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TRANSFORM

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Voice Authentication: Robinhood and Pindrop's Innovative Methodology

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Behavioral Engineer
Robinhood



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Agenda

- Why are WE here
- What is Behavioral Engineering
- The problem
- The end result
- Future potential
- Apply & DIY

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Why are WE here?



Speakers

Nicole Culver - Pindrop

Dir. Product Marketing

Nicole oversees the Authentication and Developer product suites at Pindrop, a leader in voice authentication, security, and intelligence. Pindrop's mission is to take people's most human characteristic—their voice—to connect them to their world while making security the easy choice.

Christina Kapadia - Robinhood

Behavioral Engineer

Christina's work focuses on using behavioral science tactics to influence customers to protect information through data-driven nudging. Her work at Robinhood, an American financial services company and leading Financial app, is dedicated to improving security through behavior analysis and experimentation.

What is Behavioral Engineering?



“People are very subjective and influenced by their current emotions. Their decision-making abilities are strongly affected by a variety of cognitive biases causing them to behave irrationally without noticing it.”

- Mind the Product

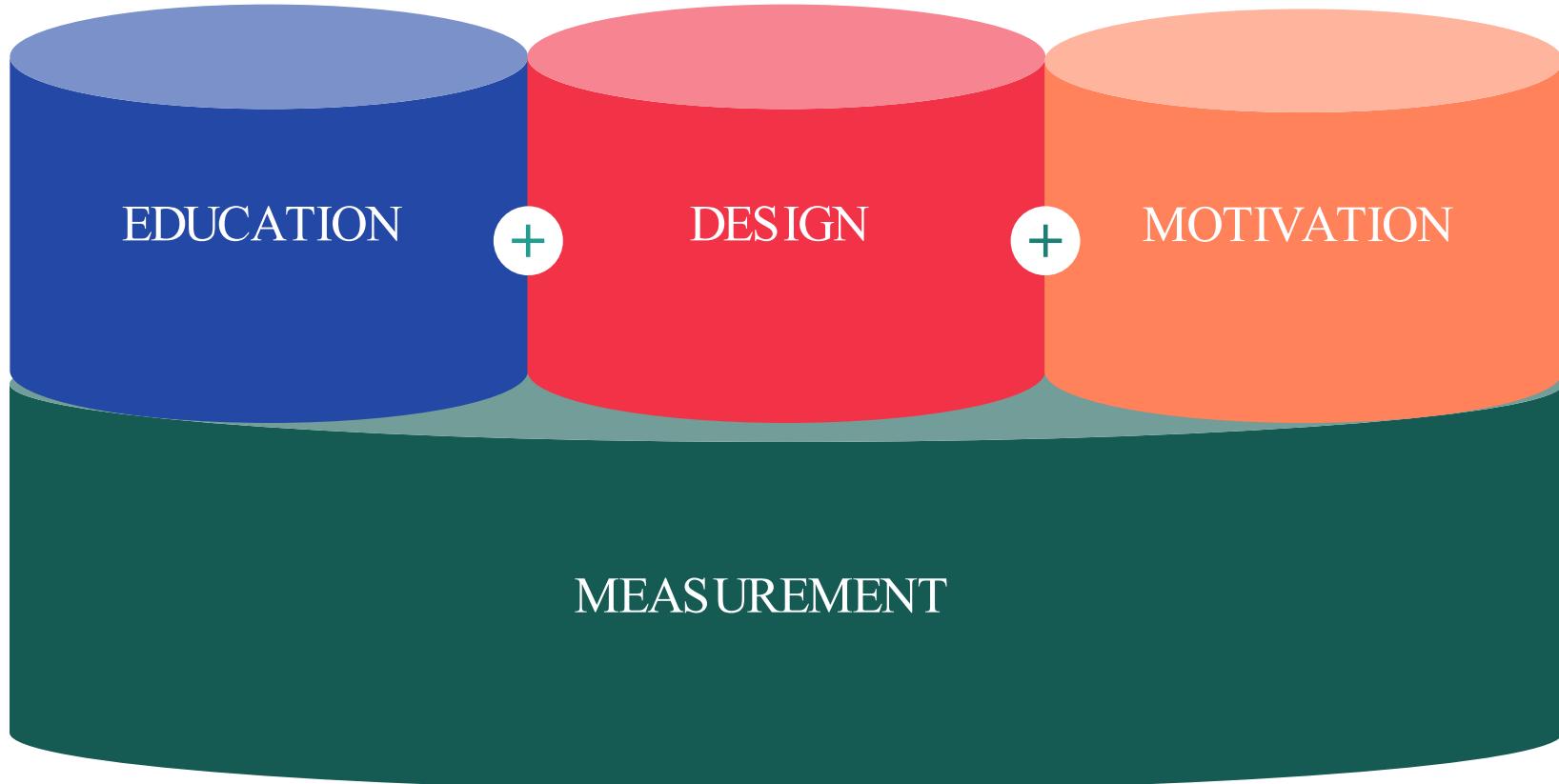
Where is the ECS?

Brain
Cognitive illusions are known to be most often found in the
brain during emotion regulation.
In addition, there are no
certain brain regions that control specific
functions.

Photo by Bret Kavanaugh on [Unsplash](#)



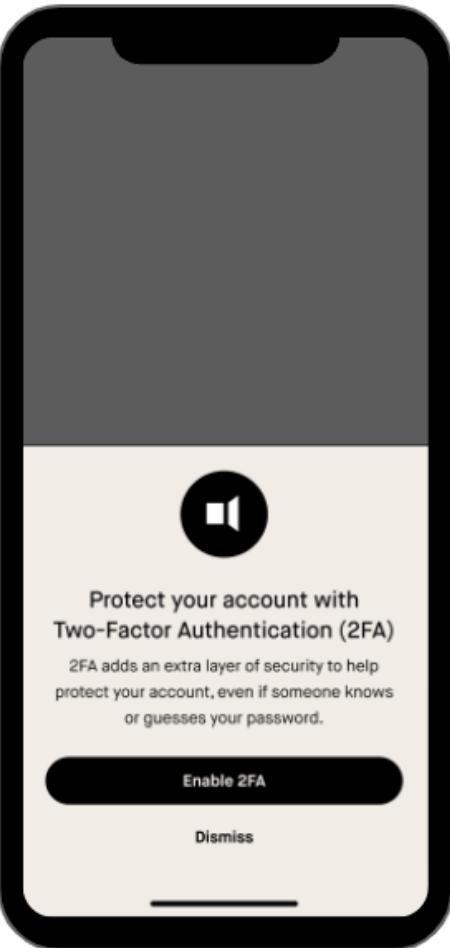
When ideating solutions to a problem, we leverage core pillars:



Engaging Behavioral Engineering

MFA Adoption Campaigns

Designing and experimenting mode/messaging tests in-app

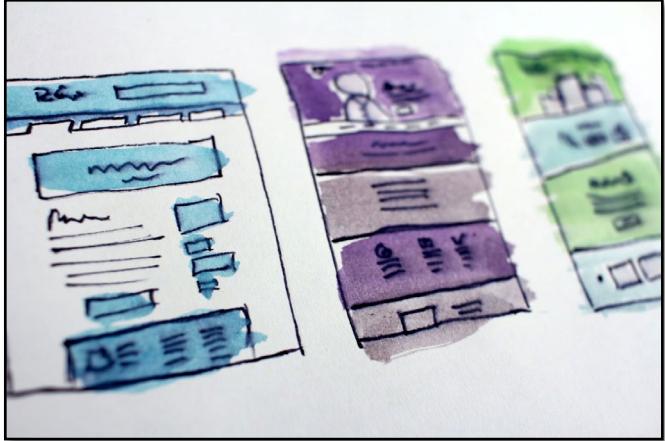


Trust by Design

Building trust-preserving mechanisms into all major product launches at the design stage

Phishing Alerts & Awareness

Collaborating with Intel/Investigations and Comms to send out timely, actionable alerts to customers on active threats



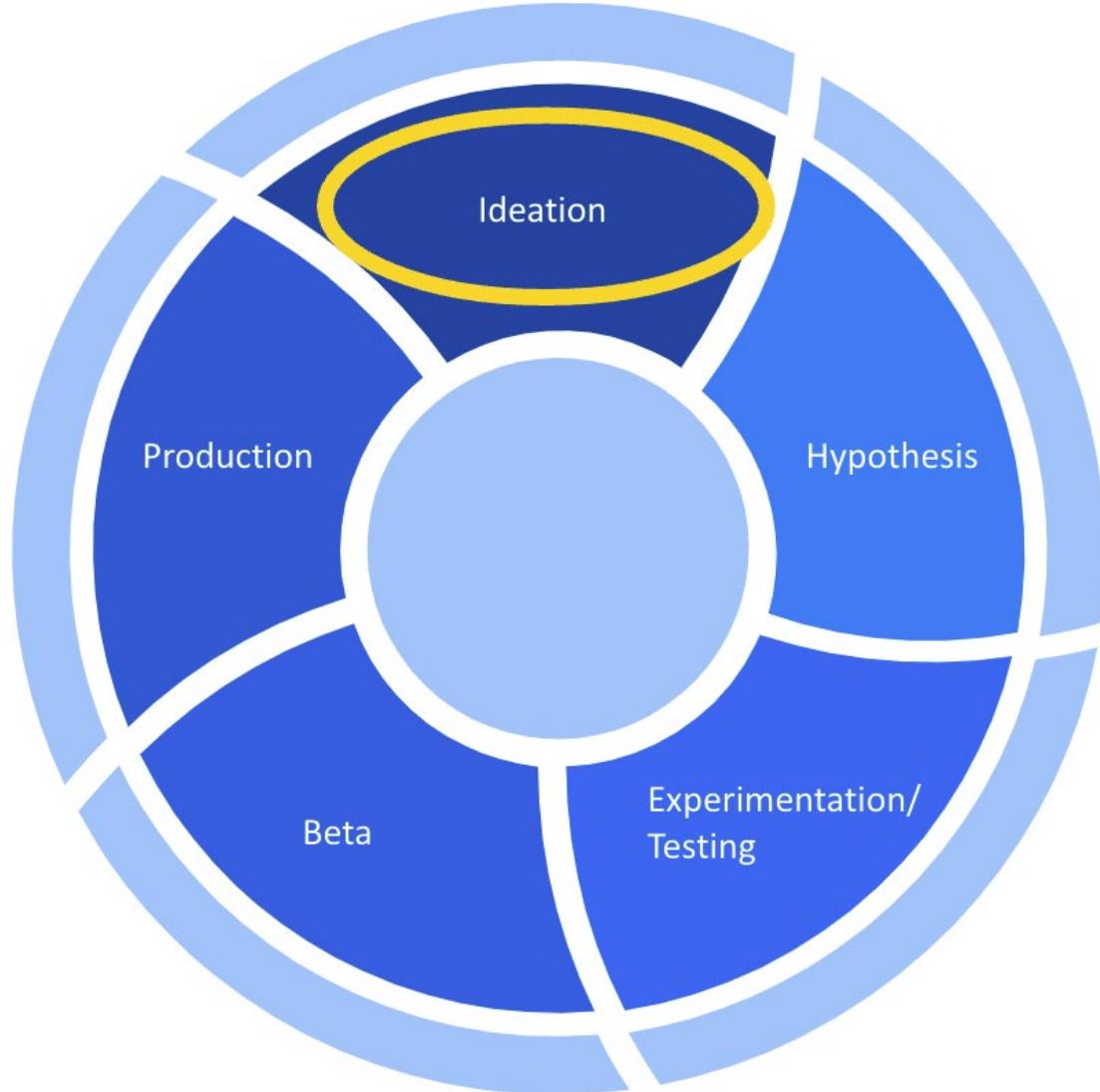
🔍

Promoted <https://www.TotallyFakeRobinhoodSite.com/>

24/7 RobinHood Customer Service

Call us 24/7 at 555-555-5555. Full service customer support. Solution experts are waiting! Call now.

Lifecycle Integration



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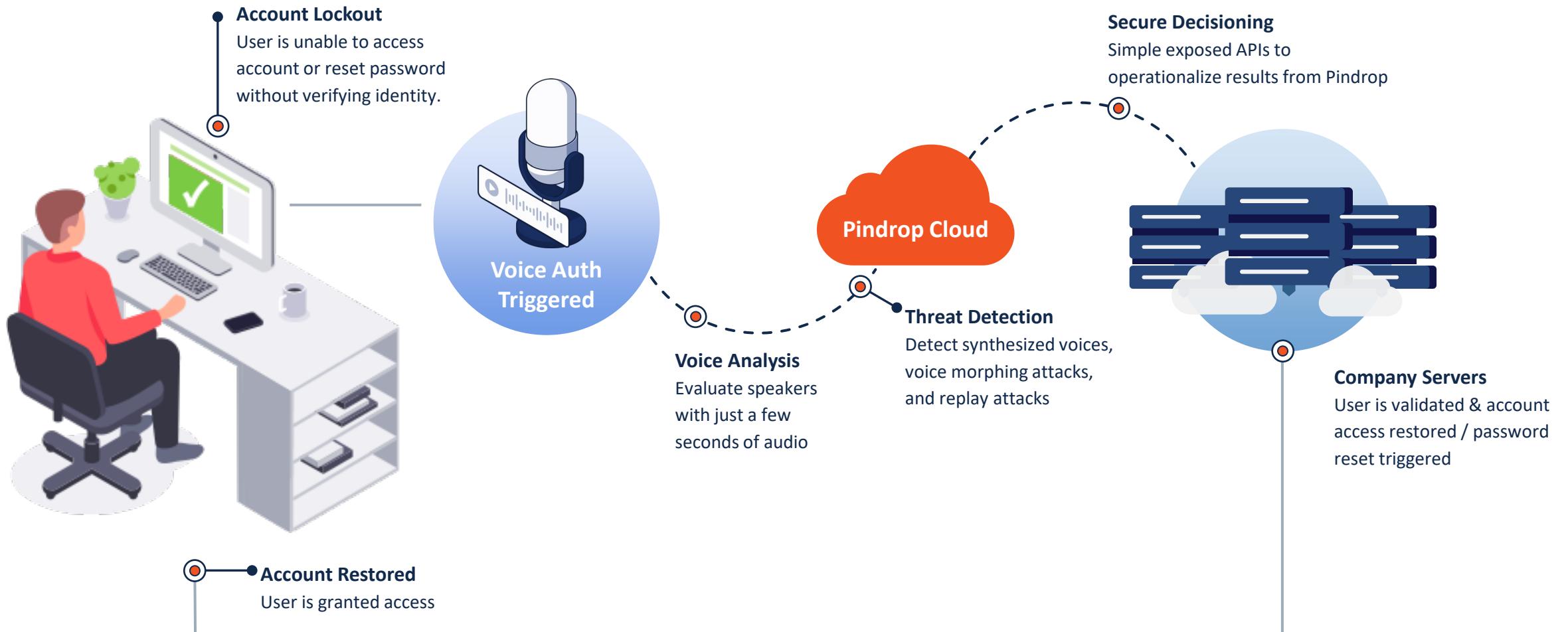
Setting the stage



The Selfie Verification Situation



What if...



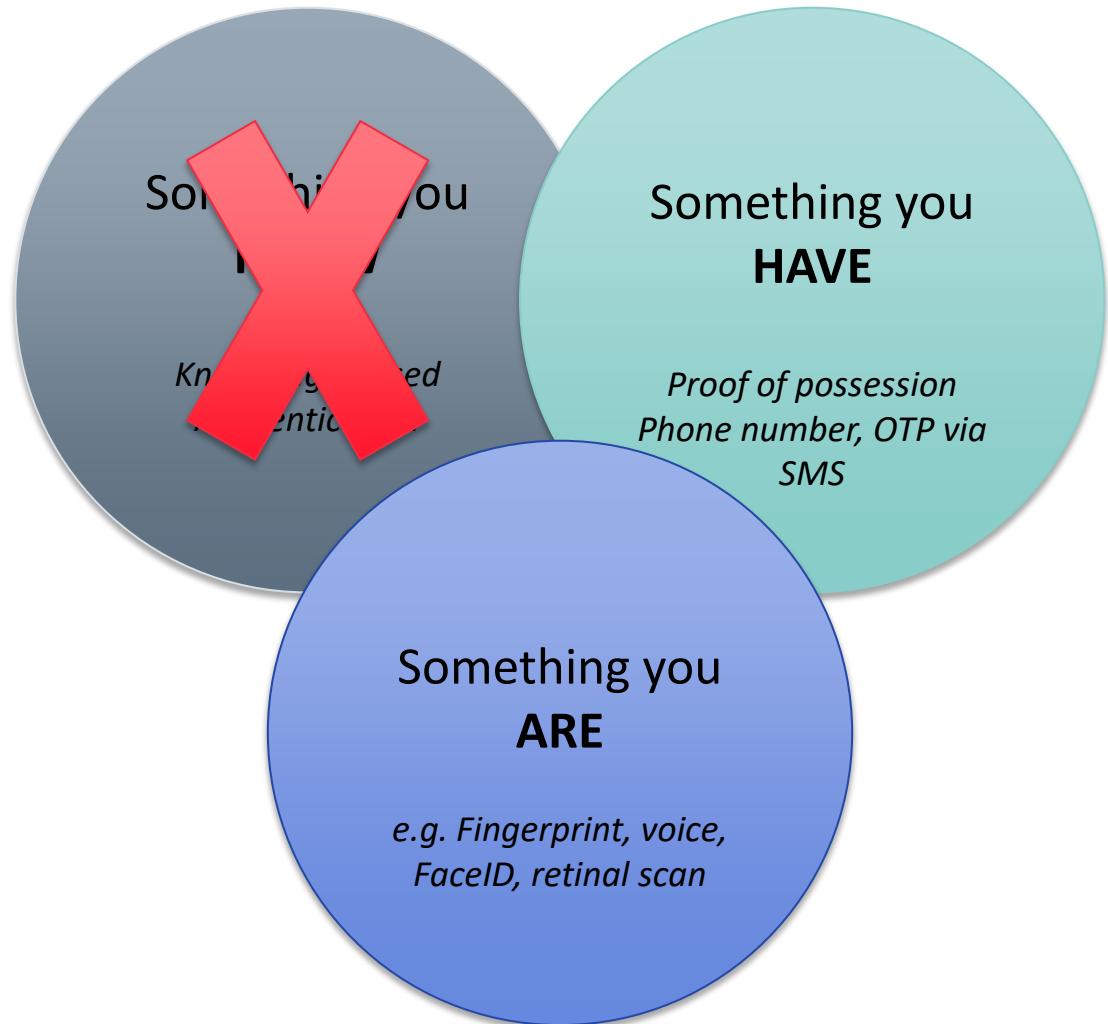
Robinhood asked...



Live 24/7 phone support requesting a callback in app

How might we **securely** offer phone support for locked out customers, **keep bad actors out**, AND preserve our callback model?

But who are you...really?

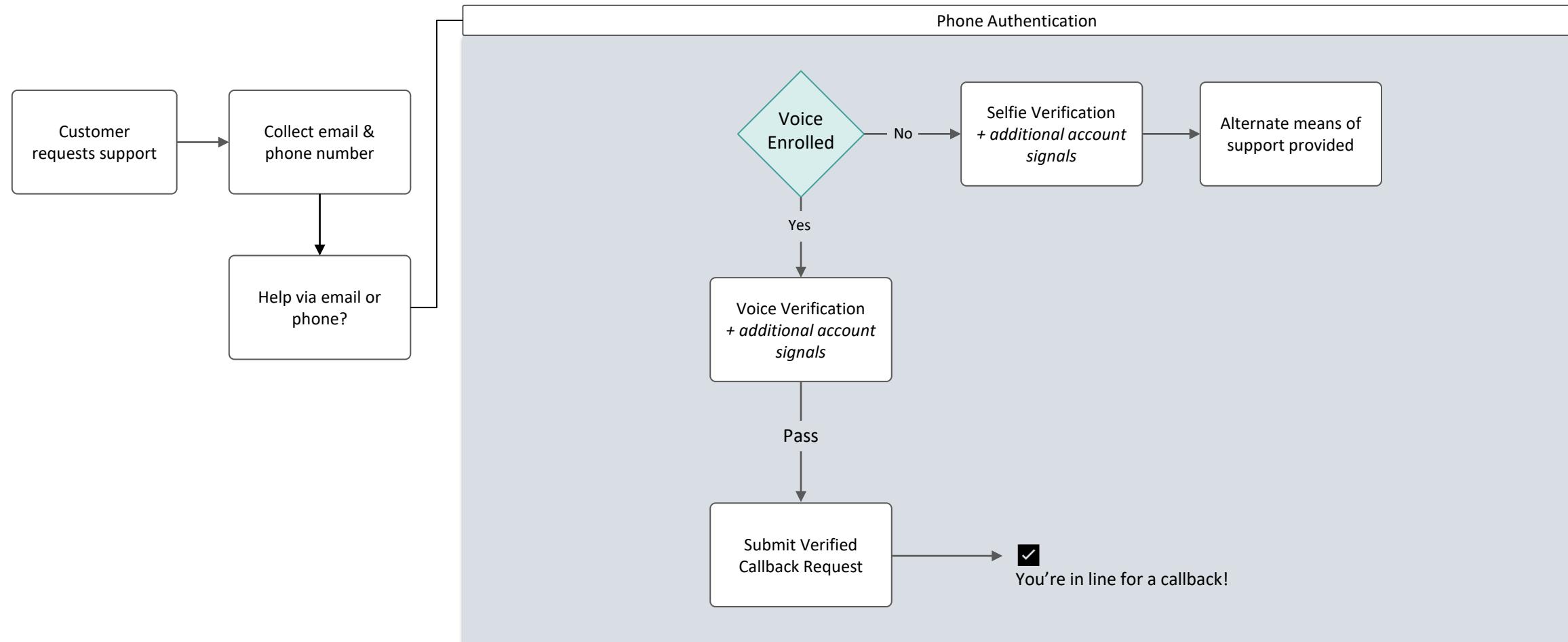


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The end result



Mobile callback case study





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Future potential



Future applications

Layered security

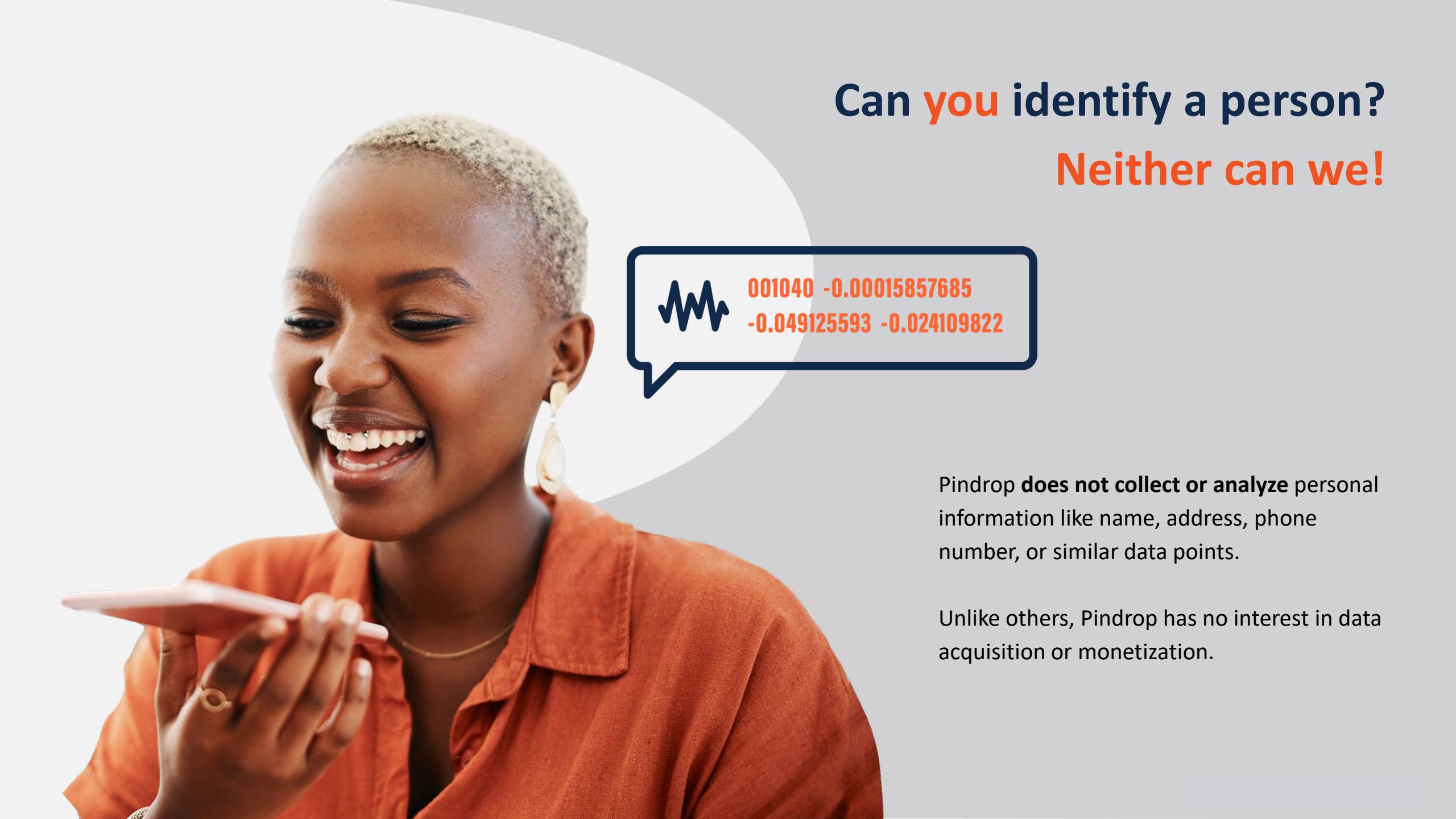
- A more secure factor for MFA
- Transaction verification to confirm user intent and presence
- Password reset confirmation and authentication
- Empowered, secure voice assistant technology

Innovation

- Passwordless authentication via voice
- User verification and auto-account authentication for multi-user devices
- Secure personalization by user for connected voice assistants

Anywhere you can use voice





Can **you** identify a person?
Neither can we!



001040 -0.00015857685
-0.049125593 -0.024109822

Pindrop **does not collect or analyze** personal information like name, address, phone number, or similar data points.

Unlike others, Pindrop has no interest in data acquisition or monetization.

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Apply & DIY



What can you do right now?

- **Ask** what behavioral engineering can do for your security architecture: removing friction ≠ lowering security
- **Identify** what applications voice can improve or already utilize voice—talk to your IAM team, IT, product owners, or infosec
- **Start small:** pick a single use case to test—this will help you identify potential blockers and build a POV faster
- **Engage** a provider like Pindrop for access to advanced Speaker Authentication APIs

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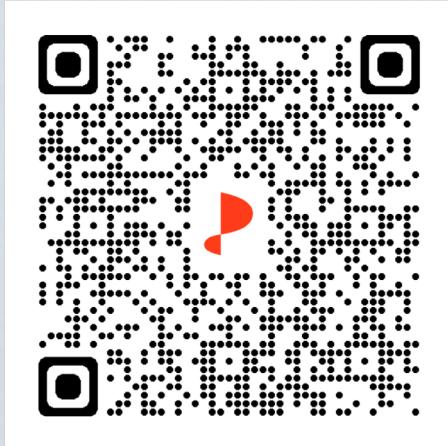
Thank you!

Please reach out via -

email: nculver@pindrop.com

social: @thenicolemarin

web:



For Behavioral Engineering questions -

email: christina.kapadia@robinhood.com



Voice verification enrollment



Early adoption has been a success!

