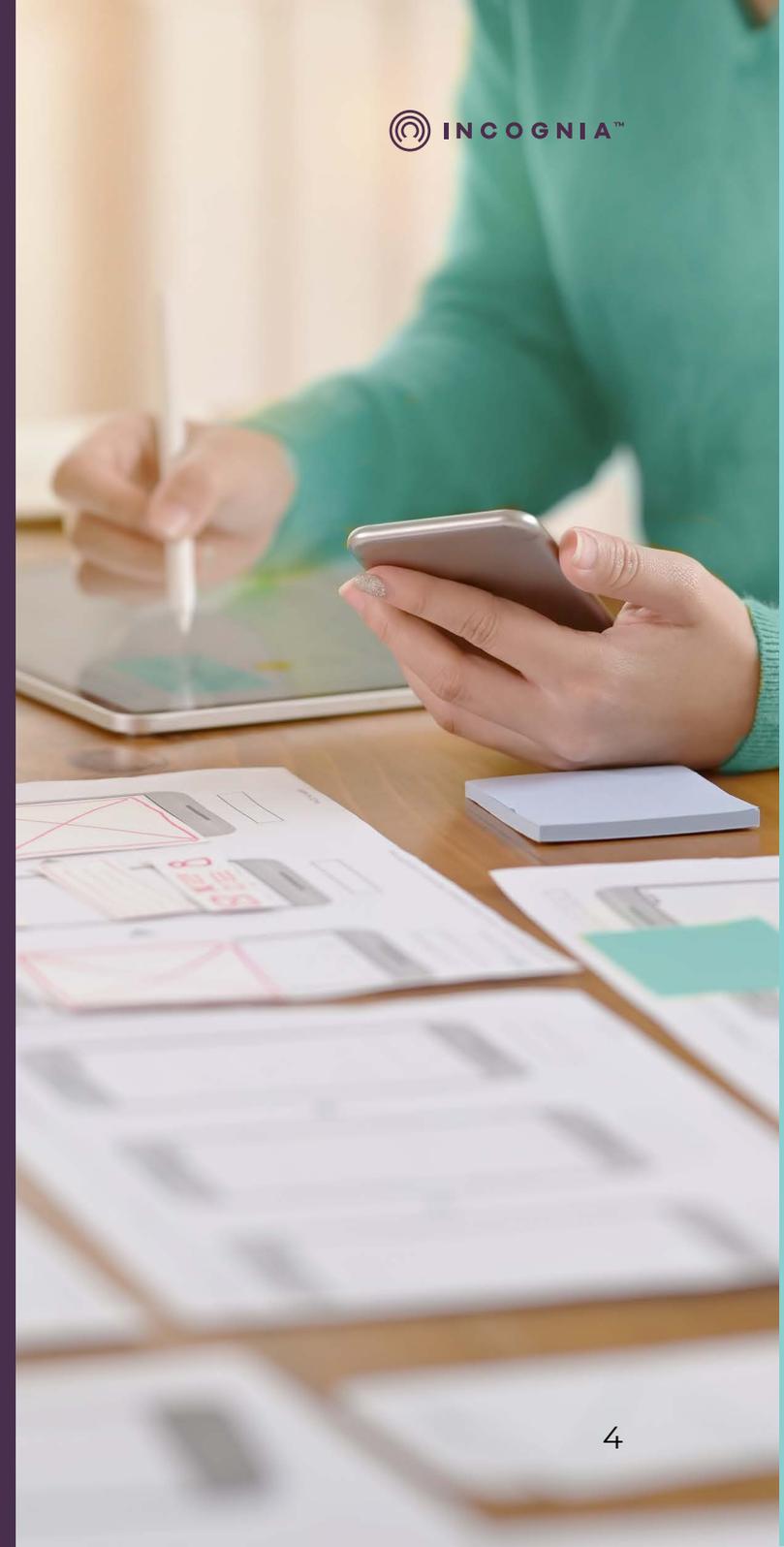
The following data was measured and collected:

Application time
The time required to submit a new account application via the mobile app, including the signup time from the first registration screen to the last, when the application is complete and submitted. The application sign up time for each app is shown as the average of the time recorded for onboarding on both operating systems, Android and iOS.

Screens
The number of screens that are presented during the onboarding process was recorded for each app, including all the screens from the beginning until the end of completing a new account application.

Clicks
The number of clicks required for submitting a new account application were counted and recorded from the first until the last onboarding screen. If any screen had the need for multiple clicks, all were counted.

Fields
All fields and checkboxes that were required to be entered as part of the onboarding process were counted and included in the count of required fields.

Information requested
The specific personal information items requested as part of the new account application were recorded.

Incognia Onboarding Friction Index
Using the data gathered during this analysis the Incognia Onboarding Friction Index was calculated. The Incognia Onboarding Friction Index is designed to provide a measure of the best onboarding experience. The index is calculated using a weighted sum of the number of screens, number of required fields, number of clicks, and time required for sign-up. The lower the index, the better the onboarding experience.

Market background

The global pandemic has proved to be a tremendous accelerant to consumer adoption of mobile services, in particular for financial services, including mobile banking and mobile payments. **Early reporting for Q2 2020 showed an uptick of 34% in fintech app downloads, with SensorTower reporting a record total of 1.24 billion downloads of fintech apps in this time period.**

With continued innovations in mobile payments, consumers not only want to bank online but also want to make use of mobile payments as they adjust their buying habits to meet the restrictions of traditional in-store purchases.

With many new users moving to mobile banking we wanted to investigate how easy or difficult the onboarding process was for new customers opening new accounts on mobile. For many individuals this is their first time using a fintech app - they are digital newbies to mobile banking.

34% growth in fintech app downloads in Q2 2020
Source: SensorTower

Opening a new account

The rise of mobile banking has created opportunities for new, challenger, and neo-banks, that only have a digital presence and have no physical branches to acquire customers. In this new world of mobile banking there is risk for both parties. The bank has not met in person with the new customer, and the new customer will be sharing sensitive information with a company that they have never met with in-person and that may have no physical branches.

From the bank's perspective there is a priority to ensure that whoever is opening the account is a legitimate person and not a fraudster. Know Your Customer (KYC) and Anti Money Laundering (AML) requirements and laws make it imperative to enforce controls to detect potential fraud with new account applications.

From a customer's perspective the information and steps required to open a new account on a fintech app are the beginning of their customer experience. In the absence of any in-person interaction the onboarding process for a mobile customer is the first impression of what it will be like to be a customer. Lengthy processes result in abandoned applications and a reduction in new account open rates. Failure to onboard a new customer is more costly to a company in terms of lost revenue than fraud losses.

In our increasingly digital world, fraudsters can mimic real people by using stolen or fake, synthetic identities to create accounts. Fraud detection systems are designed to catch the signals that distinguish a real user from a fake user. However with the increasing sophistication of fraudsters, fraud detection has become a game of cat and mouse. The fraud detection process has become an increasingly a multi-layered approach. With each layer of protection comes added friction.

Balancing fraud prevention and friction is a challenge for every fintech app - however some handle it better than others. Incognia created the Onboarding Friction Index to provide a metric for comparing apps based on their onboarding friction.

Key results

	Mobile banking	Trading/Investing	Other financial services
Lowest Onboarding Friction index	Chime	Robinhood	Credit Sesame
Shortest time to open a new account	Chime	Robinhood	Credit Sesame
Fewest number of onboarding screens	Simple	Acorns	Credit Sesame
Fewest number of required clicks for onboarding	Chime	Robinhood	Earnin
Fewest number of required fields in onboarding index	Chime	Robinhood	Credit Sesame, Earnin

Number of clicks, fields and screens

The number of required clicks, fields and screens included in the onboarding process varied considerably between the apps. On average the onboarding process took six minutes, and involved an average of 14 screens, with 16 fields that needed to be completed and 29 clicks required of the user.

Average Number of Onboarding Screens, Clicks and Fields for Fintech Apps

Time to complete application (min)	6
# of screens	14
# of clicks	29
# of fields	16

Note: The data was calculated based on the average of the metrics for each app reviewed in this report

User experience meets customer experience

The apps took a variety of approaches to their onboarding process. Our analysis included both a quantitative and qualitative analysis of the onboarding process for each app. The screens and required fields and clicks, and total application time were measured for each app. In addition, each app's processes were assessed in the following areas: information requested, identity verification, account security steps, handling of legal and privacy notices, and account configuration..

The steps for completing a new account application were categorized into the following actions:

• ID Verification

• Account security

• Review and acceptance of legal and privacy notices

• Account configuration

In this analysis the reviewed apps had quite a range of different user experiences. The art of user experience was illustrated in how some apps requested one key piece of information per screen, versus other apps that packed multiple information requests in one screen. For some apps the legal notices were presented in full text taking up multiple screens. In other apps the legal terms were presented as a link for users to click into as they desired. Some of the apps explicitly explained why information was being requested and when it was being used for identity verification, in other apps the screens were very sparse on text. Finally, some apps included the configuration of the account as a required part of the onboarding process, while in other apps the configuration of the account was optional and the user could elect to configure later.

Onboarding screenshots for each reviewed app are included later in this report.
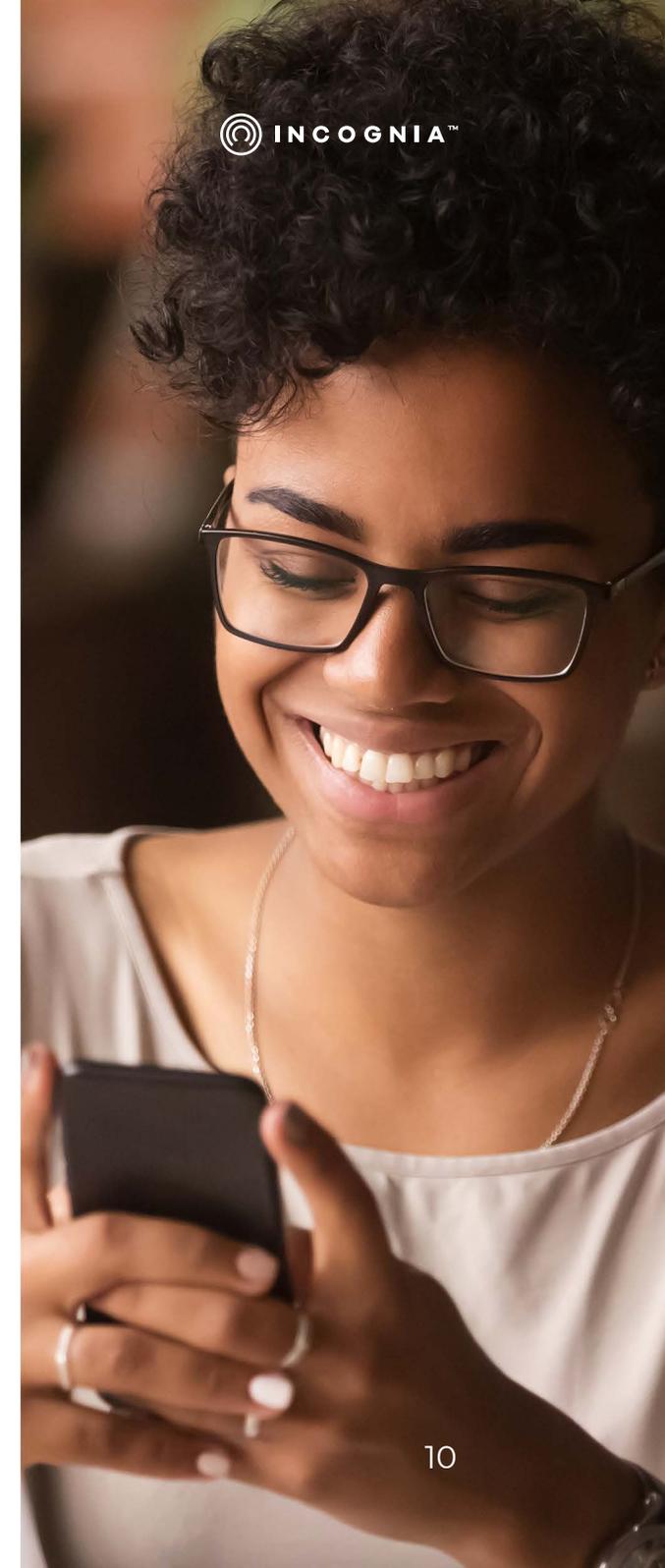
Onboarding by the numbers
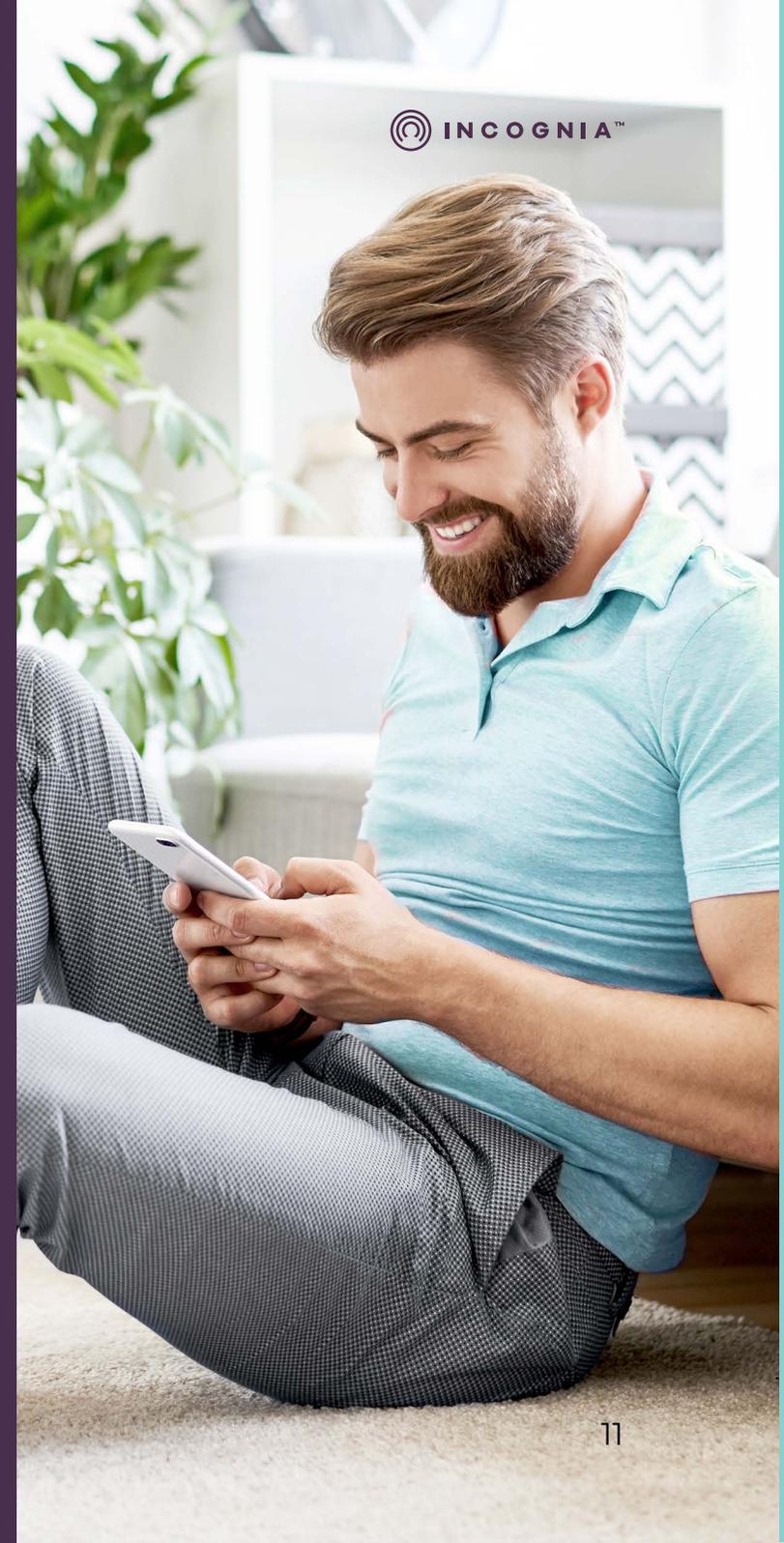
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ⅠⅡⅢ Onboarding Friction Index

The calculation of the Incognia Onboarding Friction Index is intended to provide a measure of the ease and speed of creating a new account via a mobile app. The overall winners for the fintech app with the lowest Onboarding Friction Index in each app category were:

Lowest Onboarding Friction Index

Mobile banking	Chime
Trading/Investing	Robinhood
Other financial services	Credit Sesame

The Credit Sesame app had the lowest Onboarding friction of all apps reviewed. Chime had the lowest Onboarding Friction Index for Mobile Banking apps and Robinhood had the lowest Onboarding Friction Index for Investment/Trading apps.

Onboarding Friction Index

Credit Sesame — 4.14

Robinhood — 5.00

Chime — 5.00

Acorns — 5.43

MoneyLion — 5.86

Simple — 5.86

GoBank — 6.57

Earnin — 6.71

Wealthfront — 9.57

Dave — N/A

Note: the application process could not be completed on the Dave app during the allowable time window so it was not possible to assign a Friction Index.

⏱ Time to complete onboarding

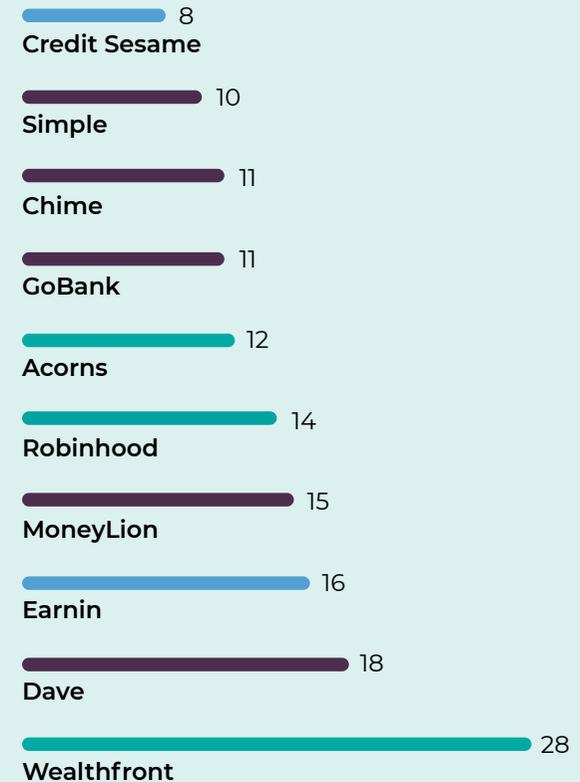## Shortest New Account Application Time - Fintech Apps

Mobile banking	Chime
Trading/Investing	Robinhood
Other financial services	Credit Sesame

Overall the Credit Sesame, and Chime apps tied for the shortest time to complete a new account application.

In reviewing the selected apps the average time to complete an application was six minutes. Six of the fintech apps came in under six minutes, for time to complete the new account application, three apps were more than 50% above this time, and for one app, the application could not be completed.

Compared with the short attention span of mobile users, six minutes squeaks under the typical attention span for a mobile web user. An analysis by SimilarWeb showed that the attention span for mobile web users was typically less than 450 seconds, or 6.5 minutes, which is less than half the attention span of desktop users. Compared with the time to visit a physical branch, wait in line and then manage the application process in person, six minutes is meteorically fast. During 2020 with restricted access to banks, the investment of six minutes to open a mobile banking account obviously seemed a good investment of time.

Time to Complete New Account Application on Mobile App (minutes : seconds)
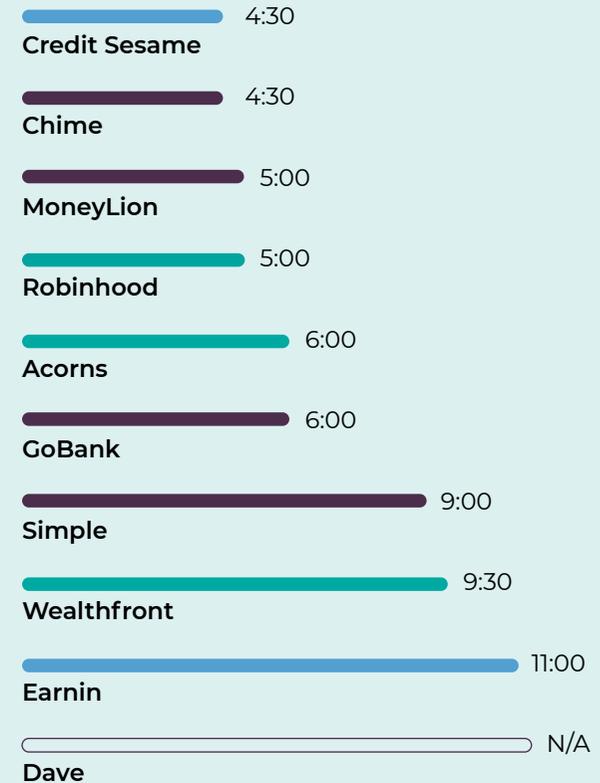
App	Time
Credit Sesame	4:30
Chime	4:30
MoneyLion	5:00
Robinhood	5:00
Acorns	6:00
GoBank	6:00
Simple	9:00
Wealthfront	9:30
Earnin	11:00
Dave	N/A

Note: the application process could not be completed on the Dave app during the allowable time window so it was not possible to assign a Friction Index.

📁 Onboarding screens

Shortest New Account Application Time - Fintech Apps

Mobile banking	Simple
Trading/Investing	Acorns
Other financial services	Credit Sesame

Overall the Credit Sesame app required the user to view the fewest number of screens in the onboarding process.

Mobile banking apps, Simple, Chime and GoBank required the next fewest number of screens, followed by Investing apps Acorns and Robinhood. Dave and Wealthfront had the highest number of screens, with Wealthfront requiring users to view 28 screens to complete a new account application on mobile, more than two times the number of screens required by other investing apps: Robinhood and Acorns.

The Wealthfront app included the specific legal and privacy text for the user to review which added to the required number of screens.

Number of required screens for Mobile App Onboarding

App	Screens
Credit Sesame	8
Simple	10
Chime	11
GoBank	11
Acorns	12
Robinhood	14
MoneyLion	15
Earnin	16
Dave	18
Wealthfront	28

Note: the application process could not be completed on the Dave app during the allowable time window so it was not possible to assign a Friction Index.

👆 Onboarding required clicks

Fewest Number of Required Clicks

Mobile banking	Chime
Trading/Investing	Robinhood
Other financial services	Earnin

Overall the Robinhood app required the fewest number of clicks in the onboarding process.

Mobile banking app, Chime had the next fewest number of required clicks.

Interestingly, the Simple app had one of the lowest number of required screens but, one of the highest number of required clicks, - illustrating the difference in UX between apps.

**Number of required clicks
for Mobile App Onboarding**

16
Robinhood

22
Chime

23
Acorns

26
MoneyLion

28
Earnin

30
Credit Sesame

32
GoBank

35
Dave

35
Simple

45
Wealthfront
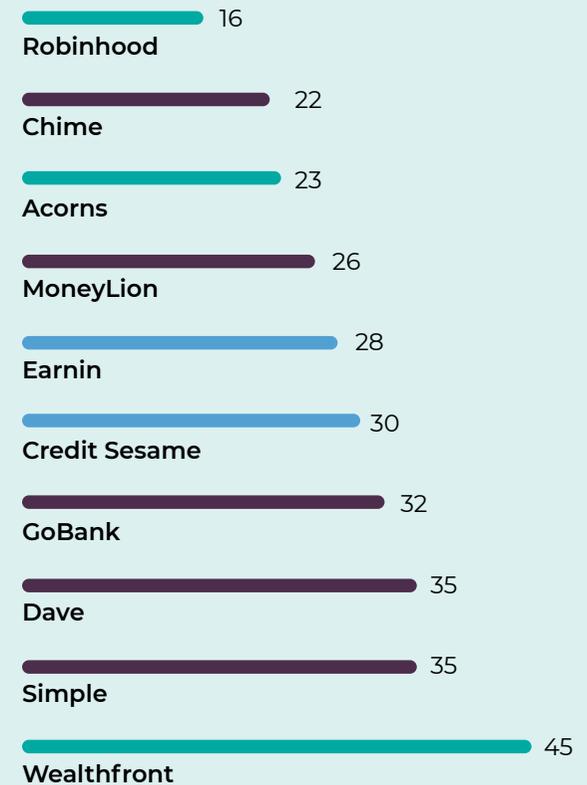
Onboarding required fields

Fewest Required Fields in Onboarding - Fintech Apps

Mobile banking	Chime
Trading/Investing	Robinhood
Other financial services	Credit Sesame, Earnin

Overall, the Credit Sesame and Earnin apps tied for fewest number of fields required for the user to complete in the Onboarding process. The Robinhood app was the Investing app that required completion of the fewest number of fields.

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Number of required fields for Mobile App Onboarding

Credit Sesame 9

Earnin 9

Robinhood 11

Chime 15

MoneyLion 16

Acorns 17

Dave 17

Simple 19

Wealthfront 21

GoBank 25

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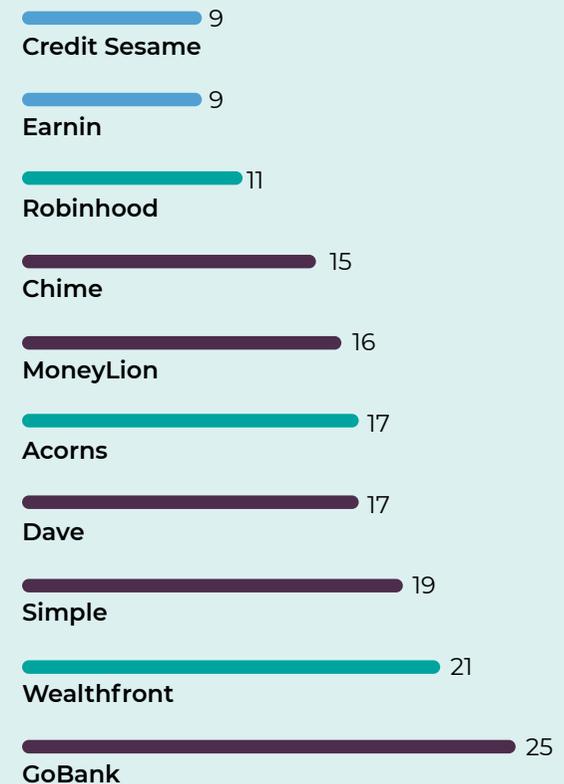
Summary of friction metrics for mobile onboarding

App Name	Clicks	Fields	Screens	Sign-up time	Onboarding Friction Index
Credit Sesame	30	9	8	04:30	4.14
Chime	22	15	11	04:30	5.00
Robinhood	16	11	14	05:00	5.00
Acorns	23	17	12	06:00	5.43
MoneyLion	26	16	15	05:00	5.86
Simple	35	19	10	09:00	5.86
GoBank	32	25	11	06:00	6.57
Earnin	28	9	16	11:00	6.71
Wealthfront	45	21	28	09:30	9.57
Dave	35	17	18		N/A

Identity verification at onboarding

Going beyond the numbers

Beyond counting the clicks, fields, screens, and time to complete a new account application, our analysis also took a qualitative look at the information that fintech apps are gathering as part of the onboarding process. In addition to counting the numbers, we looked at the id verification and security methods required of new users. We looked at what information was being requested, and what steps took up the most onboarding time, to assess the sources of friction for the onboarding process.
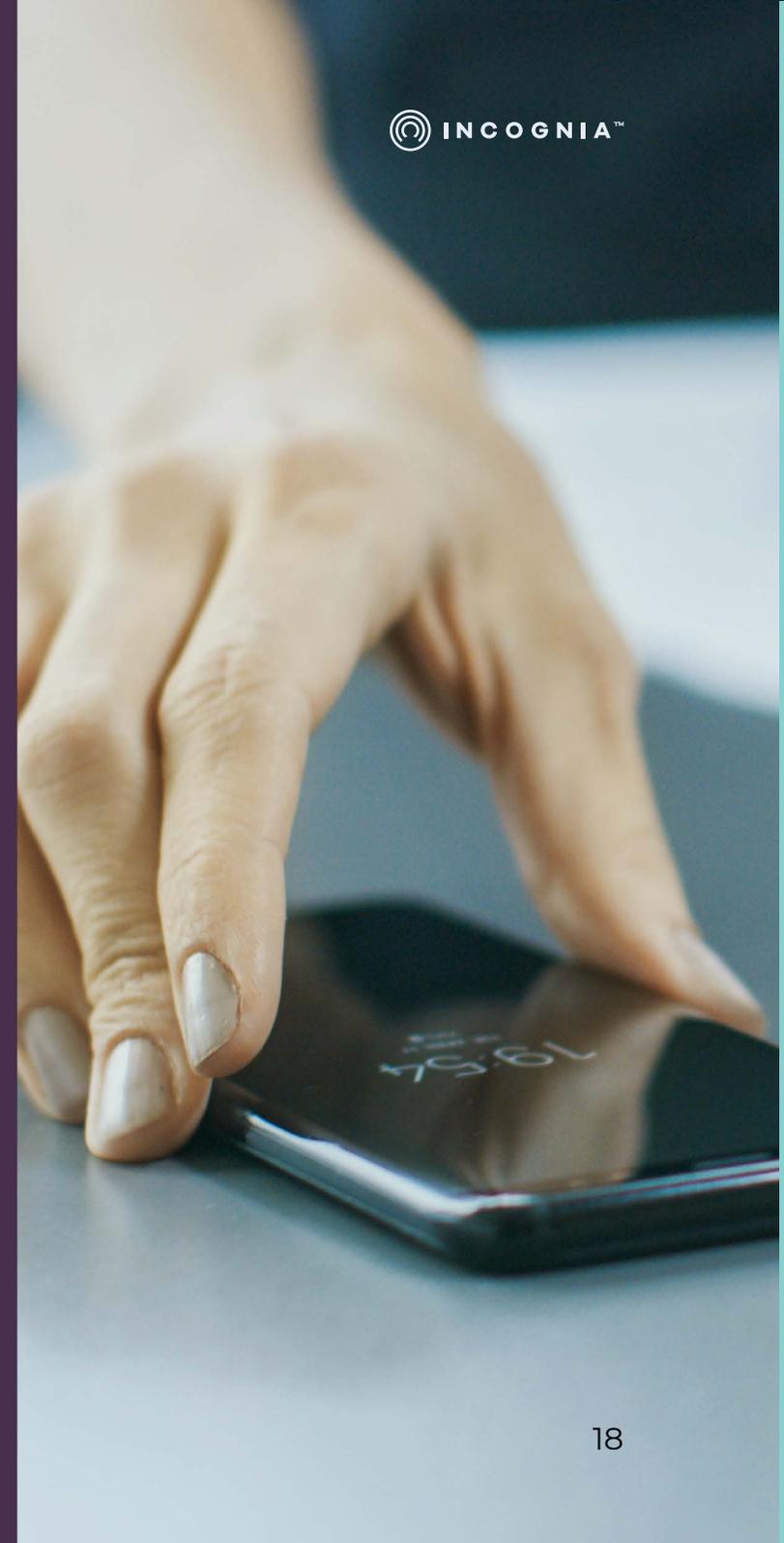
Going beyond the numbers

PII Requirements

In analyzing the different methods used for ID verification, we not only looked at the methods used but also the amount of the personally identifiable information (PII) requested. With the exception of the apps Earnin and Dave, all the apps required entry of the following information for identity verification:

- First Name
- Last Name
- Address
- Mobile Number
- Date of Birth
- Social Security Number

The requirement of providing a physical address is particular to fintech apps and the KYC process. Also the request to provide a date of birth and social security number is not required from most apps. For many digital newbies the need to enter a SSN can be the point of drop off in new account creation. While the information requested by a fintech app may not be typical of all apps it is customary for creating a financial account, and some of the apps explicitly state why they are requesting this information.

In addition to entering the requested information for identity verification, the apps Simple and Dave also required the uploading of document scans to complete the identity verification and the mobile onboarding processes. The Robinhood, Acorns, Earnin and Dave apps all state that the account validation may take up to 2 - 3 days to complete.

In addition to the requested Identity Verification information a number of the apps also ask for additional information to inform the financial products offered to the user. This additional information included Occupation, Source of Income, Annual Income, and Investment preferences. Including this information as required during the onboarding process added screen views, clicks and fields to the user experience and elongated the time to create an account. The Wealthfront app requested the most additional information for account configuration in its onboarding process.

Address verification

The Credit Sesame app was unique in that it included a real-time address verification check against linked credit information. While all the apps requested address information it was not evident that were using this for real-time identity verification.

2 step verification of mobile phone number

The majority of apps used one-time passwords (OTP) shared via SMS, and in some cases email, to verify that the mobile phone belonged to the new user as part of two step verification.

Using OTP via SMS is now designated a restricted authenticator according to the latest NIST guidelines for authentication, because of concerns about associated

risks, including SIM swap attacks. NIST recommends that subscribers be offered at least one alternative not restricted authenticator option.

Legal notices

While all apps required the user to accept the legal terms and conditions, Wealthfront provided screens showing the text of these conditions vs. just providing a link, this added to the onboarding time and number of screens for the Wealthfront app.

The Wealthfront app included the specific legal and privacy text for the user to review. This added to the onboarding time and number of screens viewed for the Wealthfront app.

Linking of bank accounts

Several of the apps provided the option for the user to link an existing bank account to the mobile app account. For three of the apps: Earnin, Dave, and Wealthfront, linking a bank account was required. Given that Earnin and Dave did not require entry of essential PII it is assumed that they are

making use of the connected bank account information for customer identification.

Authentication for new accounts

All apps required an email address and entry of a password, and then with the exception of Chime and GoBank, all apps required the user to set up an additional authentication factor to protect the new account. The most common additional authentication factor for securing access to new accounts was a PIN. The option to use TouchID was only offered by one app, MoneyLion. Two apps, Acorns and GoBank, required adding security questions as an additional authentical factor to protect the account.

The inclusion of additional steps for securing the account during new account creation added screens and clicks to the onboarding process. This may explain why minimal options for two factor authentication are provided during onboarding. Within the apps, additional authentication methods were offered as options for users to add more security to their accounts. This will be reviewed in future reports.

Authentication factors for new accounts

Email + password 100%

PIN 90%

SMS OTP 60%

Security questions 17%

Email OTP 9%

Touch ID 9%
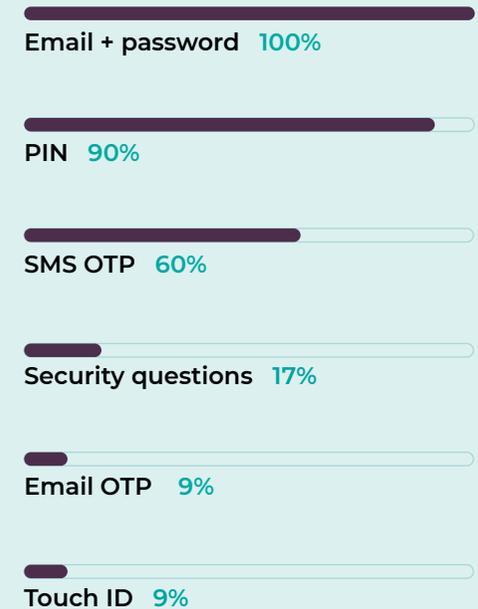
Onboarding details
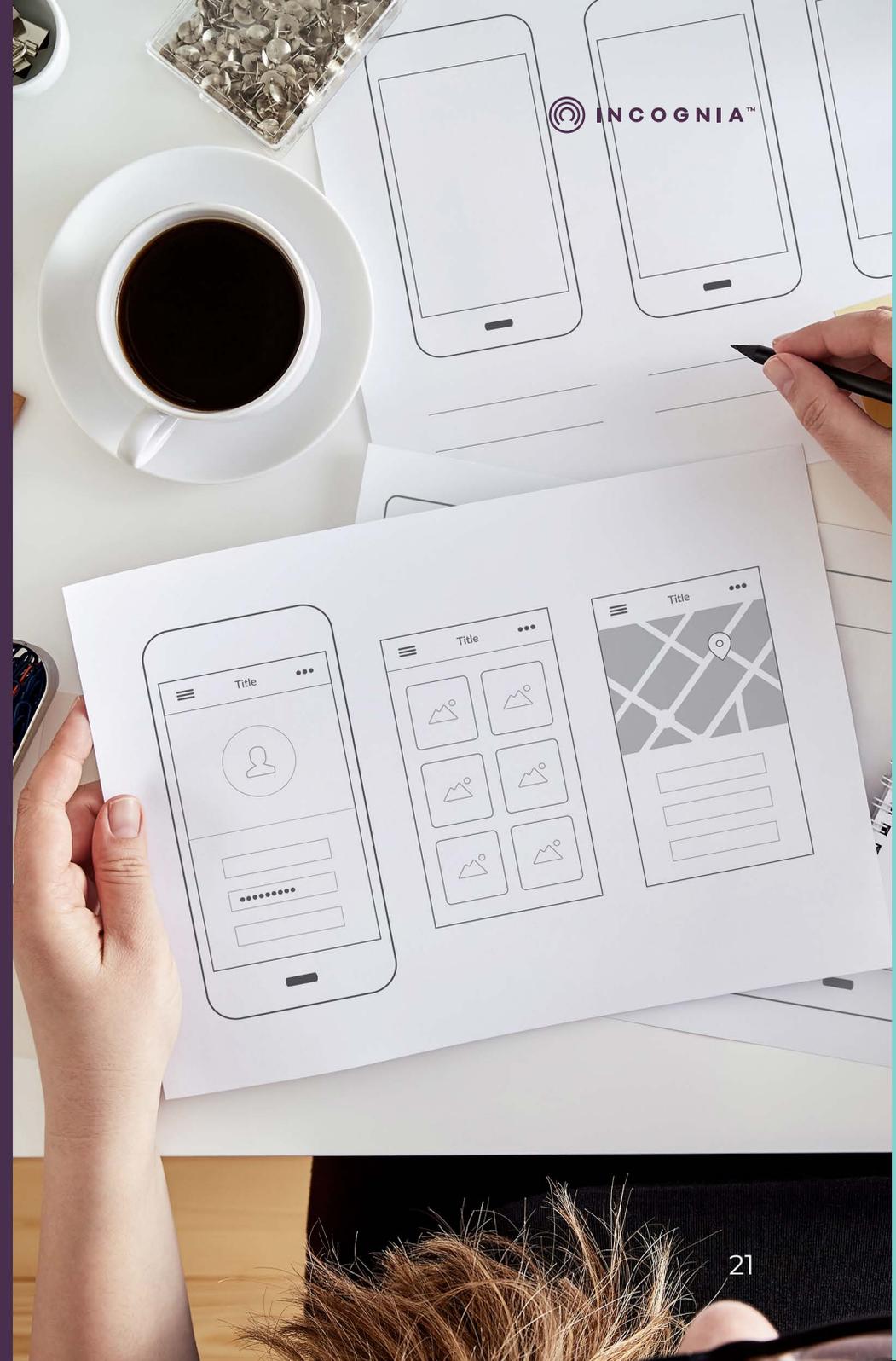
Credit Sesame

Onboarding metrics

Onboarding Friction Index	4.14
Clicks	30
Time for sign-up	04:30 min
Screens	8
Fields	9
Number of ID verification methods	5

ID Verification methods

First Name, Last Name	Yes
Address	Yes
Mobile Phone	Yes
Date of Birth	Yes
SSN	Yes
Document upload	No
Link Bank Account	No
OTP SMS	No
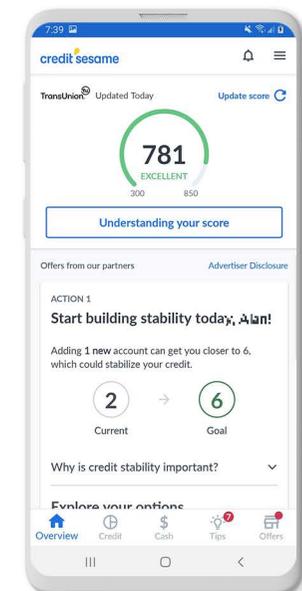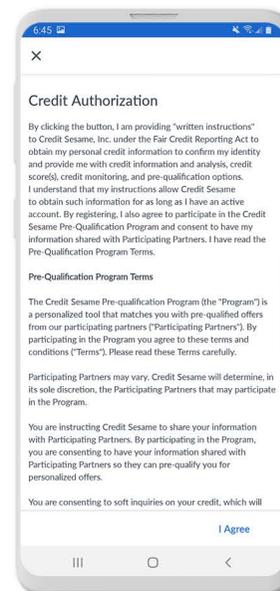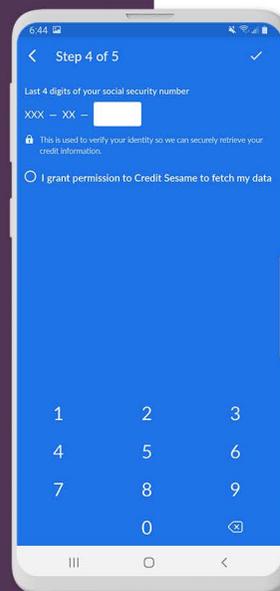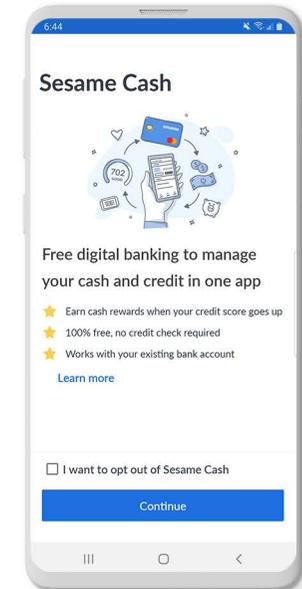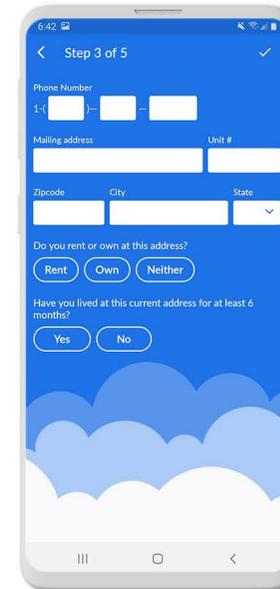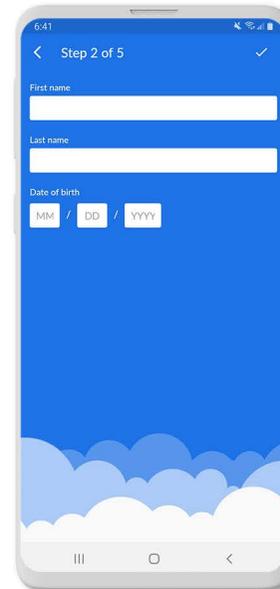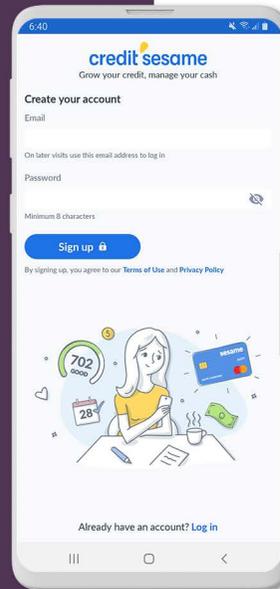
Chime

Onboarding metrics

Onboarding Friction Index	5
Clicks	22
Time for sign-up	04:30 min
Screens	11
Fields	15
Number of ID verification methods	5

ID Verification methods

First Name, Last Name	Yes
Address	Yes
Mobile Phone	Yes
Date of Birth	Yes
SSN	Yes
Document upload	No
Link Bank Account	No
OTP SMS	No
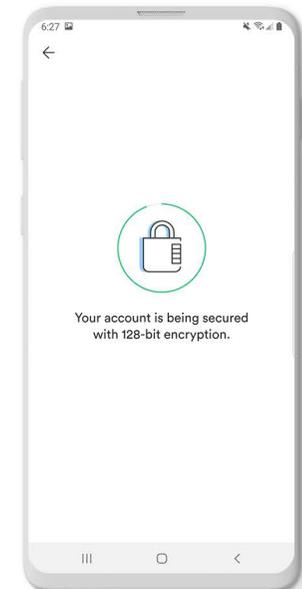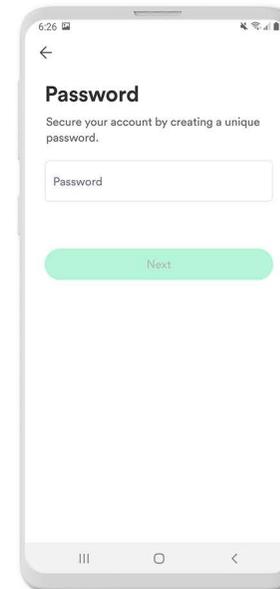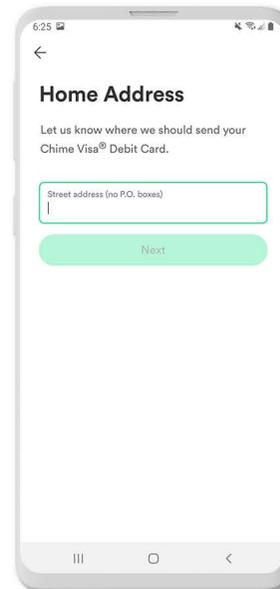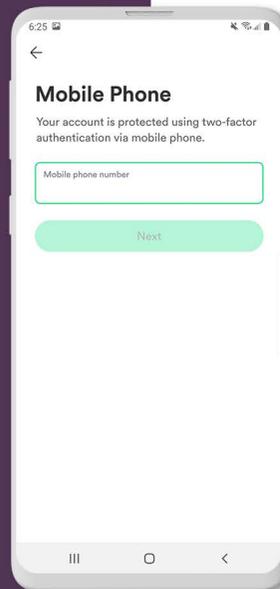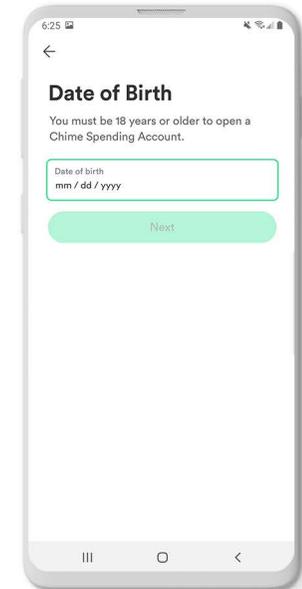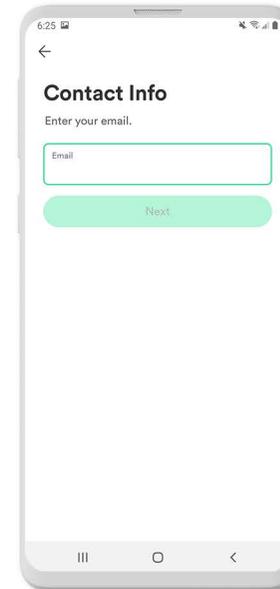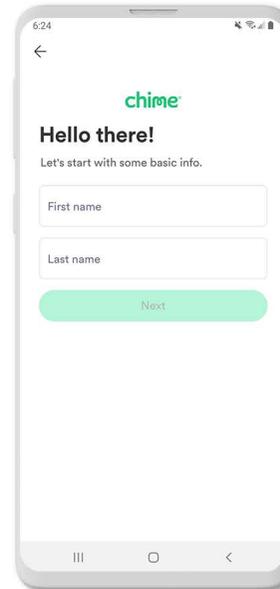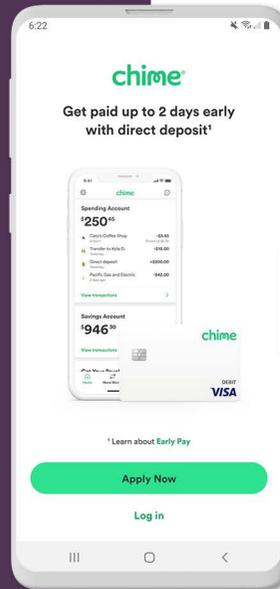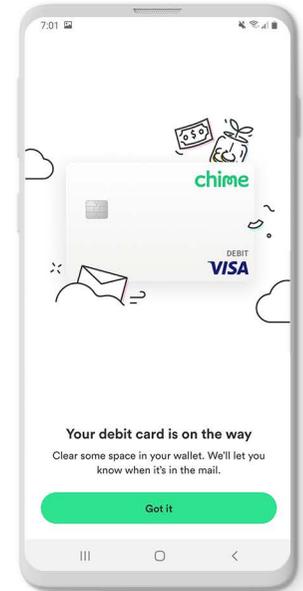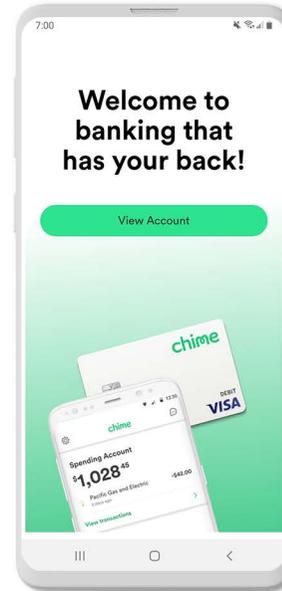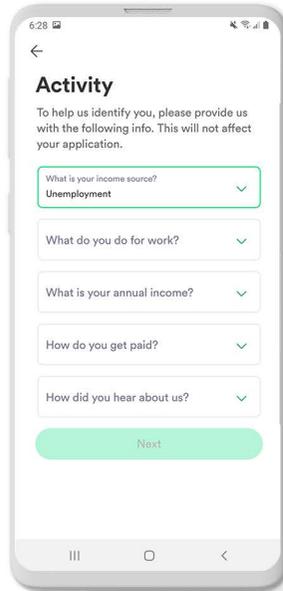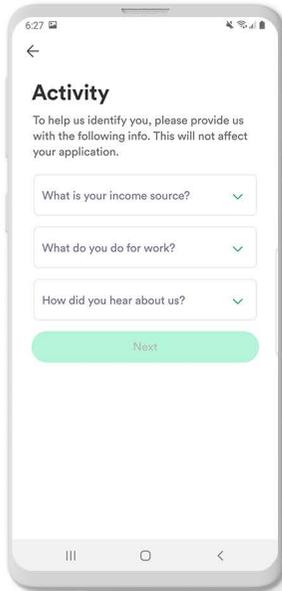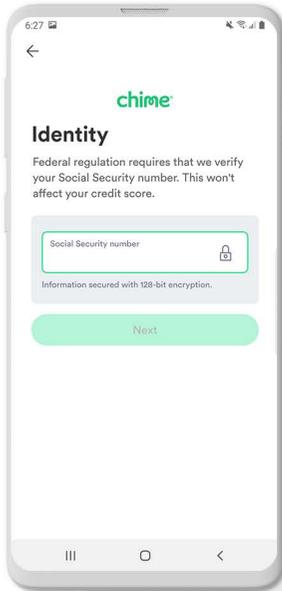
Robinhood

Onboarding metrics

Onboarding Friction Index	5
Clicks	16
Time for sign-up	05:00 min
Screens	14
Fields	11
Number of ID verification methods	5

ID Verification methods

First Name, Last Name	Yes
Address	Yes
Mobile Phone	Yes
Date of Birth	Yes
SSN	No
Document upload	No
Link Bank Account	No
OTP SMS	Yes

Residential Address
Robinhood is required by law to collect this information.

Enter your address

We will never share this information with marketers and we will never send you spam.

Apt, Suite, Bldg #

Continue

Citizenship
Robinhood is required by law to collect this information.

United States of America
United Kingdom
Afghanistan
Aland Islands

Continue

Set your PIN code

Verify your PIN code

Investing

Finish signing up for Robinhood and start investing commission free.

Finish Sign Up

★ Application Under Review ...

You'll have a free stock soon. Get started by searching for your favorite companies.

Search For Stocks ›

Lists

Acorns

Onboarding metrics

Onboarding Friction Index	5.43
Clicks	23
Time for sign-up	06:00 min
Screens	12
Fields	17
Number of ID verification methods	5

ID Verification methods

First Name, Last Name	Yes
Address	Yes
Mobile Phone	Yes
Date of Birth	Yes
SSN	Yes
Document upload	No
Link Bank Account	No
OTP SMS	No

Let's set up your Invest account

These 7 quick questions help us recommend the best investment portfolio for you and your money goals.

We use bank-level security, the highest levels of data encryption, and your information is never stored on your device.

Next

Find the Right Portfolio

Please answer a few questions to help us recommend a portfolio for you.

What is your employment status?
Select ...

What is your yearly income?
Select ...

How much is all your stuff worth (Net Wort...
Select ...

What is your investment goal?
Select ...

What is your level of financial education?
Select ...

Initially, how much money do you plan to inve...

Next

Investor Questions

These don't apply to most people, but if they apply to you, let us know.

None of these apply to me.

I am affiliated or work with a broker dealer.

I have been notified by the IRS that I am subject to backup withholding.

I am a 10% shareholder or director of a publicly traded company.

Next

Analyzing..
Time Horizon

Based on your responses we are calculating a recommended portfolio just for you.

Your personalized portfolio recommendation is ready!

View Portfolio

Your Portfolio

International Company Stocks
Small Company Stocks (IJR)
US Aggregate Bond (AGG)
Short Term USD Bond (ISTB)
Medium Company Stocks (IJH)
Large Company Stocks (VOO)

You're investing in 80% stocks and 20% bonds, with volatility but greater potential long-term growth.

Stay the Course

The market moves up and down. The most important principle of a smart investor is to stay focused on the long term.

Wisdom from Warren Buffett
"Our favorite holding period is forever"

Next

Ready to Invest   Skip

You're about to become an investor! Here are 3 easy ways to get started.

Recurring Investment
Set it and forget it

One-time Investment
Invest on the go

Round-Up Investment
Invest as you spend

Before you can start investing, link a funding source first.

Next

Your Invest account is complete!

We just will need you to verify a few things to make sure your information is correct.

Done

Good evening,

Invest for your future $0

Later starts today   Set up

Spend smarter   Set up

Early for kids   Explore

Earn more money $0

Protect what you love

Grow your knowledge

28

MoneyLion

Onboarding metrics

Onboarding Friction Index	5.86
Clicks	26
Time for sign-up	05:00 min
Screens	15
Fields	16
Number of ID verification methods	6

ID Verification methods

First Name, Last Name	Yes
Address	Yes
Mobile Phone	Yes
Date of Birth	Yes
SSN	Yes
Document upload	No
Link Bank Account	No
OTP SMS	Yes

Screen 1 — 8:38

WHAT'S YOUR DATE OF BIRTH?

Your Birthday

This is not a valid birthday. Please try again with the format of MM/DD/YYYY

NEXT

Screen 2 — 8:39

WHAT'S YOUR ADDRESS?
Make sure it's your registered home address, and not a PO box.

Street

I.E. 123 East Main Street, Irving, TX

NEXT

Screen 3 — 8:40

WHAT'S YOUR ADDRESS?
Make sure it's your registered home address, and not a PO box.

Street address

Apt/Suite (optional)

City

State   Zip

P.O. Boxes are not accepted.

NEXT

Screen 4 — 8:40

PLEASE ENTER YOUR MOBILE PHONE NUMBER

Your Phone Number

e.g. (555) 555-5555

Get help

☐ I consent to receive information on services, promotional or marketing information, discounts and savings from MoneyLion and its affiliates by voice or automatic telephone dialing system, including prerecorded messages and text messages. Standard data and message rates will apply.

SMS Text & Communication Consent.

SEND VERIFICATION CODE

Screen 5 — 8:40

ENTER THE 4-DIGIT CODE
sent via text to

Resend code

Get help

VERIFY

Screen 6 — 8:41

ENTER YOUR SSN
We require this for anti-fraud purposes and to verify your identity. Your safety means a lot to us!

Social Security Number

Confirm Social Security Number

⚠ Psst! Make sure your SSN is accurate. It can't be changed in the future.

NEXT

Screen 7 — 8:40

CONFIRM YOUR DETAILS
Please make sure you entered your details correctly.

Personal info

Name
Email
Phone
SSN

ID verification info   EDIT

Birthday
Address

By clicking Verify my identity I agree to the Identity Verification Process Agreement

VERIFY MY IDENTITY

Screen 8 — 8:40

Not now

WELCOME TO MONEYLION! LET'S GET STARTED

Select an option below and start your financial journey on the right foot.

Most popular

⚡ **Get cash anytime**
INSTACASH

Get 0% APR advances up to $250 for anything you want. Deposited in seconds.

Other valuable options

Bank smart
ROARMONEY

Maximize your money with our no hidden fees RoarMoney account.

Build your credit
CREDIT BUILDER PLUS LOANS

Get up to $1,000 at a low APR. 70% of members raise their score over 30 points in 60 days.

Simple

Onboarding metrics

Onboarding Friction Index	5.86
Clicks	35
Time for sign-up	09:00 min
Screens	10
Fields	19
Number of ID verification methods	6

ID Verification methods

First Name, Last Name	Yes
Address	Yes
Mobile Phone	Yes
Date of Birth	Yes
SSN	Yes
Document upload	No
Link Bank Account	No
OTP SMS	Yes

INCOGNIA™

Screen 1:
←
Show

We use SSL encryption to ensure your data stays absolutely secure.

Have you or someone close to you ever held a political office in a foreign country?
○ Yes   ○ No

Are you a US Citizen?
○ Yes   ○ No

Next

Screen 2:
←

Review & submit

Before you submit your application, we'd like you to read through a few things.

○ I have read and agree that I will receive electronically all disclosures and communication from Simple as provided in the E-sign Agreement.

○ I agree that I'll receive a debit card and that I have read and agree to these terms from Simple: Privacy Policy, Card Agreement, Account Agreement, Truth in Savings Disclosure, and the BBVA USA Privacy Practices.

Submit

Screen 3:
We need more info

Your security is important to us. To make sure it's you, we need you to provide more information.

📇 Scan the front of your ID
Passport, Military, State, or Driver's License

💳 Scan the back of your ID
The reverse side of your ID or passport

🪪 Send us a selfie
To help us know that you're you

I don't have this information
Okay, let's start

Screen 4:
←

Sending your info

It'll take just a couple of minutes for us to process your information...

○ Uploading...   ○ Submit   ○ Process

Screen 6:
←

No worries, come back when you're ready.

Sometimes it takes time to gather your things. We'll be here when you're ready. See you back here soon!

– The Simple Team

Okay

32

GoBank

Onboarding metrics

Onboarding Friction Index	6.57
Clicks	32
Time for sign-up	06:00 min
Screens	11
Fields	25
Number of ID verification methods	4

ID Verification methods

First Name, Last Name	Yes
Address	Yes
Mobile Phone	No
Date of Birth	Yes
SSN	Yes
Document upload	No
Link Bank Account	No
OTP SMS	No

Welcome to GoBank!

Your balance is $20.00. Go ahead and get started GoBanking! You should receive your permanent debit card in 7 business days. Be sure to activate it when it arrives!

NEXT

GObank

ACCOUNT BALANCE (CARD ENDING
$20.00

STASH

VAULT
$0.00

UNSTASH

Transactions

Get Your Monthly Fee Waived

Build a Budget

Ask the Fortune Teller

ATM & Reload Map

Home   Deposit   Pay   Settings
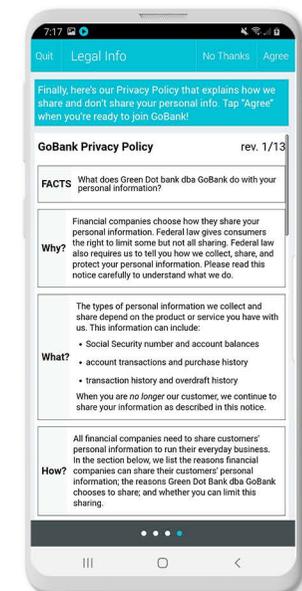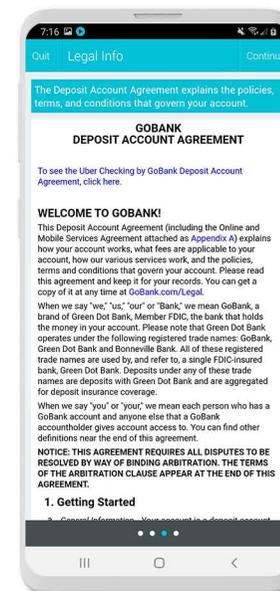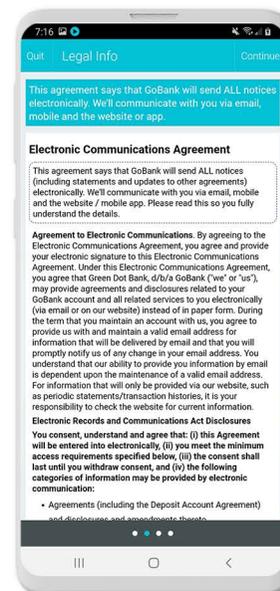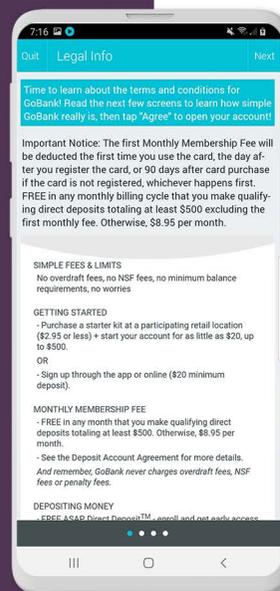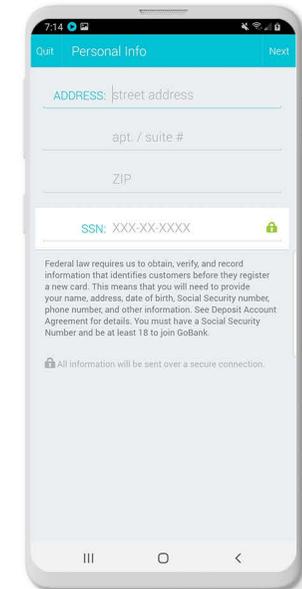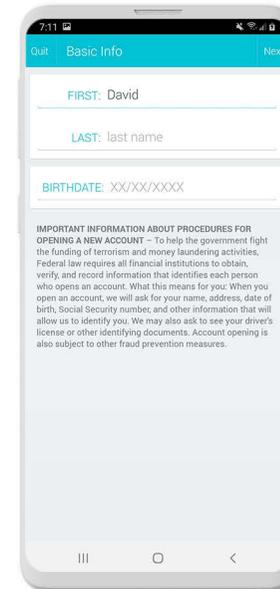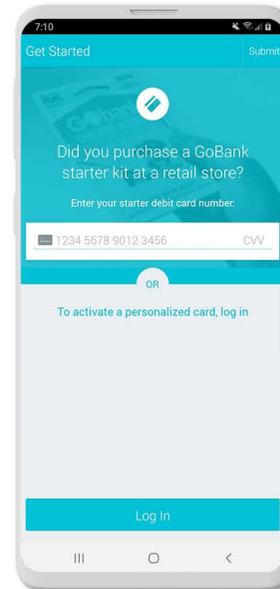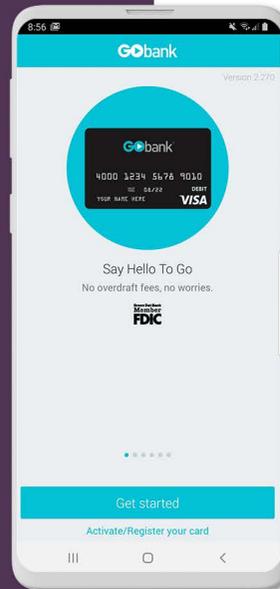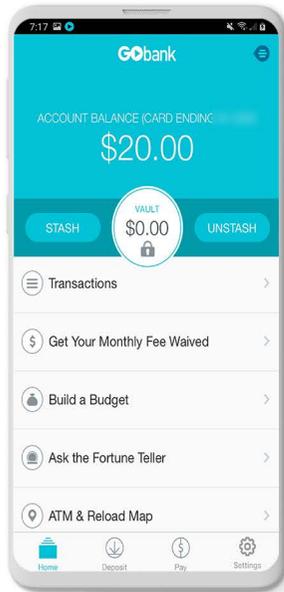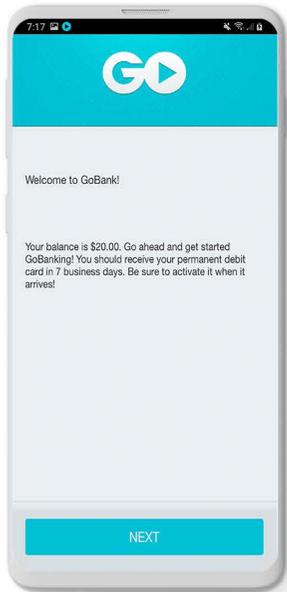
Earnin

Onboarding metrics

Onboarding Friction Index	6.71
Clicks	28
Time for sign-up	11:00 min
Screens	16
Fields	9
Number of ID verification methods	3

ID Verification methods

First Name, Last Name	Yes
Address	No
Mobile Phone	No
Date of Birth	No
SSN	No
Document upload	No
Link Bank Account	Yes
OTP SMS	Yes

35

We're working on reviewing your bank account.
This may take a few seconds.

Select the checking account that receives your paycheck

CONTINUE

Confirm details to tell us where to send your money

Provide the account and routing numbers for the checking account you've chosen.
Learn more

Account number

Routing number

CONTINUE

Add a debit card to get money in minutes instead of days

Enable Lightning Speed by entering the debit card linked to the account you provided.
Learn more

4242   MM/YY   CVC

ADD DEBIT CARD

Enter your employer to tell us where you work
Learn More

Type company name

Welcome to the Earnin Community!

We're working hard to set up your account. This may take a few minutes. We'll notify you as soon as you can cash out.

In the meantime, create a PIN to access Earnin without your password.

CREATE PIN

NOT NOW

Create a PIN

○ ○ ○ ○

1	2	3
4	5	6
7	8	9
	0	

SKIP FOR NOW   DELETE

Confirm PIN

○ ○ ○ ○

1	2	3
4	5	6
7	8	9
	0	

SKIP FOR NOW   DELETE

PIN Created ✓

We're working... account. This may take a f... you as soon as you can cash out.

In the meantime, create a PIN to access Earnin without your password.

CREATE PIN

NOT NOW

NEEDS ACTION

Earnings Account
Money Earned

NEEDS ACTION

Permissions
App Permissions

VERIFYING... (Takes up to 3 days)

Bank Account
Account & Routing Number

Earnings Account

Needs action: Money Earned

⚠ **Money Earned**
Needs Action

Upload a photo of your timesheet so we know how much you've worked.

Include the following:
1. Your name
2. Daily hours worked
3. Dates from the current pay period

ADD TIMESHEET

🕐 **Payday**
Calculating

Permissions

Needs action: App Permissions

⚠ **App Permissions**
Disabled

Please turn on Location Services so we can confirm how long you've worked.

TURN ON

✓ **Push Notifications**
Enabled

Wealthfront

Onboarding metrics

Onboarding Friction Index	9.57
Clicks	45
Time for sign-up	09:30 min
Screens	28
Fields	21
Number of ID verification methods	8

ID Verification methods

First Name, Last Name	Yes
Address	Yes
Mobile Phone	Yes
Date of Birth	Yes
SSN	Yes
Document upload	Yes
Link Bank Account	Yes
OTP SMS	Yes

Build Plan

The global stock market is often volatile. If your entire investment portfolio lost 10% of its value in a month during a market decline, what would you do?

Your behavior during a market downturn is important to understanding your risk tolerance.

- Sell all of my investments
- Sell some
- Keep all
- Buy more

Build Plan

What's your birthdate?

Birthdate

Your Plan

Perfect, that's everything we need to personalize your plan, including:

The recommended risk level for your age, finances, and comfort zone.
Learn how we calculate risk

A diversified portfolio of low-cost investments for maximum expected returns at your risk level.
Learn how we build portfolios

Automated strategies to keep your portfolio on track and reduce your tax bill.

Let's see my plan

Investment

Based on your current risk tolerance, here's how we would invest for you.

Your risk tolerance
⊖ **2.0** ⊕
out of 10

ASSET CLASS	ALLOCATION
U.S. Stocks	15%
Foreign Stocks	9%
Emerging Markets	3%
Dividend Growth Stocks	4%
U.S. Government Bonds	26%
Corporate Bonds	33%
Emerging Market Bonds	5%
Real Estate	5%

Why this portfolio?

Looks good, continue

View legal documents and disclosures

Rollover

Once you've finished opening this account, we'll send you instructions for your rollover.

We'll email the instructions to

Got it, continue

Legal Stuff

Before we open your account, the regulators require that we collect and verify a few more details.

Next

Legal stuff

What's your full legal name?

First name

Middle name or initial

Last name

Suffix ✓

Legal stuff

What is your address?

Street address →

Street address 2

City

State

ZIP ✓

Legal stuff

What's your citizenship status?

We currently only support accounts for U.S. residents.

- U.S. citizen
- Not a U.S. citizen, but live here legally

Legal stuff

What's your Social Security number?

SSN

Re-type SSN ✓

Legal stuff

What's your tax filing status?

- Single
- Married filing jointly
- Married filing separately
- Head of household

Legal stuff

What's your current employment status?

- Employed
- Self-employed
- Stay-at-home parent
- Student
- Retired
- Not employed

Dave

Onboarding metrics

Onboarding Friction Index	N/A
Clicks	35
Time for sign-up	N/A
Screens	18
Fields	17
Number of ID verification methods	4

ID Verification methods

First Name, Last Name	Yes
Address	No
Mobile Phone	Yes
Date of Birth	No
SSN	
Document upload	No
Link Bank Account	Yes
OTP SMS	Yes

Dave uses Plaid
to connect to your bank

✓ Secure
Transfer of your information is
encrypted end-to-end

✓ Private
Your credentials will never be made
accessible to Dave

By selecting "Continue" you agree to the Plaid
End User Privacy Policy

Continue

Select your bank

Search

chime | BANK OF AMERICA

WELLS FARGO | CHASE

NAVY FEDERAL | Green Dot Prepaid Debit Card

Varo Money | PNC

TD Bank | REGIONS

Don't see your bank? Search instead

Enter your credentials

chime

Email address

Password

Submit

Reset password

Verify your identity

chime

Where would you like to send your
security code?

💬 Text

✉ Email

Continue

Loading

chime

✓

Communicating with servers

Verify your identity

chime

A text was sent to (•••)

Code

Submit

Success

chime

✓

You've successfully
connected your bank
account

Continue

Connecting to bank

Establishing connection to your
bank.

59s remaining

Verifying debit card

Withdrawing $0.01 to verify card.
(You won't get charged any fees)

118s remaining

Select the account you use most often, or
where you get paid.

PRIMARY ACCOUNT

$95
$79
$50
$3

Now I'll look at your past transactions
to predict your future spending.

Next →

Skip for now

I don't see any past income. Add it to
your budget below or skip for now.

NONE FOUND

MAIN PAYCHECK   Add Manually

Add your income so I can help you budget
between paychecks.

Skip for now →

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Summary

The COVID-19 global pandemic has increased user's interest in using mobile banking and fintech apps. With limited access to physical branches, users are turning to mobile apps for their financial services. Creating a new account with a fintech mobile app is a different experience from creating a new account in-person in a bank, and also compared with creating a new account on a non-fintech mobile app. The information requested from a new user on a fintech app includes personally identifiable information (PII) that users do not typically provide including home address and a social security number. This information is required for compliance with KYC and AML regulations and to verify the identity of the person opening the account. The fintech apps with the lowest Onboarding Friction Index stand out for their streamlined user experience, evidenced by shorter application time and fewer screens and clicks. Most fintech apps are still relying on one time passcodes as a baseline for securing new accounts, and are not utilizing the address information to verify the real-time location and location behavior of the new user. Streamlining the security and ID verification processes by utilizing the address for real-time identity verification offers the opportunity to reduce friction and increase new account conversions.
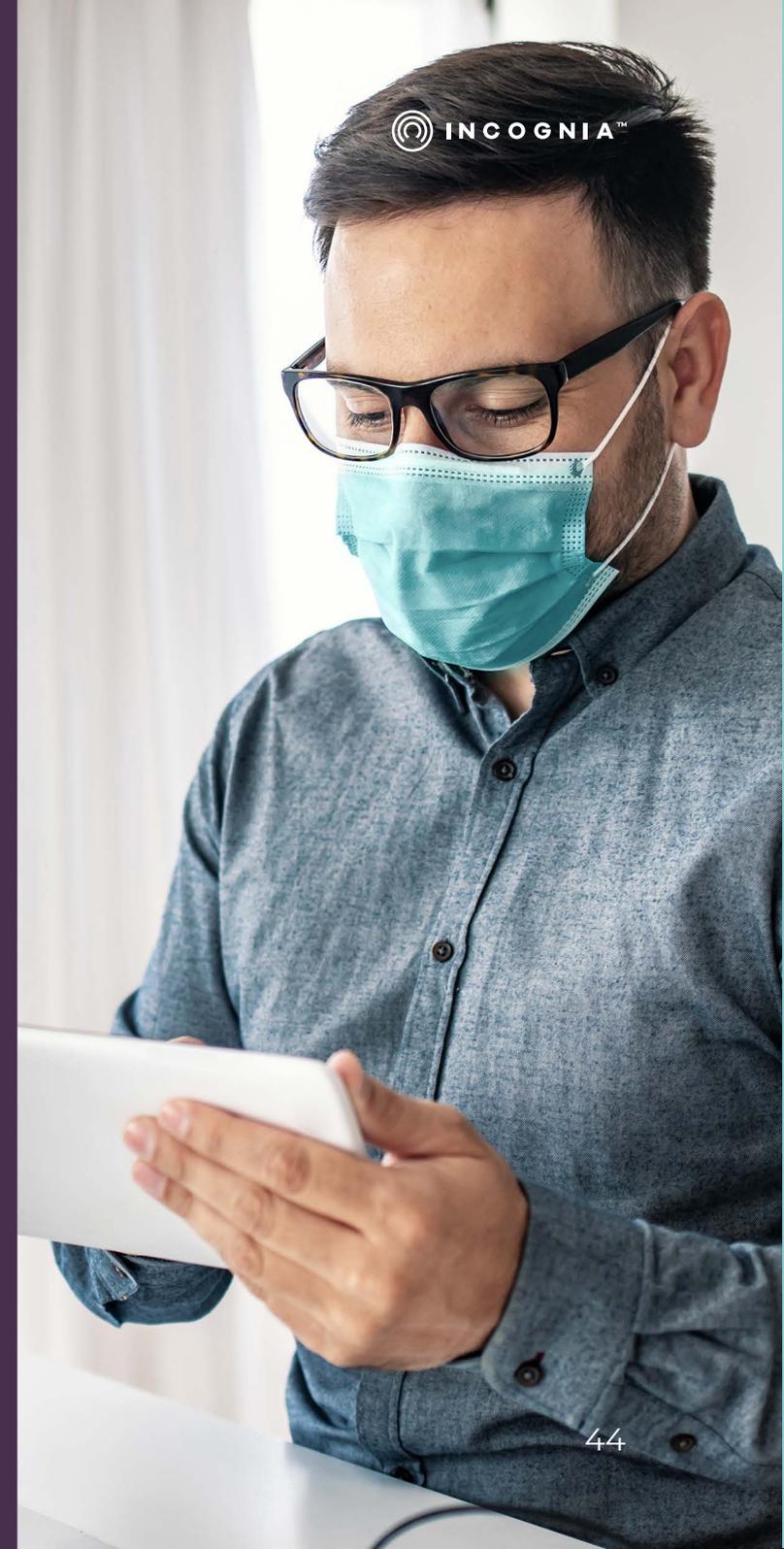
About Incognia

Incognia is a private identity company that enables advanced mobile fraud prevention for banks, fintech and mcommerce companies. Using location-based behavioral biometrics Incognia offers frictionless identity verification and authentication. We are headquartered in Palo Alto, with teams in the San Francisco Bay Area, New York, and Brazil, and 60M+ devices leverage our location technology.

We enable the use of anonymized location behavioral data to increase account security, reduce fraud, and deliver private location context aware services. Incognia's location technology uses network signals and on-device sensors to deliver highly precise location information. By building an anonymous behavioral pattern, unique for each user, Incognia provides location context and creates a private digital identity for account security.

Companies with mobile apps and connected devices use Incognia for frictionless user ID verification, dynamic adaptive authentication, risk assessment and fraud detection, all while protecting user privacy.

INCOGNIA™