

Karlen Communications

PDF and the User Experience Survey 2023 Results



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Introduction

The last PDF and the User Experience Survey was done in 2018, before the pandemic.

This survey, “PDF and the User Experience Survey 2023”, asks about personal experiences using Portable Document Format (PDF) files with adaptive technology such as screen readers, Text-to-Speech Tools and voice recognition software.

I, Karen McCall, am an independent researcher and document expert. I conducted this research to inform my own knowledge. As a digital document expert, I volunteer my time and sit on standards committees. Professionally, I am a paid consultant. As a volunteer, committee member and/or a consultant, I work with Government Standards, organizations (such as Adobe, Microsoft, etc.), accessibility organizations, and my own consulting company Karlen Communications. I conducted this study on my own time and will not be profiting off of the results.

This survey attempts to identify end-user frustrations and successes for those of us with disabilities who have to access PDF (Portable Document Format) files on a daily basis.

PDF was invented to have a paper equivalent in a digital form that can easily travel between computers and retains visual integrity; some support for programmatic content access was implied but not enforced (or even encouraged); but for example, extracting text (independent of overall reading order) for the purpose of indexing and searching was an important feature early on, and OCR vendors made quite a bit of revenue by turning PDFs (as much as TIFF or other formats) into indexable content.

In the early 2000’s, Adobe Systems, the world leader in PDF content and conversion tools, embarked on a path to ensure that PDF documents would be accessible for those of us with disabilities who were using adaptive technology such as screen readers, Text-to-Speech tools or screen magnification.

With many countries having legislation about the accessibility of “web content” including any document formats on a website, are there still frustrations and problems for those of us with disabilities in accessing PDF documents? In balance, what do end-users find is working for them, has lessened the frustration in reading PDF documents. Does the device, adaptive technology and/or PDF viewer/reader make a difference in their experience?

In this document, the term “those of us with disabilities” is used to be more inclusive.

Survey Structure

The survey is divided into two sections: administrative to gather a demographic sense of users and anecdotal-based questions designed to elicit responses based on personal experience.

The survey was distributed using Microsoft Forms through social media and discussion lists about digital accessibility and disability studies.

Each participant in the survey is assigned a unique identification number.

Respondents were asked for their name and e-mail address to validate the research and to be able to contact them if the survey is used as part of my doctoral work.

Respondents were provided with random ID numbers in Excel. The process is as follows:

1. Select the cells you want random numbers in.
2. With the cells selected, type “rand()” without the quotes.
3. Press Ctrl + Enter.
4. The cells are populated with random numbering.
5. There is a “0.” Before each number. This was removed as decimal numbers were not needed.
6. The result is a series of random number identifiers with one assigned to each respondent.

The questions in this document begin after the contact part of the survey, with question 3.

Survey Iterations

The Karlen Communications website has a [Research Survey](http://www.karlencommunications.com/Research.html)¹ page devoted to my research into digital accessibility.

The survey results are presented in this report as they are, without interpretation.

The results of my research have been presented at international conferences and published as journal articles. This includes the results of the PDF and the User Experience Survey, the PDF Remediators Survey, the Alt Text and Complex Graphics Survey, the Complex Data Table Accessibility Survey and the Survey about People Describing Themselves in Meetings Survey.

Non-Responses

This is the first time Microsoft Forms was used for the survey.

Microsoft Forms doesn't have a generic question that provides a list of countries. Some early respondents identified that the list I tried to create wasn't complete. I then replaced that question with an open-ended question allowing respondents to enter the name of their

¹ Research Projects, Karlen Communications: <http://www.karlencommunications.com/Research.html>

country. The results of that question were then consolidated to provide a more accurate identification of countries.

Future iterations of this will ensure that all questions require an answer. This should provide a broader range of results.

When a respondent does not provide an answer in this survey, "NA" is entered in the corresponding table.

In the "Additional Comments" there is a comment about the colour contrast of the Microsoft Forms form header I chose. I checked it with the [Colour Contrast Analyzer](#)² from TPGi (The Paciello Group International) and it passed all checkpoints.

² Colour Contrast Analyzer, TPGi: <https://www.tpgi.com/color-contrast-checker/>

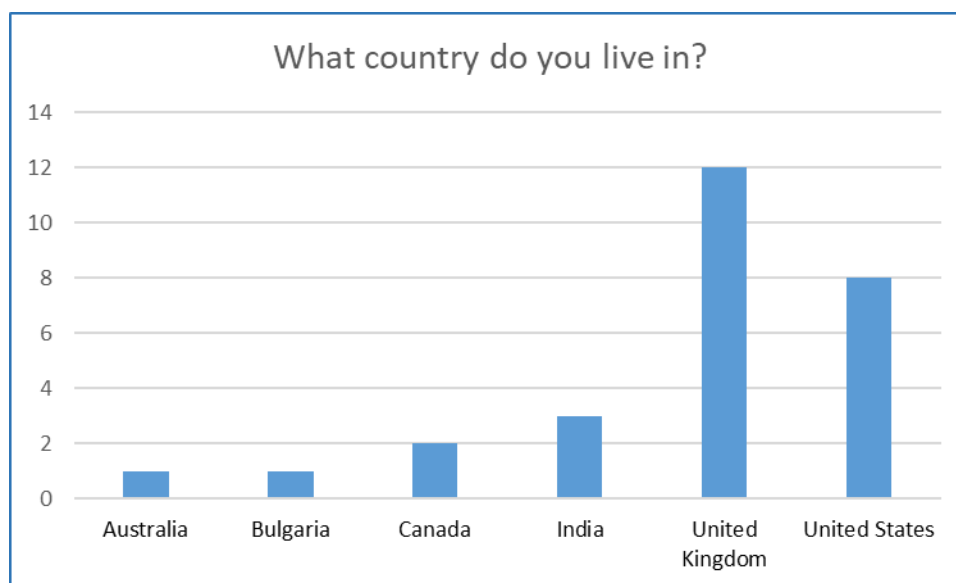
3. What country to you live in?

Table 1 Complete data for respondents countries.

ID #	Response
431333233	NA
230148711	NA
616998546	NA
444554266	NA
096676382	NA
784521682	NA
396344276	NA
007379461	NA
807328322	NA
540648295	NA
017144711	NA
01475411	NA
020038192	NA
412180151	United States
724852401	U.S.A.
986057588	United Kingdom
514978995	India
789773063	United Kingdom of Great Britain and Northern Ireland
129889635	Australia
469647013	Bulgaria
941850288	UK
782127031	United Kingdom
588069164	United States
189819034	England
138291734	Canada
399124702	United Kingdom
517683292	England
02400297	United Kingdom
665903562	United Kingdom
500449943	United States
712170674	USA
805276334	US
271202046	India
448547156	United States
384577045	India
696025165	uk
627229108	England
761087517	Canada

ID #	Response
42409857	United Kingdom
11989574	US

Figure 1 Chart for question 3.



Consolidated data for question 3.

Australia = 1.

Bulgaria = 1.

Canada = 2.

India = 3.

United Kingdom = 12.

United States = 8.

4. Does your country have legislation about the accessibility of documents

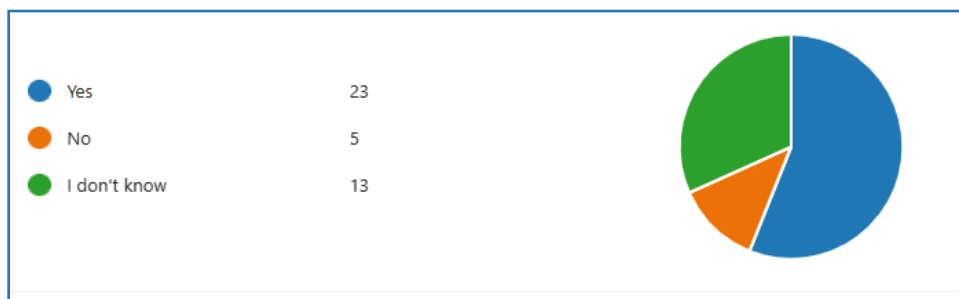
For example, (word processed, presentation, spreadsheets, PDF or EPUB)?.

Table 2 State, province or region has accessible content legislation.

ID #	Response
431333233	No
230148711	Yes
616998546	I don't know
444554266	Yes
096676382	Yes
784521682	Yes
396344276	Yes
007379461	Yes
807328322	No
540648295	I don't know
017144711	Yes
01475411	I don't know
020038192	I don't know
412180151	Yes
724852401	Yes
986057588	I don't know
514978995	Yes
789773063	Yes
129889635	No
469647013	No
941850288	Yes
782127031	Yes
588069164	Yes
189819034	No
138291734	Yes
399124702	I don't know
517683292	Yes
02400297	Yes
665903562	Yes
500449943	I don't know
712170674	Yes
805276334	Yes
271202046	I don't know
448547156	I don't know

ID #	Response
384577045	I don't know
696025165	I don't know
627229108	I don't know
761087517	Yes
42409857	I don't know
11989574	Yes

Figure 2 Chart for question 4..



Data consolidated:

Yes (blue) = 23.

No (orange) = 5.

I don't know (green) = 13.

5. Are you...(age range)

Respondents were asked to identify their age range to better understand the demographic accessing PDFs.

Table 3 Age range of respondents.

ID #	Response
431333233	41-60 years old.
230148711	61 + years old.
616998546	26-40 years old.
444554266	61 + years old.
096676382	41-60 years old.
784521682	41-60 years old.
396344276	26-40 years old.
007379461	41-60 years old.
807328322	61 + years old.
540648295	41-60 years old.
017144711	41-60 years old.
01475411	61 + years old.
020038192	26-40 years old.
412180151	41-60 years old.
724852401	41-60 years old.
986057588	41-60 years old.
514978995	26-40 years old.
789773063	15-25 years old.
129889635	15-25 years old.
469647013	41-60 years old.
941850288	26-40 years old.
782127031	41-60 years old.
588069164	41-60 years old.
189819034	41-60 years old.
138291734	61 + years old.
399124702	41-60 years old.
517683292	26-40 years old.
02400297	26-40 years old.
665903562	41-60 years old.
500449943	26-40 years old.
712170674	41-60 years old.
805276334	41-60 years old.
271202046	26-40 years old.
448547156	15-25 years old.
384577045	15-25 years old.

ID #	Response
696025165	26-40 years old.
627229108	41-60 years old.
761087517	26-40 years old.
42409857	41-60 years old.
11989574	41-60 years old.

Figure 3 Chart for quesiton 5.



Consolidated data for question 5.

15-25 years (blue) = 4.

26-40 years (orange) = 11.

41-60 years (green) = 20.

61 + years (red) = 5.

Other (purple) = 1.

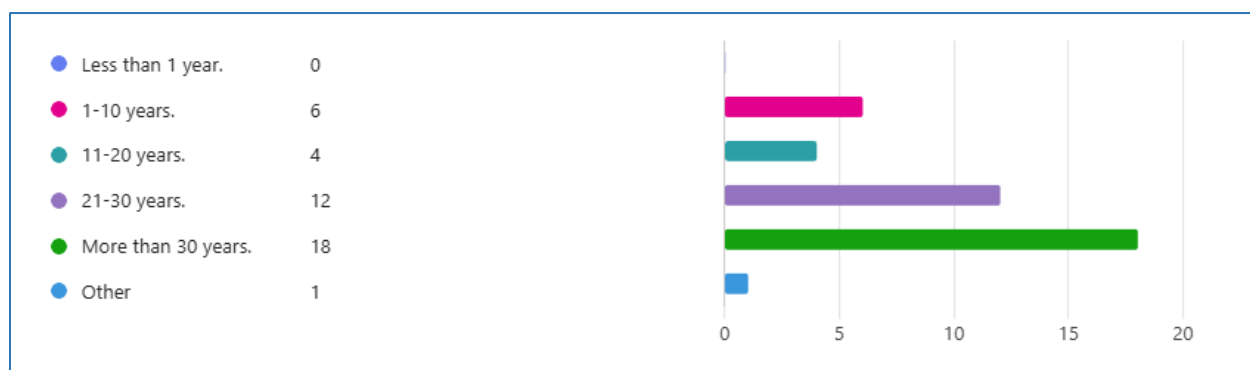
6. How many years have you been using a computer or digital devices?

Table 4 Number of years respondents have used a computer/digital device.

ID #	Responses
431333233	21-30 years.
230148711	More than 30 years.
616998546	21-30 years.
444554266	More than 30 years.
096676382	More than 30 years.
784521682	More than 30 years.
396344276	1-10 years.
007379461	More than 30 years.
807328322	21-30 years.
540648295	21-30 years.
017144711	More than 30 years.
01475411	More than 30 years.
020038192	More than 30 years.
412180151	More than 30 years.
724852401	More than 30 years.
986057588	More than 30 years.
514978995	1-10 years.
789773063	1-10 years.
129889635	11-20 years.
469647013	11-20 years.
941850288	21-30 years.
782127031	More than 30 years.
588069164	21-30 years.
189819034	21-30 years.
138291734	More than 30 years.
399124702	21-30 years.
517683292	11-20 years.
02400297	21-30 years.
665903562	More than 30 years.
500449943	21-30 years.
712170674	More than 30 years.
805276334	More than 30 years.
271202046	1-10 years.
448547156	1-10 years.
384577045	1-10 years.
696025165	11-20 years.

ID #	Responses
627229108	More than 30 years.
761087517	21-30 years.
42409857	21-30 years.
11989574	More than 30 years.

Figure 4 Chart for question 6.



Consolidated data for question 6.

Less than 1 year (blue) = 0.

1-10 years (pink) = 6.

11-20 years (teal) = 4.

21-30 years (purple) = 12.

More than 30 years (green) = 18.

Other (light blue) = 1.

7. How would you describe your computer literacy level:

Table 5 Respondent's computer literacy.

ID #	Responses
431333233	Advanced.
230148711	Intermediate.
616998546	Intermediate.
444554266	Advanced.
096676382	Advanced.
784521682	Advanced.
396344276	Advanced.
007379461	Advanced.
807328322	Advanced.
540648295	Intermediate.
017144711	Advanced.
01475411	Intermediate.
020038192	Advanced.
412180151	Advanced.
724852401	Advanced.
986057588	Advanced.
514978995	Advanced.
789773063	Intermediate.
129889635	Advanced.
469647013	Advanced.
941850288	Intermediate.
782127031	Advanced.
588069164	Intermediate.
189819034	Advanced.
138291734	Advanced.
399124702	Intermediate.
517683292	Advanced.
02400297	Intermediate.
665903562	Advanced.
500449943	Advanced.
712170674	Intermediate.
805276334	Advanced.
271202046	Intermediate.
448547156	Advanced.
384577045	Intermediate.
696025165	Intermediate.

ID #	Responses
627229108	Intermediate.
761087517	Advanced.
42409857	Intermediate.
11989574	Advanced.

Figure 5 Chart for question 7.

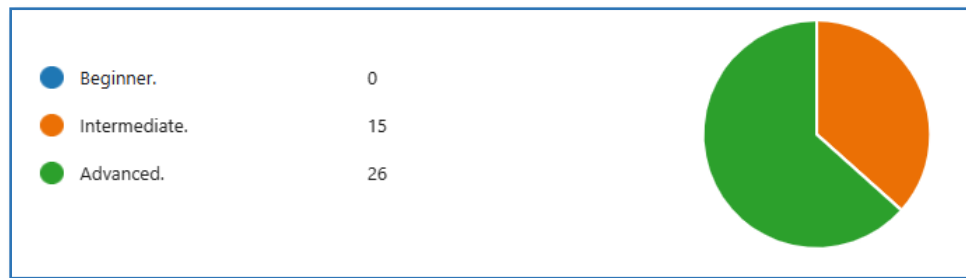


Figure 6 Data for question 7 visualized (pie chart).

Beginner (blue) = 0.

Intermediate (orange) = 15.

Advanced (green) = 26.

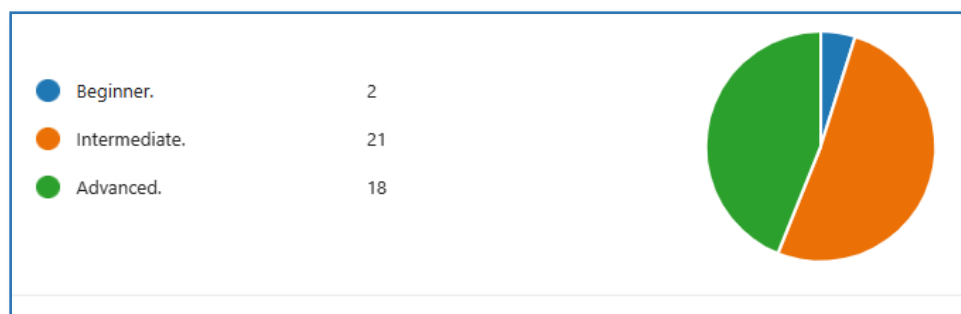
8. How would you describe your computer literacy level when it comes to reading PDF documents?

Table 6 Respondent's computer literacy level related to reading PDFs.

ID #	Responses
431333233	Advanced.
230148711	Intermediate.
616998546	Intermediate.
444554266	Intermediate.
096676382	Advanced.
784521682	Advanced.
396344276	Advanced.
007379461	Intermediate.
807328322	Advanced.
540648295	Advanced.
017144711	Intermediate.
01475411	Intermediate.
020038192	Advanced.
412180151	Advanced.
724852401	Intermediate.
986057588	Advanced.
514978995	Advanced.
789773063	Intermediate.
129889635	Advanced.
469647013	Intermediate.
941850288	Intermediate.
782127031	Advanced.
588069164	Intermediate.
189819034	Intermediate.
138291734	Advanced.
399124702	Intermediate.
517683292	Beginner.
02400297	Intermediate.
665903562	Advanced.
500449943	Intermediate.
712170674	Advanced.
805276334	Advanced.
271202046	Intermediate.
448547156	Intermediate.
384577045	Intermediate.
696025165	Beginner.

ID #	Responses
627229108	Intermediate.
761087517	Advanced.
42409857	Intermediate.
11989574	Advanced.

Figure 7 Chart for question 8.



Consolidated data for question 8.

Beginner (blue) = 2.

Intermediate (orange) = 21.

Advanced (green) = 18.

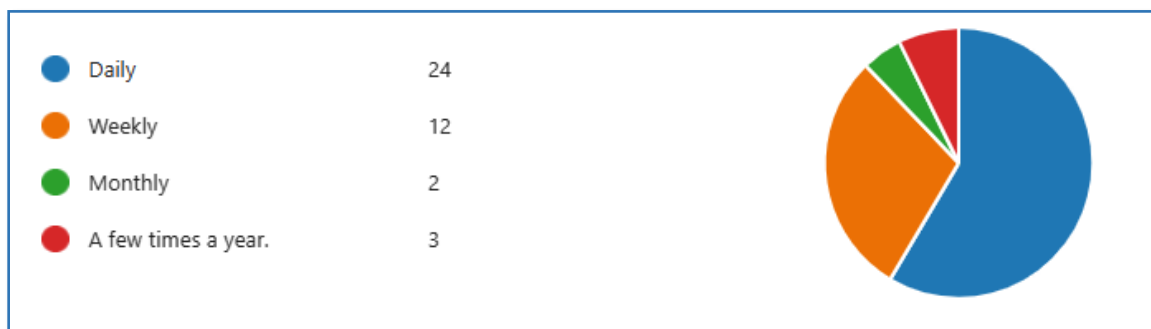
9. How often do you access PDF documents:

Table 7 Frequency respondents access PDFs.

ID #	Responses
431333233	Daily
230148711	Daily
616998546	Daily
444554266	Weekly
096676382	Daily
784521682	Daily
396344276	Weekly
007379461	Daily
807328322	Daily
540648295	Daily
017144711	Daily
01475411	Weekly
020038192	Monthly
412180151	Daily
724852401	Daily
986057588	Daily
514978995	Daily
789773063	Daily
129889635	Daily
469647013	Weekly
941850288	Daily
782127031	Daily
588069164	Daily
189819034	Weekly
138291734	Daily
399124702	Weekly
517683292	Daily
02400297	Daily
665903562	Weekly
500449943	Weekly
712170674	Daily
805276334	Daily
271202046	Weekly
448547156	A few times a year.
384577045	Weekly
696025165	A few times a year.
627229108	Weekly
761087517	A few times a year.

ID #	Responses
42409857	Monthly
11989574	Daily

Figure 8 Chart for question 9.



Consolidated data for question 9.

Daily (blue) = 24.

Weekly (orange) = 12.

Monthly (green) = 2.

A few times a years (red) = 3.

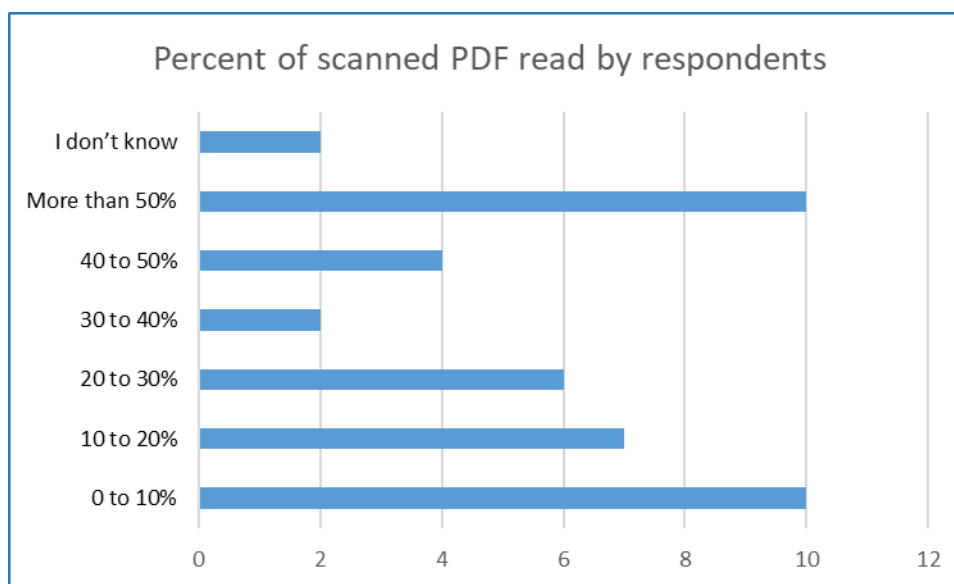
10. What is your estimate of how many scanned PDF documents you read?

Table 8 Number of scanned PDFs accessed by respondents.

ID #	Responses
431333233	30 to 40%.
230148711	30 to 40%.
616998546	40 to 50%.
444554266	More than 50%.
096676382	20 to 30%.
784521682	10 to 20%.
396344276	More than 50%.
007379461	0 to 10%.
807328322	10 to 20%.
540648295	More than 50%.
017144711	20 to 30%.
01475411	20 to 30%.
020038192	0 to 10%.
412180151	0 to 10%.
724852401	More than 50%.
986057588	0 to 10%.
514978995	More than 50%.
789773063	More than 50%.
129889635	0 to 10%.
469647013	More than 50%.
941850288	20 to 30%.
782127031	0 to 10%.
588069164	20 to 30%.
189819034	I don't know.
138291734	0 to 10%.
399124702	10 to 20%.
517683292	More than 50%.
02400297	10 to 20%.
665903562	More than 50%.
500449943	40 to 50%.
712170674	0 to 10%.
805276334	10 to 20%.
271202046	40 to 50%.
448547156	40 to 50%.
384577045	More than 50%.
696025165	0 to 10%.

ID #	Responses
627229108	10 to 20%.
761087517	20 to 30%.
42409857	I don't know.
11989574	0 to 10%.

Figure 9 Chart for question 10.



Consolidated data for question 10.

0 to 10% = 10.

10 to 20% = 7.

20 to 30% = 6.

30 to 40% = 2.

40 to 50% = 4.

More than 50% = 10.

I don't know = 2.

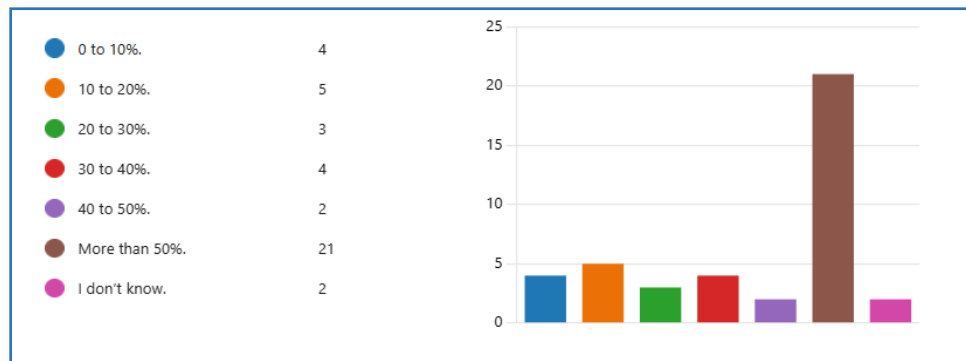
11. In your estimate, how many PDF documents (not scanned documents) are untagged or not accessible?

Table 9 number of PDF documents untagged or not accessible.

ID #	Responses
431333233	More than 50%.
230148711	30 to 40%.
616998546	10 to 20%.
444554266	More than 50%.
096676382	More than 50%.
784521682	20 to 30%.
396344276	More than 50%.
007379461	More than 50%.
807328322	More than 50%.
540648295	More than 50%.
017144711	More than 50%.
01475411	More than 50%.
020038192	0 to 10%.
412180151	20 to 30%.
724852401	More than 50%.
986057588	More than 50%.
514978995	0 to 10%.
789773063	10 to 20%.
129889635	More than 50%.
469647013	More than 50%.
941850288	30 to 40%.
782127031	20 to 30%.
588069164	40 to 50%.
189819034	More than 50%.
138291734	More than 50%.
399124702	30 to 40%.
517683292	10 to 20%.
02400297	More than 50%.
665903562	0 to 10%.
500449943	I don't know.
712170674	30 to 40%.
805276334	40 to 50%.
271202046	0 to 10%.
448547156	More than 50%.
384577045	I don't know.
696025165	More than 50%.

ID #	Responses
627229108	10 to 20%.
761087517	More than 50%.
42409857	10 to 20%.
11989574	More than 50%.

Figure 10 Chart for question 11.



Consolidated data fro question 11.

0 to 10% (blue) = 4.

10 to 20% (orange) = 5.

20 to 30% (green) = 3.

30 to 40% (red) = 4.

40 to 50% (purple) = 2.

More than 50% (brown) = 21.

I don't know (pink) = 2.

12. What is your estimate of how many tagged PDF documents you access are not tagged correctly

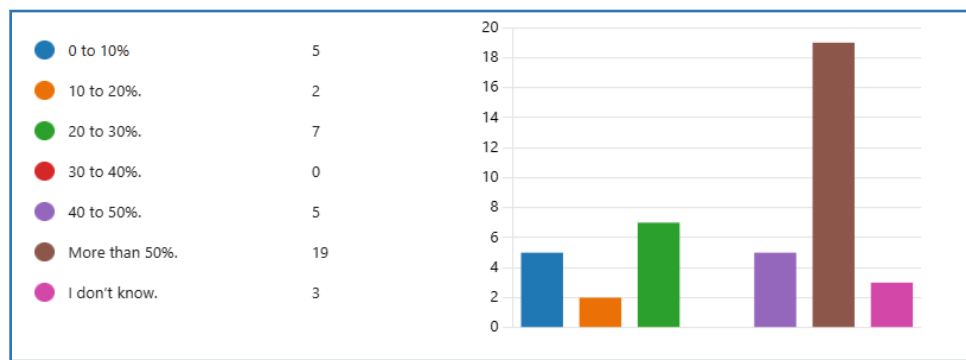
(you cannot read the contents of them logically or find content easily).

Table 10 Number of PDFs not tagged correctly.

ID #	Responses
431333233	More than 50%.
230148711	20 to 30%.
616998546	I don't know.
444554266	More than 50%.
096676382	40 to 50%.
784521682	More than 50%.
396344276	More than 50%.
007379461	More than 50%.
807328322	More than 50%.
540648295	More than 50%.
017144711	More than 50%.
01475411	More than 50%.
020038192	0 to 10%
412180151	40 to 50%.
724852401	More than 50%.
986057588	More than 50%.
514978995	0 to 10%
789773063	0 to 10%
129889635	20 to 30%.
469647013	More than 50%.
941850288	20 to 30%.
782127031	20 to 30%.
588069164	40 to 50%.
189819034	More than 50%.
138291734	20 to 30%.
399124702	40 to 50%.
517683292	10 to 20%.
02400297	20 to 30%.
665903562	0 to 10%
500449943	40 to 50%.
712170674	More than 50%.
805276334	I don't know.
271202046	0 to 10%
448547156	More than 50%.

ID #	Responses
384577045	More than 50%.
696025165	More than 50%.
627229108	10 to 20%.
761087517	20 to 30%.
42409857	I don't know.
11989574	More than 50%.

Figure 11 Chart for question 12.



Consolidated data for question 12.

0 to 10% (blue) = 5.

10 to 20% (orange) = 2.

20 to 30% (green) = 7.

30 to 40% (red) = 0.

40 to 50% (purple) = 5

More than 50% (brown) = 19.

I don't know (pink) = 3.

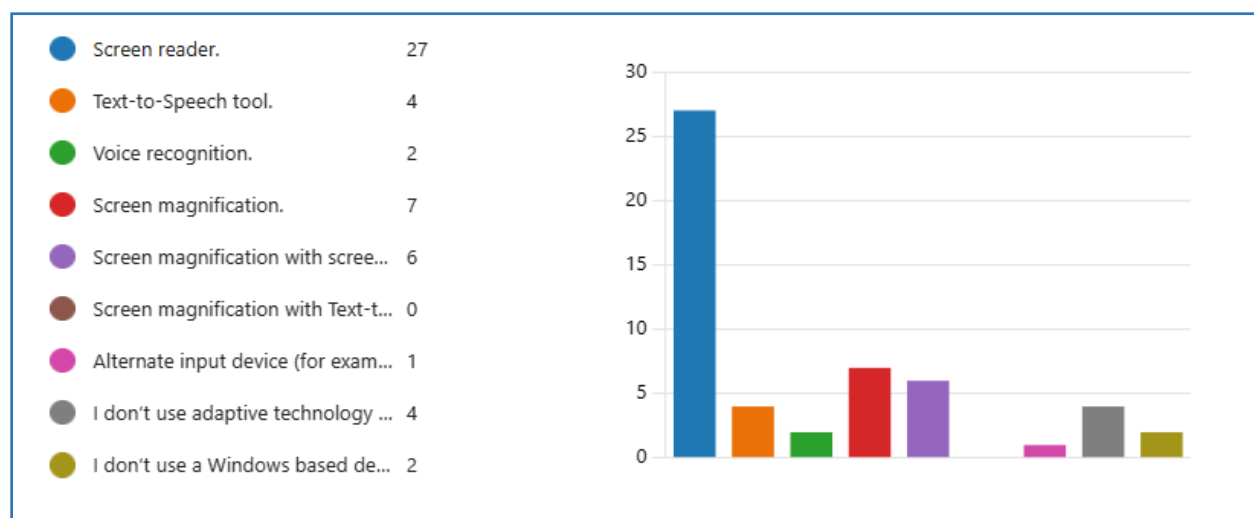
13. What adaptive technology do you use on a Windows-based computer/device?

Table 11 Adaptive technology used on Windows devices.

ID #	Responses
431333233	Screen reader.; Screen magnification with screen reading.;
230148711	Screen reader.;
616998546	I don't use adaptive technology on a Windows device.;
444554266	Screen reader.;
096676382	Screen reader.;
784521682	Screen reader.;
396344276	Screen reader.; Text-to-Speech tool.;Screen magnification with screen reading.;
007379461	Text-to-Speech tool.;
807328322	Screen reader.;
540648295	I don't use adaptive technology on a Windows device.;
017144711	I don't use adaptive technology on a Windows device.;
01475411	Screen reader.;
020038192	Screen reader.;
412180151	I don't use a Windows based device.;
724852401	I don't use adaptive technology on a Windows device.;
986057588	Screen reader.;
514978995	Voice recognition.;
789773063	Screen reader.;
129889635	Screen reader.;
469647013	Screen reader.;
941850288	Screen reader.;
782127031	I don't use a Windows based device.;
588069164	Screen reader.;
189819034	Screen reader.;
138291734	Screen reader.; Screen magnification.; Screen magnification with screen reading.;
399124702	Screen magnification with screen reading.;
517683292	Screen magnification.;
02400297	Screen reader.; Screen magnification.;Alternate input device (for example, on-screen keyboard, IntelliKeys or similar device).;
665903562	Screen reader.;
500449943	Text-to-Speech tool.;
712170674	Screen reader.; Screen magnification.;
805276334	Text-to-Speech tool.; Screen reader.; Screen magnification.;
271202046	Voice recognition.;

ID #	Responses
448547156	Screen reader.;
384577045	Screen reader.;
696025165	Screen magnification.;
627229108	Screen reader.;
761087517	Screen magnification with screen reading.;
42409857	Screen reader.; Screen magnification with screen reading.;
11989574	Screen reader.;

Figure 12 Chart for question 13.



Consolidated data for question 13.

Screen reader (blue) = 27.

Text-to-Speech tool. (orange) = 4.

Voice recognition. (green) = 2.

Screen magnification (red) = 7

Screen magnification with screen reading (purple) = 6.

Screen magnification with Text-to-Speech tools (brown) = 0.

Alternate input device (for example, on-screen keyboard, IntelliKeys or similar device) (pink) = 1

I don't use adaptive technology on a Windows device (teal) = 4.

I don't use a Windows based device (light green) = 2.

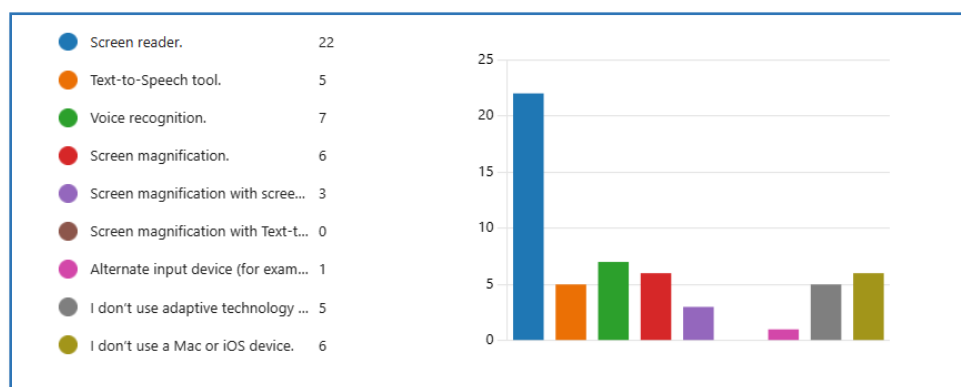
14. What adaptive technology do you use on a Mac or IOS device?

Table 12 Adaptive technology used on Mac/iOS devices.

ID #	Responses
431333233	Voice recognition.; Screen reader.;
230148711	Screen reader.;
616998546	I don't use adaptive technology on a Mac/iOS device.;
444554266	Screen reader.;
096676382	Screen reader.;
784521682	Screen reader.;
396344276	Screen reader.; Screen magnification with screen reading.;
007379461	I don't use a Mac or iOS device. ;
807328322	Screen reader.;
540648295	Text-to-Speech tool.; Screen magnification with screen reading.; Alternate input device (for example, on-screen keyboard, IntelliKeys or similar device).;
017144711	I don't use a Mac or iOS device. ;
01475411	I don't use a Mac or iOS device. ;
020038192	I don't use a Mac or iOS device. ;
412180151	I don't use adaptive technology on a Mac/iOS device.;
724852401	I don't use adaptive technology on a Mac/iOS device.;
986057588	Screen reader.;
514978995	Voice recognition.;
789773063	I don't use adaptive technology on a Mac/iOS device.;I don't use a Mac or iOS device. ;
129889635	Screen reader.;
469647013	Screen reader.;
941850288	Screen reader.;
782127031	Screen reader.; Text-to-Speech tool.; Voice recognition.;
588069164	Screen reader.;
189819034	
138291734	Screen reader.;
399124702	Screen reader.; Voice recognition.;
517683292	I don't use adaptive technology on a Mac/iOS device.;
02400297	Screen magnification.;
665903562	Screen reader.; Voice recognition.;
500449943	Text-to-Speech tool.;
712170674	Screen reader.; Screen magnification.; Text-to-Speech tool.; Voice recognition.;
805276334	Screen reader.; Text-to-Speech tool.;Screen magnification.;
271202046	Voice recognition.;

ID #	Responses
448547156	Screen reader.;
384577045	I don't use a Mac or iOS device. ;
696025165	Screen magnification.;
627229108	Screen reader.;
761087517	Screen magnification with screen reading.;
42409857	Screen reader.;; Screen magnification.;
11989574	Screen reader.;

Figure 13 Chart for question 14.



Consolidated data for question 14.

Screen reader (blue) = 22.

Text-to-Speech tool (orange) = 5.

Voice recognition (green) = 7.

Screen magnification (red) = 6.

Screen magnification with screen reading (purple) = 3.

Screen magnification with Text-to-Speech tools (brown) = 0.

Alternate input device (for example, on-screen keyboard, IntelliKeys or similar device) (pink) = 1.

I don't use adaptive technology on a Mac/iOS device (teal) = 5.

I don't use a Mac or iOS device (light green) = 6.

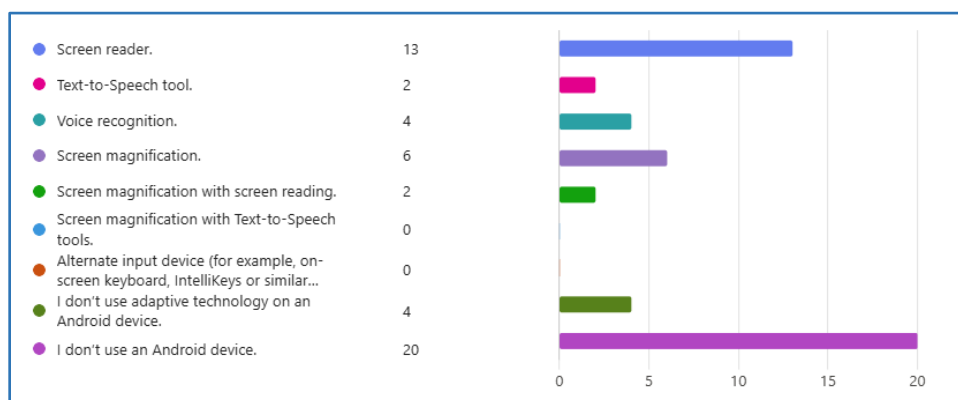
15. What adaptive technology do you use on an Android device?

Table 13 Adaptive technology used on Android devices.

ID #	Responses
431333233	Screen reader.;
230148711	I don't use adaptive technology on an Android device.;I don't use an Android device. ;
616998546	I don't use adaptive technology on an Android device.;
444554266	I don't use an Android device. ;
096676382	No answer given
784521682	I don't use an Android device. ;
396344276	Screen magnification with screen reading.;Voice recognition.;Text-to-Speech tool.;
007379461	I don't use adaptive technology on an Android device.;
807328322	I don't use an Android device. ;
540648295	I don't use an Android device. ;
017144711	Screen reader.; I don't use an Android device. ;
01475411	Screen reader.;
020038192	I don't use an Android device. ;
412180151	I don't use an Android device. ;
724852401	Screen reader.; Screen magnification.;
986057588	I don't use an Android device. ;
514978995	Voice recognition.;
789773063	Screen reader.;
129889635	I don't use an Android device. ;
469647013	Screen reader.;
941850288	I don't use an Android device. ;
782127031	I don't use an Android device. ;
588069164	Screen reader.; I don't use an Android device. ;
189819034	NA
138291734	I don't use an Android device. ;
399124702	Screen reader.; Voice recognition.; Screen magnification.;
517683292	I don't use an Android device. ;
02400297	I don't use an Android device. ;
665903562	I don't use an Android device. ;
500449943	Screen magnification.;
712170674	I don't use adaptive technology on an Android device.;
805276334	Screen reader; Screen magnification.;
271202046	I don't use an Android device. ;
448547156	I don't use an Android device. ;

ID #	Responses
384577045	Screen reader. Text-to-Speech tool.;
696025165	Screen magnification.;
627229108	I don't use an Android device. ;
761087517	Screen reader.; Screen magnification.; Screen magnification with screen reading.;
42409857	Screen reader.;
11989574	Screen reader.;

Figure 14 Chart for question 15.



Consolidated data for question 15.

Screen reader (blue) = 13.

Text-to-Speech tool (pink) = 2.

Voice recognition (teal) = 4.

Screen magnification (medium blue) = 6.

Screen magnification with screen reading (green) = 2.

Screen magnification with Text-to-Speech tools (light blue) = 0.

Alternate input device (for example, on-screen keyboard, IntelliKeys or similar device) (brown) = 0

I don't use adaptive technology on an Android device (dark green) = 4.

I don't use an Android device (dark pink) = 20.

16. What specific devices do you read PDF documents on?

Table 14 Specific devices used to read PDFs.

ID #	Responses
431333233	
230148711	PC
616998546	MAC computer and Samsung Phone
444554266	iPhones, iPads & Windows laptops
096676382	iPhone and PC
784521682	MAC or Microsoft computer
396344276	laptops, iPads and monitors
007379461	Windows PC
807328322	Dell laptop dated 5/2021, iPhone 6s, MacBook Air dated 6/2015
540648295	PC, mobile, tablet
017144711	Laptop / Desktop (both Windows), smartphone (Android)
01475411	PC & laptop running Windows 10 Pro and Home editions. Pixel 6 Pro running Android v13 and the very latest edition of the 'Accessibility Suite'.
020038192	No answer given
412180151	Mostly on MacBook Pro (MacOS Big Sur), occasionally on iPhone
724852401	PC-platforms and Android.
986057588	Windows PC and iPhone.
514978995	No answer given
789773063	On my windows-based acer laptop.
129889635	Windows laptop, iPhone
469647013	Windows PC, iPhone
941850288	I only read PDFs on my Windows laptop
782127031	mostly an iPad, sometimes an iPhone for portability (choose a large screen one specifically to make this reading (PDF, EPUB or whatever) possible) I do use PDFs on a Mac too, when I am working from them to produce another document, they are my format of choice for any document that is not a work in progress, an archival snapshot for versions too. So while I do read text to do this work, I'm gutting a PDF as a reference text, not reading it page after page.
588069164	a Windows computer and my iPhone.
189819034	Windows laptop and iPhone
138291734	PC laptop
399124702	Windows Laptop, iPhone and Android Smartphone
517683292	My Lenovo laptop
02400297	PC, with ZoomText Magnification/JAWS with Focus 40 Braille Display iMac with Zoom enabled

ID #	Responses
665903562	Lenovo t14 laptop for work and iPhone 11 for personal use.
500449943	Windows PC, Moto G Stylus phone, Apple iMac
712170674	iPhone, Android, Windows and Mac computers
805276334	Windows, MacOS, Android
271202046	Adobe Reader
448547156	iPhone and computer
384577045	laptop and android phone.
696025165	phone tablet
627229108	PC and Laptop
761087517	personal pc laptop, tablet, android device
42409857	iPhone or iPad as most accessible
11989574	PC primarily.

17. What applications other than Adobe Reader or Adobe Acrobat do you use to read PDF documents?

Table 15 Applications other than Adobe Reader/Acrobat used to read PDFs.

ID #	Responses
431333233	NA
230148711	JAWS and browser
616998546	None
444554266	Jaws for Windows with OCR add on Apple Banking Apps & Safari
096676382	voice dream reader on iOS and Microsoft Edge on the PC
784521682	Adobe Acrobat PRO
396344276	None
007379461	None.
807328322	iOS on my iPhone
540648295	standard browser
017144711	Microsoft Word (on Android, to avoid installing another application)
01475411	MS Word (not often). Have tried ABBYY in the past but not with much joy. Most recently have discovered Q-read which has made reading bank statements possible at last.
020038192	Chrome if I must. codex for conversion with calibre, pdf2text if I need to. Microsoft word, and Balabolka.
412180151	Mac Preview
724852401	Ally plugin within Blackboard Course Management System.
986057588	Edge and Firefox and mail program on iPhone.
514978995	NA
789773063	None.
129889635	PDF viewer on iOS (e.g. in apps such as Mail or Safari), Microsoft Word on Windows (after converting from PDF)
469647013	Usually I use Adobe Reader. But sometimes I use VoiceDream mobile app, QRead (PC).
941850288	N/A

ID #	Responses
782127031	I never use Adobe - the accessibility is terrible. I use Voice Dream Reader primarily on iPad/iPhone. I use Preview on Mac as it is just to reference not to read large chapters at a time, I also use LiquidText if working from multiple PDFs so that I want to highlight, annotate etc (highly recommend it for all doctoral students if it meets your access needs) and sometimes Scrivener depending on task. I use Agenda to manage my archive (correspondence, payslips, medical records etc) and I insert PDFs into that for those records, it will open the to preview, but if I need to read them properly I'll export them to another app. I also use PDFExpert on iPad if I have to fill in a PDF form, but not for reading. I use the accessibility features on apple to add a screen colour tint, like using a coloured overlay with a book, so this makes PDFs readable to be in any other app that will display them - just not as readable as they are in Voice Dream, hence my distinction between looking something short up on a PDF like using a reference book, and reading full chapters.
588069164	Both Microsoft Edge and Google Chrome
189819034	Sometimes Edge
138291734	Also use Foxit PDF. I prefer to avoid use of Chrome or Edge.
399124702	PDF Viewer on my phone, but only on rare occasions and for a quick glance/spot reading, rather than accessing loads of information.
517683292	None
02400297	Google Chrome
665903562	Microsoft Edge and Saphari.
500449943	Microsoft Edge, Apple Preview
712170674	N/A
805276334	Foxit PDF reader
271202046	Adobe Acrobat
448547156	None
384577045	Microsoft Edge and insta reader.
696025165	None
627229108	None
761087517	Voice Dream, @voice aloud reader, ABBYY, browser
42409857	NA
11989574	Chrome browser.

18. What are your experiences when accessing a PDF document in Adobe Reader or Adobe Acrobat?

Include positive and negative experiences.

Table 16 Experience accessing PDFs using Adobe Reader/Acrobat.

ID#	Response
431333233	NA
230148711	poorer more recently with Adobe.
616998546	I find PDFs harder to read than word documents. In word docs you can easily change the fonts and text size which allow the viewer to read more comfortably. Another downfall of PDFs is that they are rarely accessible which means that in my position as an arts administrator for an organization that supports Deaf and disabled artists I am not able to share many of the original PDFs I receive with our network. We strive to be accessible in all ways and therefore restrain from sharing non-accessible documents
444554266	Word created & saved PDF are often poor to read even on Apple tables read downwards and then move to top of next column before descending row by row through all columns in tables Rarely is text in a format other than a long line of text
096676382	If documents have good structure then accessing them in Adobe Reader is great. If they don't then changing parameters in the processing dialog such as changing the order in which a document is read from inferred, to Top to Bottom, left to right can help make the document more intelligible. Most documents are not as well structured as they should be so I like to use Adobe Reader rather than reading documents in a browser such as Microsoft Edge.
784521682	I remediate PDFs for OMNICOMMANDER and our partners. I also pre-check all new website partners websites for existing PDFs to inform the DEV team of how many and if they are accessible. Very few prospect's websites have accessible PDFs. Most often they are just scanned documents or provided by a 3rd party who assured them they are accessible. If they are fillable, most often those forms have NOT been tagged.
396344276	Adobe Acrobat DC is good to read and check for accessibility of the document.
007379461	My experiences are positive.
807328322	negative - text that is actually an image, reading order is not just different from visual order but so illogical that the pdf is unusable, long pdfs without a table of contents linked to headings, inaccessible forms, the Content view shows dozens of Text or Images that don't seem to be anything positive - it will print well, but who prints anymore?

ID#	Response
540648295	accessing PDF document is fine for me, but when I need to create an accessible PDF, that is not easy or sometimes even possible without expert skills
017144711	I don't have a disability, but I hate reading PDF on a screen. PDF are in A4 format, which is for printing. Not onscreen reading. Most PDFs would be easier to read online in HTML format. Otherwise zooming and horizontal scrolling are often needed, especially on a smartphone. This makes PDF documents hard to read on a smartphone.
01475411	Increasingly poor. Most noticeably documents repeatedly fail to load and when they do I find they are often difficult to follow. This is true whether I am reading a short document; e.g. from 1 to 5 pages in length, or a much larger document such as a manual or textbook. Also, in the latter case, moving to specific pages in the document is rather hit and miss.
020038192	Well usually unless its a scanned image it converts and mostly is ok. If it appears stupid I usually just copy and paste to a notepad window then I can read it or word. If the document is secured then it won't access though I hardly encounter these. Most documents are accessible in a web format and accessibly marked or just convert.
412180151	I find Adobe Reader to be a little too complicated and slow loading when I want to read something. I prefer Preview for basic reading. To check tags and structure, I use Acrobat Pro.
724852401	I design content for use with higher education students, so I keep ADA compliance in mind proactively or retrofit adopted content for use.
986057588	Acrobat has become very random in terms of bringing up the Accessibility Reading Preferences dialogue. Sometimes it comes up immediately, sometimes after a few seconds and sometimes you have to press F6 to get it. On other occasions it doesn't come up at all and you have to close and reopen the document to try again. I also find "Infer reading order from document" gives a very poor result in terms of layout and often causes words to be read together with no spaces. Therefore I've set mine to "Left to right, top to bottom" as default. I also find if I arrow back up a document to read a line or two again it often jumps back to the top of the document and I lose my place. Similarly if I Alt tab to another application on my computer and back to Adobe it can also lose my place. However, despite all this, I find using Adobe Reader a far better experience than reading in browsers.
514978995	NA

789773063

I am a student studying Law at the undergraduate level in the United Kingdom. My degree course often requires me to access PDF documents of a substantial size (500 + pages). These take a very long time to process so as to be read with my screen reader. Sometimes (though rarely), after processing, I get a message saying "Loading document...", after which the PDF doesn't respond (it hangs), and I have to close the document, and re-open it again. I use the NVDA screen-reader, and, when I open a PDF, either have to navigate to, or sometimes automatically have showing up when I open, the following dialogue box: "Reading Untagged Document", within which I have to select reading preferences. Sometimes, I have to manually navigate to get to this box, which is fine. But sometimes, when I navigate to "Accessibility" and "Change Reading options", the menu just closes, without showing me the dialogue box. I have to repeatedly go through the manual navigation process, without it showing up. After several attempts, it (the dialogue box) shows up. This is my biggest problem with PDFs. I upload scanned/image-based PDFs to one of two systems: SensusAccess, or ilovepdf.com to convert them from inaccessible to accessible PDFs. SensusAccess can sometimes take a very long time indeed to convert an inaccessible PDF, or even to upload to its system an inaccessible PDF, which I don't like, as I have more than 250 pages a week of reading to do, usually, and not much time to do it in (considering my classes, co-curricular and/or extracurricular commitments such as mooting and student body leadership and my own personal commitments). This is why I can understand why the Society of Visually Impaired Lawyers in the UK (SoVIL) - an organisation to support blind and visually impaired lawyers in Britain - says that PDFs - even non-image-based ones - are "not readily accessible". Some organisations are using loopholes in my country's legislation and regulatory framework to slack off on their accessibility obligations, when it comes to PDFs. I found this recently in December, when I was revising for my 5th January exam, and wanted to do a bit of extra reading on one of the topics studied in the university module which was being examined. This article was something we'd been recommended by our professor, who had uploaded it to the university's online learning platform from the website of one of the UK's most well-regarded law journals. Unfortunately, the article was old, having been written before the new legislation took effect, and the publishers had uploaded a "secured" copy, whose security settings were designed so as to treat screen-readers such as NVDA like malware, preventing me from accessing that particular copy of the article. Without knowing this fact, my professor uploaded this "secure" copy to the online platform. Mark you, the source that she uploaded it from was the most authoritative and authentic source for the text of this article - the website of the very law journal in which it was published! You should also know that this article was *the* most helpful source for the study of the topic in question. When I tried to upload this document to SensusAccess, it showed me an error message. If it hadn't been for the fact that the vacation period hadn't yet begun, and my

ID#	Response
	dedicated disability advisor from the university wasn't available, I may not have been able to read the article, and may not have been able to answer questions in the examination paper on the particular topic for which it was recommended with the highest level of knowledge. Thankfully, an accessible version of this article was available from another source, JStor, and my disability advisor helped me find this, but JStor was not, unlike the law journal, the most authoritative source for the article's text. My professor said that from next year, the JStor version will be uploaded, so as to give all students equal access.
129889635	NA
469647013	I think adobe Reader is the most suitable software for reading PDF on the PC. Big untagged documents are loaded slowly and it may take enormous time and patience. You have to wait each time you have to open such documents multiple times. most forms are inaccessible anyway. other annoying thing is that Adobe Reader seems to take much RAM and opening it multiple times slows down the machine. You need to have high end machine sometimes, but not all people have the opportunity.
941850288	Most of the time they are fairly negative experiences. Even with disability organisations graphics generally aren't labelled up, there aren't headings, documents aren't tagged and they can be generally pretty unreadable. When pointing this out to colleagues or even to disability organisations, they don't tend to know enough about digital accessibility and don't know how to fix the issue without asking the user ie myself. I've found that a lot of the time the JAWS search function jumps me about the place quite a lot and i will be jumped back up the screen without warning at times, which makes it very difficult to keep my place in a document.
782127031	terrible. I used it on and off until 2020, on windows mostly. It was clunky, terribly slow to load, awkward to use, especially to read multiple pages because the text to speech would stop at the end of the page, or end of the chapter. That was why I found VoiceDream - being able to not just read one page at a time, but line up a playlist of documents and listen to them without having to interact with the device is so much better. Listening to documents takes a lot longer than reading by sight (my disability/needs fluctuate, so I swap between but don't know for future which will be needed when). I will listen while cycling, while knitting, while cooking just to get enough time to get through the documents - having to "page down" each page was not conducive to that. But, adobe does seem to be the only app that handles DRM well, such that by not using it, cannot read DRM protected PDFs, I only missed that for a short while. I was a problem more when at university as the library wanted all downloaded books to be into Adobe, hence my frustrations that I couldn't listen to my texts unless I sat at my desktop computer and pressed page down regularly.

ID#	Response
588069164	Sometimes my experiences have been positive. But I often have some difficulty scanning PDF documents for the portion of the file I want to read again. This means that I frequently have to read the entire document to find the information I am searching for.
189819034	Generally good but all depends on the creation of the PDF. Some are well formatted and others just dreadful!
138291734	Sometimes the reading preferences dialogue does not get focus when opening untagged PDFs. For large documents, sometimes I can only access visible pages. often I have to change to Large PDF options.
399124702	It is really a mixed bag, but generally find PDF AWFUL!!!!. Simple documents read ok, however complex documents, such as journal articles or e-books are almost impossible, as the screen reader doesn't read through the pages logically, or gets stuck in specific portions of the page. Often will not move to next page in larger documents. The main issue is using a screen reader with the document. Often the screen reader struggles to read sentences, often merging part of one word with the next, which means nothing makes sense.
517683292	Most of the time I can highlight text in a PDF to copy & paste, but sometimes Adobe won't recognise text and thinks text is a picture, so I can't copy text without typing all the text manually.
02400297	Sometimes readable with screen reader/Braille output display, if tagged correctly. Sometimes need to copy text from the PDF however the ability to select with keyboard controls do not function.
665903562	They work best when saved and opened in Adobe from a hard-drive local copy, rather than a cached one, as the tagging gets picked up more effectively. Otherwise, I sometimes have to resort to Jaws Convenient OCR, if the document appears empty. I had one recently, that would not even work with Jaws, but it might have been a 64 bit file trying to open in a 32 bit version of Adobe?
500449943	So many scanned (not tagged) PDFs is a big negative. Many people don't realize, and are hard to teach about the issues surrounding this.
712170674	All the semantics are flat, meaning there's a lot of headings and paragraphs and not much else exposed to my screen reader. The experience is not as rich as what I come across on the web.
805276334	The TTS function in Reader remains a joke and is worse than nothing. Remediation work is still much too difficult. Keyboard functionality is often terrible.
271202046	Good experience
448547156	It's not grate, I get PDF documents that I have to sign and signing PDF is not accessible.
384577045	I don't use

ID#	Response
696025165	unable to read and understand the information sometimes magnifier works and sometimes not
627229108	Mostly, text is read in a logical order as per the order of the document, sometimes Jaws announces graphic before reading text but this is not much of a problem. If tables are used, it is not possible to navigate around them so have to down arrow through text, so losing context of which data is in which column
761087517	they suck for anyone who needs to control presentation like font, font size and color. The internal features in adobe are there for some of that but it is a poor implementation at best. About only good thing I can say about PDFs over other formats is that they are well known.
42409857	Just scroll through the document
11989574	Our company remediates PDF documents so we are quite familiar with the product. AR and AA work fine and we do not encounter any major hurdles.

19. What are your experiences accessing a PDF document using another application?

(not Adobe Reader or Adobe Acrobat). Please include the name or names of applications and what works or doesn't work fo...

Table 17 Experiences reading PDFs using other applications.

ID #	Response
431333233	NA
230148711	reasonably good with Chrome, better with Firefox.
616998546	I never have
444554266	Apple banking Apps use PDF files with very poor access to info in text and worse in tables Council & Utility PDF documents are rarely readable Tables not left to right access but run downwards columns row by row Jaws OCR add on is last resort before asking for Braille
096676382	I use a browser such as Microsoft or Voice Dream Reader on the phone. the Books app from apple also works well.
784521682	I work almost exclusively with Acrobat PRO. I am asking for CommonLook to expedite the remediation process.
396344276	n/a
007379461	N/A
807328322	iOS - the pdf isn't responsive like html can be so it's really small
540648295	accessing PDF document is fine for me, but when I need to create an accessible PDF, that is not easy or sometimes even possible without expert skills
017144711	In my case this is same as for question 18. I use Word to access PDFs on my phone. The problems for me are the same. I don't have a disability, but I hate reading PDF on a screen. PDF are in A4 format, which is for printing. Not onscreen reading. Most PDFs would be easier to read online in HTML format. Otherwise zooming and horizontal scrolling are often needed, especially on a smartphone. This makes PDF documents hard to read on a smartphone.

ID #	Response
01475411	MS Word = does read all the text but often the layout is affected during the conversion process rendering the document less easily interpreted. ABBYY = As stated I have not tried this option for some time as the version I was using at the time produced a less than satisfactory result. That was v9.0 of Finereader Pro. I now use v12.0 of this software so may try pdf documents with this software again. Currently, Q-read is my first choice for reading pdf documents but as this is a product deliberately designed for people like myself to use I suspect that it does tend to change the layout somewhat in order to aid the presentation of the document's contents. I have only recently come across this programme and have, so far, only tried it with invoices, bank statements and other short documents. I have yet to see how it copes with user manuals and other longer texts.
020038192	Well most of the time in things like Balabolka its going to read most things in order so not a problem. I have well a discontinued project called codex which can convert epub and pdf using calibre portable and most stuff just works. I can read in chrome/edge if I must but I prefer adobe reader but its personal opinion.
412180151	Mac Preview is my go-to app for reading PDFs on my computer. It opens quickly and it's easy to use. Occasionally I need to do something more involved, like filling out a form. That's when I use Reader.
724852401	Course Management System viewers.
986057588	I mainly use Edge. I find when it opens a PDF document there is no easy way to jump past the buttons at the start of the page to the actual content. Also you cannot choose the reading preferences and so if it renders the content badly, such as with no spaces, there is no way to change this. Using the reader in the iPhone is convenient to read a document quickly, but again you can't control how the information is presented.
514978995	NA
789773063	Never tried, so don't know.
129889635	Sometimes I convert PDFs to Word documents. After trying lots of conversion tools, the ones I use the most (in decreasing order) are opening PDFs in Word, using Calibre and using the conversion tool in Acrobat.
469647013	Chromium-based browsers are trying to make the PDFs more accessible, but sometimes it is as using overlays on a website. They don't show the real picture and are not good for testing accessibility. On the good side, you may skip installing another software to read something. QRead is not good in showing tables and pictures, but it is usable for text and TOC link navigation, sometimes better than Adobe. It parses the file in its own format and you don't have to wait long time for it to open. It happens almost instantly.

ID #	Response
941850288	I don't tend to access PDF documents unless I'm using Adobe
782127031	Voice Dream Reader is my go to. It gives me both text to speech and visual options which suits me. I particularly like the way it handles PDF headers and footers - I can set page boundaries for each document to slice off headers and footers so I don't get random numbers in the middle of a sentence and it move past a page number to the next page. I also like how I can swap between displays of the PDF and a plain text version of the text in that page, while it is reading it to me - this lets me view the layout and diagrams and deep dive into the words in plain text but with the custom fonts/colours/size/ line spacing etc that suit me best, regardless of how it was formatted on the PDF itself, and never lose my place because the current word and line are highlighted in both versions,
588069164	I can read the pdf documents well using Google Chrome and Microsoft Edge. But I cannot search for information in these documents.
189819034	Not so accessible/easy to navigate, usually there are many more links to get through before the document reads and even then sometimes the document doesn't appear to be present.
138291734	Chrome tends to be the worst option. Edge will work ok for simple documents. I try to avoid these options.
399124702	On smartphone works ok, but would tend to use magnification and a low vision aid rather than a screen reader.
517683292	My computer always automatically uses Adobe by default.
02400297	Often not readable with screen reader, which just says blank.
665903562	Opening documents in Microsoft Edge, or Google Chrome is a more inferior user experience than in Safari.
500449943	I don't like the way Zotero forces you to use their PDF reader, which is hard to use and disables functions like searching in order to provide others like highlighting.
712170674	Abysmal. Preview doesn't expose any of the text to VoiceOver or the reading order. I can't remember its name, but there was a PDF/UA reader but I could never get it to work.
805276334	Basic reading in MacOS/Preview is ok for flat text with little structure.
271202046	Pac3, common look, axesPDF Quickfix, Debenu, enfocus pitstop
448547156	NA
384577045	in edge i can read comfortably 3 out of 5 times if documents are in English, but in android phone i use insta reader a TTS app to read the PDFs.
696025165	n/a
627229108	N/a
761087517	better than adobe but insufficient for many tasks like filling and signing forms
42409857	iPhone and iPad. The document just opens up and usually able to read it using VoiceOver screen reader. Much more difficult on laptop, Microsoft

ID #	Response
11989574	When using Chrome to access a PDF we don't have the same breadth of functionality as with AR and AA particularly when using assistive technology (eg. navigating, editing).

20. What does work well for you when you open a PDF document in Adobe Reader or Adobe Acrobat?

Please describe.

Table 18 What does work reading PDFs in Adobe Reader/Acrobat.

ID #	Response
431333233	NA
230148711	l/r-t/b
616998546	I think that you can easily magnify the PDF to read easily
444554266	Reading mode is useful however Word created PDF and poorly created PDF negate this feature
096676382	NA
784521682	Any documents that I've remediated.
396344276	magnification and tools section to edit tags
007379461	Good experience.
807328322	adding alternative text to images (which may have had alternative text in the original Word document but got lost going to pdf),
540648295	opening and reading a PDF in native application works well for me as described and promised by the tools (Adobe reader and acrobat)
017144711	Things work as expected.
01475411	If, and when, I can get the Accessibility dialogue to load the choosing the reading from left to right and top to bottom option, in conjunction with reading a page at a time are likely to result in it loading a document I can read, albeit with difficulty. Rightly or wrongly I have left all other settings within that dialogue box in their default settings. I must stress that failure to load the dialogue and/or the actual document is a far more frequent occurrence than it was with earlier versions. I am using the most up-to-date version of the product.
020038192	Well nothing special, if it opens eventually and processes I can read it, if it doesn't then I can't. My only gripe would be that I have to switch back and forth a little in order for the thing to appear but usually it will appear though it may look like it locked up but adobe is lilke that.
412180151	I don't use Reader much, but I use Acrobat Pro almost daily to check PDFs for accessibility and sometimes to remediate them. It was a long learning curve, but now I'm pretty proficient at editing tags. I also use Acrobat to make minor edits to PDFs, such as adding links. If I try to do anything more complex, though, things start to go wrong. Fonts change, content disappears, etc.
724852401	NA

ID #	Response
986057588	I have more control over the way the document is displayed as I can change the reading options. I can also use the convenient OCR within my Jaws screen reader if it is a scanned document.
514978995	NA
789773063	The reading preferences I use: "Left-to-right, top-to-bottom" and "Read the entire document".
129889635	I wish I'd learned long ago that changing the reading order of untagged documents in Acrobat could sometimes dramatically improve their accessibility.
469647013	It is a reliable way to experience if the document is accessible or not.
941850288	I like using the heading list within JAWS to navigate between different sections of a document. If this has been done well then i can find what i'm looking for really easily and navigate the documents with ease. Unfortunatley it is rare that headings are included and where they are they are generally not following a logical structure
782127031	nothing. I gave up on using it.
588069164	I prefer to read documents in Adobe reader because it is easier for me to know where I am in the document-what page I am reading etc.
189819034	Hard to say specifically, generally they load well and I can navigate using my arrow keys.
138291734	Document navigation works well for tagged documents.
399124702	It opens, from there it is touch and go whether the screen reader will work with it or not. Very inconsistent.
517683292	Just being able to highlight/copy/paste text easily. If I can highlight text using a cursor rather than crosshairs, it means it recognises text and therefore I could use a screen-reader with it.
02400297	the addition to have the programme scanned for accessibility features
665903562	If it starts reading, as soon as it has been processed in its default recommended mode of three, including tagging.
500449943	I can change things in Acrobat, and can export in a variety of formats. Adobe has also gotten good at importing doing PDF to Word, which can help a lot of students at the college I work at. Reader is a problem because you can only do very limited edits to fill out forms.
712170674	Reading it as a sighted person.
805276334	NA
271202046	We have a lot of experience tagging our files for reading when we work in Adobe Reader or Adobe Acrobat
448547156	Reading the document
384577045	i don't use.
696025165	Not really

ID #	Response
627229108	All pages are opened, sometimes I have to scroll to the top of the document myself as sometimes starts half way down for example after opening
761087517	it opens
42409857	NA
11989574	Complete control over the document (navigating, editing, input, etc.) vs using another viewing program i.e. Chrome.

21. What does work well for you when you open a PDF document in another application?

Please describe, giving the name or names of the applications and what works well for you.

Table 19 What works when reading PDFs in other applications.

ID #	Response
431333233	NA
230148711	NA
616998546	never have
444554266	Sometimes Jaws OCR add on or an Apple OCR App are only way to gather basic information
096676382	Voice Dream Reader works well if you have a long document that just needs reading . If I need to get to something quickly on a particular page I use Apple Books.
784521682	Sorry, I don't have much experience here. Preview screens are terrible.
396344276	n/a
007379461	N/A
807328322	I can't think of anything.
540648295	same as above Q20
017144711	Things work as expected.
01475411	I think I have already covered this in earlier answers.
020038192	Again nothing special. It opens and reads or converts or it doesn't.
412180151	Preview is streamlined and easy. Most of the time, there are only a few things I need to do: show or hide thumbnails and bookmarks; change window size and magnification to get a good reading size; check document properties; and search for text.
724852401	NA
986057588	It's quick and easy to open them in a web browser or iPhone and this is OK for short simple documents.
514978995	NA
789773063	Don't know, because haven't used.
129889635	NA
469647013	I think I answered it in Q19.
941850288	N/A
782127031	see above qu 19.
588069164	I can usually read the text of the document using Microsoft Edge and Google Chrome.
189819034	Quick way of downloading the PDF
138291734	reading text in simple documents.

ID #	Response
399124702	Difficult to say, as I wouldn't use if I'm using a different PDF Viewer it would be on my phone/tablet and only use, which provides a different experience from using it on a laptop with screen reader. magnification
517683292	Nothing.
02400297	N/A
665903562	I would not choose to use another application than Adobe, apart from Safari, because Edge and Chrome don't work well enough as PDF readers.
500449943	Edge is much faster than Acrobat
712170674	It looks great as an image.
805276334	NA
271202046	Adobe Acrobat
448547156	NA
384577045	It works whell 3 times in edge and in insta reader 80% of files are read out correctly.
696025165	NA
627229108	n/a
761087517	it reads and presents in my settings
42409857	VoiceOver screen reader, very good, not sure which application it uses, it just opens up
11989574	When using Chrome the document is available without having to open AR or AA so performance is a bit better but marginal at best.

22. What would improve access to PDF documents for you?

Please be specific.

Table 20 Elements that would improve PDF accessibility.

ID #	Response
431333233	NA
230148711	an early indication at the document head giving rough idea of its layout style - table, plain text, form, and so on.
616998546	ability to change font, all PDFs being accessible
444554266	Left to right table access please
096676382	better document structure with proper headings, a working table of contents with links that take you to the correct part of the document, properly structured tables.
784521682	Non-scanned documents, accurate tag tree structure and order.
396344276	more tools for accessibility
007379461	Clear text to speech usage. Clear description of table(s) and their content. Clear description of images using alternative text. Other integration to accessibility devices.
807328322	Making them html ;) In Accessibility, somehow remove things like empty Container<Artifact> and Text: in the Content view
540648295	High fidelity conversion from accessible WORD (or any other text editor created text file) into an accessible PDF, without needing expert skills and tinkering in Acrobat.
017144711	There is nothing wrong with PDFs as such, just that it is not a good format for reading online. Making them accessible should be easier though - it is too easy to make them inaccessible.
01475411	The biggest problem I encounter nowadays is the most obvious one; namely that the suffix .pdf does not guarantee that the document is actually readable. In increasing use of images with which a screen-reader cannot cope and the poor standard of tagging make reading files a pain in the neck. Sometimes the use of jaws OCR will help with the image issue but the results of sending it to MS Word are, in my experience, rather hit and miss. Tagging documents is, however a totally different matter. I have heard it asserted that the only truly foolproof way to read a pdf document is with the aid of a braille display. As these are beyond the pocket of most of us, we can only hope that the tagging becomes more consistently applied.

ID #	Response
020038192	Well it would be a great improvement if I never had to use them. Maybe have the secured document able to be read regardless of security status if a screen reader is detected I guess. Maybe have a less bloated adobe reader after all if I just want to read not write or anything else well who knows. I'd in the end of the day prefer not to deal with them at all.
412180151	I don't have any disabilities that affect how I use PDFs. Well, I do need the text to not be tiny. One thing does bug me though: on my phone, if the PDF has text in columns, it makes the reading experience less than ideal. I have to turn the screen to landscape, I usually have to pinch-zoom to be able to read the text, and then I need to move the page around to get to the bottom of the column and then up and over to get to the next column. It's just not a good format for small screens.
724852401	NA
986057588	Adobe need to fix the issues I outlined above. However, the main problem is the way the PDF documents are produced in the first place. These days most of them aren't produced within Adobe and they are not tagged. Those which are tagged are often not much better than those which aren't, e.g. you cant jump to sections. Also some documents are scanned which could easily be sent as text. For example, it is possible to imbed a signature into a document without printing it out and scanning it back in. For the sake of a signature one is left with the whole document inaccessible. Scanning is less likely to provide a satisfactory presentation compared to a document containing ASCII text.
514978995	NA
789773063	Change the programming of this application so as to abolish the need for document "processing" for screen-readers. Why is this needed? Word documents don't require it, NotePad doesn't require it, Excel Spreadsheet doesn't require it, so why should PDF? I learned from this very form that the full form of "PDF" is "Portable Document Format". By having this "processing" requirement for such documents, the designers of Adobe Acrobat Reader should be honest, and change the name to "UW&N-PDF (for the blind)" ("Unwieldy and non-portable document format (for the blind)").
129889635	NA
469647013	Tagging the documents correctly, not just scanning or writing them. Using a lightweight software to present PDF correctly.
941850288	If accessibility checkers were on automatically and issues pointed out automatically to those who create documents. The general issues are where people don't know enough about digital accessibility and feel it is not important enough to care to put it in. I feel if nudge theory was used and there was a greater awareness of accessibility then people would be much more inclined to use accessibility features in documents

ID #	Response
782127031	awareness of how to create them and why people should, I recently got a blue badge (UK disabled parking permit). This was accompanied by a printed leaflet and a QR code link to a page on the government website giving accessible versions. There was an HTML version, which was text only and non of the layout and images. There was an audio version. There were two PDFs, one for large print, one for Easy Read, but no PDF that was just a digital copy of the printed leaflet. There was an email address to request other formats, so I requested a simple PDF of the leaflet, you would think I'd asked for the moon, they acted like they didn't know what PDF was, and all that I needed was someone to press "save as PDF" to get it. This seems ridiculous, but I have lots of similar concerns when I ask for PDF I often have to explain "click save as, select PDF".
588069164	Sometimes I have difficulty reading long pdf documents because Adobe does not make it easy for me to skim long documents efficiently or quickly.
189819034	If everyone created them correctly. I've know people to use 'In Design' to create accessible PDF's and, even though they've followed the guidelines, they still don't work that well with screen readers.
138291734	better keyboard access to acrobat tools. Multiple selection for tagging and order tools. more predictable interface navigation
399124702	Consistency of operations, it is often very sketchy on how a document will open. The same document can open and work in some instances and not in others.
517683292	I don't know
02400297	The ability to increase text size would be helpful to a partially sighted person using magnification. The ability to fully read, select and copy text with curse keys.
665903562	Continuous reading from one page to the next, without having to keep pressing Control Page Down and a linked contents page, so you could skip straight to the required section of the document.
500449943	NA
712170674	If Adobe Reader or Acrobat could expose some of the nuance of more of the native PDF tags.
805276334	I'd rather have HTML than PDF
271202046	NA
448547156	Being more accessible with screen readers
384577045	Separate each topics with headings so we can jump to specific topic Easily and try to include AI in applications so it can predict the words if it is mis-spelled.
696025165	would need training on how to understand the accessibility of it for the content to not be misplaced
627229108	Include ability to navigate around tables
761087517	if people stopped using them? if they thought about the needs of print related disabilities beyond mag and screen reader.

ID #	Response
42409857	Rarely use on computer as find it generally difficult navigate using keyboard shortcuts screen, reader software.
11989574	If PDF documents were tagged (remediated) for accessibility i.e. screen reader programs (assistive technology) that would be ideal. The auto tag feature is helpful but needs to be more robust so that additional manual tagging can be reduced and more time efficient.

23. Additional comments

Table 21 Additional comments.

ID #	Response
431333233	NA
230148711	when entering country couldn't get to U.K. the drop-down stopped at Portugal.
616998546	NA
444554266	Word created PDF documents have made it easier to produce PDF but they rarely produce disability friendly documents for screen readers
096676382	I am not in Afghanistan but I couldn't get the country selector to work properly on the PC. I couldn't choose anywhere lower in the list than Portugal.
784521682	It seems to me no one starts out with the intentions of excluding people. Most people are just completely unaware of what is happening. I had a credit union CEO tell me that they have NO members with disabilities. Sir, did you know roughly 70% of disabilities are hidden and likely they are simply choosing a competitor of yours who is meeting their needs.
396344276	NA
007379461	Thank you.
807328322	NA
540648295	Thank you for making this survey and would appreciate hearing your analysis and feedback on the results.
017144711	I work on web accessibility policy at the European Commission. I don't have a disability, but have many years of experience in accessible web development.
01475411	NA
020038192	NA
412180151	Thank you for doing this>!
724852401	NA
986057588	Organisations producing documents for the public need to be educated on how to produce accessible PDFs. In some cases they will be breaching UK equality legislation. Adobe need to do further work on Adobe Reader and many of the other providers of programs which can produce PDF documents need to make substantial improvements to their products. The browser manufacturers need to improve their PDF viewers too.
514978995	NA
789773063	Really love this initiative. Thank you for taking a scholarly interest in this, and for bringing the full force of academic scrutiny and questioning to this issue.
129889635	NA
469647013	NA

ID #	Response
941850288	I don't like how the accessibility checker is only available in the pro version of Adobe, this feels like it is putting accessibility behind a paywall and preventing those that struggle from pointing out to colleagues or businesses where the problems are arising. The accessibility checker should be available as standard with the free version of Adobe.
782127031	good luck with the doctorate applications. I thoroughly enjoyed my PhD. Highly recommend Scrivener and Liquid Text for analysing and working with writing from multiple PDFs - a very different function to Adobe.
588069164	Sometimes PDF documents can be slow to load, especially if these documents are long documents.
189819034	I still prefer not to read PDFs if I can avoid them. You just never know whether what your reading is in the correct order, that you're getting all of the information or if you're even going to be able to read it.
138291734	better conversion tools from office apps better tagging results. less nesting within tags how about standard compliant tagging.
399124702	PDF seems to prove very inconsistent, unlike word documents etc.
517683292	Unrelated to PDFs, I think it's ironic that a survey about accessibility has a banner at the top of each page with white text on a grey background!
02400297	NA
665903562	Forms can be a challenge, as it is not always clear how to save them, unless you have Adobe Writer.
500449943	NA
712170674	Thanks for the great work you do on this.
805276334	Getting a PDF is still a cause for a heavy sigh and a shake of the head. So many PDFs out there, and few actually need to be in that format.
271202046	I can do PDF REMEDIATION WORK
448547156	NA
384577045	n/a
696025165	NA
627229108	None
761087517	NA
42409857	NA
11989574	Looking forward to learning more about your findings. Good luck.