

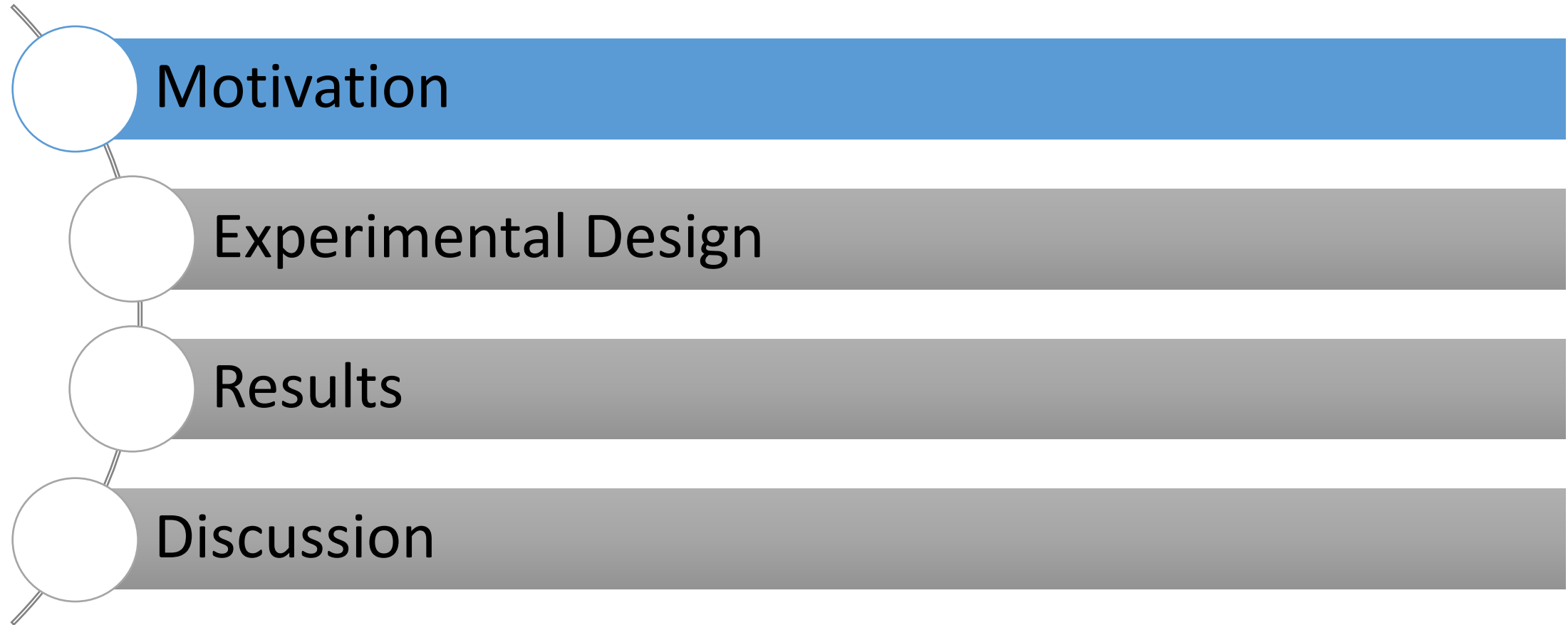
You Want Me To Do What?

A Design Study on Two-Factor Authentication Messages

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 @eredmil1





Over 50% of users in the U.S. have reported a significant negative security experience

like having an account hacked

Only 40% of users use two factor authentication
even though 74% of experts recommend it

majority of users learned about 2FA from a
security message

To Summarize

50% of users report significant negative experiences

some of these could be prevented with 2FA

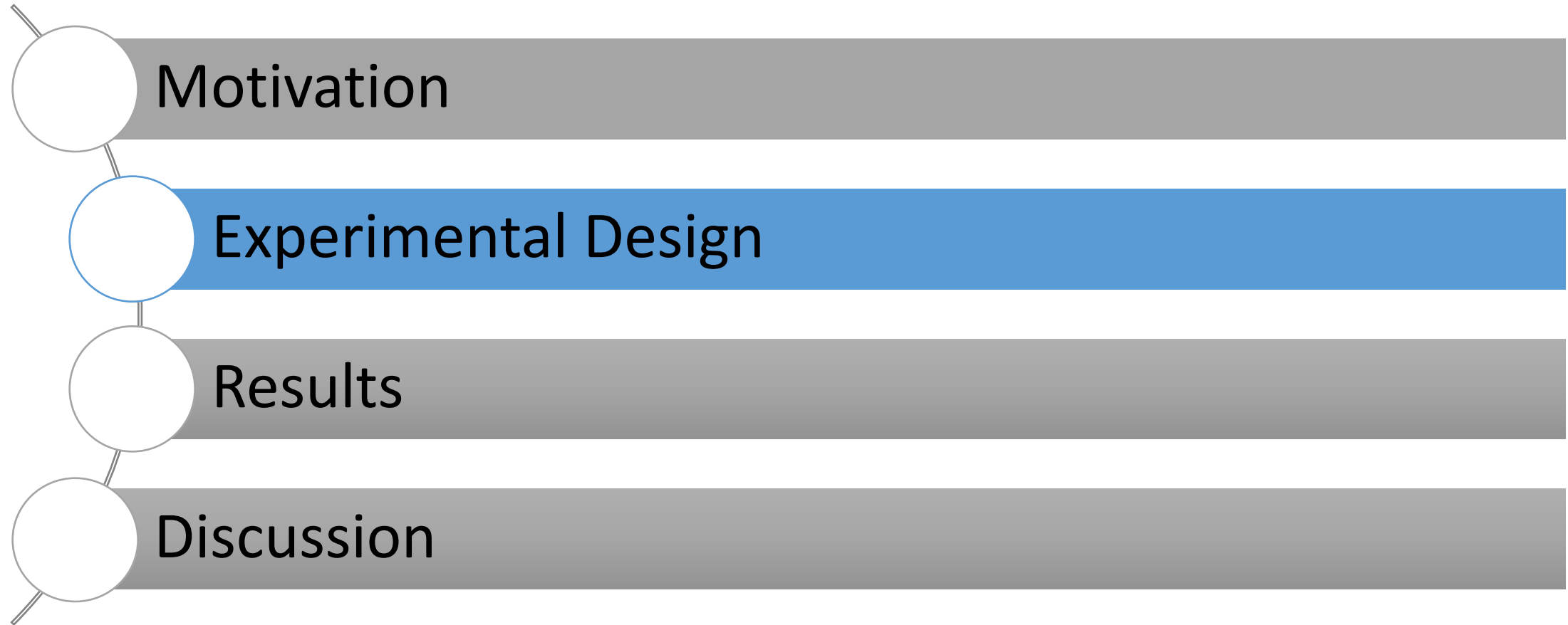
users already rely on messages to learn about 2FA

Let's Fix This

Provide the best possible information about 2FA



Evaluate and design 2FA invitation messages



Interview

- Evaluate existing 2FA invitation messages

Design

- Develop new message alternatives

Participants

- 12 demographically diverse people
- 30 minute interviews
- Qualitative open coding of interviews & design artifacts

Messages Evaluated

2-step verification

Help keep the bad guys out of your account by using both your password *and* your phone.

[Get Started](#)



2-step verification adds an extra layer of security to your account

In addition to your username and password, you'll enter a code that we will send you via text, voice call, or our mobile app.



Keep your account secure and easy to use

Natasha, we're here to help you protect your account. Add your mobile number to your account so you can reset your password if you ever need to, find friends, get SMS updates and more.

Only you will see your number.

Manage SafePass

Select a SafePass device

SafePass¹ is an optional, second layer of protection for your most sensitive transactions. You can add SafePass on up to 2 mobile devices, or you can order up to 1 card to use with your account(s) online. [Learn more about SafePass.](#)



Add a mobile device²

Instantly added to your account - no fee



Add a second mobile device



Order a SafePass Card³

Takes up to 7 - 10 days to receive; one-time fee \$19.99

[Continue](#)

[Cancel](#)

Overview

[Edit name](#)

[Account aliases](#)

[Personal info](#)

[Password](#)

[Security info](#)

[Close account](#)

[Notifications](#)

[Recent activity](#)

[Permissions](#)

Set up two-step verification

Two-step verification adds an extra layer of protection to your account. After you've turned it on, we'll ask you to enter an additional security code when you sign in. We'll provide this security code only to you.

In the following steps, we'll help you:

1. Make sure you have up-to-date security info where you can receive security codes.
2. Set up an authenticator app if you have a smartphone. (With an authenticator app, you can get security codes even if your phone isn't connected to a cellular network.)
3. Create app passwords for apps and devices (such as Xbox 360, Windows Phone 8 (or earlier), or mail apps on your other devices) that don't support two-step verification codes.

Interview

2FA Understanding

- Describe 2FA
- If don't know, simple definition provided

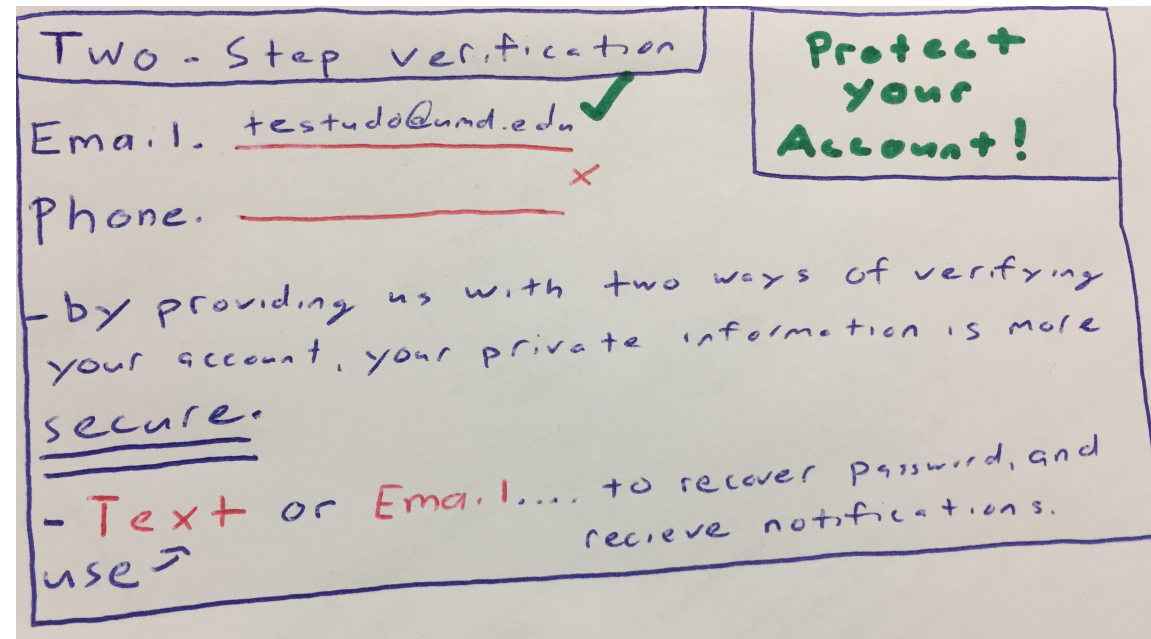
Message 1

- Based on message, what would make you want to use/not use 2FA?
- Based on message, how useful would 2FA be to you?
- What concerns do you have about 2FA?
- What would you change / what would you want to know?

Message 2

- Compare with Message 1

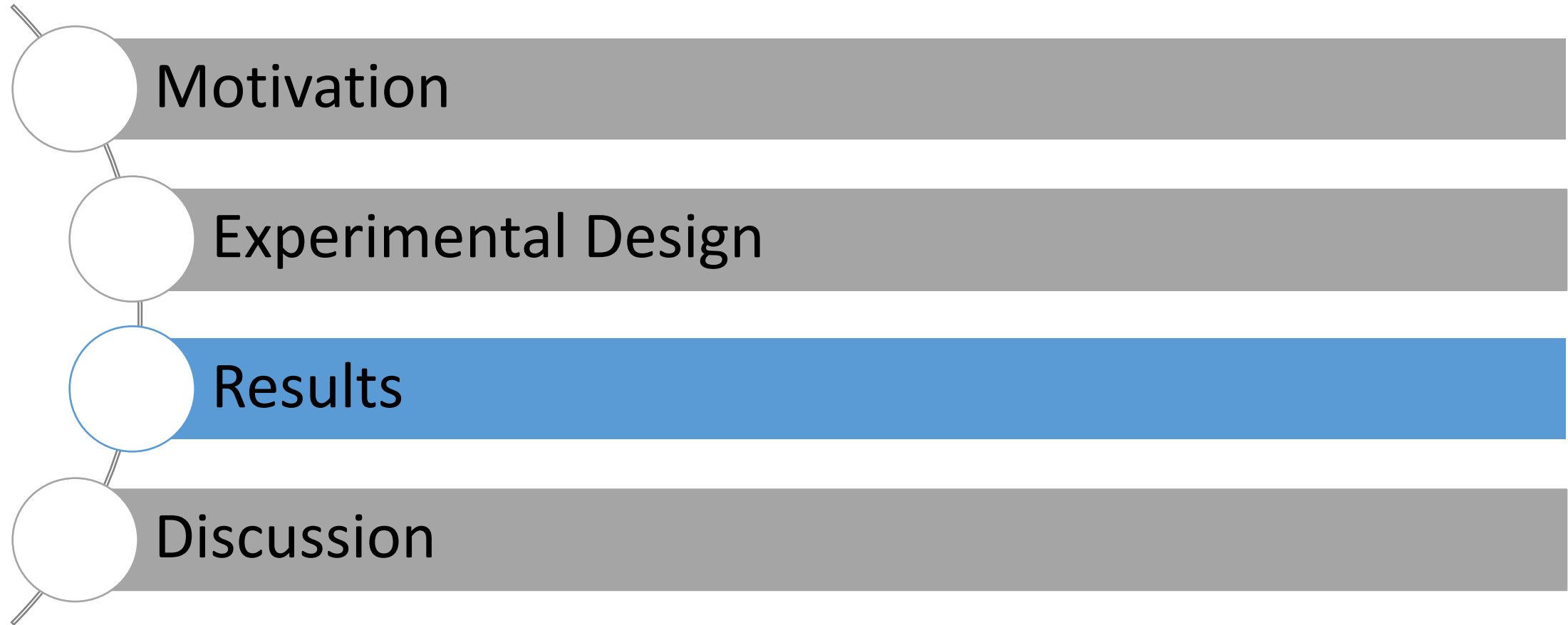
Design Task



Provide colorful markers
Leave room to provide comfort



Ask them to sketch a message that
would convince them to use 2FA



Participants



Participants were slightly less wealthy than DC area



Participants were slightly more educated than DC pop.




Nine participants relatively accurately described 2FA

Message Pref

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[Get Started](#)



5

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5

Overview

- Edit name
- Account aliases
- Personal info
- Password
- Security info**
- Close account
- Notifications
- Recent activity
- Permissions
- Billing

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[Next](#) [Cancel](#)

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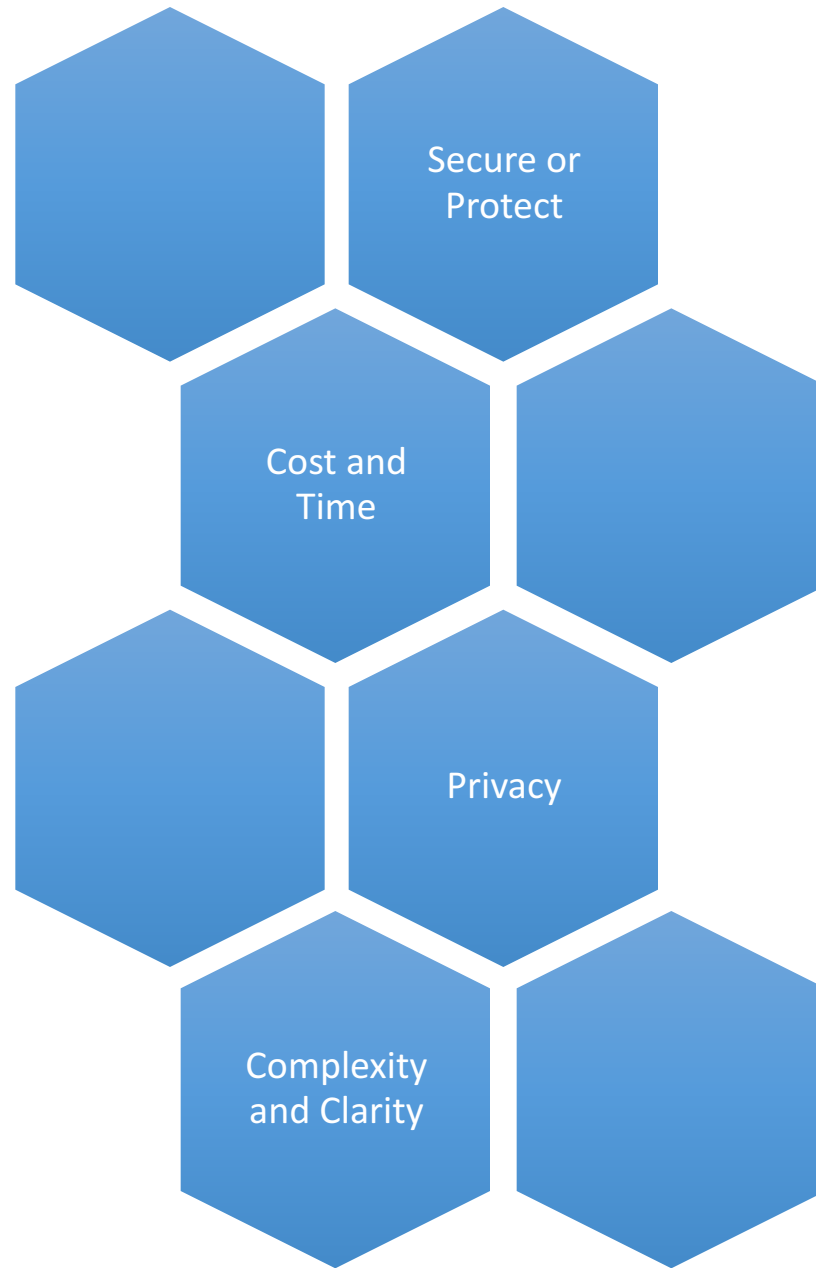


Keep your account secure and easy to use

Natasha, we're here to help you protect your account. Add your mobile number to your account so you can reset your password if you ever need to, find friends, get SMS updates and more. Only you will see your number.

[Learn More](#) [Add Number](#)

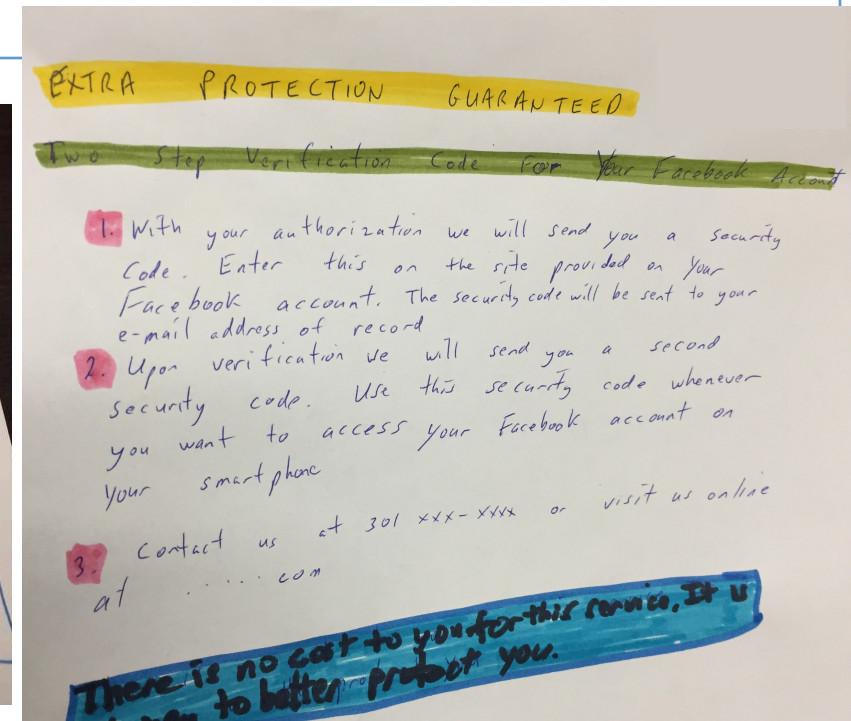
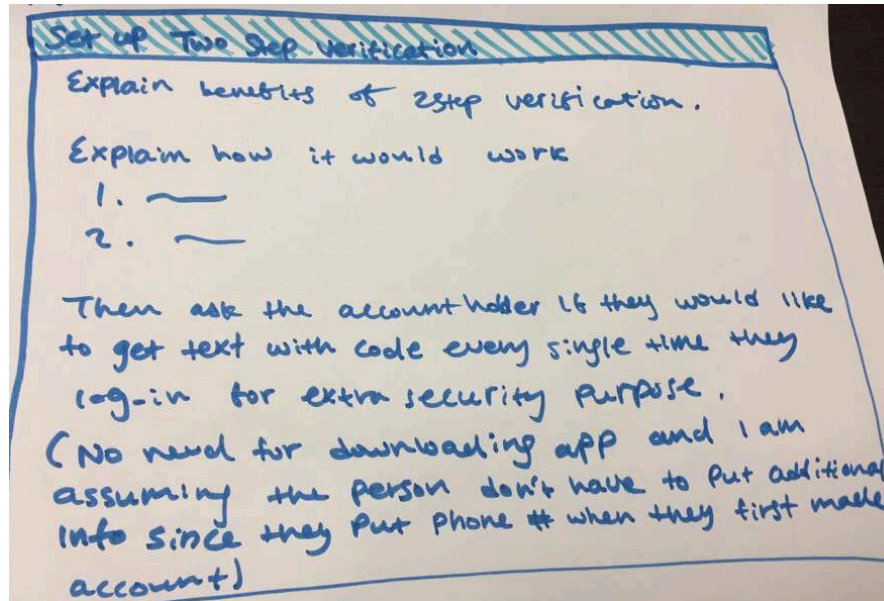
Content



Content

Complexity and Clarity

- Participants preferred simple, yet detailed messages
- They wanted to understand the purpose of 2FA
*“there is no real explanation. . .
it just says ‘a second layer of protection’”*
- 9 participants actioned these recommendations in their designs using bullet points



Your Security Matters

Hackers can gain access to your account by stealing your password. Once they get into your email account, they can gain access to other accounts like your bank account.

Help us keep your account secure.

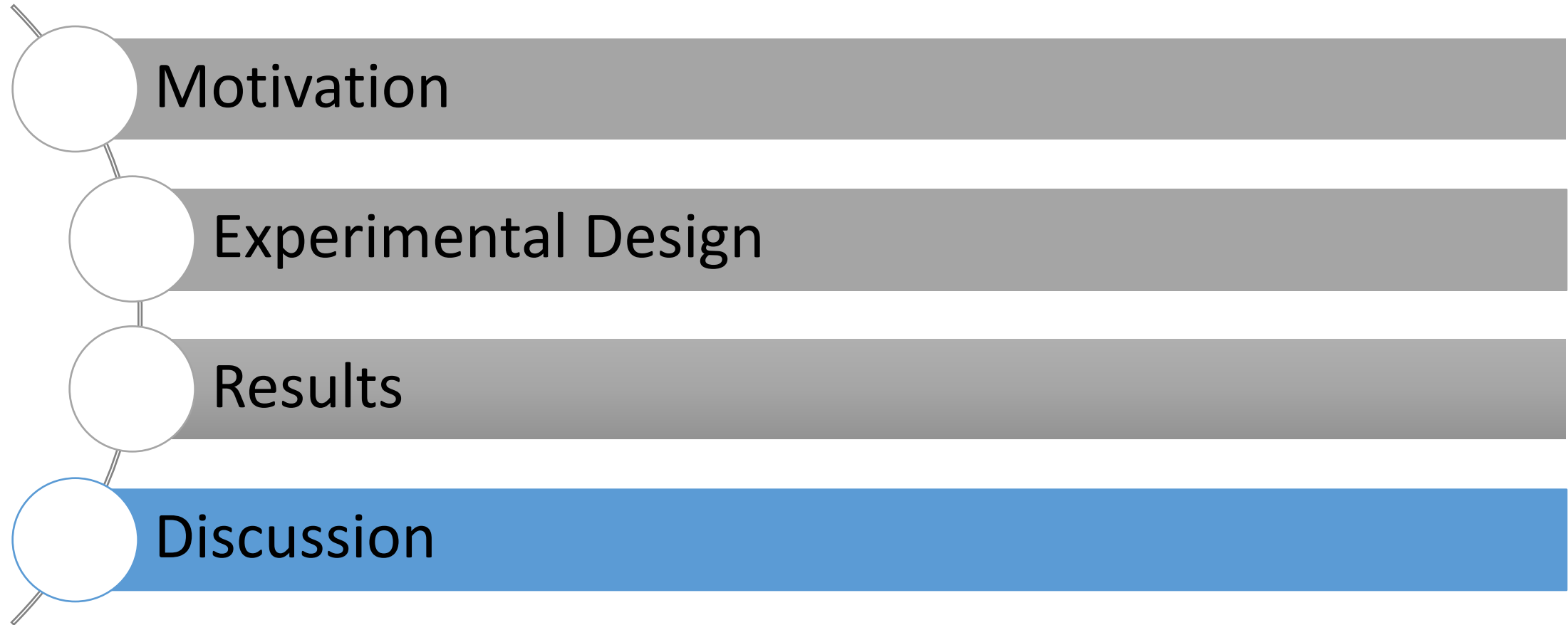
Add an extra layer of security to your account by enabling 2-step-security. With 2-step-security we will ask for your password and then send a security code to your phone. You will enter this code every time you login. [Learn more.](#)

To enable 2-step-security:

1. Connect your phone number to your account.
2. Receive security code 10 seconds later.
3. Enter code to login to your account.

Enable

[Later](#)



Future Work

Interview + design study | open ended inquiry into what is & isn't working

Quantitative evaluation | evaluate design options

Evaluation?

