

Karena Vongampai

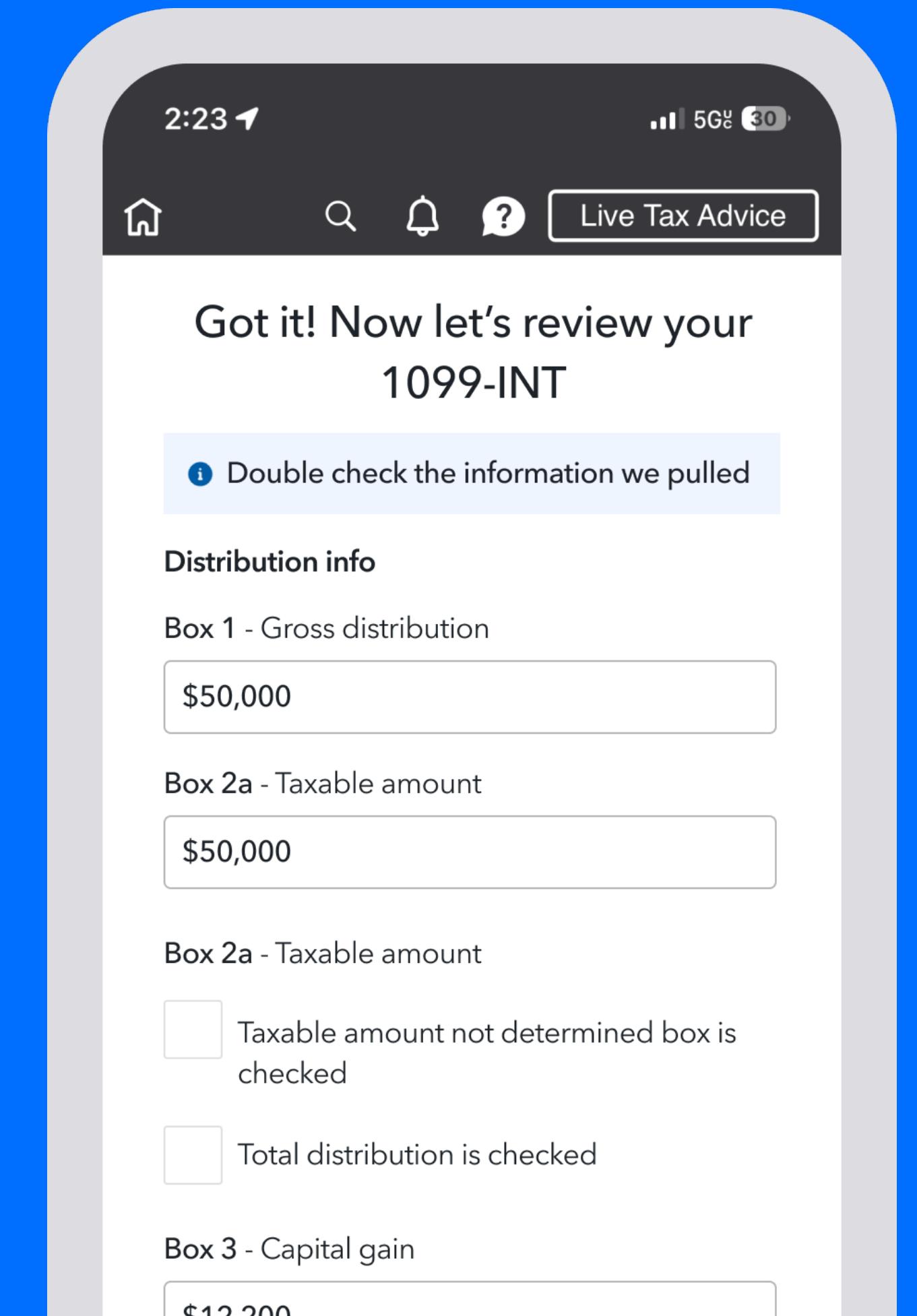
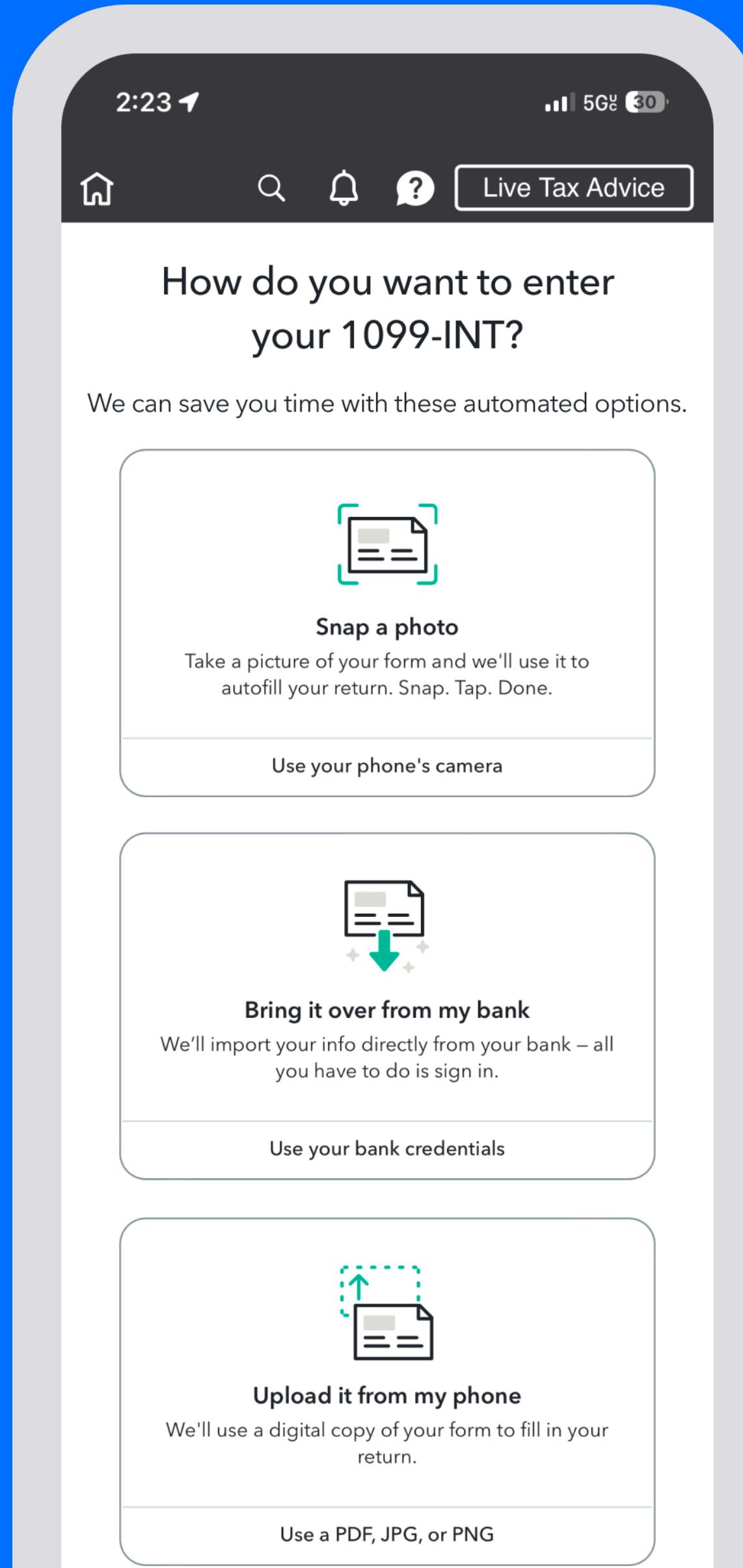
Product Design Portfolio

December 2023



Automating data entry in tax preparation

INTUIT



Introduction

Manually entering tax information into tax prep software is a burden

It's time-consuming, error prone, and complicated

The screenshot shows the Turbotax website at <https://www.intuit.turbotax.com>. The main navigation bar includes links for 'Wages & Income', 'Deductions & Credits', 'Other Tax Situations', and 'Federal Review'. A sidebar on the left lists 'Turbotax SKU Name', 'Tax Home', 'My Info', 'Federal' (which is selected), and 'State'. The main content area is titled 'Let's enter the info from your W-2'. It features a 'W-2 2018 Wage and Tax Statement' form with sample data for Kaitlyn Spindel and Taco Train. To the right of the form is a data entry interface with fields for 'Employee's social security number', 'Employer identification number (EIN)', 'Address', 'State', 'ZIP', and various tax withheld amounts. Below the W-2 form, there are sections for 'non items (Boxes 7-14)' and 'State and local taxes (Boxes 15-20)'. At the bottom right are 'Back' and 'Continue' buttons.

W-2 2018 Wage and Tax Statement Copy C — For the employee's records	
Employee's name, address, and ZIP code Kaitlyn Spindel 123 Any St. Berkeley, CA 94704	Employer's name, address, and ZIP code Taco Train 1455 Market St. San Francisco, CA 94103
Employee's social security number 123-45-678	Employer identification number (EIN) 12-3456789
1 Wages, tips, other compensation 16500.25	2 Federal income tax withheld 1663.79
3 Social security wages 16500.25	4 Social security tax withheld 1023.02
5 Medicare wages and tips 1024.00	6 Medicare tax withheld 239.25
7 Social security tips	8 Allocated tips
10 Dependent care benefits	11 Nonqualified plans
12a	12b
12c	12d
13 <input type="checkbox"/> Statutory <input type="checkbox"/> Retirement <input type="checkbox"/> 3rd party employee plan sick pay	
15 State CA	Employer's state ID number 123-4567-8
16 State wages, tips, etc. 16500.25	17 State income tax 184.01
18 Local wages, tips, etc. 1000.00	19 Local income tax
	20 Locality name

OMB No. 1545-0008 Source XEA Department of the Treasury — Internal Revenue Service

Objective

I led the design for a document upload experience that automatically enters tax data for tax filers

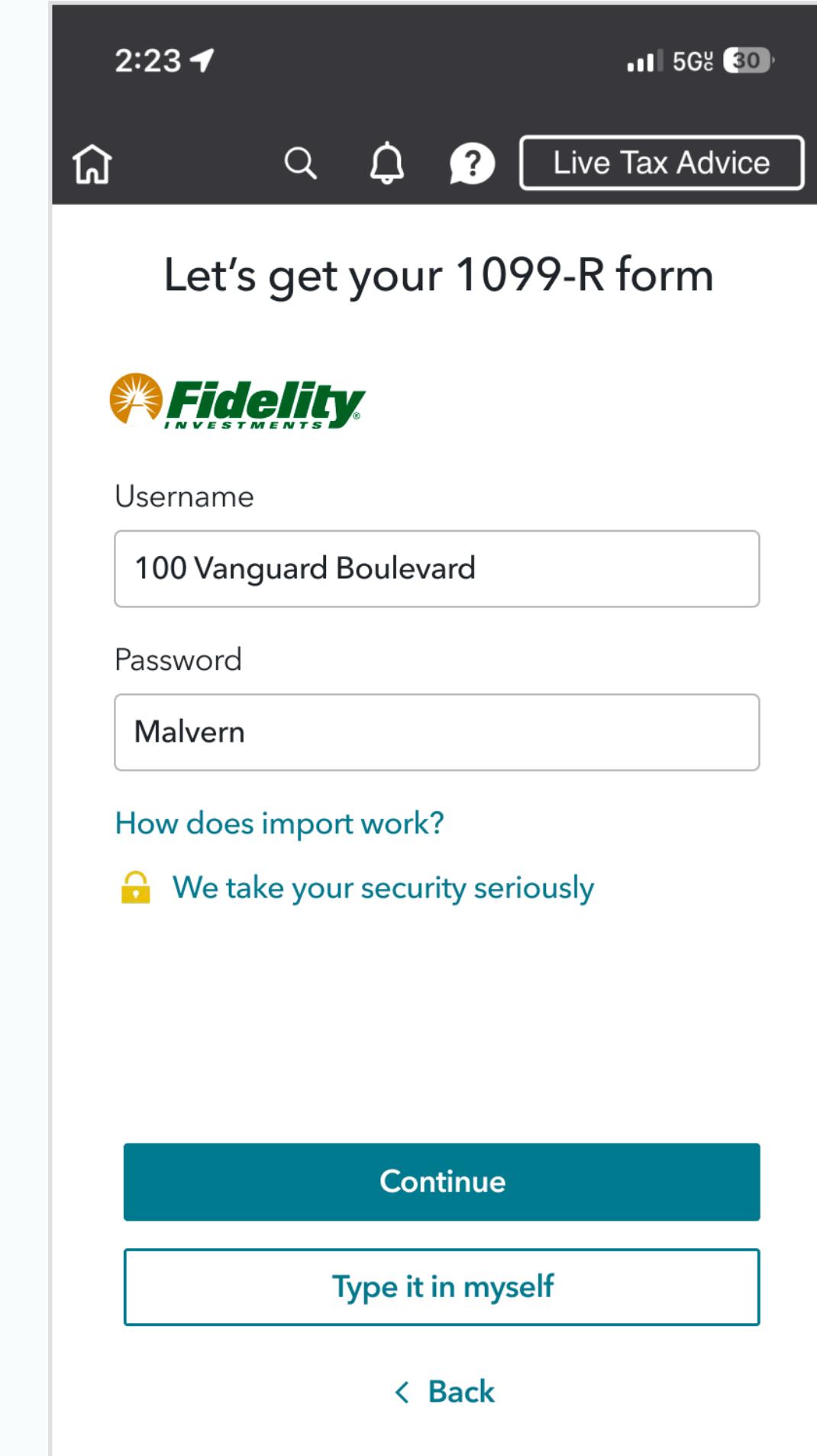
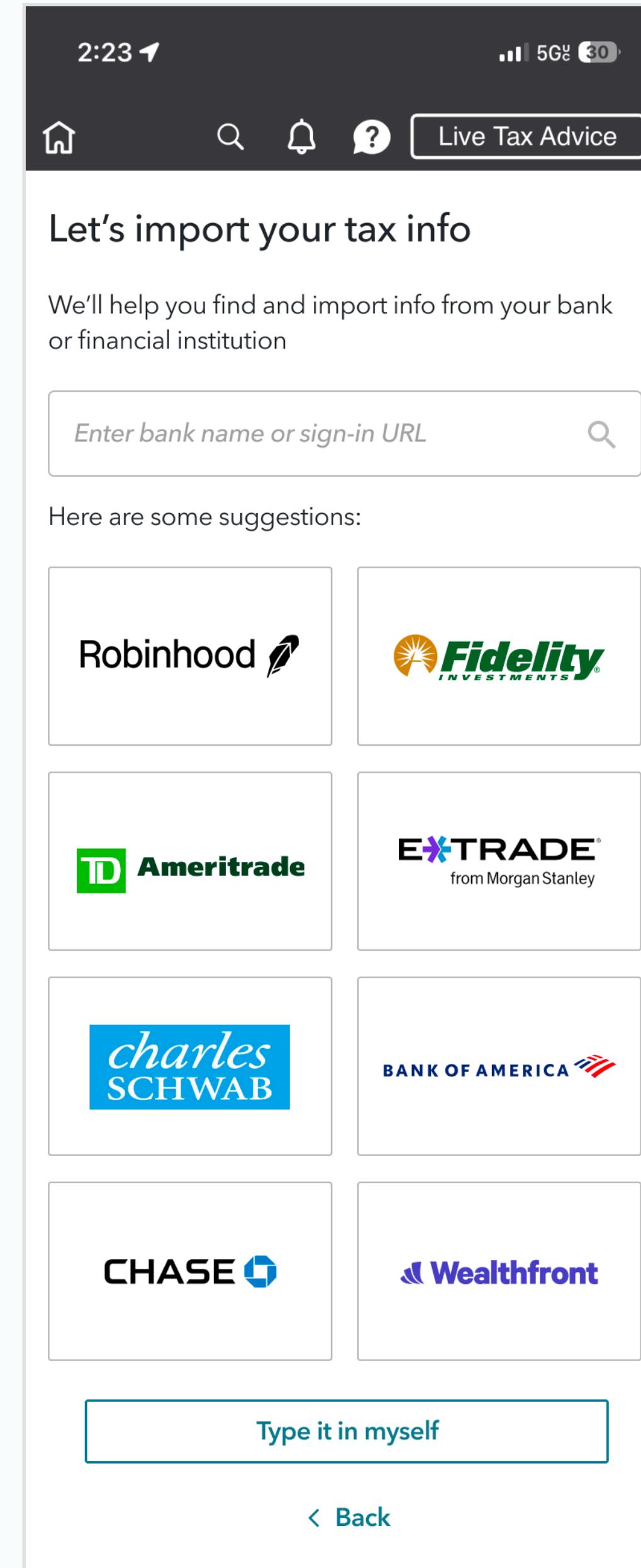
Process we'll explore:

- Design iteration
- A/B test treatments
- Results and future plans

Context

TurboTax's first step to automate taxes was to offer import

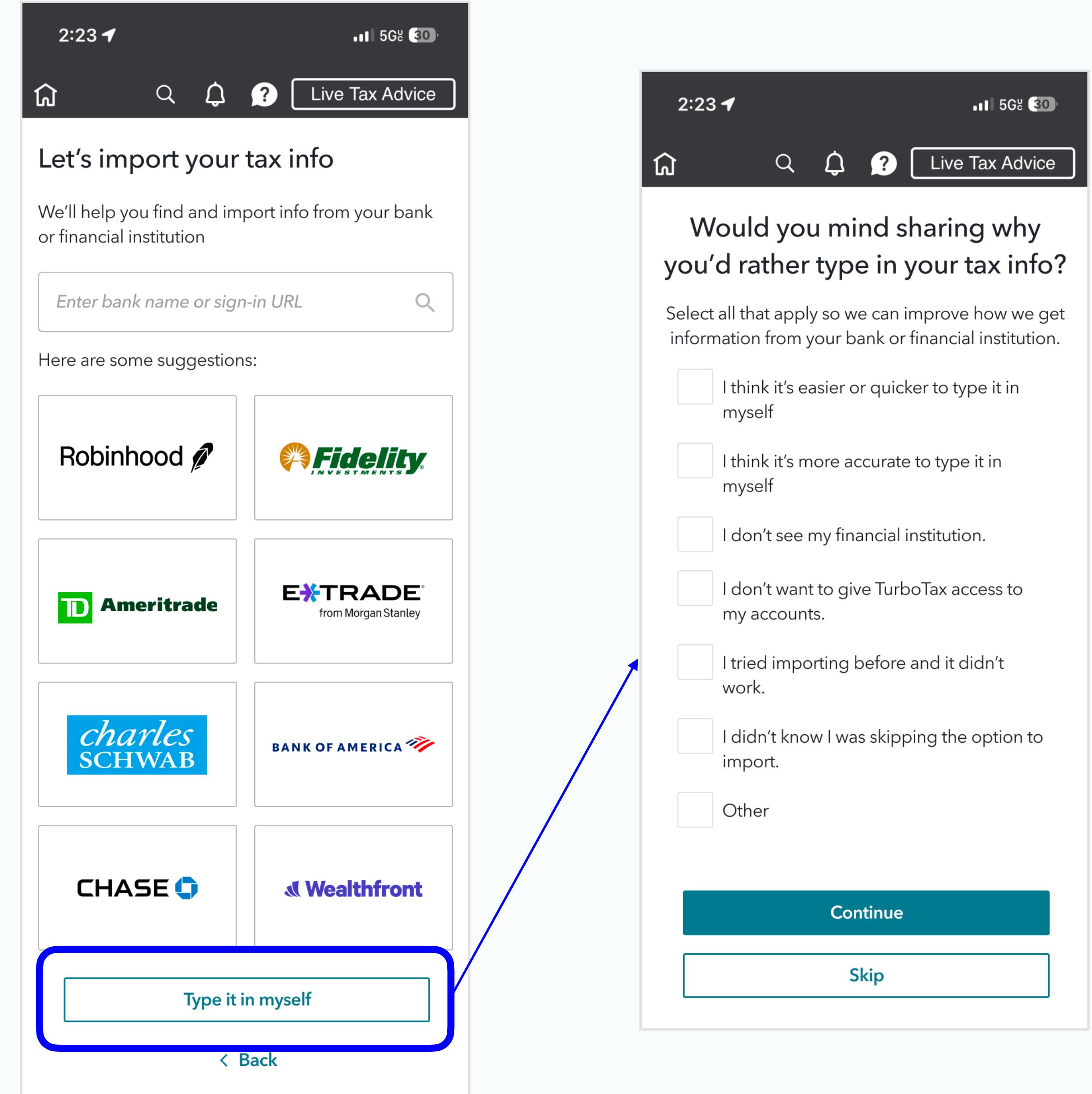
But for a variety of reasons, users continued to type their information instead of importing



Context

I designed an in product survey to validate the biggest blockers to using import

I met with stakeholders to identify the assumptions we should validate and utilized patterns in our design system to minimize engineering effort to quickly launch a survey in under a week



From there, my PM and I were able to explain to leadership why import wouldn't allow us to achieve our automation goals

Only 30% of documents were automatically entered, and had a goal to grow this to 50% by the 2019 tax year.

Top blockers:

- 1** Reliability concerns
- 2** Financial institution coverage
- 3** Security and privacy concerns

A/B test upload

My PM and I created a plan for A/B testing document upload in a few tax topics

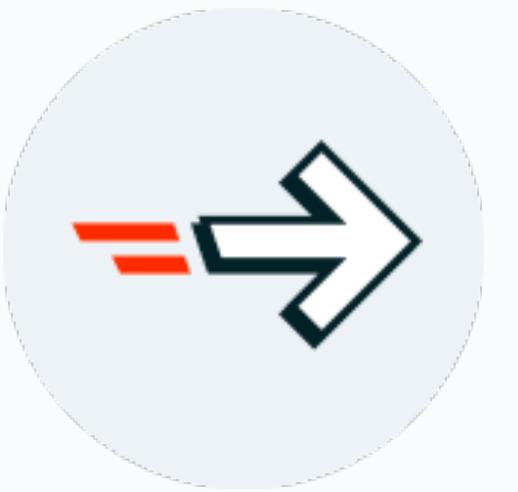
We pulled relevant data on the most common tax topics customers complete, the average time to complete them, and the complexity of the forms.

Form	Reason to experiment with upload
1099-R	Complex form with 26 fields, users could import only from a small subset of financial institutions
1098-T	Complex form with 15 fields and users could only type their info in
W-2	Most common tax form with 25 fields

Questions to answer through experimentation

- 1 Will users utilize upload instead of manual entry?
- 2 Will we be able to automatically enter more documents?
- 3 What will our data extraction accuracy rates look like for different tax forms?

Design iterations



Design iterations

My goal was to develop reusable patterns to add automated data entry to all tax forms

Top considerations

- 1 Additional automated entry methods
- 2 Native app and web (mobile and desktop)
- 3 Consistency and low cost design and engineering (design system)

The image displays two side-by-side screenshots of the Intuit TurboTax mobile application. Both screens show the same "How do you want to enter your 1099-INT" screen.

Top Navigation: Both screens include a top bar with icons for notifications, shopping cart, search, and help, along with a "Live Tax Advice" button.

Left Screen (Mobile View): This view shows a dark sidebar menu on the left with options: Tax Home, My Info, Federal, State, Review, File, and Tax tools. The main content area displays the "How do you want to enter your 1099-INT" screen.

Right Screen (Web View): This view shows a wider interface with a header bar at the top. The main content area displays the same "How do you want to enter your 1099-INT" screen.

Content Area: Both screens feature the same three options for entering data:

- Bring it over from my bank:** Describes importing info directly from a bank account. Includes a "Use your bank credentials" button.
- Upload it from my computer:** Describes using a digital copy of the form. Includes a "Use a PDF, JPG, or PNG" button.
- Snap a photo with your phone:** Describes using a smartphone camera. Includes a "Use a QR code" button.

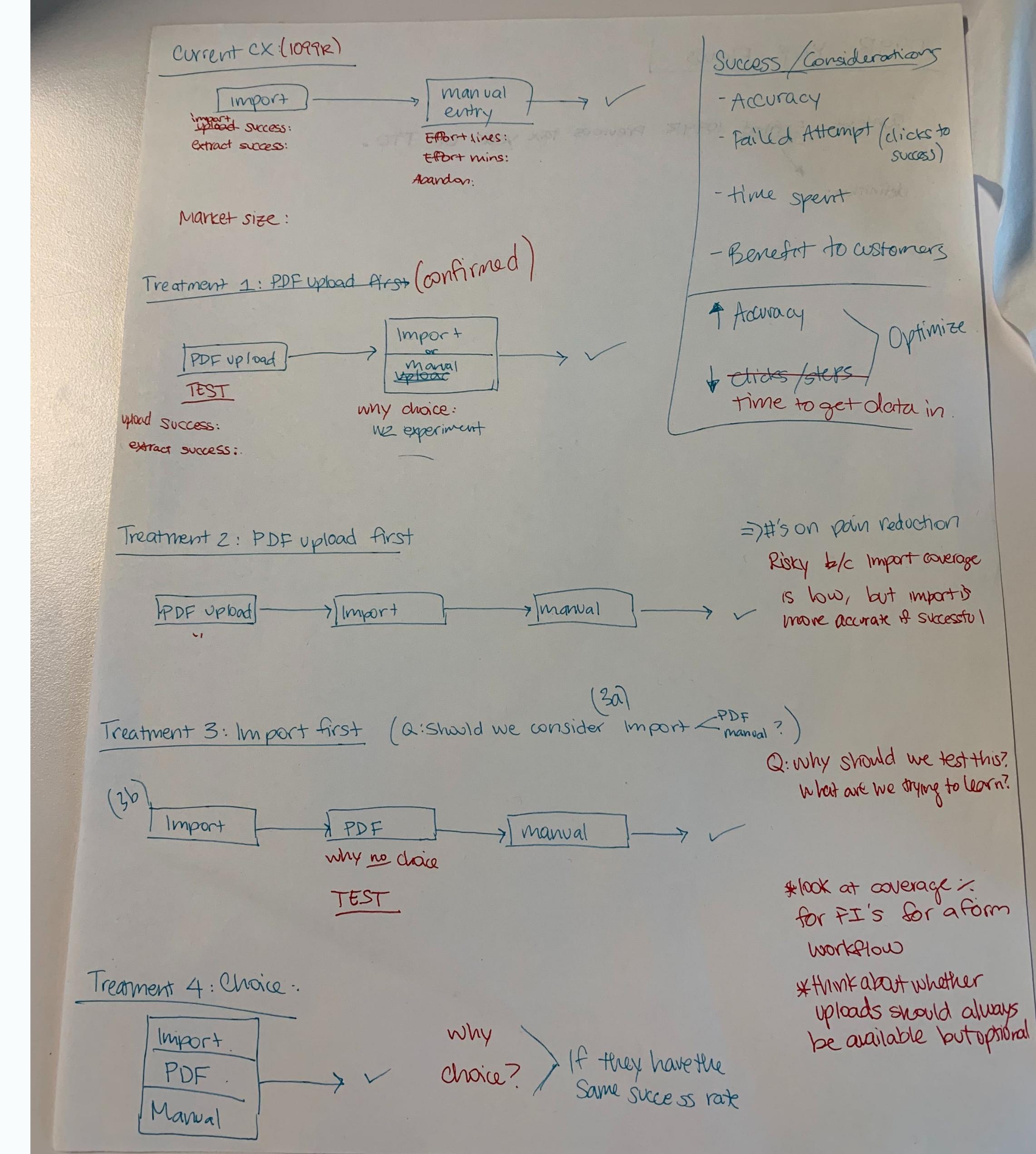
Bottom Buttons: Both screens have a "Continue" button at the bottom right and a "Back" button at the bottom left.

Design iterations

Sketching user flows to determine the best way to insert upload into existing tax topics

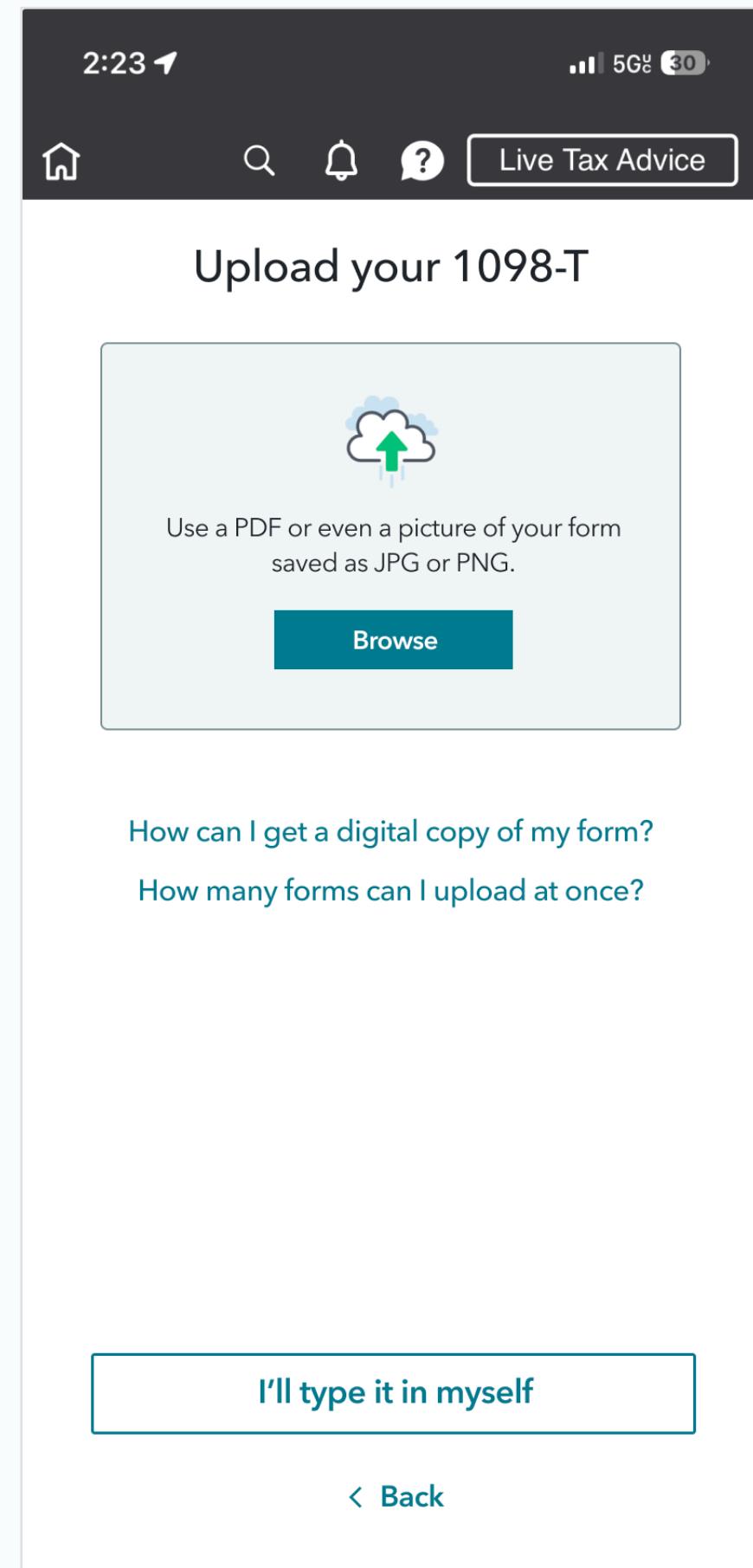
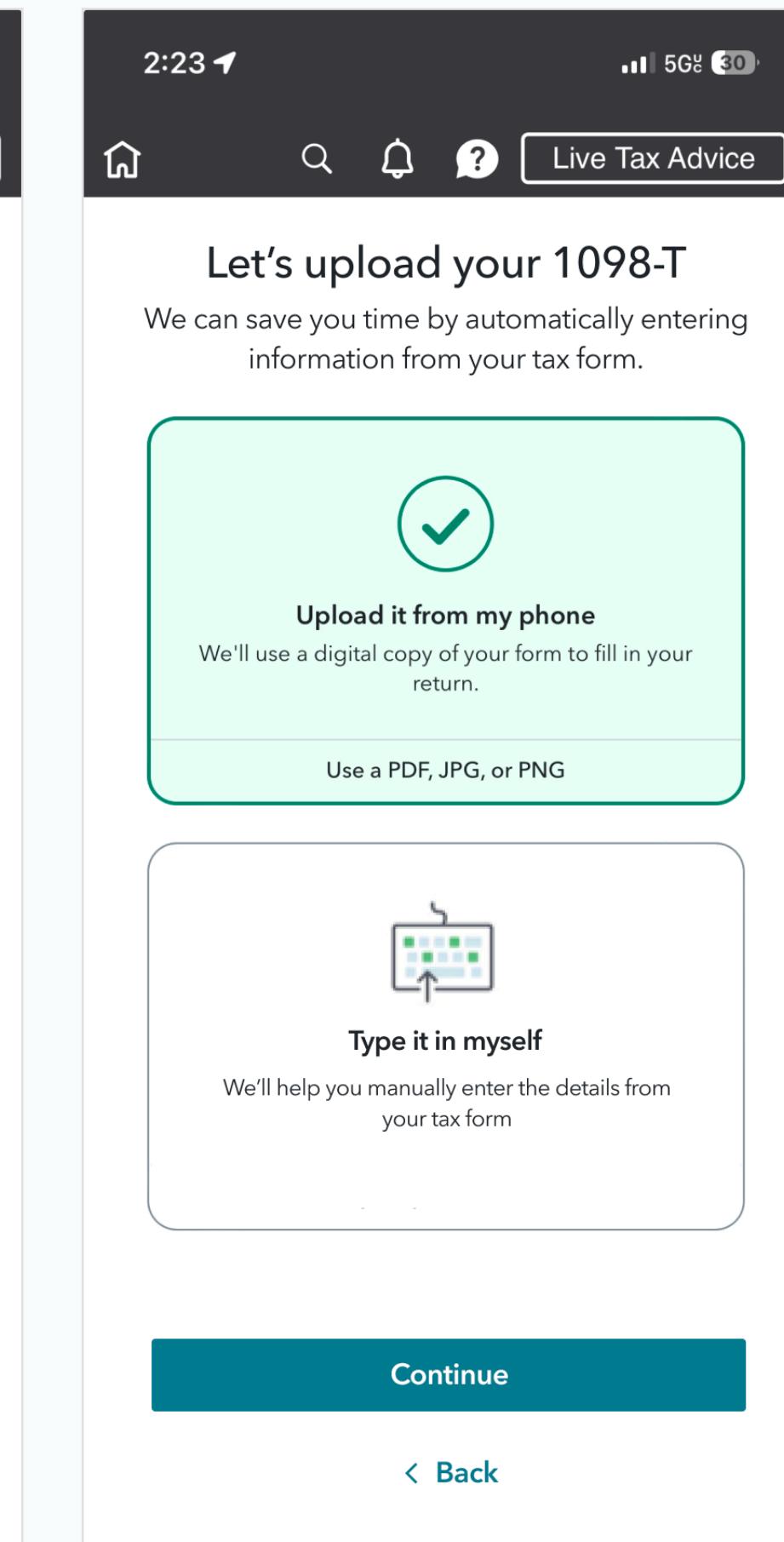
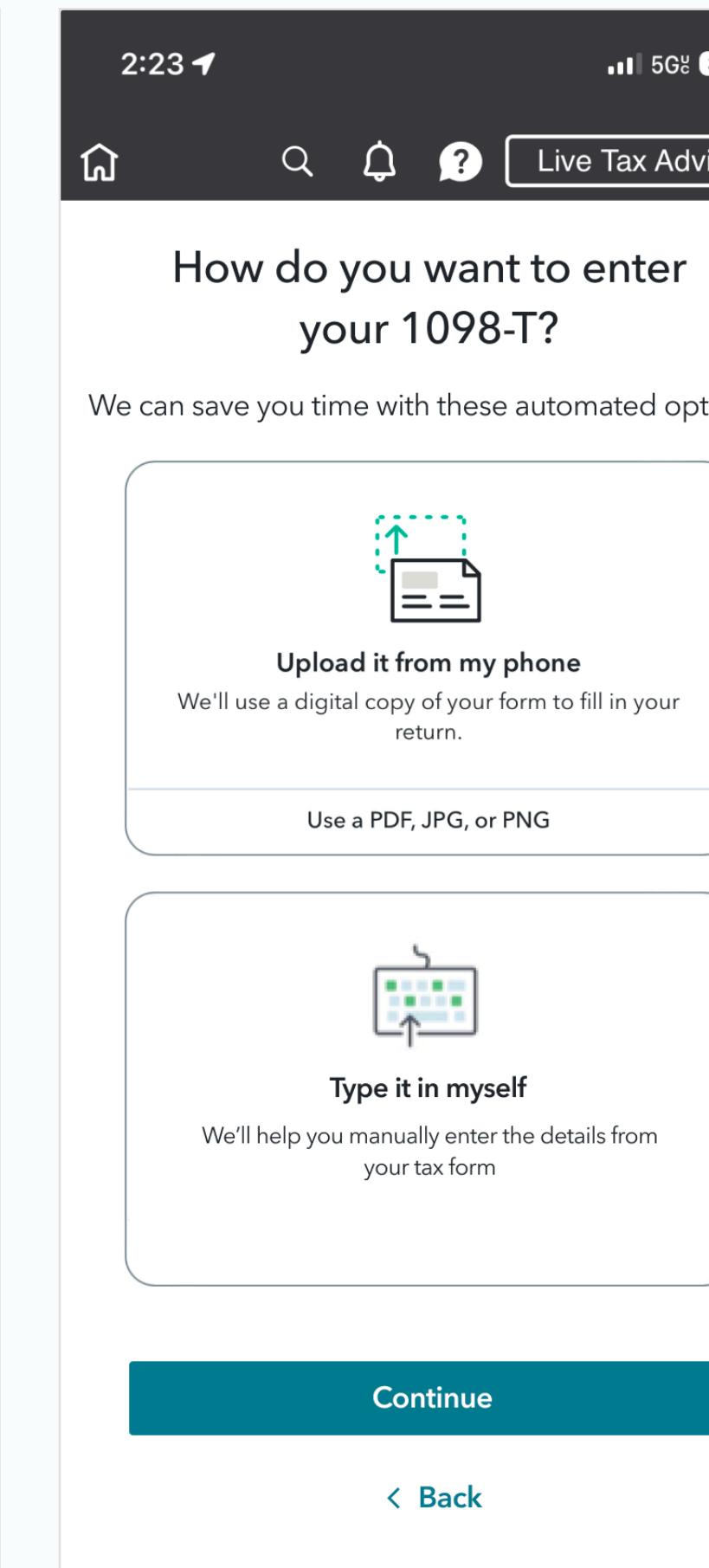
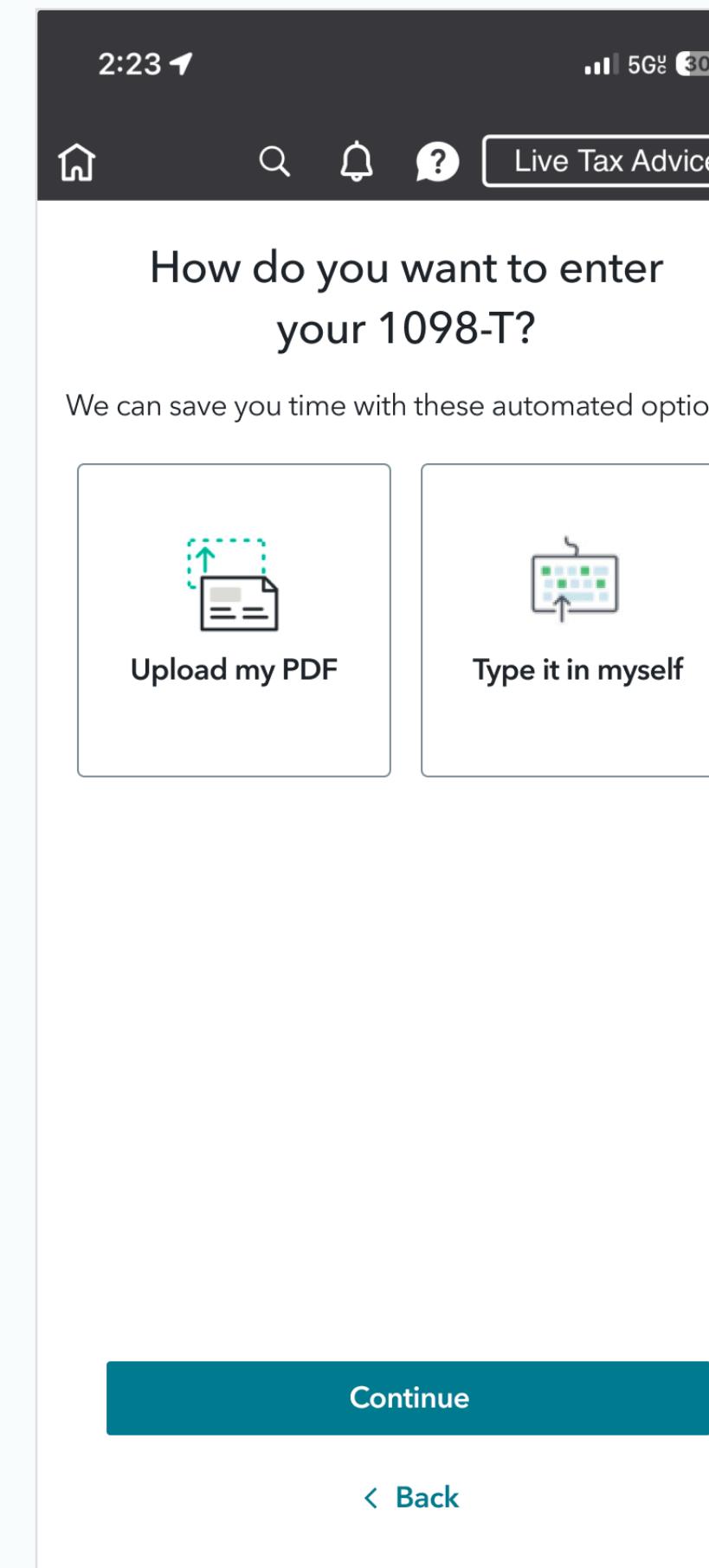
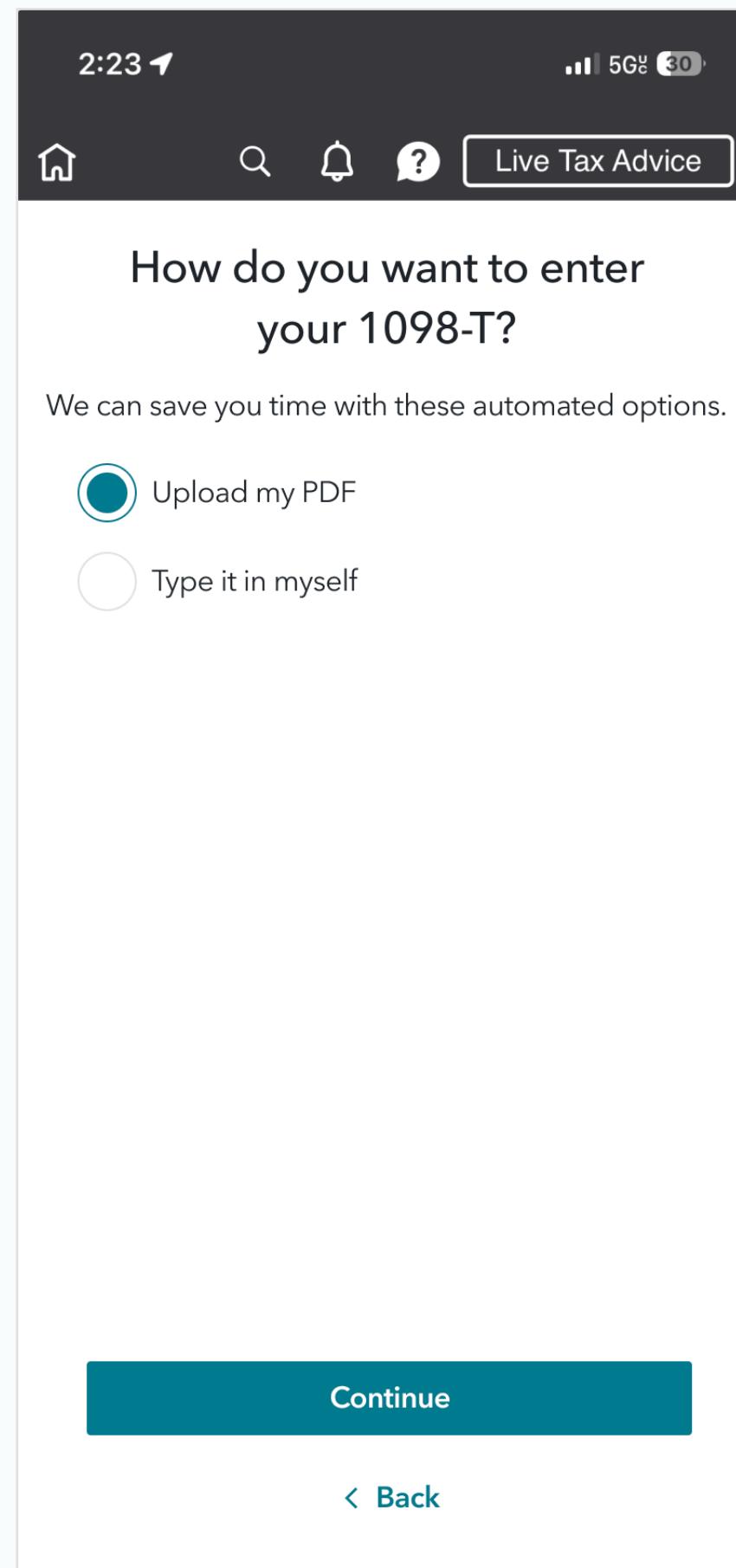
Considerations

- Should we recommend which method to use?
- Should users choose which method they to use?
- Should we present all options with equal weight?
- How do we present fallback data entry methods?



Design iterations

Iterations to present upload option in 1098-T flow



Option 1

Option 2

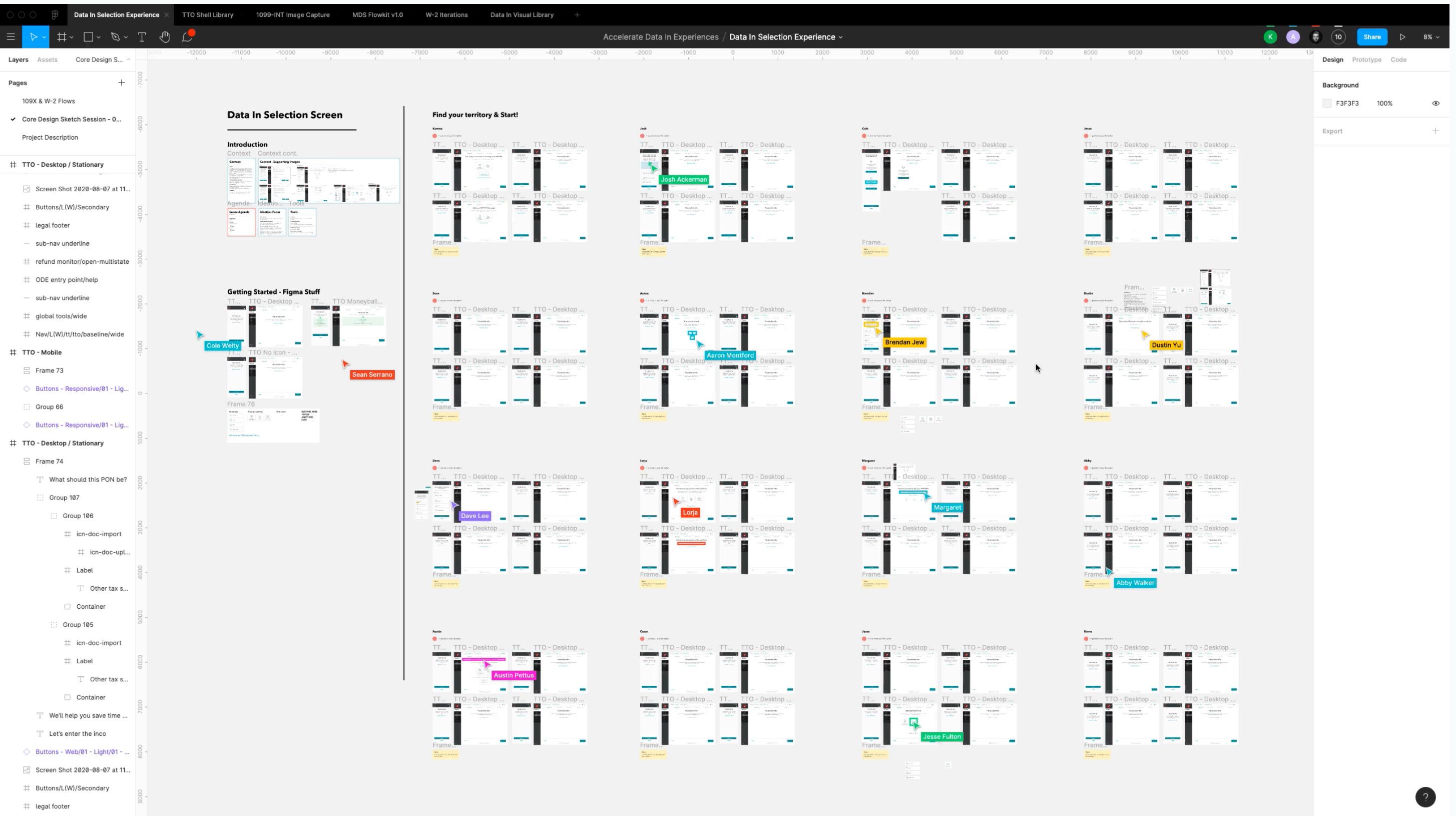
Option 3

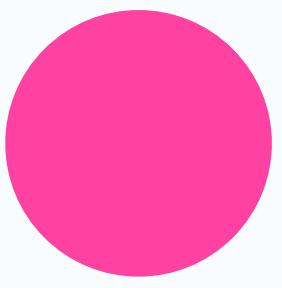
Option 4

Option 5

Design iterations

Led a sketch session to generate layout ideas for the selection screen





Iterating on how to prompt users to review results

2:23 5G 30

Live Tax Advice

We got your 1099-R! Review your form and fill in any missing info

Distribution info

Box 1 - Gross distribution
\$50,000

Box 2a - Taxable amount
\$50,000

Box 2a - Taxable amount
 Taxable amount not determined box is checked
 Total distribution is checked

Box 3 - Capital gain
\$12,200

Box 4 - Federal income tax withheld
\$1,300

Box 5 - Employee contributions or insurance premiums
\$400

— Update the title?

2:23 5G 30

Live Tax Advice

Got it! Now let's review your 1099-INT

Double check the information we pulled

Distribution info

Box 1 - Gross distribution
\$50,000

Box 2a - Taxable amount
\$50,000

Box 2a - Taxable amount
 Taxable amount not determined box is checked
 Total distribution is checked

Box 3 - Capital gain
\$12,200

Add a banner message? —

2:23 5G 30

Live Tax Advice

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Double check the information we pulled

Distribution info

Box 1 - Gross distribution
\$50,000

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\$50,000

Box 2a - Taxable amount
 Taxable amount not determined box is checked
 Total distribution is checked

Box 3 - Capital gain
\$12,200

— Try different copy?

- Make changes if any info is missing
- We strongly suggest reviewing the information we pulled
- We pulled 100% of the info from your form and all you have to do is review

Iterating on showing poor upload attempts

2:23 5G 30 Live Tax Advice

We got your 1099-R! Review your form and fill in any missing info

Distribution info

Box 1 - Gross distribution
\$

Box 2a - Taxable amount
\$

Box 2a - Taxable amount

Taxable amount not determined box is checked

Total distribution is checked

Box 3 - Capital gain
\$12,200

Box 4 - Federal income tax withheld
\$1,300

Box 5 - Employee contributions or insurance premiums
\$400

Error state on input fields?

Inline error message?

Error states that help the user troubleshoot

2:23 5G 30 Live Tax Advice

We tried, but couldn't get all the info from your form

Please review and fill in any missing info

Distribution info

Box 1 - Gross distribution
\$

⚠ Missing information

Box 2a - Taxable amount
\$

⚠ Missing information

Box 2a - Taxable amount

Taxable amount not determined box is checked

Total distribution is checked

Box 3 - Capital gain

Box 4 - Federal income tax withheld

Box 5 - Employee contributions or insurance premiums

2:23 5G 30 Live Tax Advice

Hmm... we're having trouble uploading your file

INTUIT(W-2).pdf

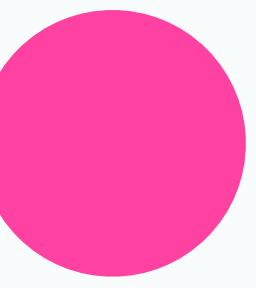
Here are some common fixes that might help:

- Make sure the file you're uploading contains a W-2 form.
- Try downloading your file again from where you got it in case it's damaged.
- Check your internet, a slow connection can interrupt your upload.
- Make sure your file isn't password protected.
- Wait a few minutes and try again.

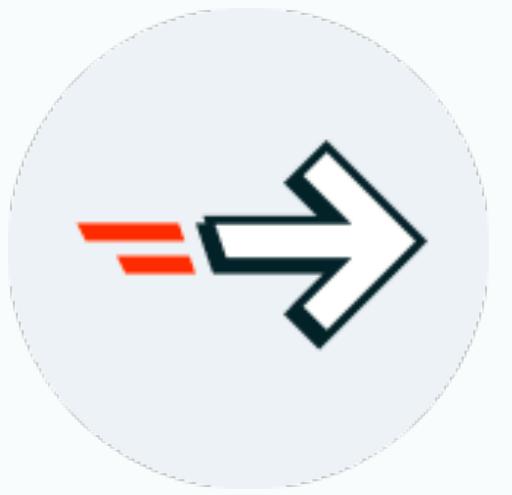
Try uploading again

Change how I enter my form

< Back



A/B test treatments



A/B test treatments

A/B test treatments

1098-T treatment that offers upload

2:23 5G 30 Live Tax Advice

Do you want to enter your higher education expenses?

No matter how you paid for them (as a parent or student, with or without aid), we'll help you get the best tax breaks possible and explain how they work.

We'll cover:

- 1098-T (expenses like tuition, book, and more [Learn more](#))
- Scholarship and other aid

Where do I enter my 1098-E or student loan interest?

Yes

No

< Back

2:23 5G 30 Live Tax Advice

Do you want to enter your higher education expenses?

Upload your 1098-T

Use a PDF or even a picture of your form saved as JPG or PNG.

Browse

How can I get a digital copy of my form?

How many forms can I upload at once?

I'll type it in myself

< Back

2:23 5G 30 Live Tax Advice

Upload your 1098-T

Gathering information from your 1098-T

2:23 5G 30 Live Tax Advice

We got your 1098-T! Review your form and fill in any missing info

Include info and numbers from your 1098-T only. For additional 1098-Ts we'll enter that later.

School information

School's name: Stanford University

Does your school have a foreign address?

Yes

No

Full-time

School address: 450 Jane Stanford Way

City: Stanford

State: CA

Zip code: Stanford University

A/B test treatments

1099-R treatment offers upload prior to import

2:23 1 5G 30 Live Tax Advice

Upload your 1099-R

Use a PDF or even a picture of your form saved as JPG or PNG.

Browse

How do you want to enter your 1099-R?

We can save you time with these automated options.

Upload it from my phone
We'll use a digital copy of your form to fill in your return.

Use a PDF, JPG, or PNG

Bring it over from my bank
We'll import your info directly from your bank – all you have to do is sign in.

Use your bank credentials

Import my tax form instead

< Back

Continue

Type it in myself

< Back

2:23 1 5G 30 Live Tax Advice

We got your 1099-R! Review your form and fill in any missing info

Provider info

Who paid you? (Payer)
Vanguard Retirement

Payer name continued (optional)

Address type
U.S. address

Payer's address
100 Vanguard Boulevard

City
Malvern

State
PA

Payer's TIN
88-909378933

Continue

< Back

2:23 1 5G 30 Live Tax Advice

We got your 1099-R! Review your form and fill in any missing info

Distribution info

Box 1 - Gross distribution
\$50,000

Box 2a - Taxable amount
\$50,000

Box 2a - Taxable amount
 Taxable amount not determined box is checked
 Total distribution is checked

Box 3 - Capital gain
\$12,200

Box 4 - Federal income tax withheld
\$1,300

Box 5 - Employee contributions or insurance premiums
\$400

Box 6 - Net unrealized appreciation
\$0

Box 7 - Distribution code
B

A/B test treatments

1099-R treatment offers upload as backup to import

2:23 1 5G 30 Live Tax Advice

Let's import your tax info
We'll help you find and import info from your bank or financial institution

Enter bank name or sign-in URL

Here are some suggestions:
Robinhood 
Fidelity Investments 
TD Ameritrade 
EXTRADE from Morgan Stanley 
charles SCHWAB 
BANK OF AMERICA 
CHASE 
Wealthfront 

Change how I enter my form

2:23 1 5G 30 Live Tax Advice

Upload your 1099-R

Use a PDF or even a picture of your form saved as JPG or PNG.
Browse

How can I get a digital copy of my form?
How many forms can I upload at once?

I'll type it in myself

< Back

2:23 1 5G 30 Live Tax Advice

How do you want to enter your 1099-R?
We can save you time with these automated options.

Upload it from my phone
We'll use a digital copy of your form to fill in your return.
Use a PDF, JPG, or PNG

Bring it over from my bank
We'll import your info directly from your bank – all you have to do is sign in.
Use your bank credentials

Continue

Type it in myself

< Back

2:23 1 5G 30 Live Tax Advice

Gathering information from your 1099-R

We got your 1099-R! Review your form and fill in any missing info

Provider info
Who paid you? (Payer)
Vanguard Retirement

Payer name continued (optional)

Address type
U.S. address

Payer's address
100 Vanguard Boulevard

City
Malvern

State
PA

Payer's TIN
88-909378933

Continue

< Back

2:23 1 5G 30 Live Tax Advice

We got your 1099-R! Review your form and fill in any missing info

Distribution
Box 1 - Gr
\$50,000

Box 2a - Ta
\$50,000

Box 2a - Ta
\$50,000

Box 3 - Ca
\$12,200

Box 4 - Fe
\$1,300

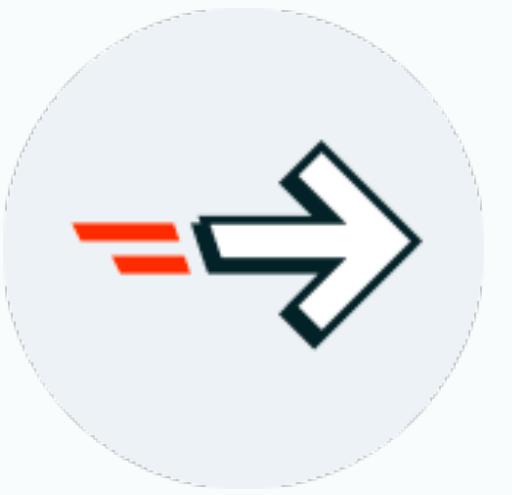
Box 5 - Em
\$400

Box 6 - Ne
\$0

Box 7 - Di
\$0

B

Results and future plans



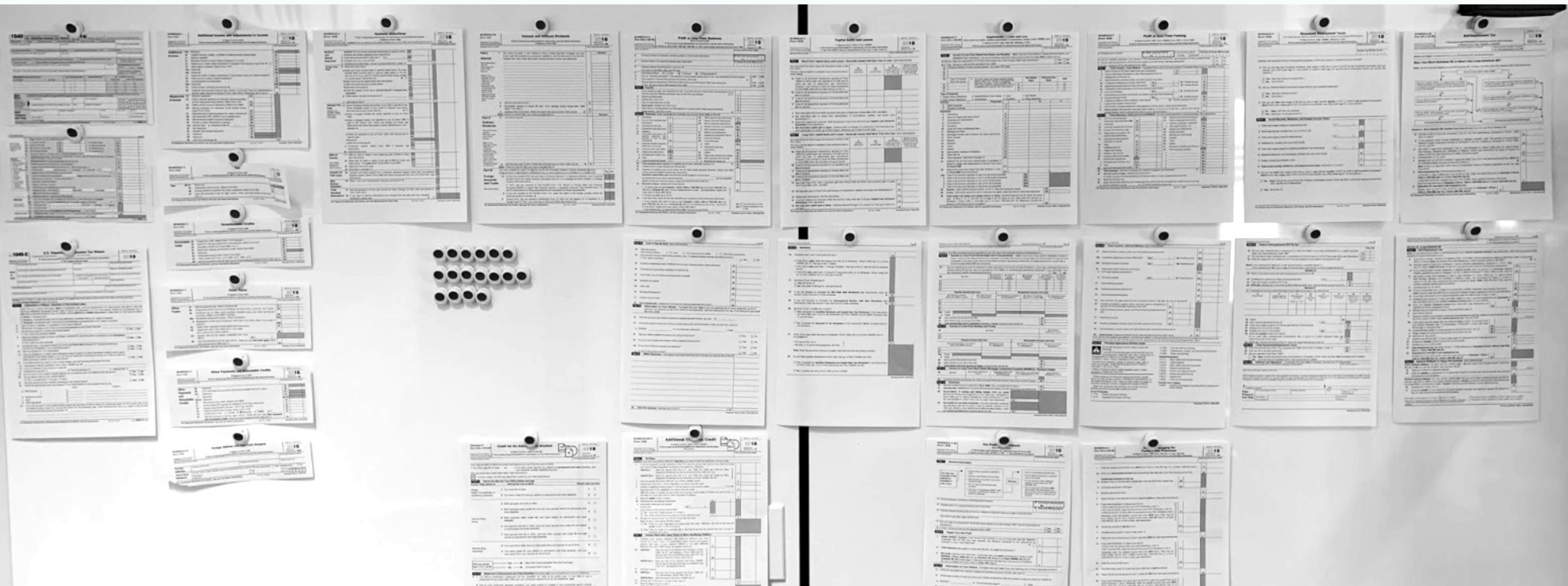
Results

We learned that customers who opt out of import are interested in uploading their tax forms

Tax Form	Results	Details
1098-T	Success! Rolled to baseline	50,000 forms automatically entered with 93% extraction accuracy
1099-R	Not successful	10,000 forms uploaded, but with poor extraction accuracy (at 50%). Conversion rate dropped from 50% to 60%. We turned off upload until our sister team could improve accuracy and product could prioritize replatforming the tax topic.
W-2	No clear winner. Rolled to baseline	Did no harm to conversion or accuracy and saved users time

Results and future plans

We planned to expand upload to all tax topics to save users time and effort



Results and future plans

We also had plans to launch image capture

