Introduction/Goals

The following project endeavors to evaluate the IRS.gov website in relation to its

usability for preparation of United States tax documents. The Internal Revenue Service (IRS) is

the department of the United States Government responsible for collecting federal income taxes

for income earned within the U.S. IRS.gov is the website built and maintained by the IRS to

provide access for all taxpayers to tax forms and related information. While this website

provides significant resources related to tax disputes and other tax related issues, this project was

limited in scope to the evaluation of the website for access to tax documents and preparing those

documents for filing.

There are a few key aspects of this project that are important to note at the outset. First,

while this website provides resources for United States tax preparation, all individuals who earn

income (defined broadly) within the geographical borders of the United States are required to file

a tax return or statement of exemption.[1] This is germane to this study because users of all

languages and nationalities require information from IRS.gov. Therefore, this study will

evaluate use by a non-native English speaker as well as use by U.S. citizens and native English

speakers.

Second, it is important to note that, unlike other legal documents, tax forms change every

year. When searching for a tax form, every form is specific to the tax year in preparation. That

means that if, for example, a user found a Form 1040 for 2016, but was preparing a return for tax

---

[1] The duty to file is subject to some limitations, but discussion of the duty to file is outside the
scope of this study. The statements made herein are broad generalizations.

year 2015, the form found would not be the correct form and would be rejected by the IRS upon filing.

When evaluating this website, the study focuses on usability as opposed to user experience. Although frustration is considered in this study, it is assumed that the tax preparation process in itself is frustrating and stressful. Asking whether or not this particular website is "enjoyable" to use seems strange in consideration of the task performed because filing taxes is rarely enjoyable for anyone. Therefore, this study focuses primarily on the usability aspects of the website while attempting to ensure that the state of the website does not add to user stress. The goals of this study are as follows:

Primary Goal: Can a user complete his/her US tax returns (or necessary filings) using the IRS.gov website?

Secondary Goals:

1. Can the user find all of the information needed?

2. Can the user find all of the forms needed?

3. Can the user find these things efficiently?

4. Is the user confident that he/she has everything he/she needs?

5. Is the user confident that the documents and information found are the correct documents for his/her needs?

6. How frustrating was the experience of using the IRS.gov website for tax preparation overall (user experience)?

Plans/Methods/Considerations

This project was carried out in the following stages:

1. Data Gathering – We collected our information from two Heuristic evaluations and three usability testing evaluations of the IRS website.

2. Data Analysis – After gathering our data, we examined that data to look for commonalities among users and other important results.

3. Evaluation – Looking at all of the gathered data, analysis and results, we drew conclusions regarding usability and user experience.

4. Recommendations – Then we made recommendations based on our evaluation of improvements to the website.

PLANS

This project was planned through a combination of in person meetings and discussions through group email. We had three meetings, in which we planned our project, at a room in the basement of the Well's Library building. During the first meeting we mainly talked about our overall goals and division of tasks among group members. The second meeting entailed a more detailed list of user testing questions and tasks, and the development of our expert heuristics. Our third meeting involved revising the presentation slides and rewording the expert heuristics for better clarity. We also met briefly after our class to discuss various project issues and meeting times. Three of the members had a short quick meeting before class on the day of presentations to accommodate a member who could not make the third meeting. Otherwise, throughout the project, we communicated mainly through emails discussing how the project was going and answering each other's questions.

First formal meeting:

Our first meeting took place on Wednesday, April 6 at 5:15 p.m. in a meeting room of the

basement of the Herman B. Wells Library (Room 032). We discussed our main topic of

evaluating the IRS website and the main goals of how we wanted to evaluate the website's

usability and user experience. We also talked about dividing the tasks between group members.

This resulted in the following division: 1) Jordan and Kristin would interview experts of the IRS

website who use it daily within their daily job duties, 2) Hong would interview someone who

does not speak English, is new to the United States, and has never had any tax experience or

worked with taxes, 3) Elsie would interview someone who has some tax experience but who has

never used the IRS website and 4) Vaishali would interview someone who has never had any tax

experience or used the IRS website. We all would evaluate the IRS website to get an idea of

some of the problems that could arise throughout the evaluations. We went over the overall plan

of the project and started thinking of questions we could ask the study participants.

	Heuristic Evaluation	**Usability Testing**
Team **Members**	• Kristin Day • Jordan Reifsteck	• Elsie Smith • Hong Qiao • Vaishali Sainaath

Second formal meeting:

Our second meeting was on Wednesday, April 13 at 5:15 in the same meeting room of

the Wells building. During this meeting we discussed and made a list of the expert heuristics and

the user testing (questions and observation) that we would perform during evaluation interviews.

We discussed what would happen during the observation of the expert/user and what we would

do to record the interview information, such as taking notes of the experience, taking photos,

and/or possibly recording the interview. We determined that, with participant permission, we could record the audio of the interviews for our own use in preparing reflection notes. We determined that we would go back and take screenshots of relevant webpages when reviewing the interview notes and/or audio.

Third formal meeting:

In our third formal meeting, we reviewed the results of all of the evaluations (user and expert). Then we prepared for the presentation. In preparation for the presentation, we reviewed the draft power-point slides, added information that was missing or that pertained to recently concluded evaluations, and updated the wording of the heuristics in the presentation slides. We also found screenshots that exemplified the most important points gleaned from the completed evaluations and added those to the power-point presentation. Three group members had a very short meeting before the presentation to review slides with a group member who was not able to come to the third formal meeting.

Between and after the above three meetings, the group communicated through group email discussions and text messages. The group also maintained a folder for all group work (in progress and completed) in an IU Box folder. This way all group members were aware of what work had been completed and what was still in progress. This had the additional benefit of allowing group members to discuss any questions about how certain documents should be prepared or content that should be included. These discussions occurred mainly by email with all group members copied to the discussion.

METHODS

Method 1: Heuristics

Interviewees were briefed on the goals of the project and individual interviews. They were told that they were participating in a Human Computer Interaction (HCI) evaluation interview to determine the effectiveness of the IRS website. They were then asked a number of pre-interview questions to document their experience regarding tax filing and the use of the IRS website in general. Then they were given access to a laptop with internet connection and instructed to navigate to the IRS website. They were asked to download the appropriate forms as if they were preparing to file their own taxes. Finally, after the observation task was complete, interviewees were asked a number of post-task interview questions to determine their experience using the website in that instance.

5 Nielsen's Heuristics	5 Custom Heuristics
1. Visibility of System Status	6. Clarity of Currentness
2. Match between System and the Real World	7. Download Time
	8. Navigation
3. Consistency and Standards	9. Clarity of Content
4. Recognition Rather than Recall	10. Trust and Confidence
5. Aesthetic and Minimalist Design	

Recruiting:

LITC and VITA Program Volunteers

The two expert users were recruited from the Low Income Taxpayer Clinic (LITC) and also volunteers with the Volunteer Income Tax Assistance (VITA) program in Bloomington, Indiana. As volunteers for these programs, their duties include finding and preparing all requisite forms for completing taxes for the people participating in the program. Because people from many

different demographics and backgrounds utilize these programs, LITC and VITA volunteers

must be very skilled at navigating and using the IRS website in order to efficiently process the

many tax forms that are required each year.

Environment:

The LITC and VITA Program volunteers met with HCI interviewers in the lobby of the Mauer

School of Law at Indiana University. By performing the interviews in a semi-public space with

possible distractions, the interviewers attempted to simulate the possibly stressful situation of

yearly tax filing. This is also the space preferred by the participant experts.

Documentation and Results:

For the heuristic evaluations, the entire process was audio taped with the consent of the

participants. The heuristic notes provided herein as **Appendixes A and B** were then created by

reviewing the audio recording of the evaluations (in accordance with the permission of the

participants).

Method 2: User Testing

In addition to the heuristic evaluation of two experts, we have also adopted user evaluation

of three different users. This is done to test and validate if the product meets the user needs and

how comfortable users are with the product. The user evaluation mainly comprises of interviews

with the users and observations while they perform certain tasks. This evaluation can take place

anywhere, let it be in their home, or a cafeteria, or laboratory etc. We have taken three users with

three different background for our analysis, and wrote down notes while taking the interviews and observing them doing the tasks.

CONSIDERATIONS

A number of factors were taken into consideration while performing the user testing. These include:

Testing Process and Schedule

During our meetings, we came up with the detailed testing process and schedule to be followed. We came up with a set of questions that would serve as pre-interview questions, and then gave them a task to fulfill. A full list of interview questions is provided in the Appendixes for each user interviewed. The task assigned was to find and download all forms and related documents necessary for the user's current tax filing. While the users were performing the task, we took notes. Then, we asked the users a few post-interview questions that were asked once the task was complete. The entire process took around 60 minutes per session.

Usability Testing Schedule	Length (in minutes)
Usability Testing Introduction	2-3
Pre-task Interview Questions	5-10
Task: Find all of the information and forms necessary for your filing	30-45
Post-task Interview Questions	5-10

Recruiting

We chose three users with three different backgrounds. The first user is a native speaker of English and has some experience in filing taxes before but has never used the IRS website. The second user is someone who has never done taxes before and is preparing taxes for the first time. The third user we chose is an international student from China, who is not very comfortable with

the English language and also has no experience whatsoever of filing taxes. This is the user's first time filing taxes and using the IRS.gov website.

Environment

All three interviews and observations that we conducted with the users took place in the users' homes. For the users, this was the place that they would usually prepare their tax filings and no place is as comfortable and relaxing as the home of the user. All users were very comfortable answering the questions and performing the task given in the quiet peaceful environment of their homes.

Documentation and Results

While taking pre and post interviews, and during the observations we took thorough notes of every single detail given by the user. The users were asked to think out loud so that we could capture their thoughts every step of the way. Detailed explanations of these evaluations are provided in **Appendixes C, D and E**.

Discussion

As discussed more fully above, we asked our experts to evaluate the website using the 10 heuristics we chose and developed for this study. We asked our usability testers to answer a few questions, perform one task (finding and downloading all of the forms and information they would need for the current tax filing), and to answer a few follow up questions. The results of these evaluations are as follows.

Evaluations:

User 1: Heuristic Evaluation

Interviewee: Jeremy Munza

Level: Expert

As described in more detail above, both of the experts chosen for this study had active roles with the LITC and VITA clinics run by a division of the IRS. Mr. Munza is the student director of the LITC. He is very knowledgeable about the forms and instructions necessary for completing individual income tax returns.

Mr. Munza provided several insights during his evaluation of IRS.gov. First, the main search box is not noticeable. It is in the top right corner of the screen. But, this is really the most important part of the website. Because there is so much text on the homepage, most users will not take the time to read all of the links and try to determine which might be the best for their needs.

Second, if you use the primary search box from the homepage to search for a form, getting to the form you need takes two extra clicks in comparison to performing the same search from the Google homepage. This is completely unnecessary. The search should take you directly to the form you need.

Third, when trying to determine which forms you need, the only way to do so is to open the forms and instructions, read through every line (even through irrelevant sections) and find the related forms line by line. This takes an extraordinary amount of time.

Fourth, the naming of the links to documents and the names of the documents themselves are misleading. For example, Form 8843 is for all non-citizens but it is named "Statement for Exempt Individuals and Individuals with a Medical Condition." Also, if you access this form

through the primary search box on the homepage, the link shows the form name. But, if you click on the forms section and go to the forms page, the search box on the forms page takes you to a link that says "2015 Form 8843 – Internal Revenue Service." This is confusing.

Finally, if you search for forms from the forms page (instead of the homepage), all navigation options disappear from the top of the page that shows the search results. It is difficult to know how to navigate away from this page.

User 2: Heuristic Evaluation

Interviewee: Paul Newendy

Level: Expert

Performing a heuristic interview for this project was particularly interesting as I was able to gain valuable user experience information from someone who uses the website frequently for both himself and during his volunteer work helping others to file their taxes. After the observation task, the user was asked a number of post-interview questions to which he presented a number of interesting findings.

His first major issue was that he felt users would benefit for a dedicated section specifically for users who are non-English speakers and non-US citizens. Many non-US citizens and non-native English speakers come to the free tax clinics every year. Because there is so much information on the homepage, most users can become frustrated and have issues finding the correct forms. For non-native speakers, this effort is exponentially harder. It seems that a separate section for non-English speakers or individuals who have a special filing status (i.e. non-US citizen) would be particularly useful. Considering the massive amount of information that is displayed on the homepage, someone who does not speak English fluently or does not

understand the U.S. tax filing process could easily become extremely overwhelmed and neglect to use the site to file their taxes. A separate section that only displays the most relevant information could alleviate these issues by reducing information overload and guiding individuals through an unfamiliar task.

Further, he felt that although the search function is very useful and well optimized, users must know the correct terms to search for. Assumption of a particular term being correct when it is at best similar to the right term can yield incorrect forms and cause the process to have errors and take longer. He suggested an improvement being the ability to use more general search terminology to find the correct forms.

Finally, he told me that it would be helpful if users were prompted to download the form instructions before the actual forms. The instructions and actual forms are located in two separate links, and forcing users to automatically download the instructions would help alleviate many of the smaller issues that volunteers at the tax clinic have to deal with. Further, because the instructions are not included with the forms, it is not immediately clear that they even exist if the user didn't know to go and download them.

User 3: User Testing

Interviewee: David Smith

Level: Some experience with taxes but no experience with IRS website

Mr. Smith is a stay-at-home husband who is very knowledgeable of and an avid user of the internet, in general, but he has never been on or used the IRS website before. He has had some experience filing his taxes online for his family, but he had mostly utilized H&R Block services and (more recently) theTurbo Tax website.

Mr. Smith mostly had a fairly pleasant experience with the IRS website and was able to find his needed tax forms quickly, but he had a couple of suggestions. First of all, the home page is full of information and is a bit wordy so he stated it may be a bit overwhelming for anyone who is new to the internet and/or the IRS website, therefore, may cause them to skip over some information that they may need. Therefore, a little less text on the home page would make it look better.

Although it really did not matter to Mr. Smith, since he is an experienced user of the internet, his second suggestion was that the IRS website should have a little house symbol at the top of the page like many websites have to take users back to the home page if they get lost instead of having to click the logo. Mr. Smith figured this out on his own because he is experienced at using the internet and it has happened to him before. Therefore, the website should have the house symbol so users can click it to get back to the home page because it is common and self-explanatory.

User4: User Testing

Interviewee: Mei Ren

Mei Ren is an exchange visitor from China and has been in the U.S. for about six months. She received an email from the Office of International Services at Indiana University (OIS) long ago and learned that she might also need to file a tax form. This makes her a little nervous because she has no idea how to do such a task at all. She could read and write in English in her research area, but language is still an obstacle for her in many other daily tasks.

For the form pulling task, it should be very simple but the non-native speaker still encountered some confusion when she tried searching in the homepage and in the secondary

page of IRS website, because the same form was ranked differently in the two search result lists and with different titles. It took almost 5 minutes for her to decide if both forms were the same and if they were the right forms for her.

Generally, according to the interview and observation, the non-native speaker user didn't have much trouble using IRS website to find and download the correct form because she only needed one form – the Form 8843 form for exempt individuals. But, the form was to be filed offline and the user was very doubtful that she was preparing the form and sending it for filing properly. She did not feel as if the website provided sufficient support to non-native English speakers for this task. Although the website provides instructions, she was not confident enough in her English to properly understand the instructions available. She didn't feel comfortable searching instruction information from the IRS website and decided to follow the instructions in her mother language from a sample form she obtained from her friend.

User 5: User Testing

Interviewee: Deepika Bajpai

Level: No experience with filing taxes before this.

The user interviewed and observed is an International Indian student who is pursuing her masters in Computer Science, and has no prior experience in filing tax returns. She was working back in India, but filing tax returns in India is a lot different than it is in the U.S. The interview took place on Sunday evening. For observation, I asked her to go to the IRS website and locate the forms she requires and complete them for filing. She was able to navigate to the IRS website (https://www.irs.gov) as she is technically savvy. Since she is an International student and already received her W-2 form, she knew that she was required to file federal and state tax. But,

the website did not give her any guidance on which forms correspond to the federal and state tax. It is important to note that the IRS.gov website is only a resource of the Federal Government and, as such, does not provide any information related to state tax filings. The states maintain their own, separate websites for state tax filing information. But this is not clear from the IRS.gov website. She googled to get this the information and found out that she has to file a 1040 form for the federal tax return and the IT-40PNR form for state tax. In order to file the 1040 form, she clicks on "1040 form" on the left hand side of the webpage under the tab "Forms and Pubs".

After she found the 1040 form, she started filling it. Since it was her first time it took her more than expected time to complete the form. Once done, she tried searching for the IT-40PNR form to file state tax. But, she could not find the form on the IRS.gov website and nothing informed her that state tax forms are not provided on the IRS.gov website. When she searched for the form in google, she received it much faster than anticipated. The website was not of much help in retrieving the forms quicker.

Recommendations:

Based on the results of the above evaluations, this study recommends the following changes to the IRS.gov website to improve usability and user experience:

1. Make the search box the primary focus of the page. It should be large, noticeable and front and center. (User 1)

2. Optimize the search function to use more general search terms for form accessibility. (User 2)

3. Make the homepage less busy – not so much text. (User 3)

4. Shorten the navigation from the search to the form. The extra steps between the initial search and getting to the form link are unnecessary. (User 1, 5)

5. When a user chooses the link for a particular form, provide recommendations for forms commonly needed with the chosen form. (User 1, 5)

6. Either show the links to instructions before the link to the associated form (User 1) or always attach the instructions to the forms so the user always has the instructions (User 2).

7. Create document names and link names that are more easily related to the document sought. Be consistent with linking naming throughout the website. (User 1)

8. Retain navigation options at the top of all pages throughout the website. (Users 1, 3) A home symbol as opposed to just the logo would be helpful to get back to the homepage. (User 3, 5)

9. Provide a tool that will count days for you. For non-citizens, the exemption form requires the taxpayer to count the number of days he/she has been in the country. It would be easy to provide a tool that would count the number of days since a particular date. (User 4)

10. Provide a separate website section dedicated to foreign filers (non-US citizens and non-native English speakers) to avoid information overload from an unfamiliar source. (User 2)

11. Provide sample forms (that have been filled out) and provide instructions in languages other than English. Especially for Form 8843 that is most used by foreign taxpayers, instructions should be provided in many other languages. (User 4)

12. The year corresponding to each form needs to be updated and more prominently stated to make it easy for users to know if they have the form for the right filing year. (User 5)

13. Provide a clear statement that the IRS.gov website is for federal tax filing purposes only and that the user must contact the state or find the user's state tax website for state related tax information. (User 5)

Conclusion

Alas, this study will conclude on a sad note. A third expert interview was attempted. The expert reached was an IRS employee who, among other things, communicates with the heads of the TAS groups that oversee the LITC and VITA clinics. This interviewee is Ms. Wilson. After discussing the heuristics and parameters of this study with Ms. Wilson, it became clear that she did not have the requisite expertise to provide insight to the website evaluation. Employees who work at the IRS office use an internal system to access the same information available on IRS.gov. Because Ms. Wilson uses this system, she does not use the IRS.gov website.

Ms. Wilson did have some insights into the IRS's plans for the website and sent an internal memo (with permission to use the memo herein) that discusses future plans of the IRS and known issues related to online access of information. The memo is attached hereto in **Appendix F**. A few key points from this memo and the related discussion with Ms. Wilson will be highlighted below.

Although significant problems have been identified with the usability of the IRS.gov website, the IRS is pushing forward with adding more information to the already busy homepage. It is moving in the direction of closing all call centers and providing all taxpayer

account information through the website and online apps. This is happening despite a survey that indicates only 19% of adults search for government services and policies via a personal computer or laptop. Studies show that the majority of taxpayers continue to rely on phone services and walk-in centers for assistance with their US tax questions.

Because of budget cuts, phone center staff have already been cut increasing hold times for taxpayer inquiries (expect to wait at least an hour to speak with a representative even on a slow day). Walk-in clinics are expensive to staff. Ms. Wilson anticipates both phone centers and walk-in centers to be closed in the next few years, leaving only the online platform and mobile apps for taxpayer assistance.

The most distressing issue with the IRS's move to a fully online platform is that all of the taxpayer account information will be available online. The IRS has been hacked a few times to date and taxpayer information has been accessed (including social security numbers and other identifying information). Because of the budget cuts, it is not clear that the IRS will put forth additional effort to secure the information when it is available in its entirety online. Taking the recommendations of this study and providing a more user-friendly website is not going to be a priority for the IRS in the foreseeable future.

If the changes progress as expected, the IRS.gov website will be crucial for taxpayer access to both forms and instructions, as well as account information. Yet, the website will be confusing and difficult to navigate. Perhaps the tide will change and the IRS will consider taking some of the funds used for call centers and walk-in clinics and using those funds to improve the usability and user experience of its website.

Roles of Members

Kristin Day: Organized group meetings and online communication. Conducted two Expert Evaluations. Wrote introduction and created paper template. Created first draft of presentation slides. Merged contributions and finalized paper.

Jordan Reifsteck: Attended meetings, helped determine heuristics, did heuristic interview, presented with group and wrote part of the heuristic section

Vaishali Sainaath: Helped coming with different questions for the user interviews. Helped during the meetings and with the plans. Helped with the presentation of the project. Documented appendices, notes on interviews and observations, edited and added methods on user testing, and discussions in regards to my user evaluation.

Hong Qiao: Helped with choosing the evaluation goal and user selecting. Conducted one non-native speaker user and wrote the interview report and discussion section of non-native user.

Elsie Smith: Helped with the ideas of the plans and interviews. Conducted one user evaluation. Wrote the four project stages. Edited and added to the presentation slides and the paper evaluation.

All Group Members:

- Participated in group discussions either in person or online.
- Developed expert evaluation heuristics

- Developed user testing plan

- Participated in the creation and finalization of the presentation and final paper.

Appendix A

Expert Heuristic Evaluation
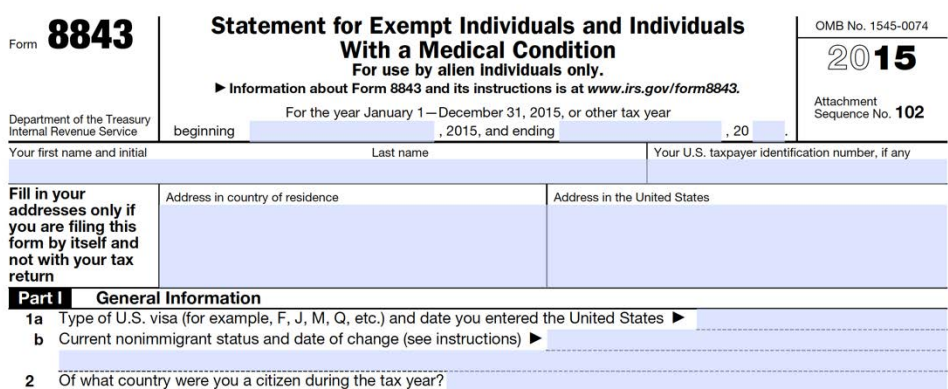
Jeremy Munza

Heuristic Evaluation
Expert 1: Jeremy Munza
Qualifications: Jeremy is the Student Director of the Low Income Taxpayer Clinic (LITC) and also volunteers with the Volunteer Income Tax Assistance (VITA) program. Both the LITC and VITA programs are run by a division of the IRS, the Taxpayer Advocate Service (TAS). His duties in his roles within these organizations include finding and preparing all requisite forms for completing taxes. While LITC and VITA tax preparation heavily relies on the IRS.gov website to find the required information, Mr. Munza prefers to use Google search to find forms as opposed to the search on the IRS.gov website. But, Google search pulls up links to the forms on the IRS.gov website.

Heuristic 1: Nielsen	**Visibility of System Status:** The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.
Expert Comments	There is no system status on any page of this website. There is no kind of status feedback. Although this was not an issue during this evaluation, Mr. Munza indicated that at high traffic times, the website can be very slow because the servers are busy. It would be very helpful to have system status showing – especially during high traffic seasons (April 15th and October 15th).

Heuristic 2: Nielsen	**Match Between System and the Real World:** The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.
Expert Comments	Form 8843 is for non-citizens who have a duty to file an exemption. But, the name of the form is "Statement for Exempt Individuals and Individuals with a Medical Condition". It would be more logical to have a form whose title indicated that it was for non-residents or foreign individuals claiming an exemption.
Example	

Heuristic 3: Nielsen	**Consistency and Standards:** Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.
Expert Comments	The headings on the website are links, but there is no indication that this is the case. (In the first screenshot, every word is a link – including the headers in the orange boxes.) Furthermore, when not on the homepage, the IRS logo in the top left corner can act as a link to the homepage, but this is also not marked. While this is a newer convention, not all users are aware of this convention and failing to label the link is not best practice. (The second screenshot is the screen that appears after a form search. The logo is not marked as a link to the homepage.)
Example

Screenshot 1 (above)

Screenshot 2 (below)

 |

Heuristic 4: Nielsen	**Recognition Rather than Recall:** Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.
Expert Comments	The main search box is not prominent on the screen. It is tucked away in the top right corner. Search should be the main function. Trying to read through all of the links and/or remember where your link is in all of the information on the home page takes too much time/memory. The search box would relieve this problem. Just enter in the information you want and it will return the correct forms and instructions. It would be better to have a page like Google's home page.
Example	

Heuristic 5: Nielsen	**Aesthetic and Minimalist Design:** Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.
Expert Comments	The home screen is busy. There is way too much information on the home screen. And, it takes two extra clicks to get to a form than it does when using Google Search.
Example	

Heuristic 6: Custom	**Clarity of Currentness:** Is it clear that the documents are time sensitive? Is the information clearly marked as current or relevant?
Expert Comments	It is not clear to a novice user that the forms are year specific. There are some hints on the form specific webpage that you might want to look for forms for specific years. But, from the homepage, it simply has the form numbers – which is not sufficient to ensure you have the right form.
Example	

Heuristic 7: Custom	**Download Time:** How long does it take to download necessary documents or forms?
Expert Comments	As in Heuristic 1, there are no status indicators. During this expert evaluation, this did not become an issue. But, Mr. Munza indicated that download times can be very slow during high traffic periods. And, the system crashes without sending any kind of indication that it has stopped working. It is not clear to any user whether he/she should refresh the page and start over or continue waiting for the document to download.

Heuristic 8: Custom	**Navigation:** Is the navigation easily understood? Is returning home from any page straightforward?
Expert Comments	On several pages, the navigation disappears completely. The best example is the screen reached when searching for forms from the forms page.
Example	

Screenshot showing IRS Current Forms & Publications Search page with a search box containing "1040" and search results:
[PDF] 2015 Form **1040**
www.irs.gov/pub/irs-pdf/f1040.pdf
Form **1040** Department of the Treasury—Internal Revenue Service (99) U.S. Individual Income Tax Return . 2015. OMB No. 1545-0074. IRS Use Only—Do not ...

[PDF] Form **1040** Instructions - Internal Revenue Service
www.irs.gov/pub/irs-pdf/i1040gi.pdf
See the instructions for Form **1040**, line 10, and if box 8 on Form 1099-G is checked, see the box 8 instructions RTAA payments (box 5) Form **1040**, line ...

[PDF] **1040**-C U.S. Departing Alien Income Tax Return

Heuristic 9: Custom	**Clarity of Content:** Is the information easy to find and search? How difficult is it to find the instructions for preparation relevant to the user? How easy are the steps to follow?
Expert Comments	The primary search box is not prominent on the page. There is a significant amount of information showing on the homepage. It would take significant time to read all of the links and attempt to decipher the correct link. It would be better to have a few prominent options with a large search box that is the primary focus. Furthermore, it takes two extra clicks to search and find the correct form through the IRS.gov primary search box than it takes to perform the same task with Google Search. A Google search takes the user to the same page of the IRS.gov website, but gets there with two fewer clicks. The additional steps are wholly unnecessary. For seasoned users, the results returned are acceptable. But, for non-professionals, it would be better to have the instruction document appear before the actual form. Non-professionals will need the instructions to ensure that they are downloading the correct forms and should read the instructions first. As discussed in Heuristic 2, many of the documents have misleading names. If the forms and documents were named more logically, it would make finding the correct information far easier. Users must dig deep into the documents to figure out what they need to do, what information pertains to them, and what additional documents/forms they may need. This is unreasonably difficult and time consuming.

Heuristic 10: Custom	**Trust and Confidence:** Is the user confident, after locating all of the documents and information he/she is able to find, that the information obtained is complete? Is the user confident that the documents found are the correct documents for that user?
Expert Comments	It is difficult even for an expert to have confidence that all of the forms and instructions necessary have been located. If the user has access to the website during tax preparation, this is not as significant of an issue because when you reach a line on a form that asks for a form you have not yet located, you can simply go back to the website and search for the additional form. But, if you used public library access to gather the forms and instructions and then went home to prepare the return, it is likely that will be missing something you need. This would require an additional trip to the public library. For those less mobile and with limited access to internet, this could be a very distressing issue.

It would be great to have a recommender system that would present the user with links to documents that are related to the current form or document being reviewed or searched. Then, the user is not required to read every line (even those that do not apply to him/her) to find out what forms will be necessary. (The screenshot below shows a form with embedded references to other forms. Currently, this is the only way to find necessary related forms.) |
| **Example** | |

Appendix B

Expert Heuristic Evaluation

Paul Newendy

Heuristic Evaluation
Expert 1: Paul Newendy
Qualifications: Paul is a volunteer for the Low Income Taxpayer Clinic (LITC) and also volunteers with the Volunteer Income Tax Assistance (VITA) program. Both the LITC and VITA programs are run by a division of the IRS, the Taxpayer Advocate Service (TAS). His duties in his roles within these organizations include finding and preparing all requisite forms for completing taxes. Paul noted that the website is particularly useful when he is working with individuals who have a financial or career situation that differs from the norm and requires different forms. Because all necessary forms and filing information is available via the IRS website, it is a useful resource for anyone filing taxes.

Heuristic 1: Nielsen	**Visibility of System Status:** The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.
Expert Comments	When asked to click a link and download a specific form as a PDF, the download took much longer than expected, and because there was not download status, Paul did not know if the problem was the link, the internet connection, or the website itself malfunctioning.
Example	

Heuristic 2: Nielsen	**Match Between System and the Real World:** The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.
Expert Comments	For an attorney well versed in the language used by the IRS for tax resources, it is easy to determine the correct language and terms to generate the appropriate forms from the search function on the site. However, for others who do not have tax law experience, assuming that a term is correct can cause the search function to return inappropriate forms.
Example	

Heuristic 3: Nielsen	**Consistency and Standards:** Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.
Expert Comments	The "Froms and Pubs" section on the homepage is very useful as it takes the user directly to the most common forms. However, for non-US citizens who are filing taxes (there are many), it is not immediately clear how to navigate to the appropriate forms for this demographic. A separate section dedicated to non-english speakers and non-US citizens would be very helpful.
Example	

Heuristic 4: Nielsen	**Recognition Rather than Recall:** Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information form one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.
Expert Comments	The links on the homepage are all immediately visible; however there are so many text links that they quickly overwhelm the user. It would be better if the links were still organized, but with less text. Further, the search function is very useful and should be more prominent.
Example	

Heuristic 5: Nielsen	**Aesthetic and Minimalist Design:** Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.
Expert Comments	The homepage displays a massive amount of information and links, making the display of these links much more ineffective. The homepage is symantically organized but visually very messy.
Example	

Heuristic 6: Custom	**Clarity of Currentness:** Is it clear that the documents are time sensitive? Is the information clearly marked as current or relevant?
Expert Comments	If someone is filing taxes for a year other than the current year, it is not immediately clear if the selected form is the correct one. Considering the added anxiety and stress that many users feel during tax season, filling out forms for back taxes when the appropriate forms are not immediately clear causes added stress and anxiety.
Example	

Heuristic 7: Custom	**Download Time:** How long does it take to download necessary documents or forms?
Expert Comments	Clicking on the common form "1040" took much longer to download than expected.
Example	

Heuristic 8: Custom	**Navigation:** Is the navigation easily understood? Is returning home from any page straightforward?
Expert Comments	Navigation is not straight forward or easily understood. The massive number of links on the page makes the website look much larger and complex than it really is and makes navigating to individual pages confusing. Further, clicking on the IRS logo in the header navigates back to the homepage; however, this is not immediately clear to the user.
Example	

Heuristic 9: Custom	**Clarity of Content:** Is the information easy to find and search? How difficult is it to find the instructions for preparation relevant to the user? How easy are the steps to follow?
Expert Comments	As long as the user knows the correct terms to search for, the search function on the site is very useful and efficient at returning the appropriate results.
Example	

Heuristic 10: Custom	**Trust and Confidence:** Is the user confident, after locating all of the documents and information he/she is able to find, that the information obtained is complete? Is the user confident that the documents found are the correct documents for that user?
Expert Comments	Yes, the IRS website provides useful information for finding the appropriate forms. Displaying tax instructions more prominently would aide in relieving user anxiety and making the process more efficient.
Example	

Appendix C

User Evaluation

Deepika Bajpai

<u>**User Evaluation**</u>

User Name: DEEPIKA BAJPAI

<u>**Qualifications:**</u>
The user I interviewed and observed is an International Indian student who is pursuing her masters in Computer Science, and has no prior experiences in filing tax returns. She was working back in India, but filing tax returns in India is a lot different than it is in US.

   The interview takes place on Sunday evening, in my living room at 6PM. The total time to interview and observe the given tasks given to the user took around 45minutes. Before, I gave her the task to try filing taxes in the irs.gov website, I asked few questions as a part of the pre-interview process. The pre-interview went as follows:
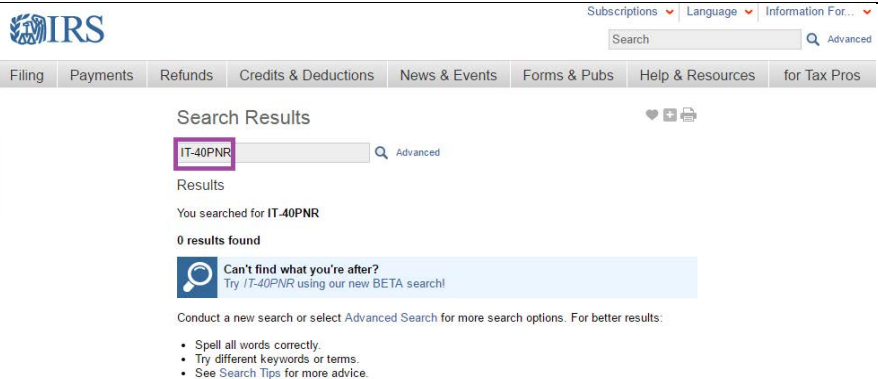
Initial Questions	Responses or Summary
1. Purpose of using IRS.gov?	I have a part time job on campus with Indiana University, and I need to find the W-2 form in the website and file it before the deadline. I heard law school students help us filing the taxes, but due to my busy schedule I couldn't book an appointment with them. Since the deadline is approaching I wanted to file taxes myself with the help of this website.
2. What are your general tax needs?	Since I am an international student, I received the W-2 form and I have to file the federal and state taxes.
3. Experience with taxes/tax prep in general?	I was working in a software company back in India, and my company themselves filed taxes for all its employees. Hence, I never had to file taxes exclusively on my own. This is the first time I am having to file taxes in this country, and this is totally new to me.
4. Experience with IRS.gov website?	Since I never had to file taxes before, I have not worked on this site before this year. This is the first time I am using the site to file my taxes.
5. For new users: what is your expected level of difficulty using the website?	Though I am technically good and have experiences playing around with new websites, since I have no prior experience with taxes, I assume it will be a little difficult. I would say, I expect maybe 7/10 difficulty level.
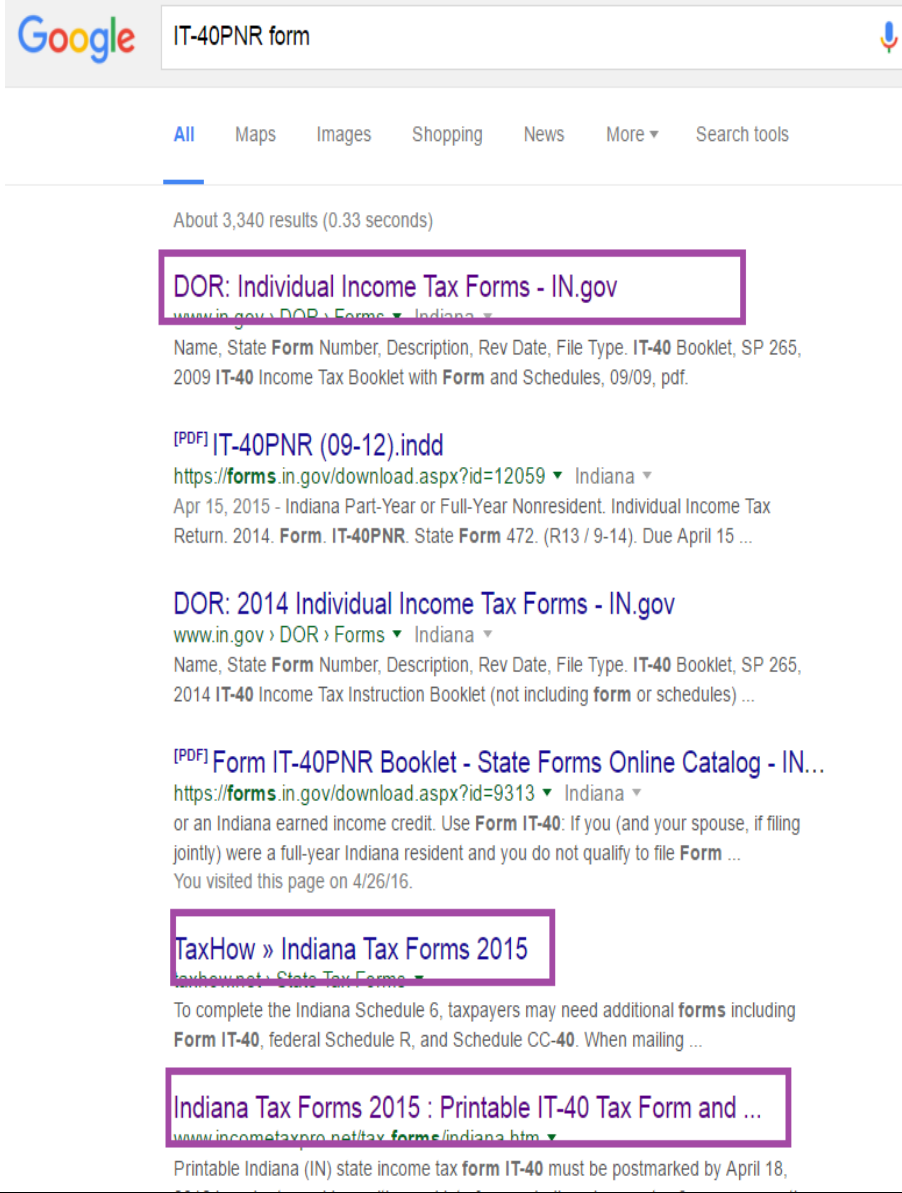
Observation task: Have the user identify the correct tax forms for filing his/her individual income tax return (1040, 1040EZ, 8843-exemption, etc). Then have the user try to find and download all of the related forms/instructions that he/she will need for that tax filing.

For observation, I asked her to go to the IRS website and locate the forms she requires and file them. She was able to navigate to the IRS website (https://www.irs.gov) as she is technically savvy. Since she is an International student and already received her W-2 form, she knew that she has to file federal and state tax. But, the website did not give her any guidance on which forms correspond to the federal and state tax. She googled to get this information and found out that she has to file 1040 form for the federal tax and the IT-40PNR form for state tax. In order to file the 1040 form, she clicks on "1040 form" on the left hand side of the webpage under the tab "Forms and Pubs".

After she found the 1040 form, she started filling it. Since it was her first time it took her more than expected time to complete the form. Once done, she tried searching for the IT-40PNR form to file state tax. But, she couldn't find the form in the website. When she searched for the form in google, she received it much faster than anticipated. The website was not of much help in retrieving the forms quicker.

She found both the forms required and filled them. She had issues finding the state tax. The post-interview questions focussed on her experiences with the website.

Post-Interview Questions	Responses or Summary
1. How usable was the website?	The website was quite useful in finding 1040 forms. Although, it did not give detailed information on what forms to be filled for federal and state tax. And also, I couldn't search for IT-40PNR form easily in the website, googling it was much faster.
Example:	

	Google IT-40PNR form 🎤 All Maps Images Shopping News More ▾ Search tools About 3,340 results (0.33 seconds) **DOR: Individual Income Tax Forms - IN.gov** www.in.gov › DOR › Forms ▾ Indiana ▾ Name, State **Form** Number, Description, Rev Date, File Type. **IT-40** Booklet, SP 265, 2009 **IT-40** Income Tax Booklet with **Form** and Schedules, 09/09, pdf. [PDF] IT-40PNR (09-12).indd https://**forms**.in.gov/download.aspx?id=12059 ▾ Indiana ▾ Apr 15, 2015 - Indiana Part-Year or Full-Year Nonresident. Individual Income Tax Return. 2014. **Form**. **IT-40PNR**. State **Form** 472. (R13 / 9-14). Due April 15 ... DOR: 2014 Individual Income Tax Forms - IN.gov www.in.gov › DOR › Forms ▾ Indiana ▾ Name, State **Form** Number, Description, Rev Date, File Type. **IT-40** Booklet, SP 265, 2014 **IT-40** Income Tax Instruction Booklet (not including **form** or schedules) ... [PDF] Form IT-40PNR Booklet - State Forms Online Catalog - IN... https://**forms**.in.gov/download.aspx?id=9313 ▾ Indiana ▾ or an Indiana earned income credit. Use **Form IT-40**: If you (and your spouse, if filing jointly) were a full-year Indiana resident and you do not qualify to file **Form** ... You visited this page on 4/26/16. TaxHow » Indiana Tax Forms 2015 taxhow.net › State Tax Forms ▾ To complete the Indiana Schedule 6, taxpayers may need additional **forms** including **Form IT-40**, federal Schedule R, and Schedule CC-**40**. When mailing ... Indiana Tax Forms 2015 : Printable IT-40 Tax Form and ... www.incometaxpro.net/tax **forms**/indiana.htm ▾ Printable Indiana (IN) state income tax **form** IT-40 must be postmarked by April 18,
2. How pleasant or unpleasant was the overall experience?	I wouldn't say it was pleasant and neither was it unpleasant. It was an average experience with the website. It took me longer time than expected, and did not receive all information I wanted.
3. What suggestions would you have to improve the website performance?	I wouldn't say it was pleasant and neither was it unpleasant. It was an average experience with the website. It took me longer time than expected, and did not receive all information I wanted.
4. Would you use this website again? And,	I wouldn't say it was pleasant and neither was it unpleasant. It was an average experience with the website. It took me longer time than expected, and did not receive all information I wanted.

for what purpose?	
5. For new users: how did your experience compare with prior expectation (e.g., more difficult, easier, as expected, etc.)?	Since I had no prior experience with this site or filing taxes, I expected it to be difficult at first. It was pretty easy to find the 1040 form. But, I had difficulty finding the IT-40PNR form. I would say it was as difficult as I expected.

Appendix D

User Evaluation

David Smith

<u>**User Evaluation by Elsie Smith**</u>
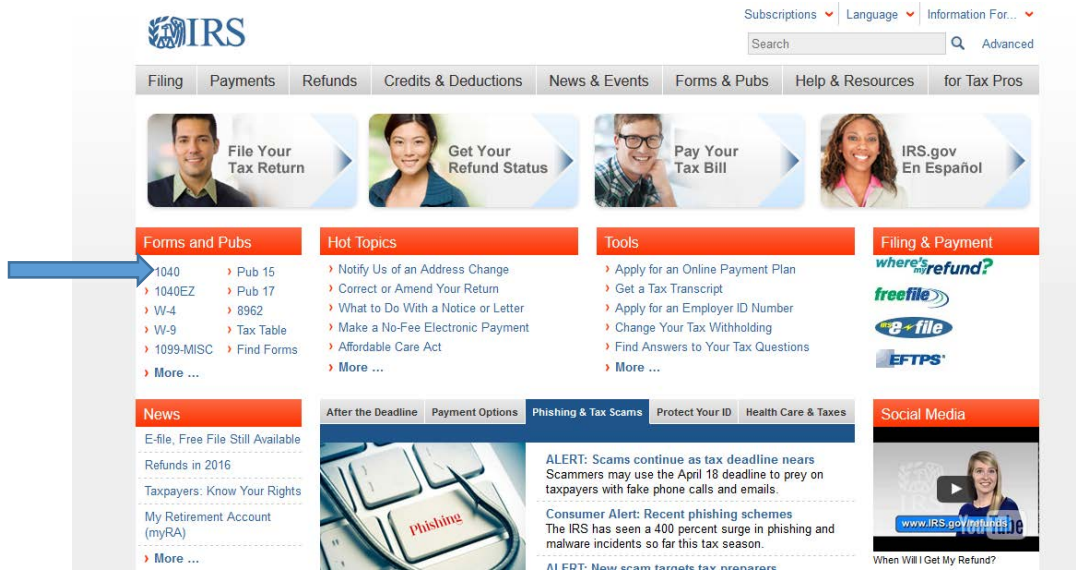User Name: David Smith

      The user that I interviewed is a husband and father who has had some previous tax experience doing his own family's taxes for the past few tax seasons, but has never used the IRS.gov website. He is very experienced, however, using computers and the internet in general. The interview takes place on Tuesday evening, April 19, 2016 about 7:00 p.m. in the living room of the interviewee. Before he begins evaluating the IRS website I ask him five pre-interview questions:

Initial Questions	Responses or Summary
1. Purpose of using IRS.gov?	**My purpose of using this website is to find the 1040 tax form which is the only form I've ever needed to file my taxes. Filing my family's taxes has always been very basic and non-complicated.**
2. What are your general tax needs?	**Just the basic 10-40 non-itemized form to fill out.**
3. Experience with taxes/tax prep in general?	**I have filed my own family's taxes every year for a few years. This tax season I used the Turbo Tax website, but I have normally used the H&R Block website in the past.**
4. Experience with IRS.gov website?	**I do not recall ever using the IRS website for anything that I can remember.**
5. For new users: what is your expected level of difficulty using the website?	**I expect that using the IRS website will be fairly easy because I am very good using the internet and I have used other tax sites before.**

Observation task: Have the user identify the correct tax forms for filing his/her individual income tax return (1040, 1040EZ, 8843-exemption, etc). Then have the user try to find and download all of the related forms/instructions that he/she will need for that tax filing.
Description of Observation: I explain to him that one of his tasks is to get on the IRS website and find the form he would need to file his taxes. He types in www.irs.gov into the

address bar of a laptop because, although he has never visited the site, he is familiar with the site's address. He browses the page, which he states is very user friendly and notices that everything is very visible. He looks at all the tabs across the top of the site and finds the "Forms and Pubs" tab across the very top in about thirty seconds. However, he wants to keep looking and he also finds an orange "Forms and Pubs" tab on the far left of the page. He then quickly finds the "1040" link because it is at the top of that list so he clicks it. Clicking the "1040" link brings up the easily identifiable printable 1040 2015 tax form. Here are images from that evaluation:

Post-Interview Questions	Responses or Summary
1. How usable was the website?	**The IRS website was very usable and very easy to use because as I stated before, the links/tabs are all very visible.**
2. How pleasant or unpleasant was the overall experience?	**Using the website was very pleasant because I found the 1040 tax form that I use**

	for my taxes in about a minute and the page overall is very pleasant to look at. I like the colors and everything is very easy to find.
3. What suggestions would you have to improve the website performance?	**Finding the 1040 tax form was so quick, easy and all the other information is still very visible and easy to find, that I can't think of any improvements that the IRS website needs. I also think the colors go well with the page and I like how there is no small print anywhere**.
4. Would you use this website again? And, for what purpose?	**I would definitely use this website again to use the "Where's my Refund?" link so I can see where my refund is if I have not got it back yet. I will also start using it more to find future needed tax forms and I would like to read about other information on the home page such as the Affordable Care Act and News & Events.**
5. For new users: how did your experience compare with prior expectation (e.g., more difficult, easier, as expected, etc.)?	**I said earlier that I thought it would be fairly easy but it is actually much easier than I thought. I have had frustrating experiences with other websites that was not very difficult to navigate but the IRS website was nothing like that.**

Appendix E

User Evaluation

Mei Ren

User Evaluation

User Name: Mei Ren

Mei Ren came to US last October as an exchange visitor to IUB. She is a non-native speaker without any tax knowledge and has never visited the IRS website before. She came from China, and has no idea of tax forms in USA. She did receive email from OIS before, but she could not find that email, and would like to be interviewed and observed during her work with the tax form.

The interview was conducted on the morning of April 15, in my apartment, quite and comfortable without interruption.

Before her actual work on IRS website, I asked her several questions following the pre-interview process.

Initial Questions	Responses or Summary
1. Purpose of using IRS.gov?	*I need to find form 8843, fill it according to the requirement and mail it finally. I couldn't find the email with hyperlink from OIS, because I have been hesitated to do this.*
2. What are your general tax needs?	*Since we have no income here, it's only a 8843 form to be filled. I need to find and download the 8843 form from the IRS website, understand how to fill it correctly, finish it and mail it before tomorrow.*
3. Experience with taxes/tax prep in general?	*I have never fill a tax form before, neither in my country nor in US. and today is almost the last day of the tax season and I learned from friends that I'd better fill a 8843 form anyway, even I do not receive any income from US.*
4. Experience with IRS.gov website?	*No, I never use this website before. Totally have no idea about it.*
5. For new users: what is your expected level of difficulty using the website?	*I really hate to do this, but since my task is not so complicated comparing with residents, and US official websites are usually not very difficult to use, my expectation is 8 (out of 10).*

Observation task: Have the user identify the correct tax forms for filing his/her individual income tax return (1040, 1040EZ, 8843-exemption, etc.). Then have the user try to find and download all of the related forms/instructions that he/she will need for that tax filing.
Description of Observation:

(1) Observe the user how to locate the right form
Since the user never visit IRS website before, she was asked to locate the right website first. When she searched "IRS" with Google, the target website should be irs.gov, but IRS.com is also in top 3 of the retrieval result list and that made a little confusion. She actually entered IRS.com website and it seemed no problem; she followed the e-file.com hyperlink and tried to register an account. Other websites such as onlinetax-center.com also looks very suitable for the user. She tried to register an account and finish the work online, but the password is difficult to set because it has rigid requirement for the safety purpose. Then she returned to the Google search result page and decided irs.gov should be the authoritative one.

(2) Observe the user how to locate the right form

The user first used the search bar at the up-right of homepage; she entered "8843" and "8843 form" later, but the right form seemed never on the top of the result list; (The third one is, titled as Form 8843, Statement for Exempt Individuals and Individuals …);

 so she entered the "Forms and Pubs" link on the left of the homepage, and searched "8843" again:

Forms & Publications

> Search Current Forms & Pubs
> Search Prior Year Forms & Pubs (Beta)

Browse
> List of Current Forms & Pubs
> List of Prior Year Forms & Pubs
> Accessible Forms & Pubs
> Browser-Friendly Pubs & Instructions
> Post-Release Changes to Forms & Pubs
> eBooks
> Order Forms & Pubs
> More Information

Taxpayer Bill of Rights
What You Should Know

CURRENT   PRIOR YEAR   ACCESSIBLE   EBOOKS

Use our Forms & Publications Search to quickly find and download current forms, instructions and publications. To get started, enter keywords into the box below and click Search.

8843   Search

Featured Forms & Publications   List of Current Forms & Pubs

INDIVIDUALS

Form 1040
US Individual Income Tax Return

Annual income tax return filed by citizens or residents of the United States.
Related: Instructions for Form 1040, Instructions for 1040 Tax Table

Form 4868
Application for Automatic Extension of Time To File U.S. Individual Income Tax Return

File Form 4868 and enclose payment of your estimate of tax due.

Form W-9

Used to request a taxpayer identification number (TIN) for

this time the form 8843 is right on the top of the result list. But showed as:

[PDF] 2015 Form 8843 - Internal Revenue Service

IRS | Current Forms & Publications Search

8843

[PDF] 2015 Form **8843** - Internal Revenue Service
www.irs.gov/pub/irs-pdf/f8843.pdf
Form **8843** Department of the Treasury Internal Revenue Service Statement for Exempt Individuals and
With a Medical Condition For use by ...

[PDF] Election to Use Different Annualization periods for ...
www.irs.gov/pub/irs-pdf/f8842.pdf
Form 8842 Election To Use Different Annualization Periods for Corporate Estimated Tax OMB No. 1545-
Department of the Treasury (Rev. December ...

[PDF] IRS Form 8833 "Treaty-Based Return Position Disclosure".
www.irs.gov/pub/irs-pdf/f8833.pdf
General Instructions Purpose of Form Form 8833 must be used by taxpayers to make the treaty-based re
position disclosure required by section 6114.

[PDF] 2015 Form 8840 - Internal Revenue Service
www.irs.gov/pub/irs-pdf/f8840.pdf

They are actually the same form.

(3) Observation during the form filling process—How the use looked for help information

The user download the right 8843 from and began to fill it. One trouble she encountered is to count the days she stays in the United States, she calculated by herself and it cost time to get the right number; another issue is about if the user should get exempt for her staying here, she searched online but found no explanation and finally she found the instruction is right on the end of 8843 form.
Also about how to mail the form, she complained that it's not so convenient to find the information online which is actually also on the end of the form.
She clicked the "Help & resources" but felt reluctant to look for the right information from the list; The most helpful information is actually a sample got from other channel provided in her mother language, with detailed explanation on how to fill each blank.

Post-Interview Questions	Responses or Summary
1. How usable was the website?	The scored is 8 out of 10. To read the website is a little difficult but the form itself is not so difficult. But there seems not so many descriptive content online.

2. How pleasant or unpleasant was the overall experience?	*The scored is 8 (1〜10). But the Raiders (a sample form with explanation in her own language) is very helpful otherwise the process will be more difficult."*
3. What suggestions would you have to improve the website performance?	*I wish they could provide sample forms for the very beginner with explanation in their mother languages.*
4. Would you use this website again? And, for what purpose?	*I will. Since I have used it once, got kind of familiar with it. If I need to fill tax form again, I will use it.*
5. For new users: how did your experience compare with prior expectation (e.g., more difficult, easier, as expected, etc.)?	*As expected. But the main reason is I only need to fill one form and I got a sample from my social media group. Otherwise the experience will be more difficult.*

Appendix F

IRS Memo Provided by Ms. Wilson

MSP #5

TAXPAYER ACCESS TO ONLINE ACCOUNT SYSTEM: As the IRS Develops an Online Account System, It May Do Less to Address the Service Needs of Taxpayers Who Wish to Speak With an IRS Employee Due to Preference or Lack of Internet Access or Who Have Issues That Are Not Conducive to Resolution Online

RESPONSIBLE OFFICIALS

Terry Milholland, Chief Technology Officer
Edward Killen, Director, Privacy, Governmental Liaison and Disclosure
Debra Holland, Commissioner, Wage and Investment Division
Rene Schwartzman, Business Modernization Executive, Wage and Investment Division
Rajive Mathur, Director, Office of Online Services

TAXPAYER RIGHTS IMPACTED[1]

- *The Right to Be Informed*
- *The Right to Quality Service*
- *The Right to Pay No More Than the Correct Amount of Tax*

DEFINITION OF PROBLEM

The National Taxpayer Advocate has advocated for years that the Internal Revenue Service (IRS) develop an online account system for taxpayers.[2] In fact, the IRS is now planning an online account system and even identified taxpayer online account access as one of the key capabilities to achieve its compliance vision.[3] We are pleased that the IRS is moving forward with plans to develop such a system, due to the benefits to both taxpayers and the IRS. Taxpayers with access to the system will be more informed about their tax accounts and have the tools to interact with the IRS in a convenient manner. The IRS, in turn, may benefit from both reduced and more fruitful phone calls because many of the callers will be more prepared to discuss relevant issues or ask pointed questions due to the information available on the online account system.[4] However, the IRS cannot ignore the service needs of a significant portion of the taxpayer population who still require more personalized service options, such as face-to-face or telephone services, due to preference or lack of access to the Internet. In addition, even the most technologically savvy taxpayers may at times need to use personal services because the issue they have is not conducive to resolve online. While in the current budget environment it may be tempting to move taxpayer service toward superficially lower-cost self-assistance options, any efforts to significantly reduce personal service

---

1   *See* Taxpayer Bill of Rights, *available at* www.TaxpayerAdvocate.irs.gov/taxpayer-rights.

2   *See, e.g.*, National Taxpayer Advocate 2013 Annual Report to Congress vol. 2, 67-96 (Research Study: *Fundamental Changes to Return Filing and Processing Will Assist Taxpayers in Return Preparation and Decrease Improper Payments*).

3   IRS, *IRS Enterprise Concept of Operations (CONOPS): Taxpayer Advocate Service Briefing* 5 (July 28, 2015) (on file with the National Taxpayer Advocate).

4   As of May 2, 2015, approximately 83.2 million taxpayers contacted the IRS by calling the various Customer Account Services function toll-free telephone assistance lines. IRS assistors have answered approximately 8.3 million calls and provided a 37.6 percent Level of Service with a 23.5 minute Average Speed of Answer. Treasury Inspector General for Tax Administration, Ref. No. 2015-40-080, *Results of the 2015 Filing Season* 17 (Aug. 31, 2015).

> While in the current budget environment it may be tempting to move taxpayer service toward superficially lower-cost self-assistance options, any efforts to significantly reduce personal service options may ultimately impair voluntary compliance and undermine the taxpayers' *right to quality service*, *right to be informed*, and *right to pay no more than the correct amount of tax*.

options may ultimately impair voluntary compliance and undermine the taxpayers' *right to quality service*, *right to be informed*, and *right to pay no more than the correct amount of tax*.[5]

Research has shown individuals and businesses prefer multi-channel service delivery for government services. For example, a survey of German taxpayers showed that even those who ordinarily demand online services prefer to interact in person when they need more individualized services.[6] While the delivery of online services may appear cost-effective at first glance, focusing solely on one method of service delivery is short-sighted, because it does not properly address the actual service needs of taxpayers. Ignoring the service needs of a significant segment of the population will likely impact voluntary compliance and have far more costly downstream consequences for the IRS.

Finally, the National Taxpayer Advocate remains concerned about the scope of the self-correction authority set forth in the draft Concept of Operations (CONOPS). It is unclear whether the self-corrections could address adjustments made pursuant to the agency's math error authority or whether they will extend beyond math error so that they constitute an abbreviated audit.[7] More importantly, it is unclear if these corrections will constitute an amended return or if the original return remains unprocessed until corrected. All of these options have legal consequences to the taxpayer with potential negative impacts on taxpayer rights.

ANALYSIS OF PROBLEM

Background

The IRS's Enterprise CONOPS is a formal servicewide plan developed to define the future direction of the agency and identify the capabilities it needs to achieve this vision.[8] One of the main themes of the CONOPS is to empower taxpayers with the tools they need to facilitate compliance. In order to achieve this goal, the IRS has identified digital taxpayer account management and self-correction as key capabilities.[9] According to the IRS draft CONOPS, online account access would enable taxpayers, preparers, and authorized third parties to securely interact with the IRS to obtain return information, submit payments, and receive status updates. It would also enable them to perform "self-correction" functions such as verifying return changes made by the IRS, updating or amending returns, and providing additional documents.[10]

---

5   For a detailed discussion of the Taxpayer Bill of Rights, *see* http://www.taxpayeradvocate.irs.gov/About-TAS/Taxpayer-Rights.

6   Julia Klier, Regina Pfleger & Lea Thiel, *Just Digital or Multi-Channel? The Preferences of E-Government Service Adoption by Citizens and Business Users*, Wirtschaftsinformatik Proceedings 2015 180, 190 (2015), *available at* http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1012&context=wi2015.

7   *See* IRC §§ 6213(b)(1),(g)(2).

8   *See* Most Serious Problem: *Taxpayer Service: The IRS Has Developed a Comprehensive "Future State" Plan That Aims to Transform the Way It Interacts with Taxpayers, But Its Plan May Leave Critical Taxpayer Needs and Preferences Unmet, supra*.

9   IRS, *IRS Enterprise Concept of Operations (CONOPS): Taxpayer Advocate Service Briefing* 5 (July 28, 2015) (on file with the National Taxpayer Advocate).

10   Draft IRS Compliance Concept of Operations (CONOPS) 3, 19-22 (June 8, 2014) (on file with TAS).

The IRS Cannot Drastically Reduce Both Face-to-Face and Telephone Services As It Focuses on Online Services Because Taxpayers Will Still Continue to Require Personal Services

Based on a 2014 survey, Forrester Research concluded that the public still uses non-digital channels more than digital ones. In fact, 37 percent of these survey participants indicated they do not trust the federal government to secure their personal data. Based on the survey findings, Forrester concluded that "[f]ederal agencies must act more strategically. They can win trust by perfecting existing [channels] before expanding and explaining the benefits of new channels as they roll out."[11] The recent security breaches pertaining to the IRS's "Get Transcript" online application and the Office of Personnel Management's (OPM) breach of federal employee records will only serve to undermine taxpayers' trust in communicating with the IRS and government online.[12]

Furthermore, additional research has shown individuals and businesses prefer multi-channel service delivery for government services.[13] Individuals prefer online services for information services, because they can gather and receive information or data on their own schedule and without a need for further discussion. However, they prefer to interact in-person when they need more individualized services. This multi-channel preference even exists for younger and well-educated individuals who typically have greater preferences for online services.[14] As for businesses, the medium to large companies prefer online services more than small businesses.[15]

It is not surprising that taxpayers continue to demand more personalized services considering the complexity of the tax law.[16] For those taxpayers comfortable using self-service options online, they must still struggle with understanding the substance of the tax law and how it applies to their unique circumstances. While the IRS official website is helpful and extensive, it currently has approximately 140,000 pages which can be overwhelming to taxpayers unfamiliar with the tax law.[17] Moreover, the website is not currently easy to navigate when using a mobile device, which could be a serious access issue for the increasing taxpayer population using smartphones.[18]

---

11   Rick Parrish, Forrester Research, *Washington Must Work Harder to Spur the Public's Interest in Digital Government: Federal Agencies Are Spending Millions on Digital CX That Customers May Not Want* (Apr. 28, 2015) (in response to the survey question "In which of the following ways do you interact with US federal government agencies?" respondents chose the following digital methods: 41 percent indicated website, 16 percent indicated email, four percent chose Facebook, three percent chose mobile app, three percent chose online chat (text), two percent chose online chat (video), two percent chose Twitter, one percent chose Instagram, and one percent chose other social media. Respondents chose the following nondigital methods: 37 percent chose in person, 33 percent chose postal mail, and 32 percent chose phone).

12   IRS, IRS *Statement on the "Get Transcript" Application* (June 2, 2015); OPM, Announcements, *Information About the Recent Cybersecurity Incidents* (June 23, 2015).

13   As noted above, this was a survey of German taxpayers published in 2015. *See* Julia Klier, Regina Pfleger & Lea Thiel, *Just Digital or Multi-Channel? The Preferences of E-Government Service Adoption by Citizens and Business Users*, Wirtschaftsinformatik Proceedings 2015, 180, 190 (2015), *available at* http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1012&context=wi2015.

14   In fact, the 2013 Taxpayer Experience Survey conducted by IRS W&I Research and Analysis (WIRA) found that for all age categories of taxpayers (not just the elderly), only 34 percent felt secure sharing personal financial information over the Internet. IRS, W&I, *Use of Technology among Elderly and Low-income Taxpayers, Research Support for Fiscal Year (FY) 2015 Services Approach Efforts* 34 (May 2015).

15   Julia Klier, Regina Pfleger & Lea Thiel, *Just Digital or Multi-Channel? The Preferences of E-Government Service Adoption by Citizens and Business Users*, Wirtschaftsinformatik Proceedings 2015, 180, 190 (2015), *available at* http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1012&context=wi2015.

16   For a discussion of tax law complexity, see National Taxpayer Advocate 2012 Annual Report to Congress 3-23.

17   Information provided from IRS Office of Online Services, Online Engagement, Operations and Media (Sept. 25, 2015).

18   Aaron Smith, Pew Research Center, *U.S. Smartphone Use in 2015* 1 (April 1, 2015).

The IRS can partially address the demand for more individualized service by offering personalized digital services, such as live chat. Live chat has been found to successfully meet the needs of those who need immediate answers to simple questions.[19] However, a recent survey found demand for live chat falls short of demand for telephone services when addressing complex financial questions.[20]

The IRS Must Balance the Added Convenience of Expanding Online Services Against the Inherent Security Risks

The IRS is planning to expand its online service offerings to include more convenient methods for taxpayers to interact with the tax agency.[21] However, there is a risk involved in expanding online services, given the sensitive nature of the information entrusted with the IRS. The recent unauthorized access by cybercriminals of the IRS's "Get Transcript" application and resulting theft of the confidential tax return information of more than three hundred thousand taxpayers highlights the importance of cybersecurity considerations.[22] The OPM announcement earlier in the year concerning the hacking of its database, making vulnerable the personal information, and in some cases the fingerprints, of an estimated 21.5 million current and former federal employees, applicants, and their families has further undermined public trust in government online applications.[23] The continuing discovery of the depth of the breach will likely erode taxpayer confidence in using online services offered by the government.

> Individuals prefer online services for information services, because they can gather and receive information or data on their own schedule and without a need for further discussion. However, they prefer to interact in-person when they need more individualized services.

In the wake of these recent cybersecurity breaches, the IRS should take time to investigate how taxpayers will respond to the necessary cybersecurity-related barriers to entry. Most taxpayers are fully aware that IRS systems contain extremely confidential tax return information and may be willing to tolerate extra security measures to access their accounts. In fact, the IRS has one of the most important and valuable stores of information in the world. Because the information it stores is a major asset of the United States and the stakes are high if the system is compromised, the IRS needs to take significant measures to protect its data. However, it is unclear at what point taxpayers decide the extra security precautions are too burdensome and avoid online account access as a result.

Further, the IRS should conduct a biennial nationwide survey of taxpayers to gauge what specific types of transactions or other activities they would be willing to conduct with the IRS digitally. By conducting the survey every other year, the IRS will have the ability to identify trends in IRS-specific digital needs and respond accordingly. In addition, the survey should include oversamples of low

---

19   The IRS has researched taxpayer demand for a potential secure online chat feature or "live chat" and a 2014 IRS study shows that taxpayers are interested in using this feature for the following transactions: submitting documentation, obtaining the status of a case, and discussing case details. IRS, WIRA, *Compliance TDC Conjoint: Findings and Recommendations* (Sept. 2014).

20   A survey conducted by Software Advice found 74 percent of respondents prefer telephone for complex financial questions. Craig Borowski, *The Impact of Demographics on Live Chat Customer Service*, Software Advice (Jan. 6, 2015).

21   IRS, *IRS Enterprise Concept of Operations (CONOPS): Taxpayer Advocate Service Briefing* 5 (July 28, 2015) (on file with the National Taxpayer Advocate).

22   IRS, *Additional IRS Statement on the "Get Transcript" Incident* (Aug. 17, 2015).

23   OPM Statement, *Statement by OPM Press Secretary Sam Schumach on Background Investigations Incident* (Sept. 23, 2015); Devlin Barrett and Damian Paletta, *Officials Masked Severity of Hack*, Wall St. J., June 24, 2015, *available at* http://www.wsj.com/articles/hack-defined-as-two-distinct-breaches-1435158334; Ellen Nakashima, *Chinese Breach Data of 4 Million Federal Workers*, Wash. Post, June 4, 2015, *available at* http://www.washingtonpost.com/world/national-security/chi-nese-hackers-breach-federal-governments-personnel-office/2015/06/04/889c0e52-0af7-11e5-95fd-d580f1c5d44e_story.html.

income, Spanish-speaking and small business taxpayers to ensure that the IRS tracks the needs of these populations.[24]

Comprehensive Studies Demonstrate Low Income and Other Vulnerable Taxpayer Populations Need Person-to-Person Assistance to Comply with Their Federal Tax Obligations

In 2014, TAS, which oversees and administers the Low Income Taxpayer Clinic (LITC) grant program for the IRS,[25] commissioned a survey by Russell Research to better understand the needs and circumstances of taxpayers eligible to use the clinics. The survey found 15 percent of LITC-eligible taxpayers reported receiving notices from the IRS. In response, 55 percent called the IRS, 29 percent replied by letter, 24 percent contacted their preparers, and nearly 20 percent did nothing (the survey allowed more than one response).[26]

Further, Pew Research Center periodically conducts surveys to determine Internet usage by American adults. While the survey results clearly show a steady rise in Internet usage among all populations, some populations adopt at a slower pace than others. Significant percentages of certain populations still fall behind and will need to use methods that do not involve Internet usage to interact with the IRS. The following figure shows categories of taxpayers with lower Internet usage rates, as of May 2015: [27]

FIGURE 1.5.1, 2015 Pew Research Center Survey Results of Internet Use Among Different Categories of Taxpayers

Category	Percent
Overall American adult population	84%
Age: American adults 65+	58%
Education Attainment: Less than high school degree	66%
Household Income: Less than $30,000	74%
Race or Ethnicity: African Americans	78%
Race or Ethnicity: Hispanics	81%
Community Type: Rural	78%

---

24 This recommended survey is envisioned to be more comprehensive than the Compliance TDC Conjoint study conducted by the IRS in 2014. It should specifically address the reasons why taxpayers would or would not use a particular service channel for each type of transaction conducted with the IRS, with a particular focus on low income and small business taxpayers. IRS, WIRA, *Compliance TDC Conjoint: Findings and Recommendations* (Sept. 2014). "Low income taxpayer" is generally defined as a taxpayer who has a household income that does not exceed 250% of the federal poverty level (FPL), based on the annual poverty guidelines published by the Department of Health and Human Services.

25 The IRS awards matching grants to organizations that provide representation to low income individuals who need help resolving tax problems with the IRS. *See* IRC § 7526. At least 90 percent of the taxpayers represented by an LITC must have incomes that do not exceed 250 percent of the federal poverty level. *See* IRC § 7526(b)(1)(B)(i). The U.S. Department of Health and Human Services publishes yearly poverty guidelines in the Federal Register, which the IRS uses to establish the 250 percent threshold for LITC representation. For the 2015 poverty guidelines, see 80 F.R. 3236-3237 (Jan. 22, 2015).

26 This Random-Digit Dialed (RDD) telephone survey utilized both cell phone numbers and landline numbers to reach participants. This approach was used to make sure all groups of the LITC-eligible taxpayers were represented in the survey. The survey included more than 1,100 individuals and gathered information on eligible taxpayers' awareness and use of LITC services, the types of issues for which they would consider using clinic services, and other items including demographic information. *See* National Taxpayer Advocate 2014 Annual Report to Congress vol. 2, 1-26 (Research Study: *Low Income Taxpayer Clinic Program: A Look at Those Eligible to Seek Help from the Clinics*).

27 Andrew Perrin and Maeve Duggan, Pew Research Center, *Americans' Internet Access: 2000–2015* (June 26, 2015).

A 2015 online survey by Forrester Research explored the use of certain devices to conduct various transactions online. While this study was conducted online and thus excluded responses from offline individuals or those with limited online capabilities, it produced some noteworthy findings:[28]

- On average, only 19 percent of adults search for government services and policies with a personal computer or laptop. This rate drops to 11 percent when using personal tablets and to seven percent when using a mobile phone.

- With few exceptions, those in lower income brackets used all devices to conduct online financial transactions less frequently than the national average.

- On average, 22 percent of adults use their mobile phones to check financial statements. Only 16 percent use their mobile phones to pay bills and 16 percent used their mobile phones to transfer money between accounts.

In fiscal year (FY) 2015, the Wage and Investment (W&I) Operating Division compiled existing research on American technology usage to determine the impact reductions in the Taxpayer Assistance Center (TAC) budget and IRS printed forms and publications would have on the elderly, low income, and rural communities.[29] The research found that, while each community saw a steady increase in Internet usage, these communities had lower computer ownership and Internet usage rates. Interestingly, the research also found that southern states are more likely to have lower percentage of households that own a computer. The research emphasized that offline taxpayers are equally as likely to access face-to-face services at TACs as they are to use irs.gov, and that they are more likely to use the IRS toll-free line compared to TACs and irs.gov.[30] The research also noted that the 2013 Taxpayer Experience Survey conducted by IRS W&I Research and Analysis (WIRA) found that for all age categories of taxpayers (not just the elderly), only 34 percent of taxpayers felt secure sharing personal financial information over the Internet.[31]

> While the IRS official website is helpful and extensive, it currently has approximately 140,000 pages which can be overwhelming to taxpayers unfamiliar with the tax law. Moreover, the website is not currently easy to navigate when using a mobile device, which could be a serious access issue for the increasing taxpayer population using smartphones.

Finally, the IRS conducted a survey in 2014 to determine taxpayer usage of existing service channels as well as planned future service channels for different types of transactions. The findings showed migration for each type of transaction toward future service channels, including secure message, secure online chat, the online account program, smartphone applications, and automatic email or text notifications. However, the results showed that some taxpayers prefer to stay with existing service channels. The following figure illustrates the percentages of taxpayers who would prefer to use existing service channels, when compared with a potential future state service configuration, by type of transaction. [32]

---

28 Because this survey was conducted online, the reported usage rates may be higher than for the general population. Forrester Research, *North American Consumer Technographics Online Benchmark Survey*, Part 1 (2015) (on file with TAS).

29 IRS, Wage & Investment, *Use of Technology among Elderly and Low-income Taxpayers, Research Support for Fiscal Year (FY) 2015 Services Approach Efforts* (May 2015).

30 *Id*. at 23.

31 *Id*. at 13.

32 IRS, W&I Research & Analysis, *Compliance TDC Conjoint: Findings and Recommendations* (Sept. 2014).

FIGURE 1.5.2, Percentage of Taxpayers Choosing to Remain with Existing Service Channels Despite the Introduction of New Channels, By Type of Transaction

Type of Transaction	Percentage of Taxpayers Choosing to Stay With Existing Service Channel
Status of Case	Phone (Customer Service Representative (CSR)): 11%
Sign a Document	Phone (CSR): 13% Fax: 15% Regular Mail: 16%
Discuss Case Details	Phone (CSR): 43% Regular Mail: 15%
Request an Extension	Phone (CSR): 30% Regular Mail: 23%

The LITC-eligible taxpayer survey, the Pew and Forrester findings, as well as the IRS's own research support the need for the IRS to design a taxpayer service strategy based on the actual requirements of the taxpayer population rather than focusing on initially attractive but ultimately short-term resource savings. The survey findings and studies show a significant portion of taxpayers may not use online or self-assistance services. While online self-help tools certainly have significant benefits in that they address the needs of an increasing portion of the population in a lower-cost manner, the IRS is harming offline taxpayers when it significantly decreases the face-to-face and person-to-person telephone services. The IRS has already begun to reduce the amount of full-time equivalent employee (FTE) resources to the phones and to the TACs. Figure 1.5.3 illustrates the budgeted FTE for both types of services between FY 2013 to FY 2015. [33]

FIGURE 1.5.3, W&I Full-Time Equivalent Employee Expenditures for Toll-Free and Field Assistance

	FY 2013	FY 2014	FY 2015	FYs 2013 to 2015 % Change
Toll-Free	7,726	6,915	4,591	-40.6%
Field Assistance	1,892	1,927	1,868	-1.3%

Questions Remain Concerning the Legal Implications of Self-Correction Authority

The National Taxpayer Advocate remains concerned about the scope of the self-correction authority set forth in the draft CONOPS. For example, it is unclear whether the self-corrections could address adjustments made pursuant to the agency's math error authority or whether they will extend beyond math error so that they constitute an abbreviated audit.[34] More importantly, it is unclear what these corrections will constitute. If the taxpayer corrects the return pursuant to the new self-correction authority, will the correction constitute an amended return or is the return still an original return that the IRS has not yet completely processed? All of these possible options have legal consequences to the taxpayer and all have potential negative impacts on taxpayer rights.

---

33   IRS, W&I Division response to TAS information request (Sept. 22, 2015) (Field Assistance numbers include management and headquarters; for FY 2015, Field Assistance FTE is projected and Toll-free is through Aug. 15, 2015).

34   The IRS is currently authorized to correct mathematical or clerical errors — arithmetic mistakes and the like — and assess any tax increase using summary assessment procedures that do not provide the taxpayer an opportunity to challenge the proposed deficiency in the United States Tax Court before the tax is issued. See IRC §§ 6213(b)(1),(g)(2). Consequently, the use of math error bypasses critical procedural taxpayer rights protections.

Even more disturbing is the Administration's proposed legislation to give the IRS more flexibility to address "correctable errors" (by regulation); this new category of "correctable errors" would give the IRS the authority to make adjustments not covered by existing math error authority.[35] It is unclear if the IRS will give preparers and third parties the authority to address these correctable errors.[36] The National Taxpayer Advocate will seek a Counsel opinion to determine the boundaries and corresponding legal implications of such authority.

CONCLUSION

As the IRS migrates toward more digital interactions with the taxpayers, it is essential that it continues to offer personal services to those taxpayers who either (1) do not have the ability to use digital services, (2) have a strong preference to conduct certain transactions by phone or face-to-face, or (3) have an issue that is not conducive for resolution through digital means. The various studies discussed herein show that a significant segment of the taxpayer base may not be ready to interact with the IRS digitally. Furthermore, recent cybersecurity attacks on both IRS applications and OPM databases highlight the need to balance security risks with any online benefits applicable to both taxpayers and the IRS.

RECOMMENDATIONS

The National Taxpayer Advocate recommends that the IRS:

1. Conduct a biennial nationwide survey of taxpayers to identify trends and determine the types of transactions or other activities taxpayers would be willing to conduct with the IRS digitally. The survey should include oversamples of low income, Spanish-speaking, and small business taxpayers to ensure that the IRS tracks their needs.

2. Conduct research to identify the taxpayer base who will utilize the online taxpayer account system as well as other online service offerings. For those taxpayers likely to use the online services, the research should break it down by specific types of transaction or interaction with the IRS. Further, if a taxpayer has indicated that he or she will not use the program, the research should address the reasons for not using the program.

3. Incorporate into the CONOPS, budget initiatives, and in the strategic plan a recognition and plan for meeting the service needs of those taxpayers who are not likely to use online service offerings. Such plan should take into account the reasons for the taxpayer's behavior and potentially tailor the personal services to meet those needs.

4. Research taxpayer response to the necessary online account system cybersecurity and authentication measures to determine the percentage of taxpayers who decide the necessary barriers to entry are too burdensome and avoid online account access as a result.

---

35 The proposed correctable error authority would enable the IRS to assess tax without using the deficiency procedures in the following situations: (1) the information provided by the taxpayer does not match the information in government databases; (2) the taxpayer has exceeded the lifetime limit for claiming a deduction or credit; or (3) the taxpayer has failed to include with his or her return documentation required by statute. Department of the Treasury, *General Explanations of the Administration's Fiscal Year 2016 Revenue Proposals* 245-46 (Feb. 2015), *available at* http://www.treasury.gov/resource-center/tax-policy/Pages/general_explanation.aspx.

36 For more detail on the National Taxpayer Advocate's position on the proposed correctable error legislation, see *The National Taxpayer Advocate's 2014 Annual Report to Congress: Hearing Before the H. Comm. on Oversight and Government Reform, Subcomm. on Government Operations*, 114th Cong. 34-35 (2015) (written testimony of Nina E. Olson, National Taxpayer Advocate).