

Automating data entry in tax preparation

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Case study from my time at Intuit TurboTax

As a tax filer, I am trying to...

Prepare my tax return

A major step in preparing a tax return is taking all the forms you receive from January to March and using them to determine your tax liability and e-file your tax return.

- 01** Minimize the likelihood that I inaccurately enter my financial information
- 02** Minimize the time it takes to enter my financial information
- 03** Minimize my anxiety and stress when preparing my tax return

My objective

As the lead product designer,

Introduced a new method to automate data entry and designed reusable layouts to expand automation to the top 10 tax forms

2 months

Timeframe

Product, Engineering, Content Design

Team

01

Creating a plan

Why was document import usage stagnant?

30% of all tax forms were automatically entered using import from financial institutions and W-2 employers. Our goal was to increase this to 70%.

To do this we needed to understand why, and align on the biggest problems. I pitched the idea of running an in product survey to understand the biggest reasons why people weren't using import.

The image shows two screenshots of a mobile application interface. Both screens are titled "Live Tax Advice" and show a timestamp of 2:23. The top bar includes icons for home, search, notifications, and help, along with a battery indicator at 30%.

Screenshot 1: Let's import your tax info

This screen displays a heading "Let's import your tax info" and a subtext "We'll help you find and import info from your bank or financial institution". Below this is a search bar with the placeholder "Enter bank name or sign-in URL" and a magnifying glass icon. A section titled "Here are some suggestions:" lists logos for Robinhood, Fidelity Investments, TD Ameritrade, E*TRADE from Morgan Stanley, Charles Schwab, Bank of America, Chase, and Wealthfront. At the bottom is a button labeled "Type it in myself" with a blue border, and a "Back" button below it.

Screenshot 2: Would you mind sharing why you'd rather type in your tax info?

This screen asks the user if they would mind sharing why they prefer to type in their tax info instead of importing. It includes the same top bar and a section for selecting reasons. A curved arrow points from the "Type it in myself" button in the first screenshot to the first reason option in the second screenshot. The list of reasons is as follows:

- I think it's easier or quicker to type it in myself
- I think it's more accurate to type it in myself
- I don't see my financial institution.
- I don't want to give TurboTax access to my accounts.
- I tried importing before and it didn't work.
- I didn't know I was skipping the option to import.
- Other

At the bottom of each screen are "Continue" and "Skip" buttons.

Importing tax docs for easier data entry wasn't a one size fits all solution

Top survey responses

01 “I tried importing before and it didn’t work

→ When users try import, but it fails, it breaks their trust

02 “I don’t see my financial institution”

→ Users don’t immediately see their financial institution recommended, or cannot find it using search

03 “I don’t want to give TurboTax access to my accounts”

→ Users have privacy concerns around connecting their financial accounts with TurboTax

The vision for easier data entry

To meet user and business goals, we'd need various auto-entry methods.

The screenshots illustrate a mobile application's process for entering tax information:

- Step 1: 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?](#)

[Change how I enter my form](#)
[Back](#)
- Step 2: Great choice! We'll get your form entered in no time**

We'll help you take a picture-perfect image and then copy the info right to your tax return.
All you'll have to do is review.

[Continue](#)
[Back](#)
- Step 3: 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](#)
[Search](#)

Here are some suggestions:

 - Robinhood**
 - Fidelity INVESTMENTS**
 - TD Ameritrade**
 - E*TRADE** from Morgan Stanley
 - charles SCHWAB**
 - BANK OF AMERICA**
 - CHASE**
 - Wealthfront**

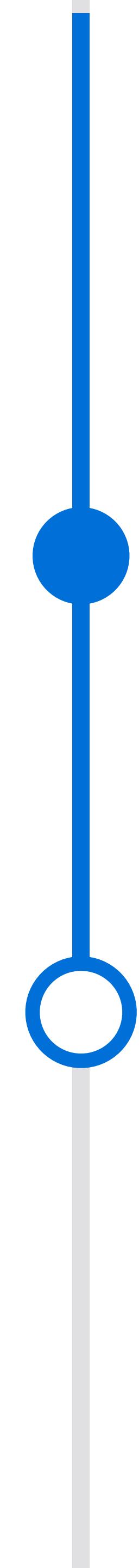
[Type it in myself](#)
[Back](#)

Getting here wasn't a straight forward path

My PM and I initially had different opinions on what vision would deliver the most customer benefit upfront.

Reaching alignment took trial and error, debates, discussions, and getting outside opinions.

After debating, I rallied behind my PM's vision, but we were faced with technical constraints and an MVP with low engagement. Then, we pivoted back to my idea.



Collect all tax forms using automation at the start of tax prep

Collect tax forms within pre-existing workflows (like inside W-2, 1099-B, 1099-R)

Evaluate whether upload would increase the number of documents automatically entered

Form	Control	Treatment
1099-R	Existing experience, which offers import from financial institution	Offers upload, import from financial institution, and manual entry
1098-T	Existing experience, with no automated data entry options	Offers upload and manual entry

Evaluate whether upload would increase the number of documents automatically entered

Form	Control	Treatment
1099-R	Existing experience, which offers import from financial institution	Offers upload, import from financial institution, and manual entry
1098-T	Existing experience, with no automated data entry options	Offers upload and manual entry
W-2	Existing experience, with import from payroll provider	Offers upload, import from payroll provider, and manual entry

02

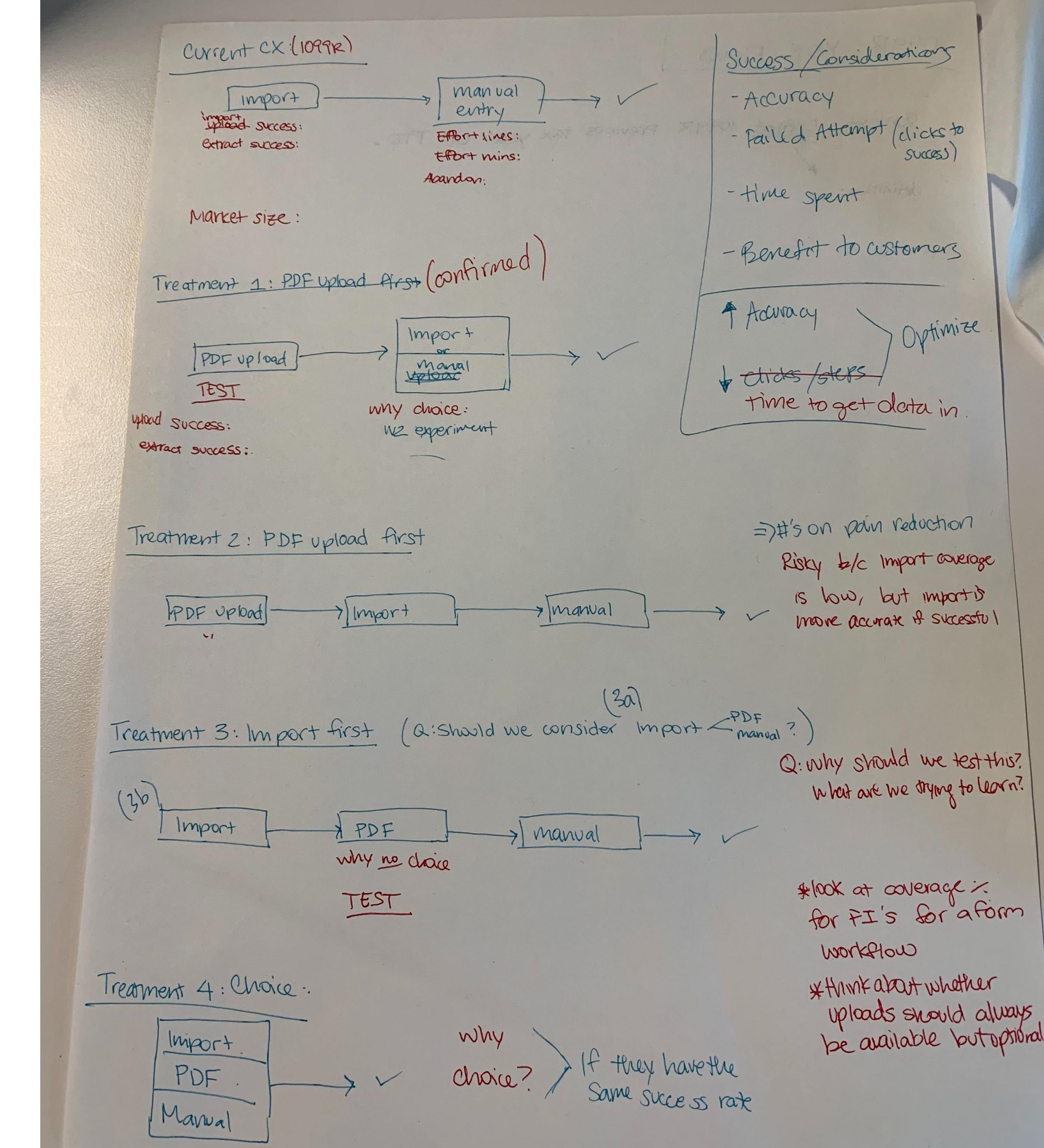
Design explorations

Design explorations

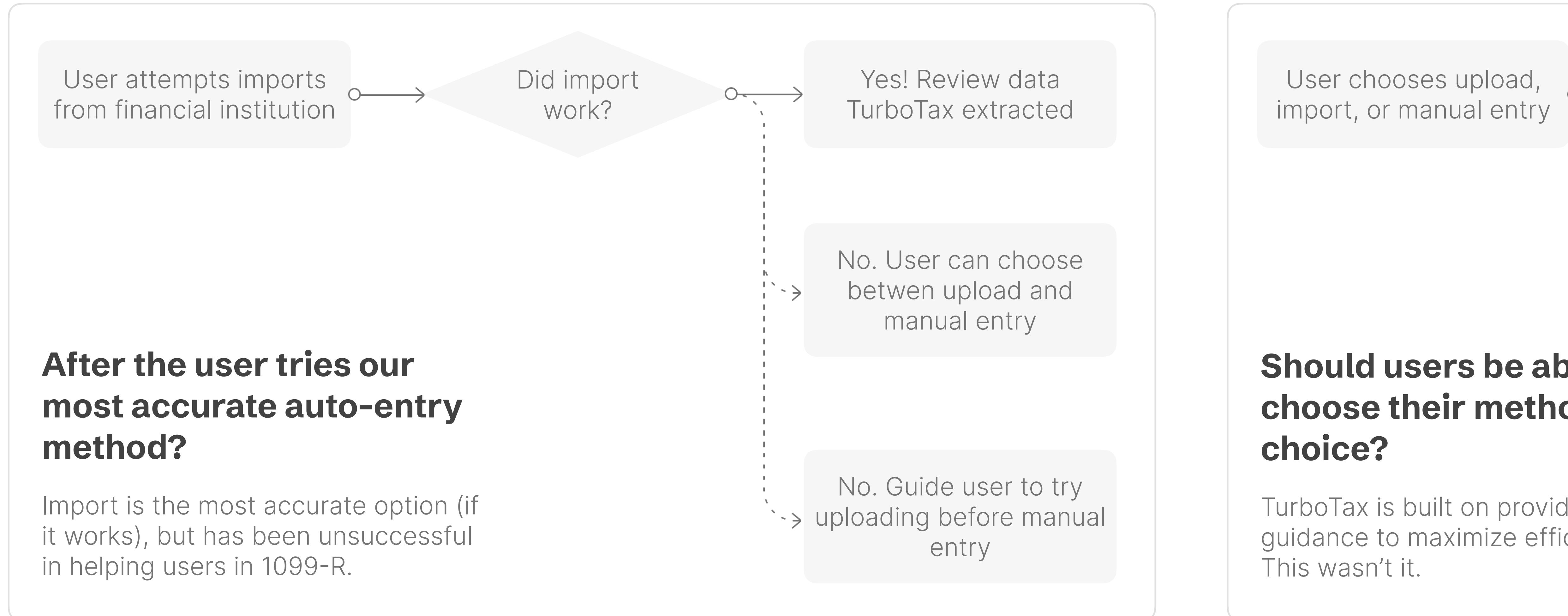
User flow diagrams

One of the very first things I did was to sketch out the different options for how we could offer upload.

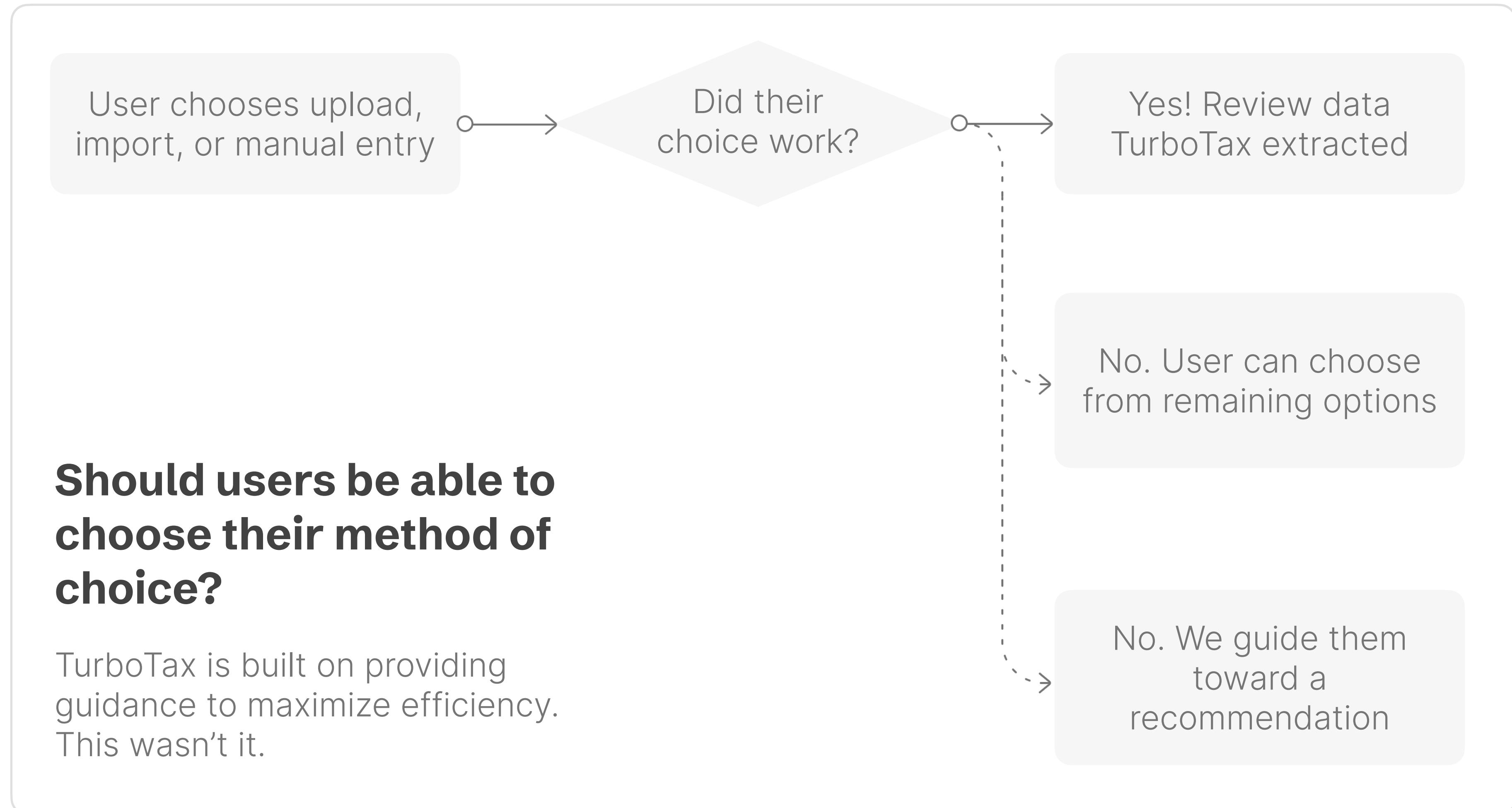
Here's an image from a session I did with my product manager:



How should we offer upload in 1099-R?



How should we offer upload in 1099-R?



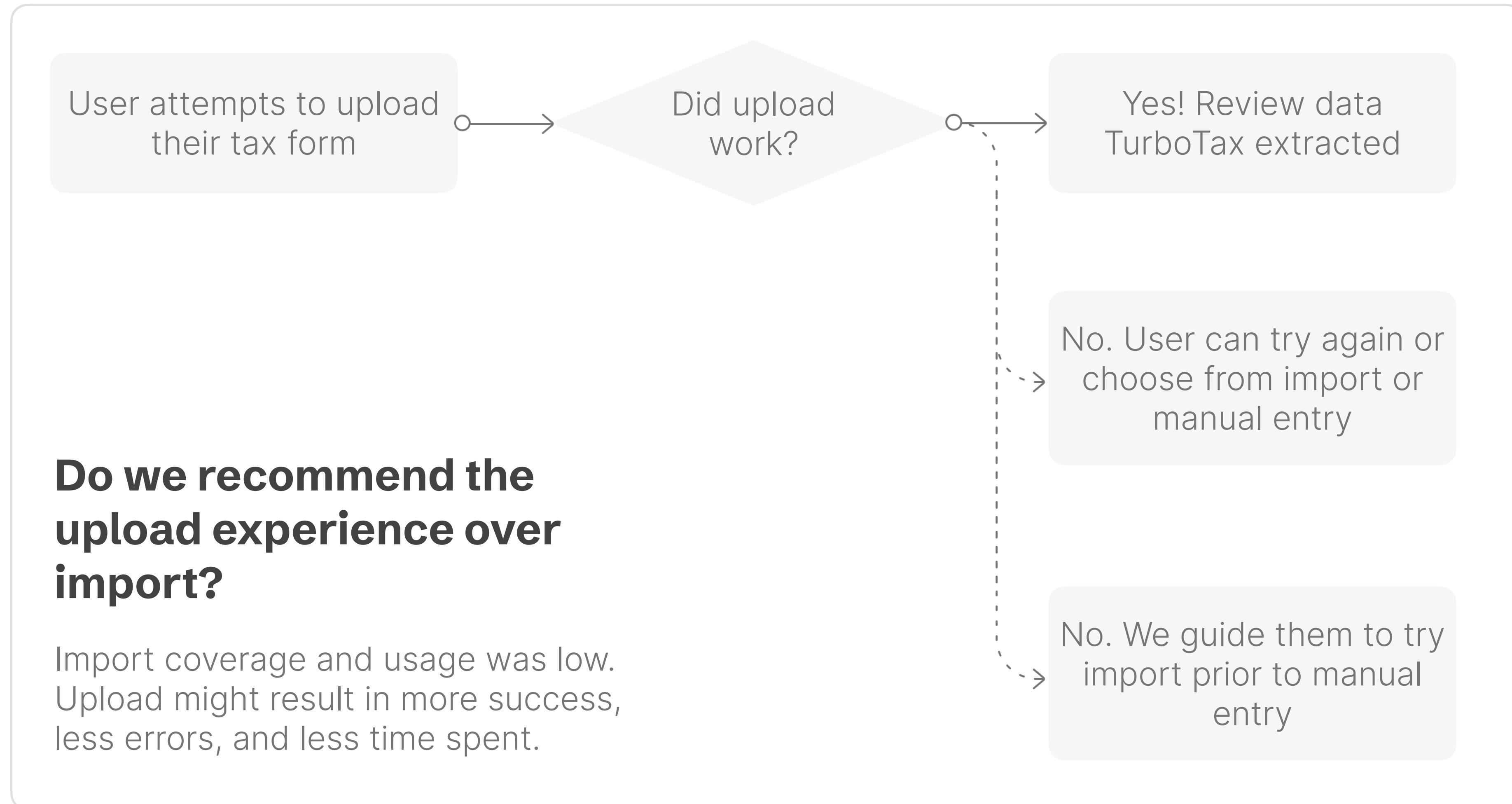
Should users be able to choose their method of choice?

TurboTax is built on providing guidance to maximize efficiency. This wasn't it.

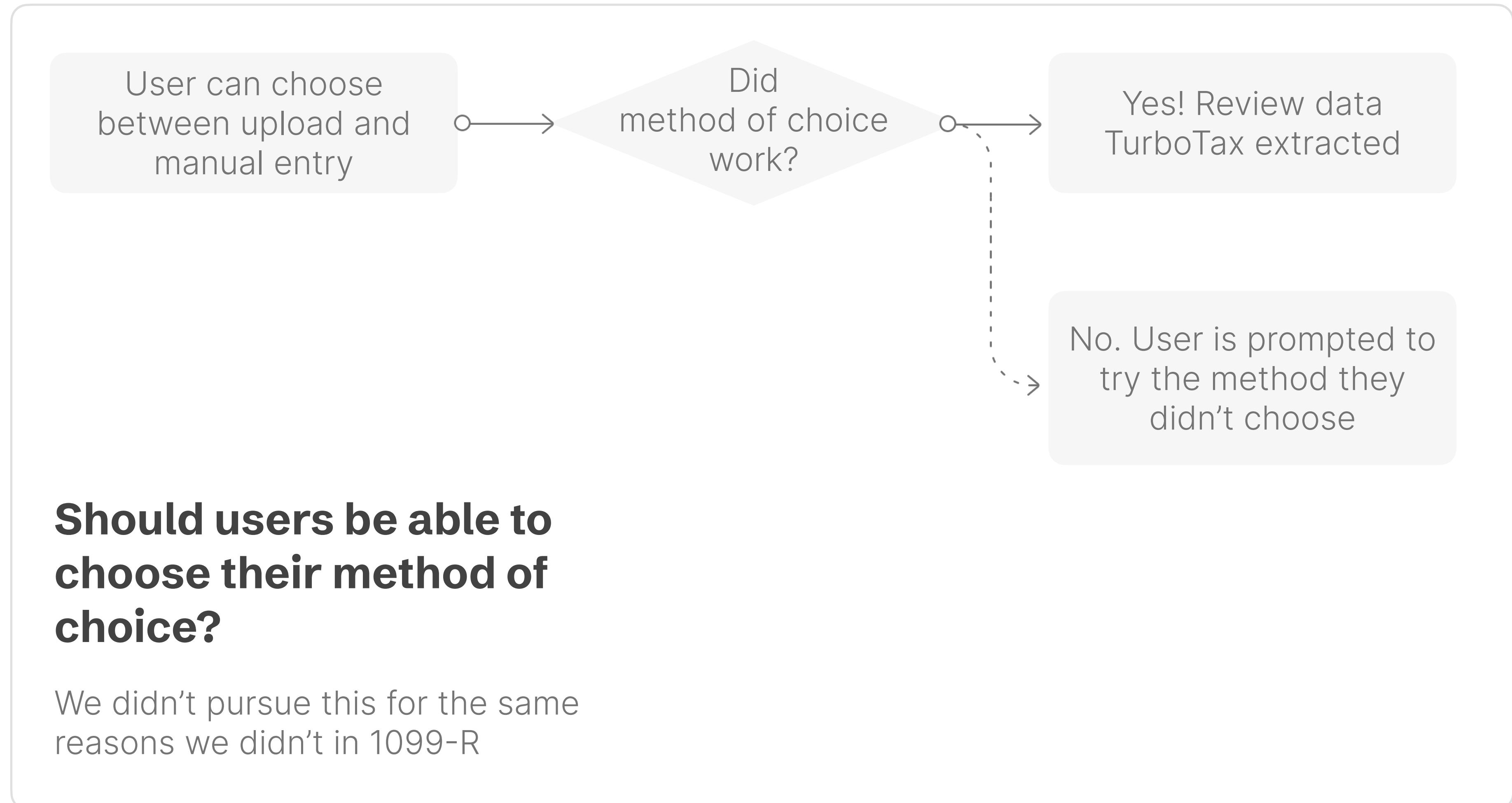
Do we recommend upload experience import?

Import coverage and usage
Upload might result in more
less errors, and less time spent

How should we offer upload in 1099-R?



How should we offer upload in 1098-T?



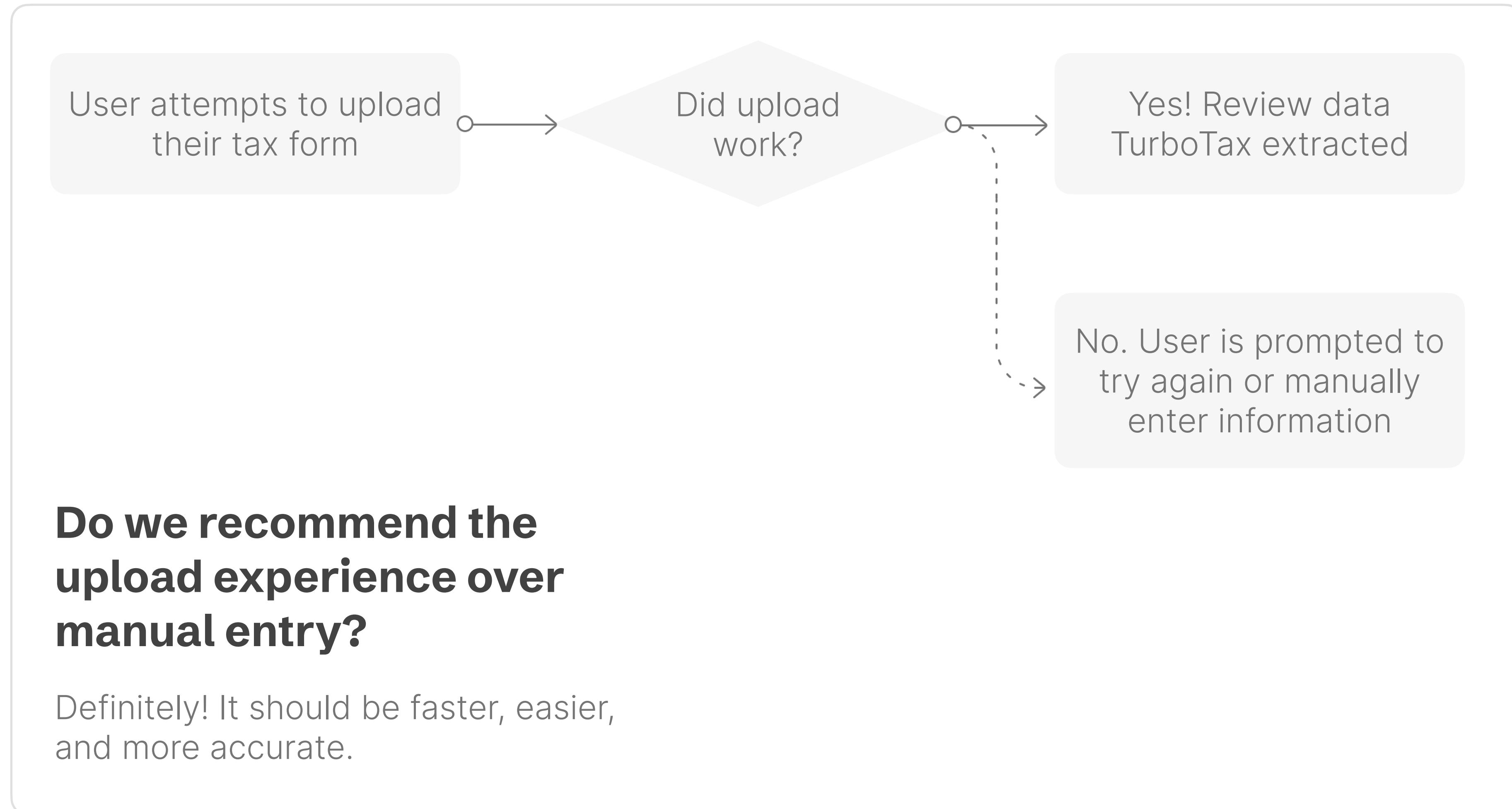
Should users be able to choose their method of choice?

We didn't pursue this for the same reasons we didn't in 1099-R

Do we recommend upload experience over manual entry?

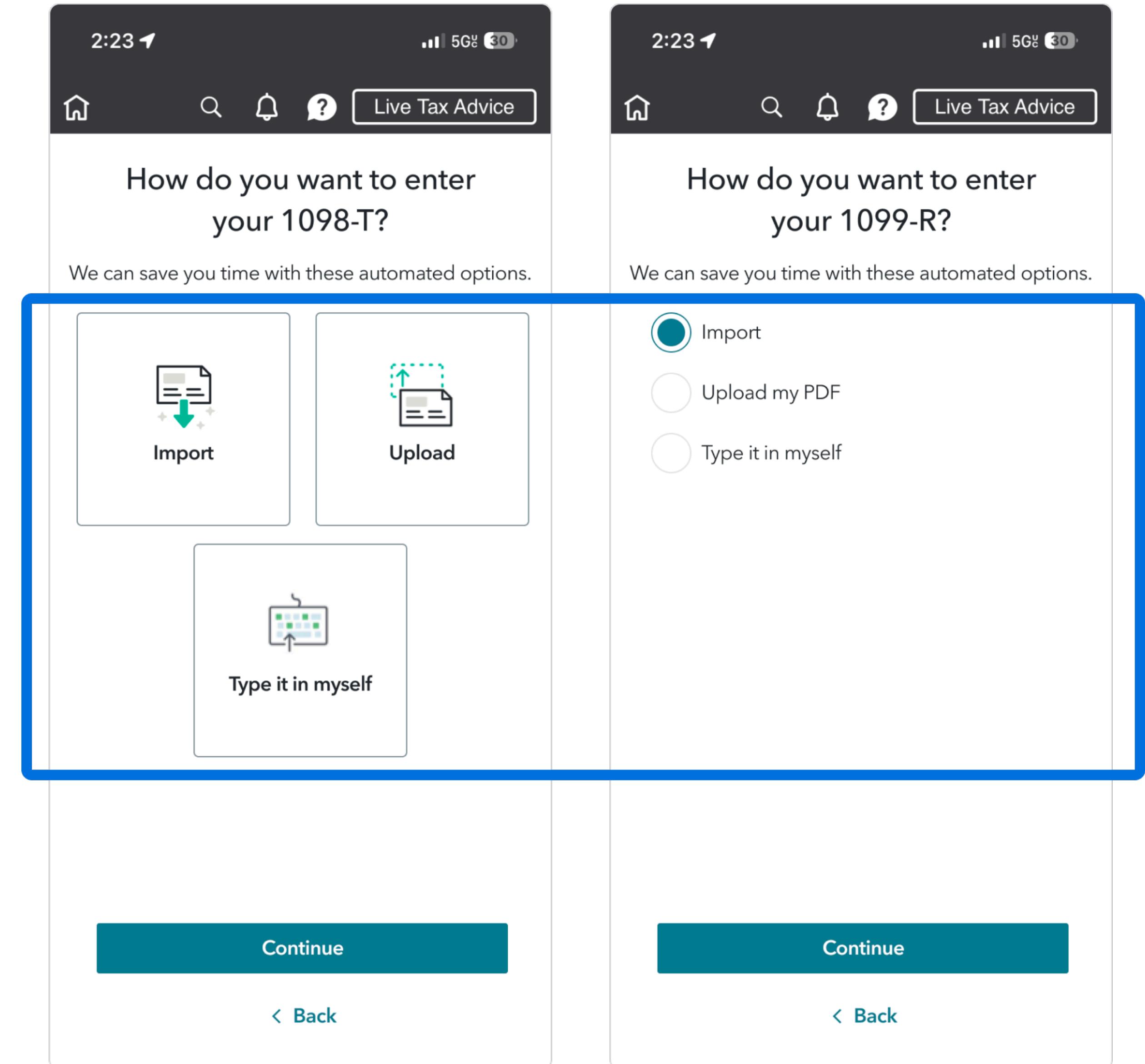
Definitely! It should be faster and more accurate.

How should we offer upload in 1098-T?



Presenting choice

With the intention of re-using
across all 10 tax forms



User testing showed that people didn't understand the difference between "Import" and "Upload"

Design explorations

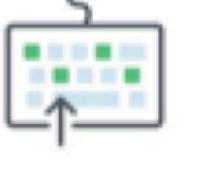
2:23 5G 30%

Live Tax Advice

How do you want to enter your 1098-T?

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
- Type it in myself**
We'll help you manually enter the details from your tax form.


Continue

< Back

2:23 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
- Type it in myself**
We'll help you manually enter the details from your tax form.

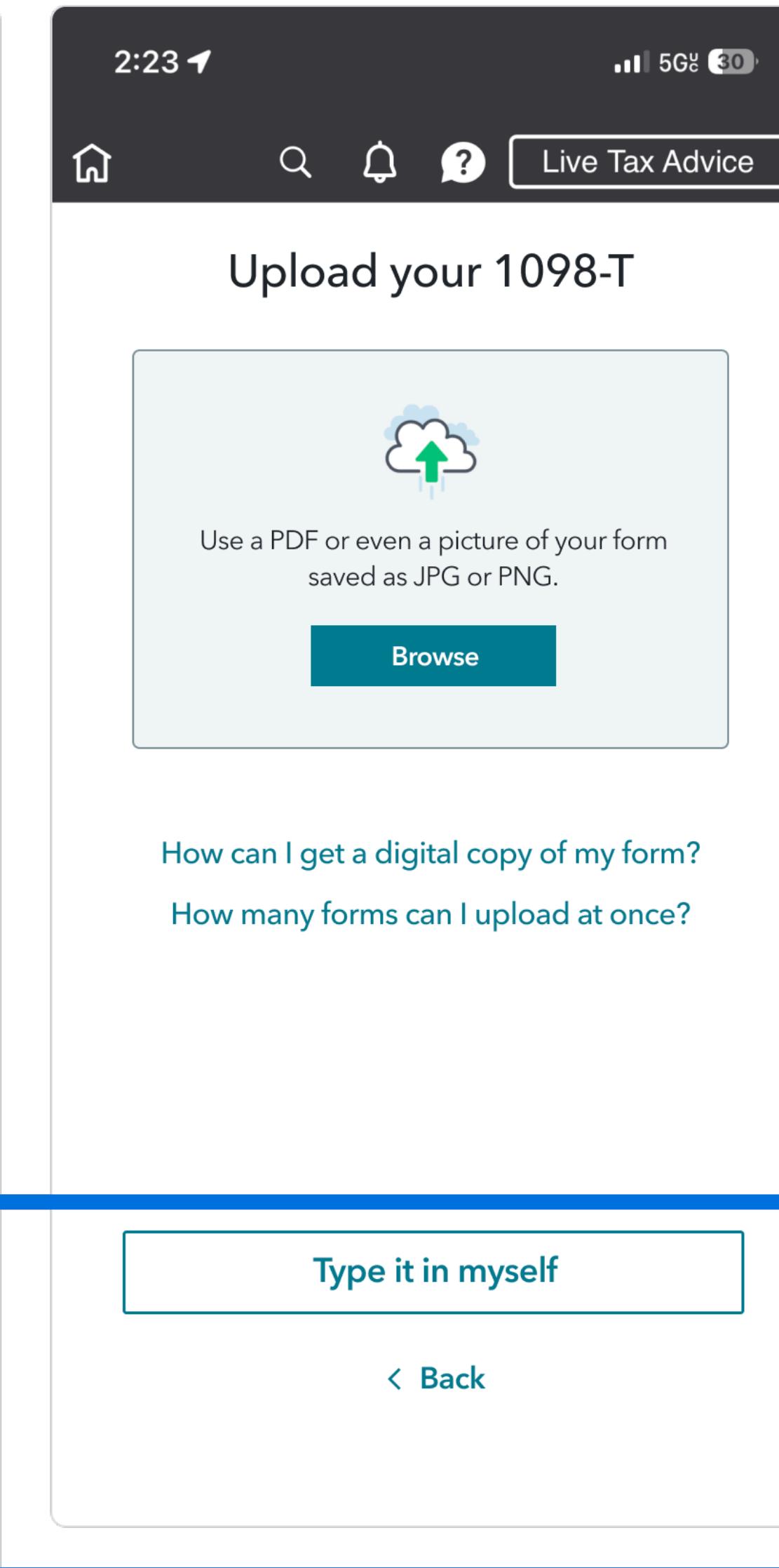
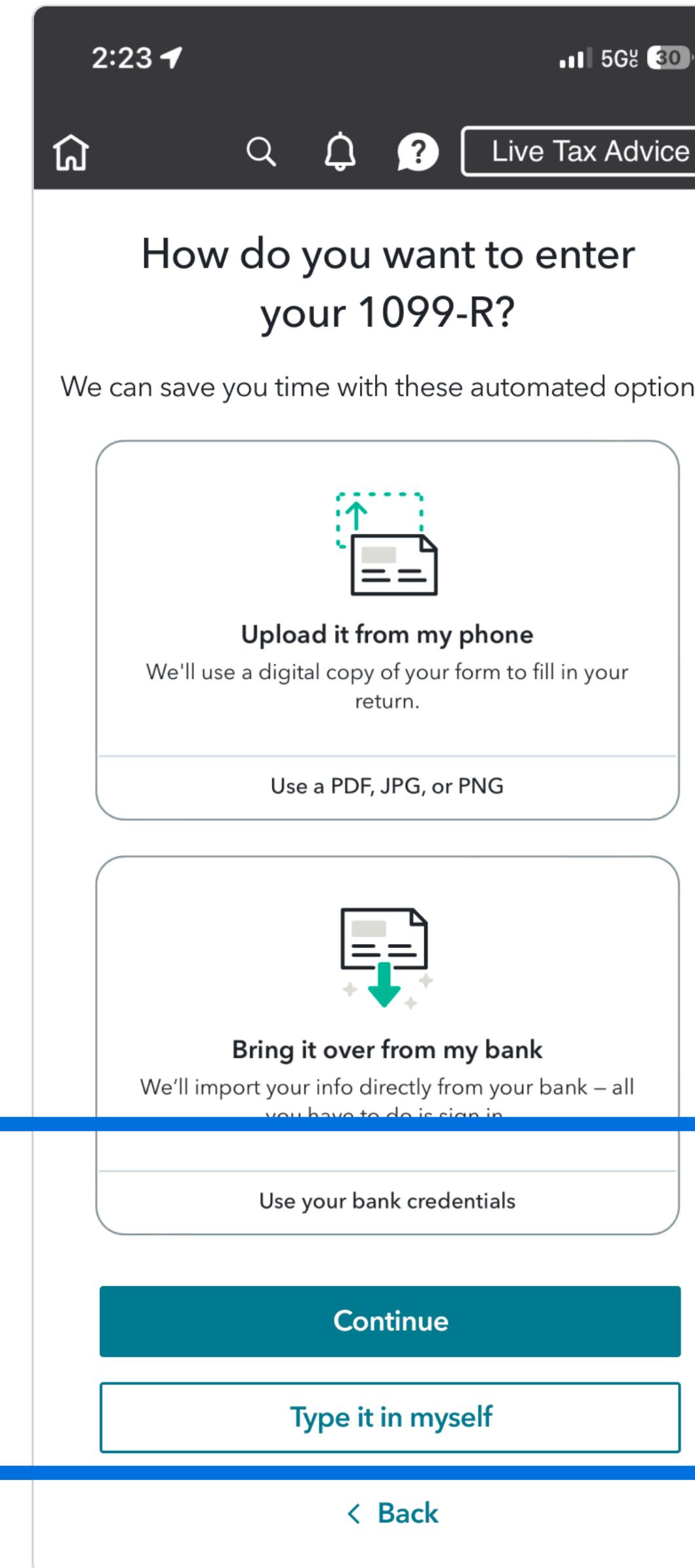
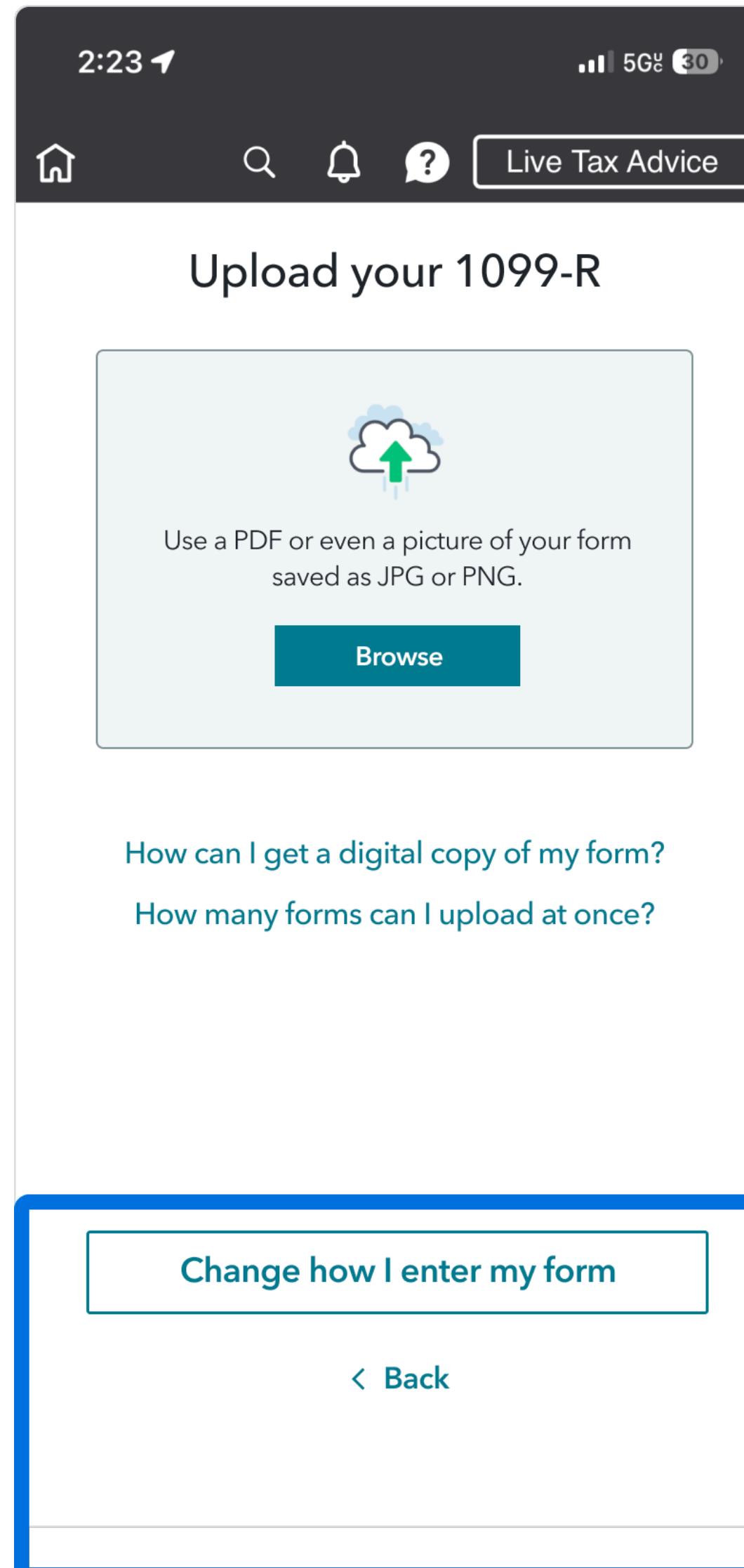

Continue

< Back

Automated options should have higher visual hierarchy, since they'll lead to a better experience. Uploading and manual entry are not equally good options.

Visual weight is interpreted as our recommendation.

Design explorations



Tertiary button for manual entry option.

Reviewing extracted form info

With the intention of re-using across all 10 tax forms for import and upload review experiences

The image shows two screenshots of a mobile application interface for reviewing tax form information, specifically a 1099-R form.

Screenshot 1 (Left):

- Header: "We got your 1099-R! Review your form and fill in any missing info"
- Section: "Distribution info"
 - Box 1 - Gross distribution: \$50,000
 - Box 2a - Taxable amount: \$50,000
 - Box 2a - Taxable amount 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

Screenshot 2 (Right):

- Header: "Got it! Now let's review your 1099-R"
- Text: "Double check the information we pulled"
- Section: "Distribution info"
 - Box 1 - Gross distribution: \$50,000
 - Box 2a - Taxable amount: \$50,000
 - Box 2a - Taxable amount checked: (Note: This checkbox 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
- Text: "We pulled 100% of the info from your form and all you have to do is review"
- Text: "We strongly suggest reviewing the information we pulled"
- Text: "Make changes if any info is missing"

Poor data extraction

With the intention of re-using across all 10 tax forms for import and upload review experiences

The image displays three mobile phone screens side-by-side, each showing a tax form entry interface. All three screens show a similar layout with a header containing icons for home, search, notifications, and help, followed by a 'Live Tax Advice' button. A red warning icon (a document with a red exclamation mark) is present on all three screens.

Screen 1 (Left):

- We got your 1099-R! Review your form and fill in any missing info**
- Distribution info**
- Box 1 - Gross distribution**: Input field with '\$'
- Box 2a - Taxable amount**: Input field with '\$'
- Box 2a - Taxable amount**:
 - Taxable amount not determined box is checked
 - Total distribution is checked
- Box 3 - Capital gain**: Input field with '\$12,200'
- Box 4 - Federal income tax withheld**: Input field with '\$1,300'
- Box 5 - Employee contributions or insurance premiums**: Input field with '\$400'
- Box 6 - Net unrealized appreciation**: Input field with '\$0'
- Box 7 - Distribution code**: Input field with '\$'

Screen 2 (Middle):

- 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**: Input field with '\$'
- Box 2a - Taxable amount**: Input field with '\$'
- Box 2a - Taxable amount**:
 - ⚠ Missing information**
 - Taxable amount not determined box is checked
 - Total distribution is checked
- Box 3 - Capital gain**: Input field with '\$12,200'
- Box 4 - Federal income tax withheld**: Input field with '\$1,300'
- Box 5 - Employee contributions or insurance premiums**: Input field with '\$400'
- Box 6 - Net unrealized appreciation**: Input field with '\$0'

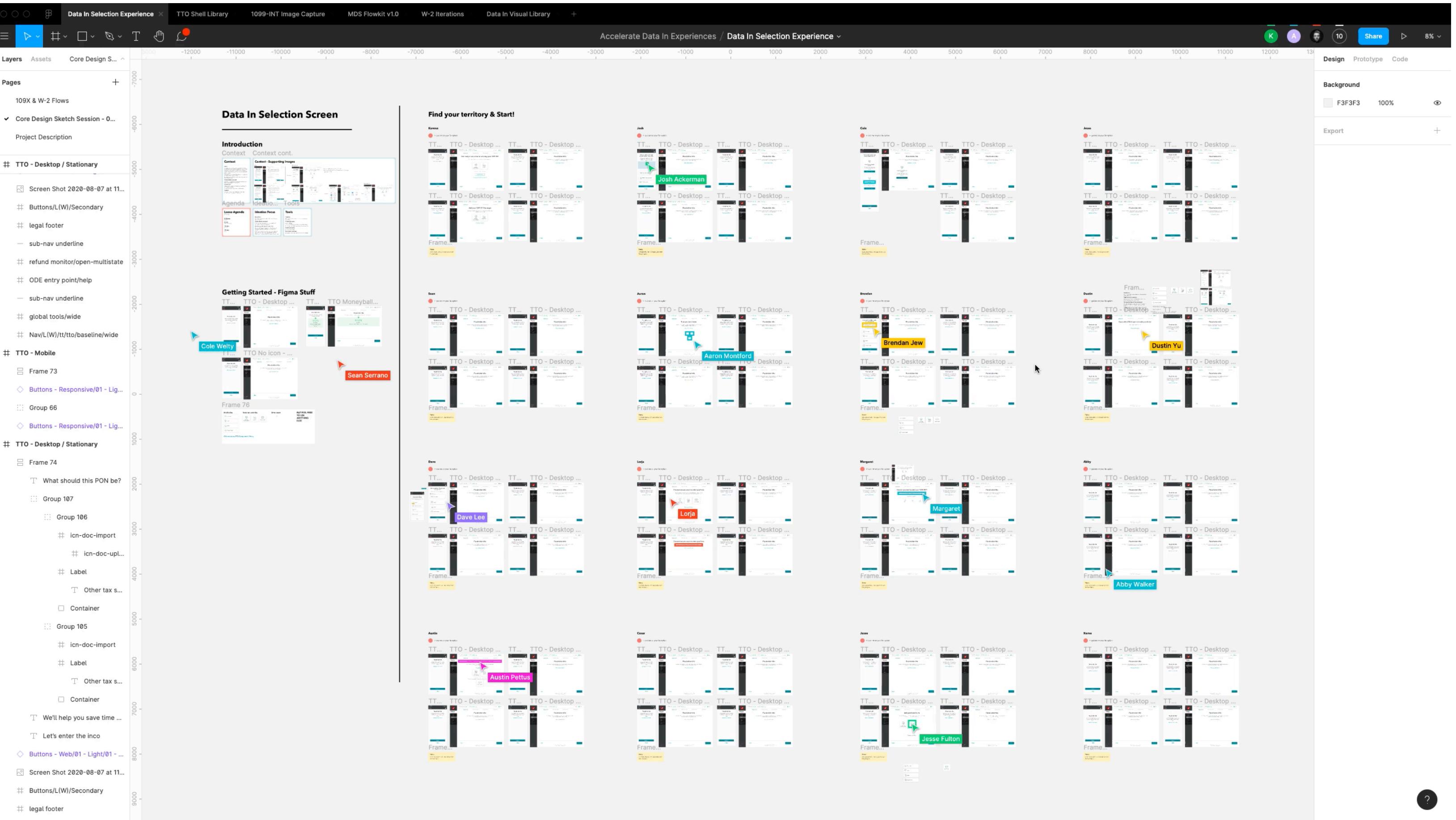
Screen 3 (Right):

- We tried, but couldn't get all the info from your form**
- ⚠ Fill in missing information from your form**
- Distribution info**
- Box 1 - Gross distribution**: Input field with '\$'
- Box 2a - Taxable amount**: Input field with '\$'
- Box 2a - Taxable amount**:
 - ⚠ Needs info**
 - Taxable amount not determined box is checked
 - Total distribution is checked
- Box 3 - Capital gain**: Input field with '\$12,200'
- Box 4 - Federal income tax withheld**: Input field with '\$1,300'
- Box 5 - Employee contributions or insurance premiums**: Input field with '\$400'
- Box 6 - Net unrealized appreciation**: Input field with '\$0'

Design explorations

Get others involved

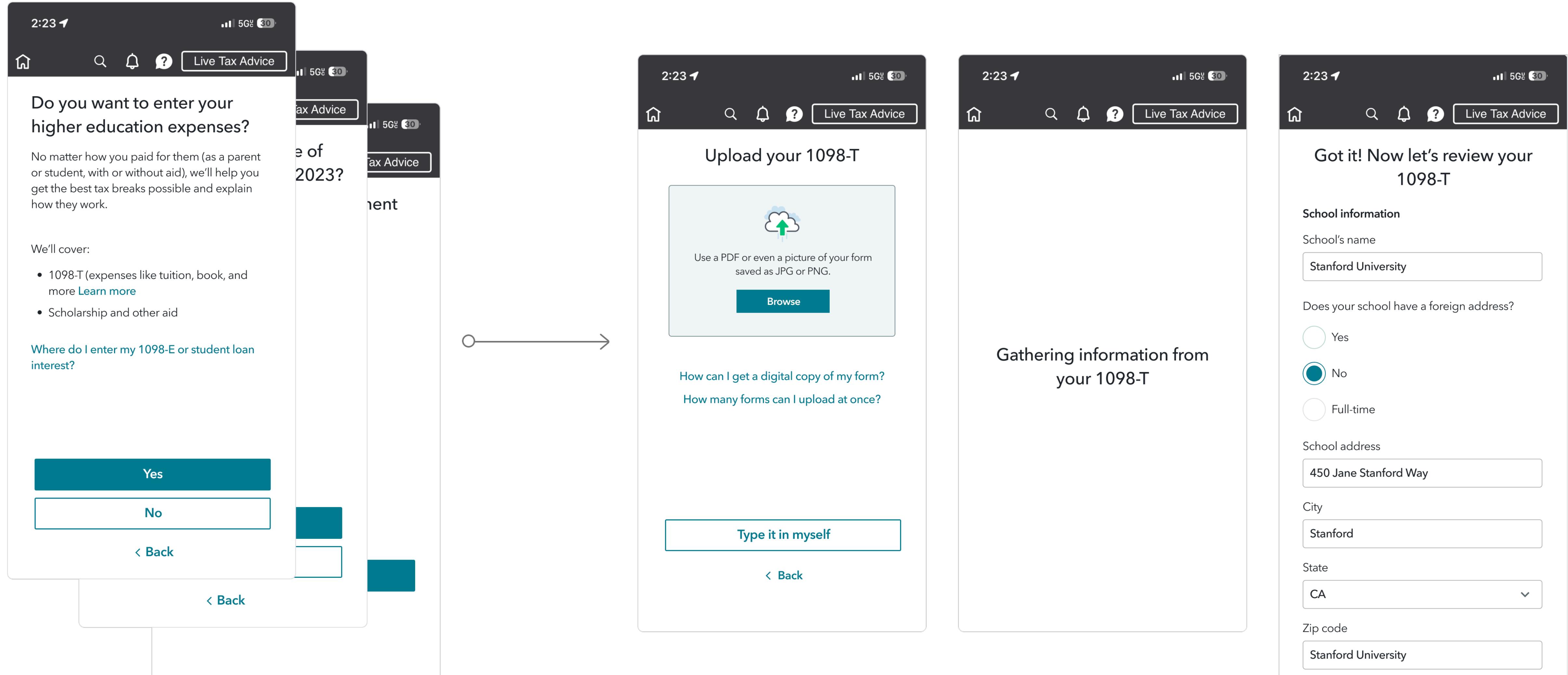
Generate ideas from different product designers, visual designers, content designers, and product managers.



03

A/B test treatments

1098-T treatment



1099-R treatment

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.

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

< Back



2:23 1 5G 30 Live Tax Advice

Gathering information from your 1099-R

2:23 1 5G 30 Live Tax Advice

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

Provider info

Who paid you? (Payer)

Payer name continued (optional)

Address type

Payer's address

City

State

Payer's TIN

< Back

2:23 1 5G 30 Live Tax Advice

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

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

Box 4 - Federal income tax withheld

Box 5 - Employee contributions or insurance premiums

Box 6 - Net unrealized appreciation

Box 7 - Distribution code

A/B test treatments

The diagram illustrates an A/B test flow across three mobile screen prototypes, connected by a horizontal arrow indicating the progression from left to right.

Screen 1: Upload your 1099-R

- Header: 2:23, 5G, 30%
- Top bar: Home icon, Search icon, Bell icon, Help icon, Live Tax Advice button.
- Section: **Upload your 1099-R**
- Content:
 - Icon: Cloud with up arrow.
 - Description: Use a PDF or even a picture of your form saved as JPG or PNG.
 - Button: **Browse**.
- Text links:
 - How can I get a digital copy of my form?
 - How many forms can I upload at once?
- Call-to-action: **Change how I enter my form** (highlighted with a blue border).
- Back button: < Back.

Screen 2: How do you want to enter your 1099-R?

- Header: 2:23, 5G, 30%
- Top bar: Home icon, Search icon, Bell icon, Help icon, Live Tax Advice button.
- Section: **How do you want to enter your 1099-R?**
- Text: We can save you time with these automated options.
- Content:
 - Icon: Document with up arrow.
 - Description: **Upload it from my phone**
We'll use a digital copy of your form to fill in your return.
 - Text: Use a PDF, JPG, or PNG
- Content:
 - Icon: Document with down arrow.
 - Description: **Bring it over from my bank**
We'll import your info directly from your bank – all you have to do is sign in.
 - Text: Use your bank credentials
- Buttons:
 - Continue**
 - Type it in myself**
- Back button: < Back.

Screen 3: Let's import your tax info

- Header: 2:23, 5G, 30%
- Top bar: Home icon, Search icon, Bell icon, Help icon, Live Tax Advice button.
- Section: **Let's import your tax info**
- Text: We'll help you find and import info from your bank or financial institution
- Search bar: Enter bank name or sign-in URL
- Text: Here are some suggestions:
- Grid of logos:
 - Robinhood
 - Fidelity INVESTMENTS
 - TD Ameritrade
 - E*TRADE from Morgan Stanley
 - charles SCHWAB
 - BANK OF AMERICA
 - CHASE
 - Wealthfront
- Call-to-action: **Change how I enter my form** (highlighted with a blue border).

A/B test treatments

Mobile & Desktop design

Majority of users file from a computer, but app usage was increasing. We wanted taxes to be so simple that you can prepare and file from your phone.

The image displays two versions of a tax filing interface, labeled 'Mobile' and 'Desktop' on the left, side-by-side. Both versions feature a dark header bar with a red checkmark icon and the 'INTUIT turbotax Premier' logo. The desktop version includes standard navigation icons (bell, cart, search, help) and a 'Live Tax Advice' button. The mobile version has a vertical navigation menu on the left with options: Tax Home, My Info, Federal, State, Review, File, and Tax tools. A 'Back' button is located at the bottom of the mobile menu.

How do you want to enter your 1099-R?

We can save you time with these automated options.

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

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

Upload your 1099-R

Browse files or drag and drop your file here
Use a PDF or even a picture of your form saved as JPG or PNG.

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

Collaborating with engineering

01 Collocate to the engineering team's courtyard

02 Attend sprint rituals

03 Bug bash and take responsibility for design

04

Results & Reflection

A/B test results

Form	Result	Details
1098-T	Successful, rolled to baseline for tax year 2019	50,000 forms automatically entered, 95% accuracy rate, and did no harm to conversion
1099-R	Not successful, needs improvements	10,000 forms automatically entered, but had poor extraction accuracy (at 50%). Conversion rate dropped from 60% to 50%. We turned off upload until the centralized data platform team could improve accuracy and product could prioritize re-platforming the legacy tax topic.

A/B test results

Form	Result	Details
1098-T	Successful, rolled to baseline for tax year 2019	50,000 forms automatically entered, 95% accuracy rate, and did no harm to conversion
1099-R	Not successful, needs improvements	10,000 forms automatically entered, but had poor extraction accuracy (at 50%). Conversion rate dropped from 60% to 50%. We turned off upload until the centralized data platform team could improve accuracy and product could prioritize re-platforming the legacy tax topic.
W-2	Successful, rolled to baseline for tax year 2019	Import was the dominant method in this tax form, but we were able to automatically enter an additional 80,000 forms without doing any harm to conversion.

Related projects

- Multi-year quarter roadmap to expand upload to top 10 tax forms (Completed additional designs for 1099-INT, 1099-DIV, 1099-K)
- Offer image capture as a data entry option
- Enhancements to import experience

How do you want to enter your 1099-INT?

We can save you time with these automated options.

Snap a photo
Take a picture of your form and we'll use it to autofill your return. Snap. Tap. Done.

Use your phone's camera

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

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

Continue

Continue

Continue

TurboTax Would Like to Access the Camera

TurboTax would like access to your camera to enable features to help save you time, like taking and uploading pictures, scanning barcodes, and using augmented reality.

Don't Allow **OK**

Form 1099-INT	
1 Interest income	\$170,000.00
2 Early withdrawal penalty	\$1,500.00
3 Interest on U.S. Savings Bonds and Treasury obligations	\$18,500.00
4 Federal income tax withheld	\$4,500.00
5 Investment expenses	\$0.00
6 Foreign tax paid	\$0.00
7 Foreign country or U.S. possession	\$0.00
8 Tax-exempt interest	\$0.00
9 Specified private activity bond interest	\$0.00
10 Market discount	\$1,500.00
11 Bond premium	\$0.00
12 Bond premium on Treasury obligations	\$0.00
13 Bond premium on the exempt bond	\$0.00
14 Tax-exempt and tax credit bond OASIP no.	\$0.00
15 State identification no.	\$400.00
16 State tax withheld	\$0.00
17 State tax withheld	\$0.00
18 State tax withheld	\$0.00
19 State tax withheld	\$0.00
20 XX_	
21 55903450	
22 222170	
23 1099-INT	
24 www.irs.gov/Form1099INT	
25 Department of the Treasury - Internal Revenue Service	

Reflection

During my time on this project and related projects, I worked with 3 different product managers. I learned how to build trust quickly, be a leader, and keep the project moving.

Here's how this project shaped my design process:

01 The best product requirements start with visuals

02 Visualize ideas at the right fidelity

03 Debate different opinions, then commit to the plan

Thank you!
Questions, comments?