

# InSite: Enabling Transparency With Searchable, Shareable, Interactive Transcripts

---

IAnnotate 2018, San Francisco, June 6-7  
Kim Patch

## Presentation Description

Publications are looking for ways to earn readers' trust. One way is to let readers explore source interviews, including full audio and video, so they can hear how something was said and see it in context.

We've come up with a practical system that anyone can use to make the full content of audio and video files interactive and shareable at the sentence level while keeping what's shared in context.

The InSite project from Duke University's DeWitt Wallace Center for Media and Democracy is a workflow and open source publishing system for interactive transcripts. It's implemented on Duke's [Rutherford Living History](http://livinghistory.sanford.duke.edu) website ([livinghistory.sanford.duke.edu](http://livinghistory.sanford.duke.edu)). We also worked with PBS FRONTLINE to help them put together a similar system for the [Putin Files](http://www.pbs.org/wgbh/frontline/interview-collection/the-putin-files) ([www.pbs.org/wgbh/frontline/interview-collection/the-putin-files](http://www.pbs.org/wgbh/frontline/interview-collection/the-putin-files)) – interactive transcripts of all 56 interviews from the Putin's Revenge documentary (scroll to the bottom for the interviews).

On both sites you can navigate the video by clicking anywhere on an interactive transcript. Select and copy an excerpt and the copy includes a direct link. Send or tweet it to others and when they click the link they'll see the quote in context in the original video. The Duke site also has extensive search capabilities.

Here's an example from the Putin files:

He is a man who is obsessed with TV. He watches tapes of the evening news over and over and over again to see how he's portrayed, to see how he looks.

<https://www.pbs.org/wgbh/frontline/interview/julia-ioffe/#1112>

Here's an example from the Duke site:

In Ford, one is dealing with stockholders and customers and employees, and in the government one is dealing with the public, the constituencies, and the press and the Congress. And those are quite different constituencies, and the way in which one deals with them is quite different

<http://livinghistory.sanford.duke.edu/interviews/robert-mcnamara/#399>

There are more details in the [Our Research](#) section of the Duke site, and on the [PatchonTech](#) blog.

## Kim Patch bio

Kimberly Patch is a user interface expert, writer, editor, software developer, and musician. She's a consultant for the Rutherford Living History program at Duke University's DeWitt Wallace Center for Media & Democracy, and for interactive transcript projects for PBS FRONTLINE. She's an invited expert and mobile accessibility task force cofacilitator for the W3C Accessibility Initiative. She uses speech input

and developed the Utter Command add-on that speeds Dragon speech input for command-and-control. She started out as a journalist and has written for many publications including UPI, the AP, Reuters, the Boston Globe, the San Jose Mercury News, PC Week, and Technology Review.

## Slides and notes

### Slide 1

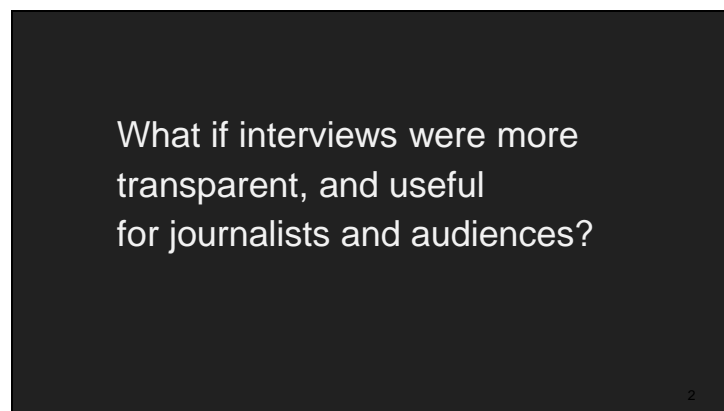


I'm Kim Patch. I'm going to talk about a project I'm doing with Duke University's DeWitt Wallace Center for Media and Democracy. I'm working with Phil Bennett, a Duke professor and former Managing Editor of the Washington Post, and of FRONTLINE.

Phil wanted to make interviews more transparent and useful. Someone might do 100 interviews for a book or documentary series, and maybe 10 or 20 percent of what's covered in the interviews ends up in the book or the series.

But what didn't make it in might still be interesting to others – reporters, researchers, readers – especially if they're looking at similar subjects through different lenses, or over time.

### Slide 2



So we wanted to know what would happen if interviews were more transparent and useful for journalists and audiences.

Slide 3

We talked to 45 journalists, including 12 Pulitzer winners, about how they process and share interviews.

Interviewee ages: 20's, 30's, 40's, 50's, 60's, 70's  
Publications: major US newspapers, magazines, online publications; television, radio, books

3

The first thing we did was interview 45 journalists, including 12 Pulitzer Prize winners, about the minutiae of how they process and share interviews – starting with taking notes and/or recording an interview, and ending with publishing a story or documentary.

Slide 4

Journalist Pain Point: Processing Interviews

- Transcribing is tedious, time-consuming, and expensive
- But valuable – without a searchable recording and verified transcript, misquotes go up, information is lost, and important stories can go undiscovered

4

We paid special attention to some particular journalist pain points.

When processing interviews:

Transcribing is tedious, time-consuming and expensive

But it's also valuable – without a searchable recording and verified transcript, misquotes go up, information is lost and important stories can go undiscovered

## Slide 5

### Journalist Pain Point: Sharing interviews

- Journalists, whether working alone or in teams, have few ways to effectively navigate and share interviews

Same goes for audiences – they rarely see source interviews, and when source interviews are published, they're not easily navigable or shareable

5

Journalists also have few ways to effectively navigate and share interviews

Same goes for readers and viewers, who rarely see source interviews. And when interviews are published they're often not easy to navigate or share.

So this was a key point about publishing – it should be easier to navigate and share interviews – for journalists **and** for readers.

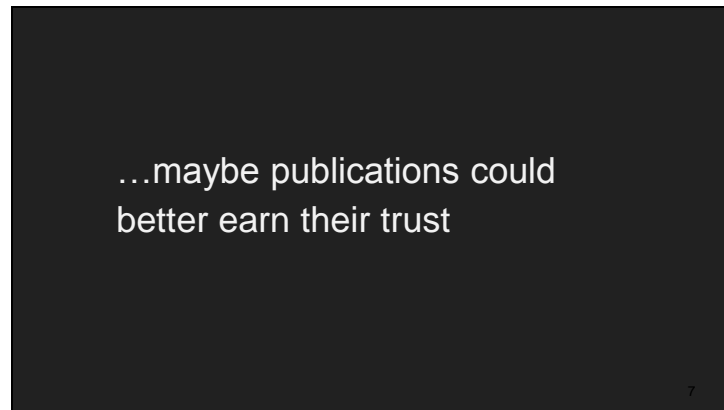
## Slide 6

If audiences could explore source interviews, including audio and video, so they could see it in context and hear how something was said...

6

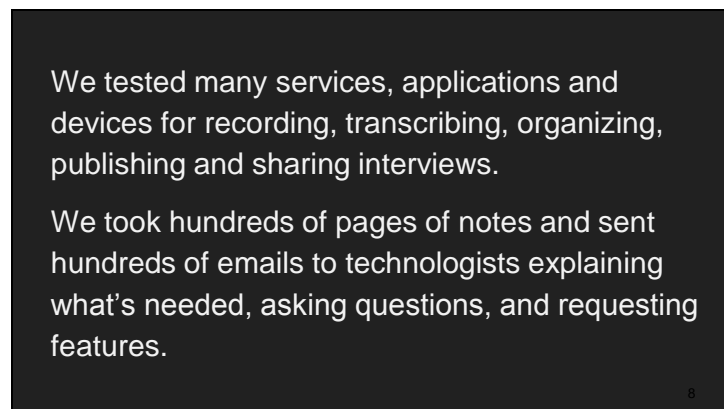
We were thinking that if audiences could explore source interviews -- including audio and video -- so they could **see** quotes in context and **hear** how something was said...

Slide 7



Maybe publications could better earn readers trust

Slide 8

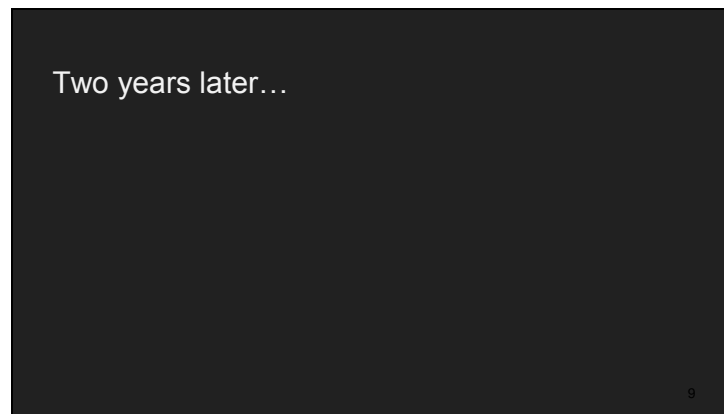


So we went looking for technologies...

We tested many services, applications and devices for recording, transcribing, organizing, publishing and sharing interviews.

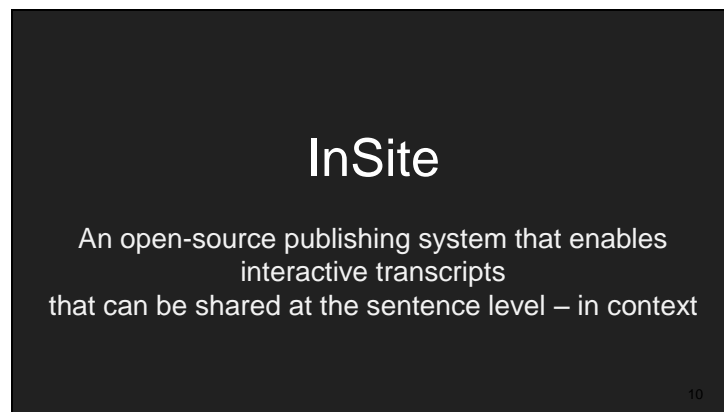
We took many notes, and sent hundreds of emails to technologists explaining what we needed, asking questions, and requesting features.

Slide 9



Two years later...

Slide 10



We came up with InSite, an open-source publishing system that enables interactive transcripts that can be shared at the sentence level – in context.

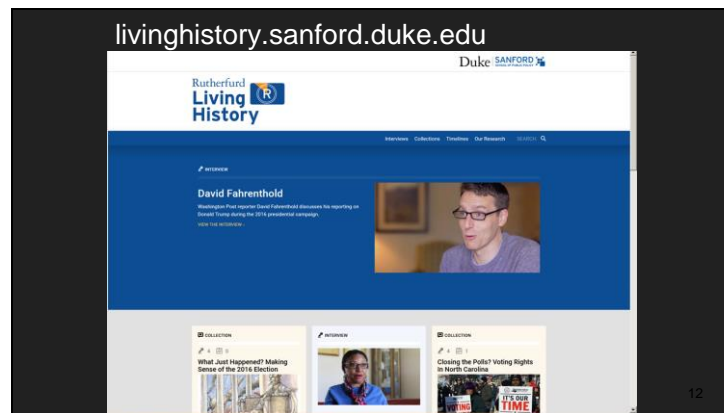
Slide 11

This is a work in progress. It's not perfect. But we've connected all the dots from recording to publishing with best practices given today's technology.

11

This is a work in progress. It's not perfect. But we've connected all the dots from recording to publishing with best practices given today's technology.

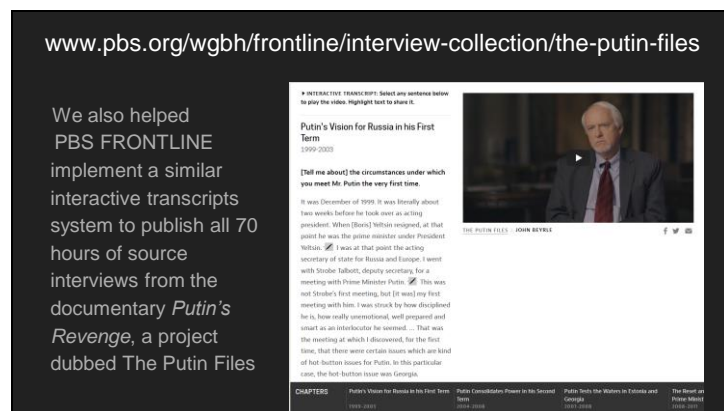
Slide 12



12

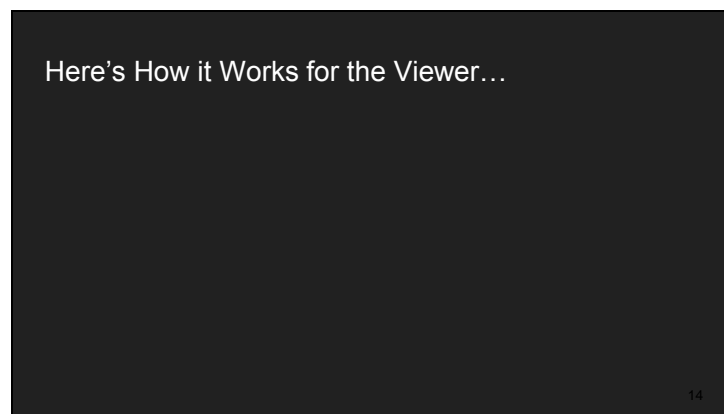
You can see it in action at the Rutherford Living History site at Duke University. The living history program had a backlog of oral histories dating back more than 4 decades. Several collections of those interviews are now published as interactive transcripts.

Slide 13



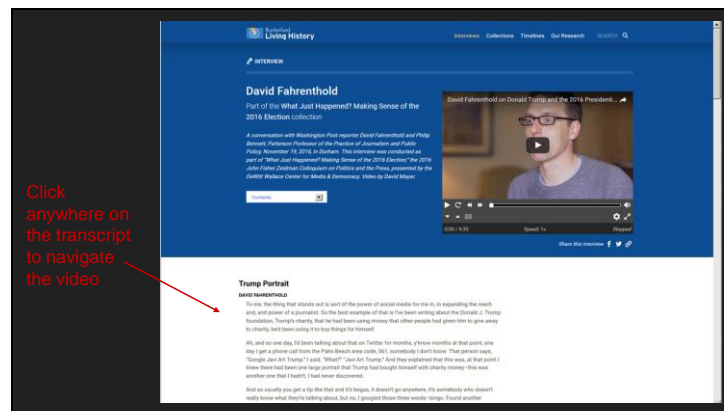
We also helped PBS FRONTLINE implement a similar interactive transcript system to publish all 70 hours of source interviews from the documentary Putin's Revenge – the interactive transcript part of this is called The Putin Files

Slide 14



I'm going to quickly go through the current features of the InSite publishing system – I'll show you these on the Duke site, which has more features, including search and timelines.

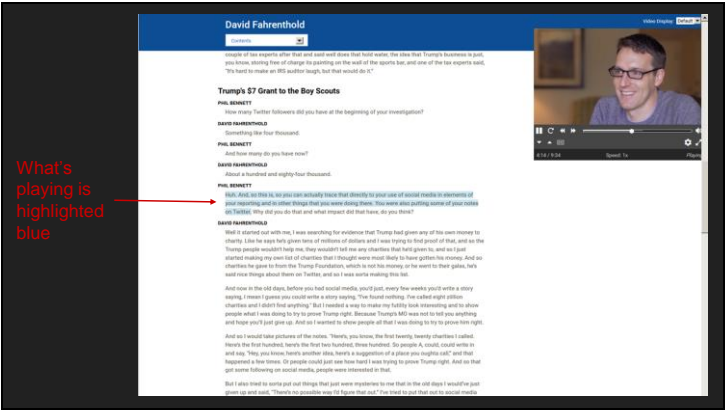
Slide 15



Here's how it works: Click anywhere on the interactive transcript to scrub the video to that point.

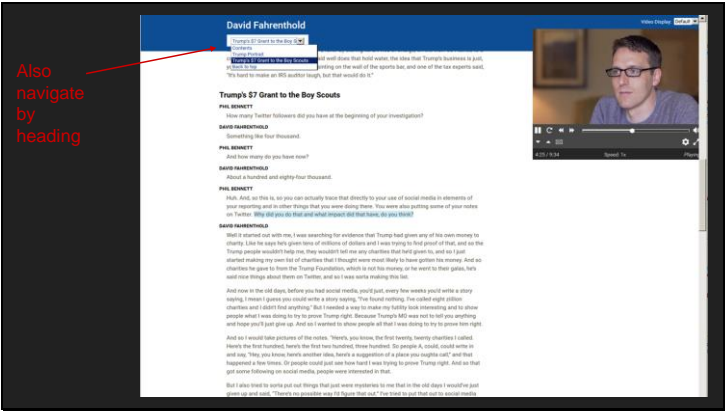


Slide 16



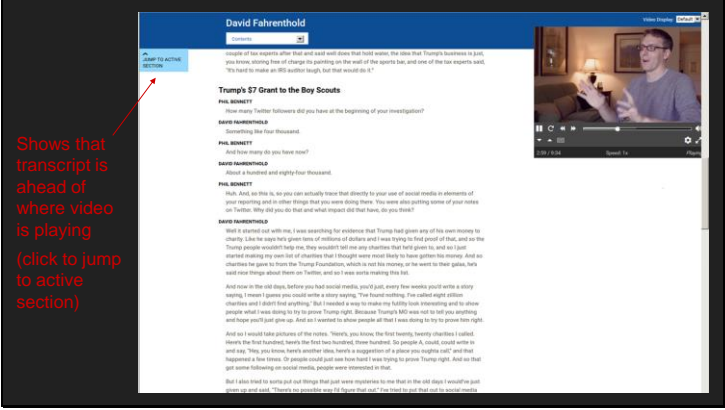
When you scroll down the video moves off to the side, and whatever is playing is highlighted blue in the transcript. (I want to point out that the viewer can control the size of the video window, too)

Slide 17



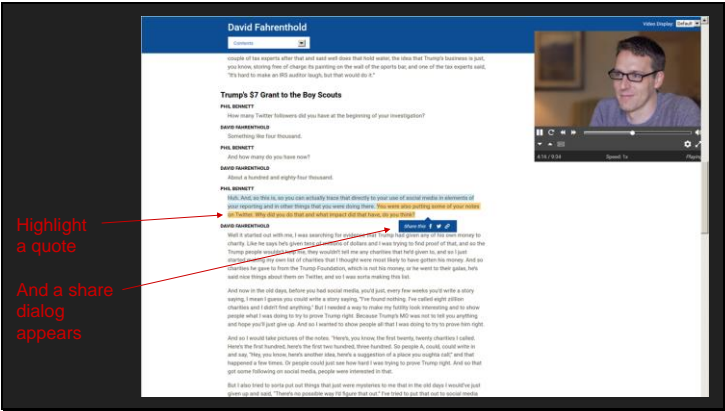
You can also navigate by clicking the drop-down list at the top and choosing a heading.

Slide 18



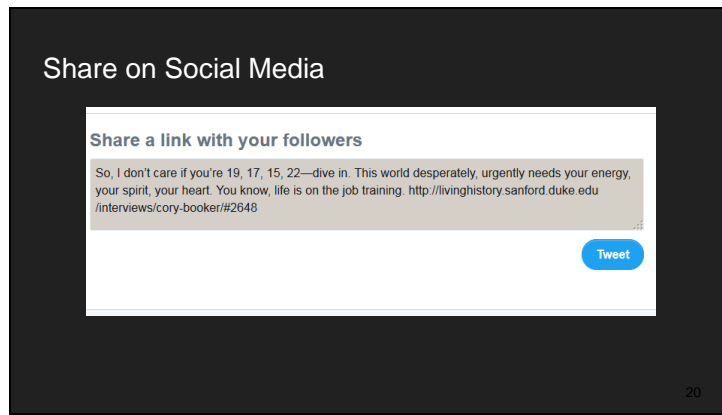
The transcript doesn't scroll automatically – and this is by design. We want the reader to be driving and not have to reorient. But if the video is behind or ahead of what shows in the transcript window, a clickable jump-to-active-section indicator will appear at the top or bottom of the transcript.

Slide 19



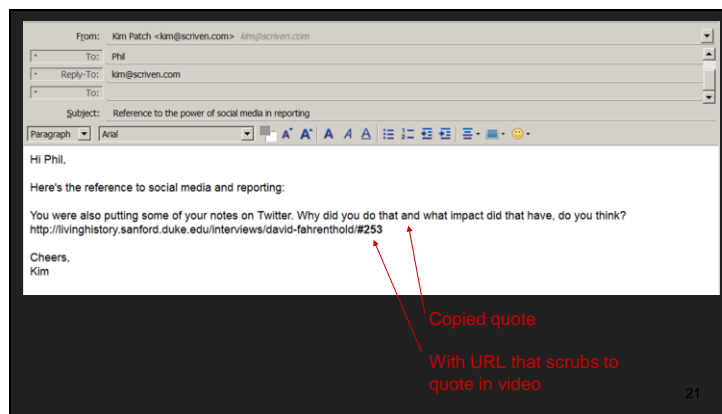
If you select text it's highlighted turns and a share dialog box appears. Click a Facebook or Twitter icon and you get a pop-up containing the quote and a URL specific to that point in the video -- the start of the nearest sentence. Click the link symbol and the quote plus URL is copied to the clipboard.

Slide 20



So you can share on social media. Note the number at the end of the URL that takes you right to that sentence.

## Slide 21



Or you can paste a quote someplace like email

## Slide 22



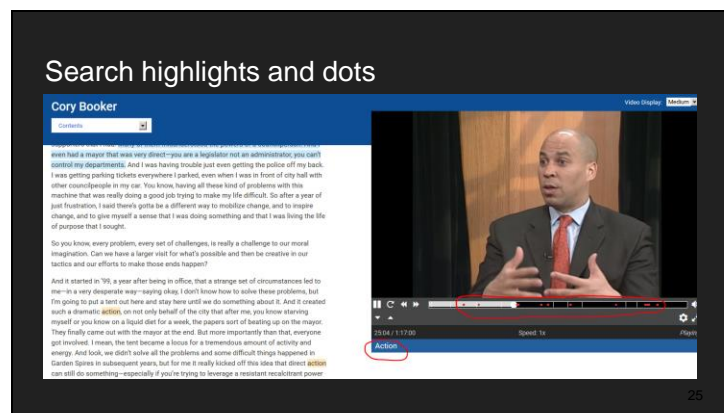
This lets you cross-link within and between interviews so you can, for instance, compare quotes.

Slide 24



There's also a timeline element. And the timeline allows for annotation as well.

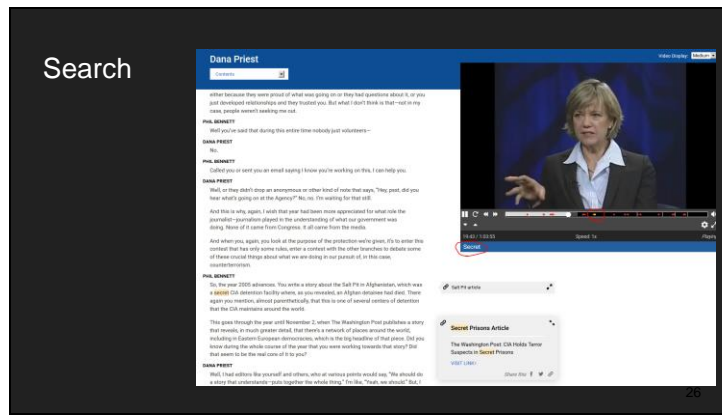
Slide 25



We recently improved the InSite search capabilities.

Put a word or phrase in the search field under the video – here it's "action", and the terms are highlighted yellow in the transcript, and red dots appear on the video seek bar. This gives you a sense of how many hits there are and where they appear in the video. You can get right to one via the seek bar – you'd drag on a computer or touch on a smartphone or tablet to do this

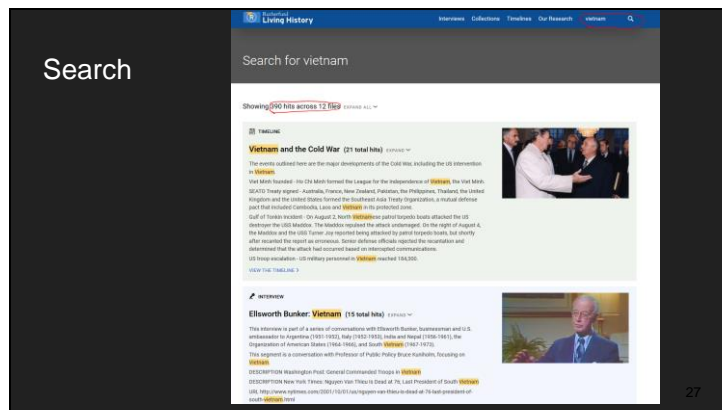
Slide 26



And if there are also hits in the annotations, those will appear as yellow dots in the seek bar and the annotation dialog will automatically open.

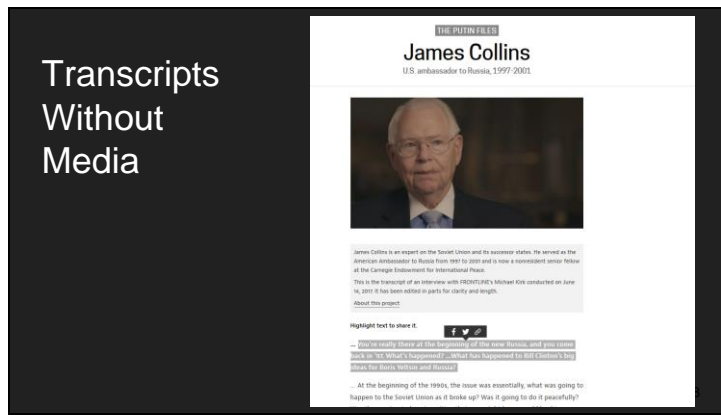
Here, one of the hits in a search for the word “secret” turned up an article that an annotation points to.

Slide 27



We also improved the site-wide search. Put a term in the search field that’s at the top of most pages and you’ll see how many hits there are site-wide and by interview, and the hits appear in a line of context. Click on a hit and it takes you to that place in the video. You can also do this type of search narrowed by collection. So interactive transcripts enable analysis.

Slide 28

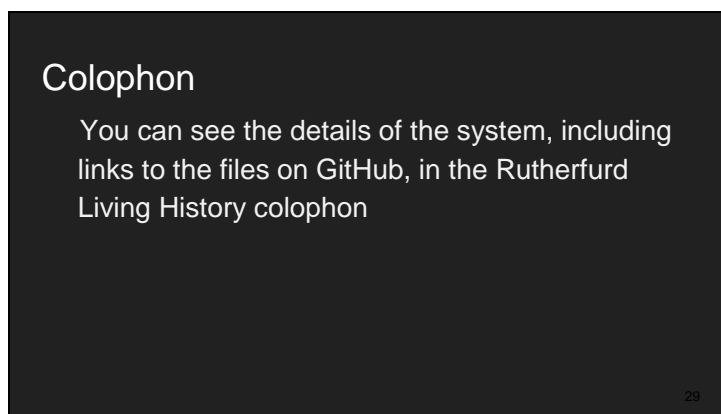


If you look at the 56 interviews of the Putin files you'll see that 32 of them are videos, and 24 are just transcripts. But you can still share any sentence from the ones that are just transcripts. It was a big job doing the editing and color correction on all the videos, so FRONTLINE didn't process all of them. But we realized we could enable the sentence-level sharing whether or not interviews were connected to media. Here's an example.

We just finished an automated version of this for the Duke Living History site. It should be live on our production site within a week or two.

There's a long report posted in the Our Research section that details what we learned from the journalist interviews and the logic behind the workflow and publishing system. We've enabled the report as an interactive on our demo site, so I can show you what this version of interactive looks like for a document that doesn't have media.

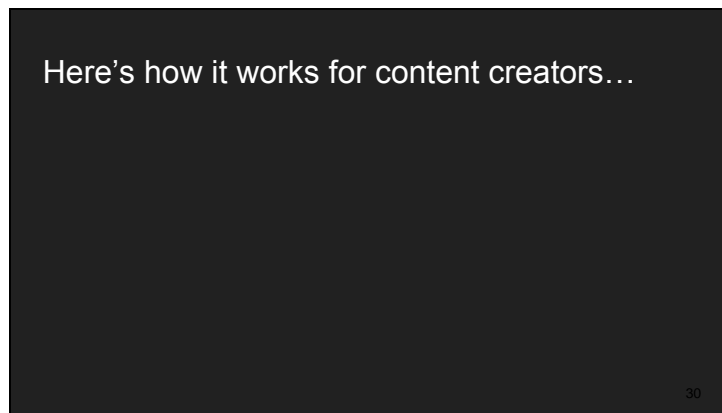
Slide 29



You can see the details of the InSite publishing system, including links to GitHub, in the colophon page on the Rutherford Living History site.

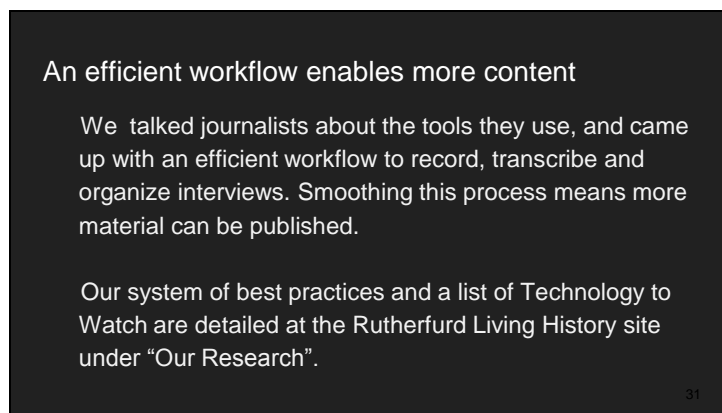
The publishing system is built on Wordpress. It's a template and some plugins. It points to videos hosted on Youtube and uses Able Player to play them.

Slide 30



Now I'm going to spend a couple minutes on how the system works for content creators.

Slide 31



We spent at least as much time on the workflow leading up to publishing as the publishing system.

The key to getting a lot of content published is making it efficient for content creators to capture, transcribe, format and post whole interviews. We want to make it possible for publications to do things like publish all 70 hours of the interviews that went into a documentary rather than just a few expanded excerpts.

We have a system of best practices and a list of technologies to watch.



## Slide 32

### Workflow key traits

iPhone/Android and PC/Mac agnostic

Off-line options, so you can guarantee sources' privacy

Non-proprietary formats, so future tools can be swapped in

- W3C WebVTT/HTML 5 timed track standard (standard audio+transcript format doesn't yet exist, but .vtt time codes allow the connection)
- Open-source publishing software: WordPress, Able Player
- Downloadable .txt and .vtt transcripts

32

The workflow is, by design, iPhone/Android and PC/Mac agnostic. The best practice software supports both.

Keeping in mind investigative journalists, the best practices also offer non-web-app recording and transcribing so that sources' privacy can be guaranteed.

And formats are all standard, so you can swap in different tools.

Our goal was to have open source options for the whole system. We aren't there yet. The recording and transcribing software is commercial, but it has a month-long trial so you can test everything out. We found Audio Notetaker in the accessibility realm – it's first purpose is a notetaking system for kids who are dyslexic. The Audio Notetaker developers have been good at responding to our requests for features that improve it as a tool for journalists.

## Slide 33

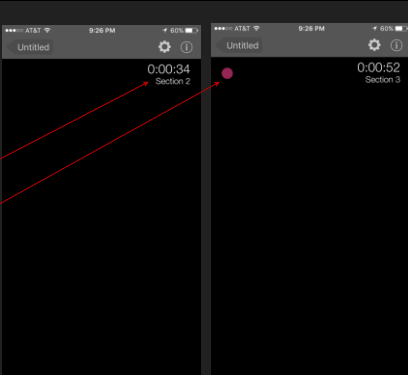
### Sonocent Recorder Glance Mode

If you see this screen, it's recording

Tap once anywhere on the black portion of the screen to section

Tap twice to mark

Mostly black screen saves battery

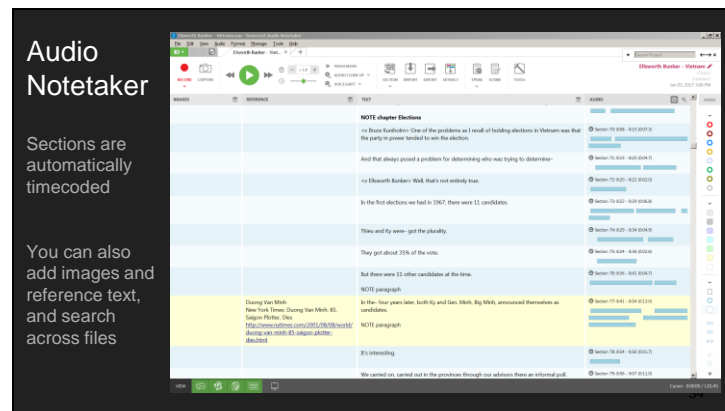


33

Here are some highlights.

Our best practices recorder has a glance mode where the screen is mostly black, which saves battery power and reduces distraction. Tap anywhere on the screen to section, and tap twice to mark. So you can section and mark a recording on the fly using this app.

Slide 34



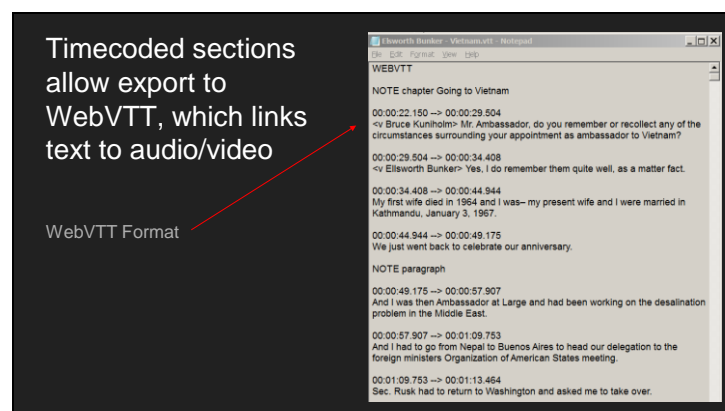
Import into Audio Notetaker to transcribe. It's really a spreadsheet with 4 columns.

Audio is on the **right**, depicted by rectangles that show pauses. The transcript is in the **next column to the left**. Then there's another text column for notes. The column **all the way to the left** is for images. So you can keep everything lined up. And you can segment into rows, which are automatically time coded.

It's a good tool for manual transcription. It also integrates both Dragon and Speechmatics automatic transcription so you can choose whether to manually transcribe an interview or run it through automatic transcription and deal with correcting it.

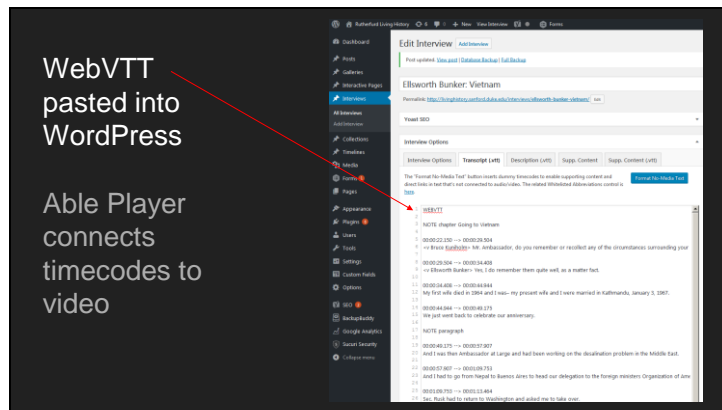
(It also works well as a reporter's notebook. You can keep text, audio and images organized and connected. You can mark things up in several different ways, extract by markup, and search across files.)

Slide 35



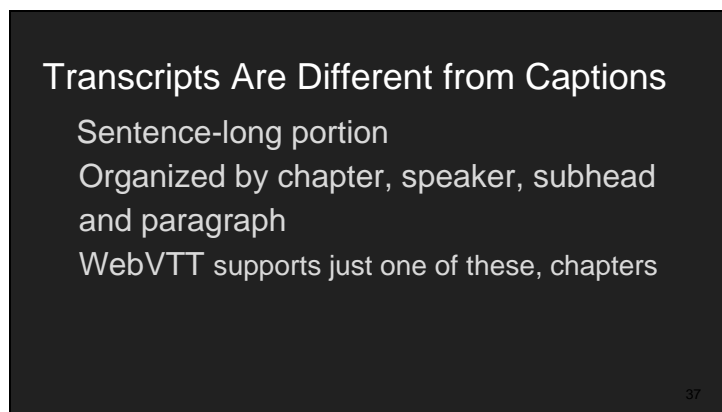
Export the text with time codes to get the format you need to publish.

Slide 36



And upload or paste into the transcript tab on the website

Slide 37



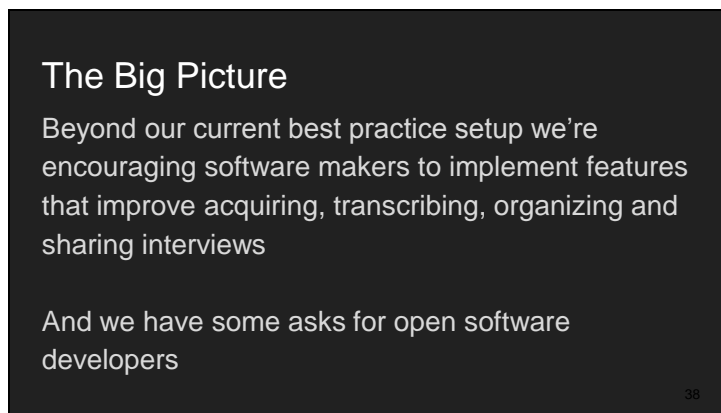
I want to take a minute to point out that transcripts are different from captions in several key ways.

It makes more sense to parse transcripts by sentence rather than by a bit of time, like is usually done with captions.

And transcripts have more organization elements than captions – there are chapters, subheadings, speakers and paragraphs.

The WebVTT standard gave us chapters and speakers. But we also needed paragraphs and subheads. We adjusted the NOTE tag for these (we use NOTE paragraph and NOTE chapter).

Slide 38

A dark-themed slide with white text. The title 'The Big Picture' is at the top. Below it is a paragraph about encouraging software makers to improve interview workflows. At the bottom is another paragraph about asks for open software developers. A small number '38' is in the bottom right corner.

### The Big Picture

Beyond our current best practice setup we're encouraging software makers to implement features that improve acquiring, transcribing, organizing and sharing interviews

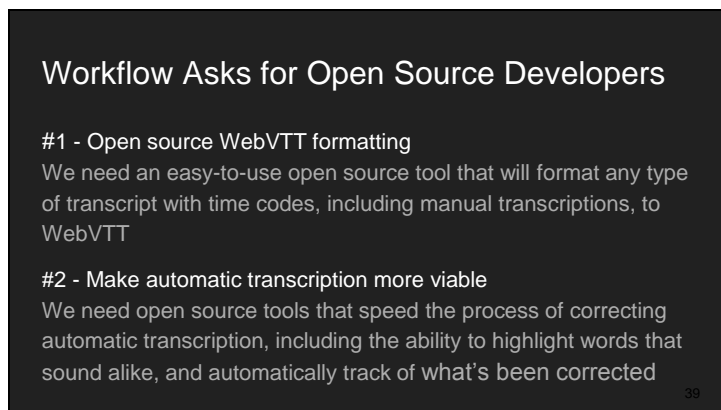
And we have some asks for open software developers

38

Beyond our current best practices, we're encouraging software makers to implement features that improve acquiring, transcribing, organizing and sharing interviews.

And we have some asks for open software developers. Two workflow asks, and two publishing asks.

Slide 39

A dark-themed slide with white text. The title 'Workflow Asks for Open Source Developers' is at the top. Below it are two numbered items, each with a description. A small number '39' is in the bottom right corner.

### Workflow Asks for Open Source Developers

#1 - Open source WebVTT formatting  
We need an easy-to-use open source tool that will format any type of transcript with time codes, including manual transcriptions, to WebVTT

#2 - Make automatic transcription more viable  
We need open source tools that speed the process of correcting automatic transcription, including the ability to highlight words that sound alike, and automatically track of what's been corrected

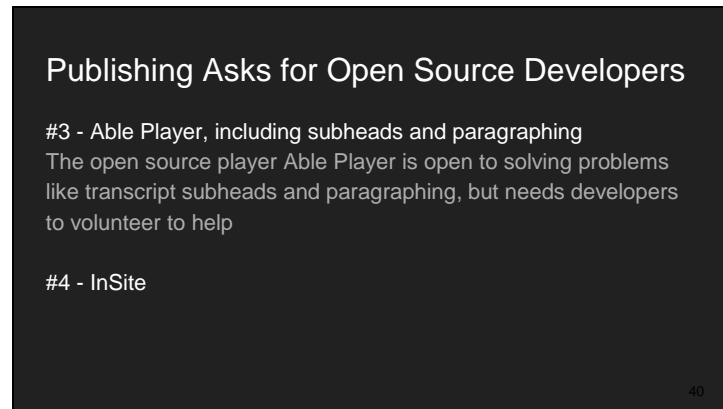
39

As we fill in open source options, a couple of key needs for the workflow before publishing are

- a tool that will format any type of transcript that contains timestamps to WebVTT
- and an editing tool that highlights words that sound alike, and automatically tracks what's been corrected – this would make automatic transcription more viable.

I just want to mention that mixing up “can” and “can’t”, for instance, is a common automatic transcription mistake. The computer doesn’t know if its gotten it wrong, but highlighting these types of words – easily mixed up and dangerous – for a human to listen and verify – would speed things up.

Slide 40



**Publishing Asks for Open Source Developers**

#3 - Able Player, including subheads and paragraphing  
The open source player Able Player is open to solving problems like transcript subheads and paragraphing, but needs developers to volunteer to help

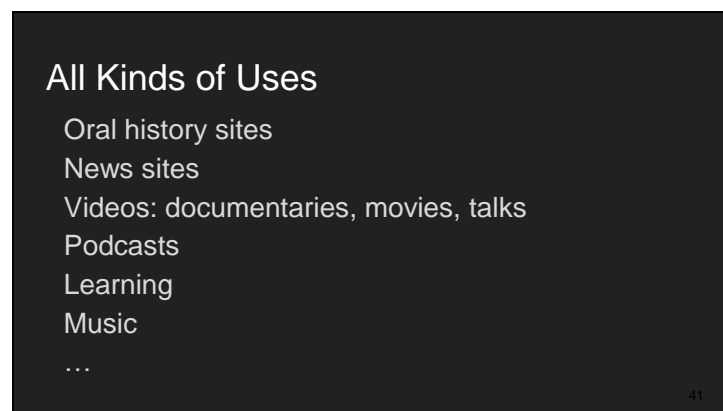
#4 - InSite

40

The open-source player Able Player is open to solving problems like transcript subheads and paragraphing, but needs developers to volunteer to help.

And let me know if you’re interested in contributing to the open source InSite publishing system.

Slide 41



**All Kinds of Uses**

- Oral history sites
- News sites
- Videos: documentaries, movies, talks
- Podcasts
- Learning
- Music
- ...

41

We want to encourage all manner of interactive interviews – using the InSite system, or a combination of systems – so that we can all connect at the sentence level. We want to encourage the ecosystem.

Slide 42

Info

Kim Patch  
[kim@scriven.com](mailto:kim@scriven.com)  
[PatchonTech.com](http://PatchonTech.com)  
[@patchontech](https://twitter.com/patchontech)

InSite Details  
[livinghistory.sanford.duke.edu/our-research](http://livinghistory.sanford.duke.edu/our-research)

Duke University's Rutherford Living History site  
[livinghistory.sanford.duke.edu](http://livinghistory.sanford.duke.edu)

PBS FRONTLINE: The Putin Files  
[www.pbs.org/wgbh/frontline/interview-collection/the-putin-files](http://www.pbs.org/wgbh/frontline/interview-collection/the-putin-files) A bit more → 42

Questions?

Slide 43

A Couple More Things...

43

Slide 44

# Cross-Linked Documentary

I also wanted to mention a couple things we're working on.

This is a cross-linked documentary. You can click to see any source quote in the context of the interview. It also gives you a neat mental map of the documentary.

Slide 45

[illegible]

This is a couple of screens worth of just the transcript part.

Slide 46

# Audio Descriptions

Audio descriptions are useful for folks who are blind – and for anyone who wants to search a video for a stop sign. Toggle the descriptions button to see the descriptions in the transcript

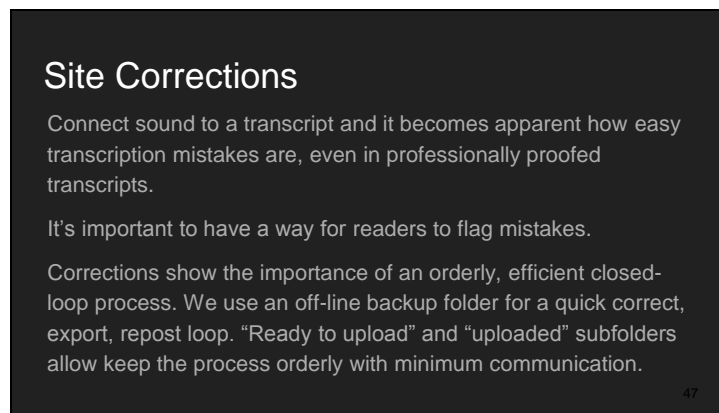
46

Audio descriptions are useful for folks who are blind – and for anyone who wants to search a video for a stop sign. Toggle the descriptions button to see the descriptions in the transcript

Audio descriptions are useful for folks who are blind – and for anyone who wants to search a video for a stop sign. You might remember that the stop sign came right before a scene you want to see again.

We've made it so descriptions appear in the transcript so they can be searched. Toggle the descriptions button to see the descriptions in the transcript.

Slide 47

A dark-themed presentation slide titled "Site Corrections". The slide contains three paragraphs of text. The first paragraph states that connecting sound to a transcript makes transcription mistakes apparent, even in professionally proofed transcripts. The second paragraph emphasizes the importance of a way for readers to flag mistakes. The third paragraph describes a closed-loop correction process using an off-line backup folder with subfolders for "Ready to upload" and "uploaded" to keep the process orderly with minimum communication. A small number "47" is visible in the bottom right corner of the slide.

### Site Corrections

Connect sound to a transcript and it becomes apparent how easy transcription mistakes are, even in professionally proofed transcripts.

It's important to have a way for readers to flag mistakes.

Corrections show the importance of an orderly, efficient closed-loop process. We use an off-line backup folder for a quick correct, export, repost loop. "Ready to upload" and "uploaded" subfolders allow keep the process orderly with minimum communication.

47

Another thing to think about is site corrections – it's important to allow readers to flag mistakes and content creators to easily correct them.

Audio Notetaker is the gold copy of an interview, and also serves as an off-site backup. It's easy to correct, export, repost. "Ready to upload" and "uploaded" subfolders keep the process orderly with minimum communication needed even if different people are doing corrections and re-uploading.

Slide 48



## Our Prime Directives

**Easy:** Minimize reporters' cognitive load so they can focus on asking questions and listening deeply to the answers

**Efficient:** Maximize reporters' efficiency so they can more thoroughly explore their interviews for subtle details and brilliant connections

**Private:** Ensure that reporters can guarantee sources' privacy

**Useful:** Make interviews as useful as possible to reporters and readers

48

Slide 49

## Info

Kim Patch  
[kim@scriven.com](mailto:kim@scriven.com)  
[PatchonTech.com](http://PatchonTech.com)  
[@patchontech](https://twitter.com/patchontech)

InSite Details  
[livinghistory.sanford.duke.edu/our-research](http://livinghistory.sanford.duke.edu/our-research)

Duke University's Rutherford Living History site  
[livinghistory.sanford.duke.edu](http://livinghistory.sanford.duke.edu)

PBS FRONTLINE: The Putin Files  
[www.pbs.org/wgbh/frontline/interview-collection/the-putin-files](http://www.pbs.org/wgbh/frontline/interview-collection/the-putin-files)

49

## Info

Kim Patch  
[kim@scriven.com](mailto:kim@scriven.com)  
[PatchonTech.com](http://PatchonTech.com)  
[@patchontech](https://twitter.com/patchontech)

InSite Details  
[livinghistory.sanford.duke.edu/our-research](http://livinghistory.sanford.duke.edu/our-research)

Duke University's Rutherford Living History site  
[livinghistory.sanford.duke.edu](http://livinghistory.sanford.duke.edu)

PBS FRONTLINE: The Putin Files  
[www.pbs.org/wgbh/frontline/interview-collection/the-putin-files](http://www.pbs.org/wgbh/frontline/interview-collection/the-putin-files)