



**KALTURA**

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# ***GETTING INTO THE ACCESSIBILITY MINDSET***

***A Guide to Making Educational Video Accessible***



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## INTRODUCTION

Throughout education, there's been a groundswell of interest in—and concern about—accessibility. What does it mean for a school to be “accessible”? How much effort does it take? What are the consequences if a school fails to do so?

Adding to the confusion is the fact that “accessibility” is a moving target. As technologies change and our understanding of how to best serve all populations continues to evolve, the standards keep shifting. What was acceptable ten years ago is no longer ok; what works today will almost certainly need to be revised ten years from now. What's an institution supposed to do?

The most important thing to understand is that accessibility is not a set of hoops to be jumped through. There's no magic checklist that can be completed and then forgotten as done. It's a journey that we're all on together—students, instructors, educational institutions, disability advocates, technology providers—that may not have a specific end. The key will be developing an accessibility mindset—thinking not about specific requirements, but constantly looking for new ways to make education accessible to everyone.

So consider this not a map, but a travel guide. As we all work together to improve the educational experience, let's take a look at some of the key considerations required to make educational video inclusive to all.

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## WHAT'S “ACCESSIBLE”?

### What kind of accessibility are we talking about?

It's easy to get pedantic about a common word like “accessible.” Just within the realm of educational technology, the term could refer to being able to be read from mobile devices, or offered to minority or low income populations, or easily understood by non-experts.

So let's be a little rigorous. In this case, when we refer to “accessibility” we mean how easily people with disabilities can make use of the educational opportunities an institution offers.

For that matter, “accessibility” refers to a huge range of standards, regulations and practices, from providing sign language interpreters and textbooks in Braille to creating Individualized Education Plans and ensuring physical buildings are handicap-accessible.

Here, we're going to focus on one niche: ensuring that video content, and the tools used to watch it, are as accessible as possible.

***The key will be developing an accessibility mindset—thinking not about specific requirements, but constantly looking for new ways to make education accessible to everyone.***

## What does “accessible” mean?

When it comes to educational technology, “accessible” generally means that people with disabilities have the same exposure to educational materials, guidance, interactions, and services. They should be able to get the same education and participate in the community as easily as people without disabilities.

What counts as a disability? That’s a big list, and it keeps changing. That’s a good thing! That means we’re getting better at making things fair. As we learn more and more about how human brains and bodies work, and the huge diversity that includes, we’ll get better and better at helping everybody learn.

But that can be a little intimidating when you’re trying to design educational materials that will work for everyone. So it’s important to examine as much of the experience as possible to find ways to work around issues.

For example, here’s some of the most well-known issues people may encounter, and how they affect video. (Note: this is not an exhaustive list.)

Issue	Changes Required to Traditional Video
Blindness	All controls must be “readable” as audible or tactile output
Learning disabilities such as dyslexia	All written content must be “readable” as audible output
Colorblindness	Higher contrast
Low vision	Larger icons
Deafness/impaired hearing	Captions Audio descriptions Audio track narrating onscreen actions
Motor impairments	Keyboard shortcuts for all video player functions

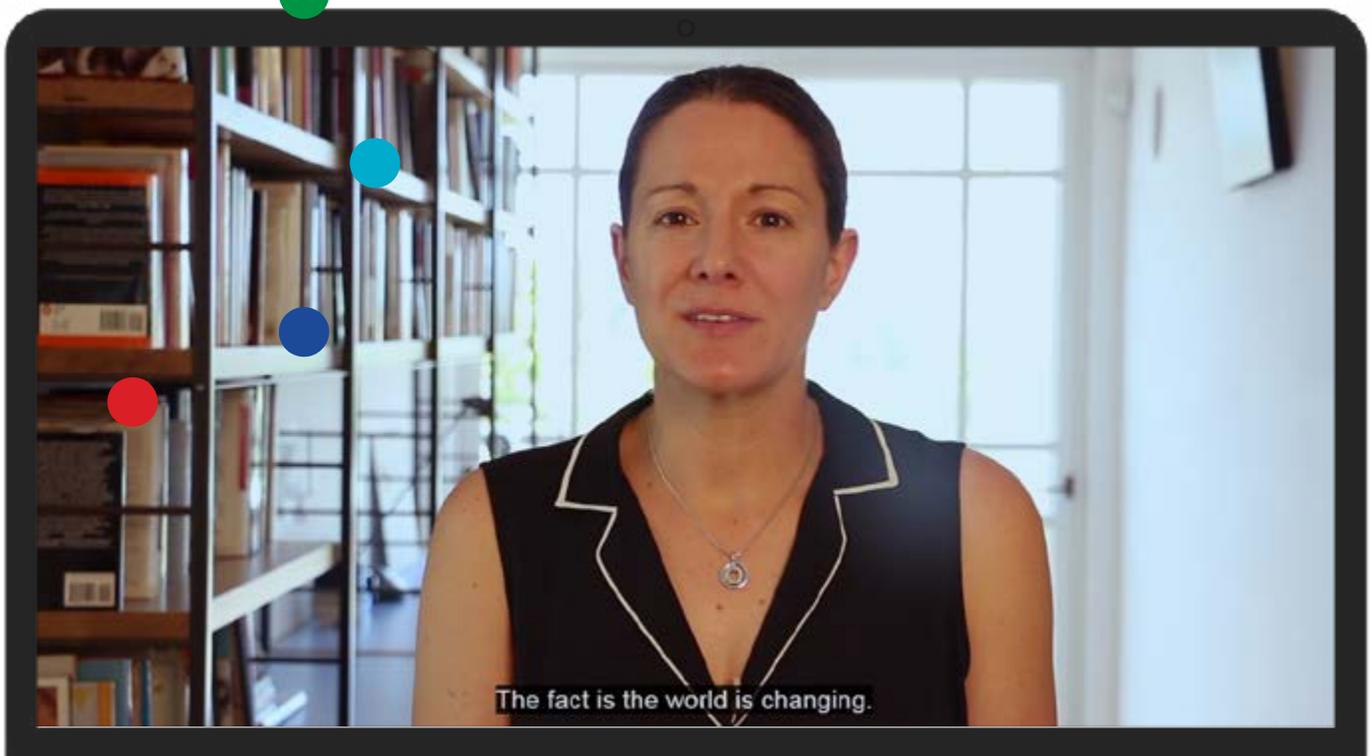
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## WHY IS ACCESSIBILITY IMPORTANT?

The most obvious answer is that we want everyone to be able to learn! Making sure all students can get a full education without jumping through a lot of hoops is the right thing to do. It's the only way for schools to truly succeed at their mission to spread knowledge.

It's also increasingly an advantage in recruiting the best students and staff. No school wants to lose brilliant people because they couldn't accommodate their needs.

But it's also increasingly legally necessary. In recent years, a number of institutions have been sued for failing to caption their online videos. For example, [The National Association of the Deaf et al. v. Harvard, MIT](#) in the United States has called attention to the liabilities that many universities may face if they fail to provide adequate materials.



### **VERY IMPORTANT LEGAL NOTE:**

This is not a legal document and we are not legal experts. To ensure that your school meets all the legal requirements in your country of origin, please consult a lawyer specializing in disability rights about the needs of your specific organization.

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## WHY IS HAVING AN ACCESSIBILITY MINDSET IMPORTANT?

### Why not just a checklist?

Things change! As we mentioned, the concept of disability has evolved over time, and more populations who need accommodations have come forward. It's safe to say that's going to continue.

Technology changes, too. Automatically ordering captioning, for example, is something that's become increasingly easy to do. New ways of helping people access materials are developed. At the same time, entirely new technologies that will need to be adapted are also emerging. Augmented reality, virtual reality, and who knows what else is just waiting to revolutionize the ways we teach, learn, and work.

So it's important to think not just about what specific details are legally required, but about people and their individual needs. Accessibility can't be an afterthought. Going back and trying to put a band aid on a completed system will not work in the long run. Instead, as we continue to develop courses and technologies, it's critical for us all to keep accessibility in mind, right from the start. That way, we can work together to build learning experiences that will be flexible enough to work for everyone.



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## **GETTING INTO THE DETAIL: PLATFORM VS. CONTENT**

One key thing to keep in mind is the difference between platform accessibility and content accessibility.

### **Platform Capabilities**

“Platform” refers to the video technology you’re using. This includes the software you use to create and manage the videos, as well as the player that people use to watch the videos.

Remember the earlier list of changes to traditional video? Here are some of the capabilities your platform and player will need to be fully accessible. Some are more difficult to deploy than others.

- Everything functional on the screen—such as buttons—needs to be able to be “read” by a screen reader when hovered over, so the screen reader can convert text and graphics to audible or tactile output.
- All buttons and graphics need to be available in both enlarged formats and in high-contrast.
- Players will need to be able to display captions and textual description of the audio. To be fully accessible, they should also be able to play audio description of the visuals.
- All actions that are normally performed with a mouse also need to be able to be executed by keyboard commands, which can also be translated to other assistive technologies such as eye-gaze tracking

The standards and policies around platform accessibility are much more stringent and defined than those specifically applying to content.

### **Content Capabilities**

Once you make sure your technology is suitably accessible, you still need to worry about the individual pieces of content. For each individual video to be fully accessible, it would need the following:

- Closed captions for the hearing impaired
- Captions describing audio (music, sound effects, etc.) for the hearing impaired
- Audio descriptions of actions performed on screen for the visually impaired

The content of the video itself can also be more or less accessible. For example, including anything that flash more than three times per second can induce seizures.

Some of these are easier to produce than others. Captioning dialogue is relatively straightforward these days. Descriptions are far less automated. What exactly you need to provide will depend on your population’s needs and the specific nature of your video content.

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## WHAT ARE SOME OF THE KEY STANDARDS TO BE AWARE OF?

One thing to be aware of is that the standards are often different depending on how someone is trying to view the video. Mobile, web, and desktop all have slightly different standards.

We're not going to go into the full legal details here. It's important that you review the applicable standards for your area with a trained legal professional. We will, however, introduce some of the most important standards you may have heard of and that you need to be aware of, for several countries.

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### Online Content:

#### WCAG 2.0

The [Web Content Accessibility Guidelines \(WCAG\) 2.0](#) provide a standard for making any content on the web more accessible to people with a wide range of disabilities. While this is not necessarily a legal requirement in all countries, it is considered the gold standard for online content worldwide. (Depending on the country, this may be recognized officially or unofficially.)

WCAG 2.0 has three compliance tiers: Level A, AA, and AAA (with escalating requirements for each).

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### In Australia

#### *Disability Discrimination Act*

The [DDA](#) protects civil rights of people with disabilities. Section 24 is particularly relevant, requiring all free or paid goods, services, and facilities to be accessible. This includes [education](#) and applies to [digital services](#) as well.

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### In Canada

#### *Accessibility for Ontarians with Disabilities Act*

[AODA](#), one of the most rigorous and progressive accessibility laws in the world, requires removing and preventing barriers for people with disabilities across all of both government and private sector organizations. Among other requirements, it requires WCAG 2.0 compliance (including closed captions for all videos) for everything except private organizations with fewer than 50 employees.

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### In the European Union

#### *European Disability Strategy 2010-2020*

In the [European Disability Strategy 2010-2020](#), the EU lays out the objectives to ensure that people with disabilities have access to goods and services, as well as quality education and lifelong learning.

#### *EN 301 549*

This [standard covers](#) “accessibility requirements suitable for public procurement of ICT products and services in Europe.”

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### In Ireland:

#### *Disability Act 2005*

This [Act](#) requires that public services be made accessible, including the contents of electronic communications by a “public body.” It uses the WCAG 2.0 AA standard.

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### In New Zealand:

#### *Web Accessibility Standard*

The [Web Accessibility Standard](#) mostly mimics WCAG 2.0 requirements.

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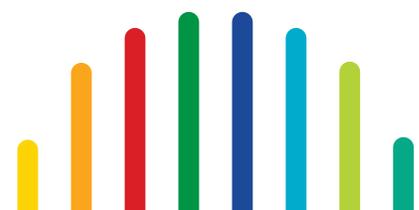
### In South Africa:

#### *The Equality Act*

The [Promotion of Equality and Prevention of Unfair Discrimination Act \(PEPUDA\)](#) bans discrimination against people with disabilities, including the failure “to eliminate obstacles.”

#### *Promotion of Access to Information Act*

[PAIA](#) guarantees constitutional right of access to information held by the State or required for the exercise or protection of rights. On the other hand, it does state that “right of access to any information held by a public or private body may be limited to the extent that the limitations are reasonable and justifiable in an open and democratic society based on human dignity, equality, and freedom.”



## In the United Kingdom:

### *The Equality Act*

The [EQA](#) protects civil rights in general, including those of people with disabilities, and applies to public entities and universities.

### *British National Standard 8878*

[BS 8878](#) regulates accessibility for electronic products, services, and information. Once again, we have the requirement to meet WCAG 2.0.

## In the United States:

### *The Rehabilitation Act – Section 504*

Within the Rehabilitation Act, [Section 504](#) protects the rights of students with disabilities. This mandates that otherwise qualified individuals cannot be excluded from any program or activity that receives Federal funding from the U.S. Department of Education. This extends to online communications.

### *The Rehabilitation Act - Section 508/Section 508 Refresh*

[Section 508](#) mandates that federal agencies must make electronic information accessible to both their own employees and members of the public who have disabilities. What makes this relevant for education is that this applies to many federally-funded public universities and college.

Since technology has changed a great deal since the Rehabilitation Act was written, the Section 508 Refresh proposed updates to these standards, including a requirement to comply with Level A and AA of WCAG 2.0.

### *The Americans with Disabilities Act – Title II*

In the [ADA Title II](#), disability discrimination is prohibited by all public entities, at the state and local level, whether or not they receiving federal funding.

### *The Americans with Disabilities Act – Title III*

[Title III](#), on the other hand, applies to commercial entities and “public accommodations.” Originally, this was considered to apply to physical buildings. However, since 2013, the Department of Justice has expanded the scope to consider “private entities of all types providing goods and services to the public through their websites operate as places of public accommodation under Title III of the ADA.” Websites and online courses may now be considered “places of public accommodation.”

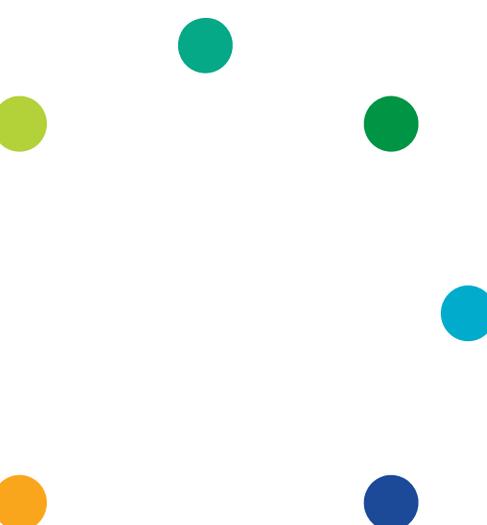
### *ADA Amendment Act*

The [ADAAA](#) expanded the definition of what is considered a “disability” in 2008.

### *State Laws*

A number of states have issued [their own laws or policies](#) governing accessibility. These states include

- Louisiana
- Massachusetts
- Minnesota
- Missouri
- New York
- Oklahoma
- Virginia
- Alabama
- Arizona
- California
- Connecticut
- Illinois
- Indiana
- Kansas



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## ***WHEN IS 90% NOT ENOUGH?***

There are two ways to caption videos—Automated Speech Recognition (ASR) and human-based captioning. At the moment, there's still a gap between the captions created by a machine and by actual human transcribers.

Most ASR algorithms return captions that are about 70-85% accurate. With good machine learning and a lot of training, that number can be bumped up to 90%.

But while that's great for search optimization and study guides, it's not good enough to meet accessibility requirements. The FCC in the US, for example, requires 99% accuracy for captions to meet accessibility guidelines, which current speech recognition technology is just not yet capable of. When it comes to making video content fully accessible, the human touch is still required.

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## ***BEST PRACTICES***

### **What are some best practices for making sure our platform will be compliant?**

The first step, of course, is to fully familiarize yourself with the laws and standards that apply to your specific geographic region. Next, if you haven't already done so, you should consider forming a Strategic Plan for Accessibility for your institution. Here, you can map out the goals (and timelines) for how your institution will handle accessibility issues going forwards. Having a long range institution plan in place can take a fair amount of effort up front. But it can save you enormous headaches later. Trying to address accessibility concerns on a case-by-case basis can lead to inconsistent policies, overspending on last minute solutions, and liabilities you didn't foresee.

Changing technology vendors can be a painful and expensive process. When choosing how your institution wants to approach accessibility, it makes sense to plan ahead as much as possible so you build a process that's flexible enough to meet your needs in the future. It's a lot cheaper in the long run than welding on fixes after the fact. That's part of why embracing the addressability mindset is so important.

One thing to look for when you're figuring out your video solutions is a VPAT.

## What's a VPAT?

When it comes to meeting these regulations, most schools are not going to be able to solve these problems on their own. Instead, most will turn to the vendors for help.

How can institutions tell whether a vendor will help them meet all the relevant guidelines? In the United States, the [Voluntary Product Accessibility Template](#) (VPAT) offers some help. This is a voluntary, self-disclosing document produced by vendors detailing how their products support each part of WCAG 2.0, the Section 508 Standards, and the European Union's accessibility act EN 301 549.

Of course, this template is filled out by the vendor themselves. Some vendors will fully disclose everything, while others may try to gloss over issues. You will have to evaluate the VPAT for yourself, as you do the rest of the vendor's materials. However, a fair amount of work is necessary to complete the assessment, so even the existence of a VPAT can be a good indicator that a vendor takes addressability seriously.

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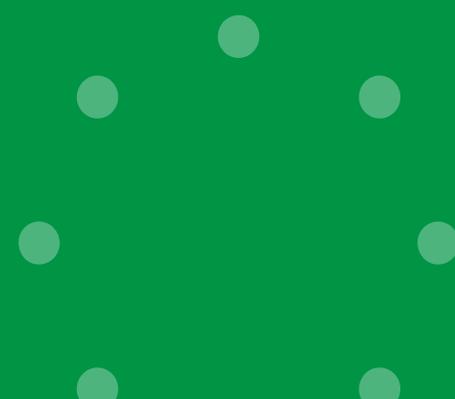
## *Is captioning just for accessibility?*

Captions are critical for some people with disabilities, but they're not the only ones who benefit. Visually-oriented learners appreciate the help too, as do students studying in a second language. Captions can dramatically improve comprehension and aid in review.

Adding captions in the right platform makes it possible to search inside the audio track of the video itself, allowing viewers to easily reach the specific part they are interested at and review it.

Transcripts are also useful for external search engines, providing automatic keywords extraction for video SEO.

In addition, once a video is captioned, it can be easily translated into additional languages.

A decorative graphic consisting of several light green circles of varying sizes scattered across the bottom right portion of the green background.

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## **WHAT ARE SOME BEST PRACTICES AROUND CAPTIONING?**

In an ideal world, you would want to automatically send every video file uploaded for captioning, without requiring your staff to manually request anything. In fact, that's what some forward-thinking institutions are doing. It ensures all students enjoy frictionless access, so they don't have to self-identify unless they want to. It avoids frantic scrambling when a student wants to sign up or change a course. And it provides complete assurance that the school will not inadvertently incur any liabilities.

But captioning everything can be expensive. Even "unlimited" plans often have hidden caps, especially for the human-based captioning required to hit the 99% accuracy demanded by accessibility standards. So a more efficient approach some schools are taking is to wait until they have a student in need and then captioning everything that student will have to interact with. Since many courses are the same or similar from one year to another, over time the school is able to build a library of more and more captioned material which can be reused.

Another option is to start by using ASR on everything, but then crowd-source corrections to bring the accuracy up to the necessary 99%. If staff and even students are given the ability to edit captions, they can fix mistakes as they are discovered. Schools can even offer extra credit to convince students to help out.

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## **WHY DOES KALTURA CARE ABOUT ACCESSIBILITY?**

We know that accessibility is a critical factor in making sure a large number of people are able to learn and work to achieve their full potential. We believe in the power of video, and we want to make sure everyone can benefit from that power. We try hard to maintain the accessibility mindset, and we're working to make sure all our products going forward have accessibility built in right from the start.

We also know how important accessibility is to our clients. Our own understanding of this critical topic has evolved over time, in a large part because our forward-thinking clients have requested more tools, that are easier to use. They have taught us how to be more inclusionary, and we're grateful for their help. We've taken their requests and used them to fuel our own change in mindset. We try to use what we've been taught to create products that will help everyone, across the institution.

Accessibility, in the end, is about fulfilling the mission of everyone working in education—to help everyone get the information they need to succeed.

To learn more about Kaltura and how our products help educational institutions make their content more accessible, contact us at <https://corp.kaltura.com/company/contact-us>.



# ACCESSIBILITY AT KALTURA

Setting the Standard for a Video Accessibility Mindset

Accessibility is a critical aspect of delivering video solutions today. We review and update our products for accessibility on a continuous basis with the help of industry partners, clients, our software developers, and our product managers. Moreover, accessibility is an integral part of any new product development. We work to promote this same mindset across the industry with the goal of delivering video that is accessible to all.

## KALTURA PLATFORM ACCESSIBILITY

At Kaltura, new product and functions are developed with accessibility in mind and are tested throughout the development cycle and on an ongoing basis, both internally and by beta customers. Our products are aligned with accessibility guidelines such as 508, CVAA, WCAG 2.0 AA.

### Visualization

- Default text and controls meet or exceed WCAG-specified contrast ratios

### Navigation

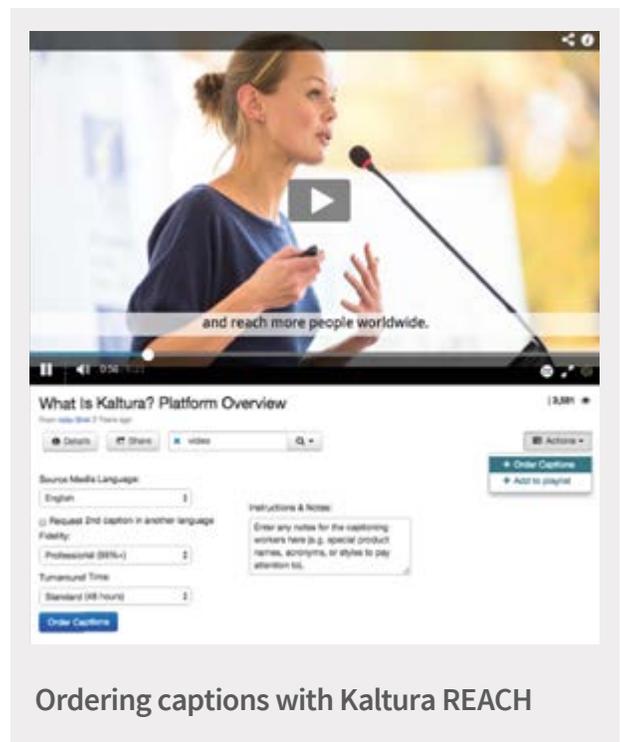
- Support for keyboard shortcuts for all video player functions
- Visible focus and proper headings and labels
- Sliders for play head and volume control

### Screen Reader Support

- Players use hidden text elements for every non-text UI element and are tested against JAWS and other screen readers

### HTML Support

- All player UI components are available via HTML5, which means that browser plugins are not required and our player is compatible across devices



Ordering captions with Kaltura REACH

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## **KALTURA SUPPORT FOR CONTENT ACCESSIBILITY**

The Kaltura REACH video accessibility and search suite includes human captioning and ASR machine transcription, which can be used separately or together. Captions can be set to default or requested as needed, allowing for smart budget management.

### **Human-Based Captioning**

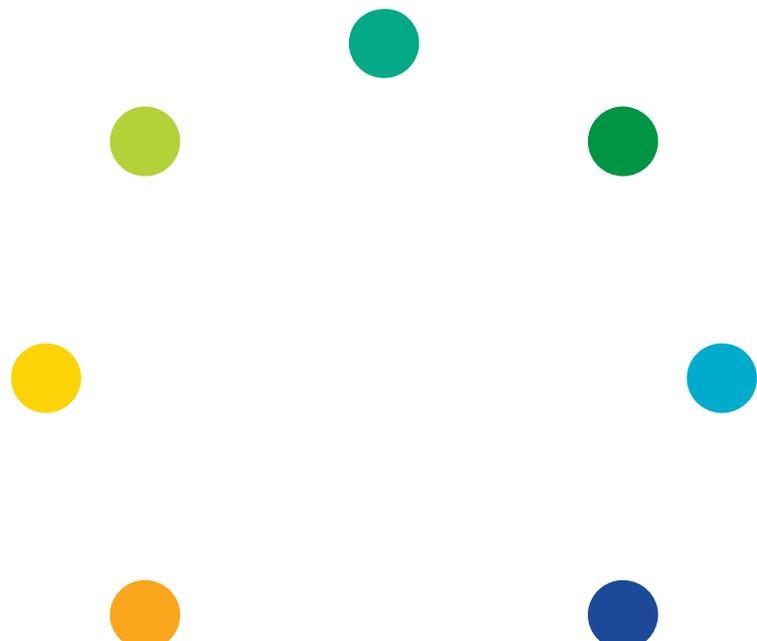
With human-based captioning, a professional transcribes your video by hand ensuring the accuracy necessary to meet accessibility standards. For when you need attention to detail, this option offers the greatest accuracy and compliance.

- Professional-level transcription
- 99% accuracy
- Supports ADA/Section 508, CVAA and WCAG 2.0 A accessibility compliance standards
- Turnaround times between 3 to 48 hours
- Translation to 20+ languages available, meaning support for multiple languages in the same video

### **Automated Speech Recognition (ASR) Machine Transcription:**

With ASR, an algorithm instantly recognizes the words spoken in your video and provides machine-based captions. This lower fidelity option handles high volumes, fast, while your accessibility compliant captions are being processed.

- Immediate access to machine-based captions (70-85% accuracy) and a “Do It Yourself” Captions Editor for increased fidelity
- Machine-based Learning with improved accuracy over time and ability to customize glossary
- Addresses the needs of students with learning disabilities who may need additional tools to help focus on specific content/topics



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## **ABOUT KALTURA**

Kaltura's mission is to power any video experience. A recognized leader in the EVP (Enterprise Video Platform), OTT TV (Over-the-top TV), OVP (Online Video Platform), and Ed VP (Education Video Platform) markets, Kaltura has emerged as the fastest growing video platform, and as the one with the widest use-case and appeal. Kaltura is deployed globally in thousands of Enterprises, educational institutions, media companies, and service providers and engages hundreds of millions of viewers at work, school, and home. The company is committed to its core values of openness, flexibility, and collaboration, and is the initiator and backer of the world's leading open-source video-management project, which is home to more than 100,000 community members. For more information visit [www.kaltura.com](http://www.kaltura.com).

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