Picture Perfect: The Art of Accessible Image Communication

PICTURE PERFECT: THE ART OF ACCESSIBLE IMAGE COMMUNICATION

Strategies and Best Practices for accessible caption development

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CONTENTS

Welcome to your orientation to the art of accessible image creation.   1

Part I. Main Body

This Open Educational Resource (OER), "Picture Perfect: The Art of Accessible Image Communication," is designed to provide educators, content creators, and web developers with an understanding of alt text and its role in digital accessibility. The book is structured to cover everything from the basics of what alt text is and how it functions to detailed guidance on crafting effective alt text for a variety of image types. Additionally, practical exercises and a list of resources offer opportunities for application and continued learning. Whether new to the topic or looking to refine existing skills, readers will find insights to improve web accessibility and inclusivity.

PART I
MAIN BODY

1.

CHAPTER 1: INTRODUCTION TO ALT TEXT

Imagine a world brimming with vibrant images—a world where visuals convey meaning, evoke emotions, and share knowledge. Now, envision navigating this world without sight, where images are mere silences. This is the daily reality for those who are blind or low-vision. Alt Text, or alternative text, bridges this gap, ending these silences and turning them into vivid dialogue. Consider the story of Anuja, a visually impaired student who, through the use of screen readers and well-written Alt Text, could 'see' the illustrations in her biology textbook, allowing her to demonstrate subject-matter expertise and maintain a passion for education. This simple yet profound support enables Anuja and many others to engage fully with digital content, highlighting why Alt Text is not just an addition but a critical aspect of digital accessibility.

Anuja a student who has low vision.

Alt Text Definition

Alt text, short for alternative text, is a concise written description of an image presented on web pages and digital documents. It serves a crucial role in web accessibility, primarily assisting users who rely on screen readers due to visual impairments. When a screen reader encounters an image, it reads out the Alt Text, providing the user with a verbal depiction of the image's content and purpose. This enables all users, regardless of visual capability, to access the information conveyed by images, ensuring an inclusive digital environment.

Beyond aiding those with visual impairments, Alt Text also supports users in low-bandwidth areas or with technical limitations that prevent images from loading, ensuring the message is never lost.

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Activity

This H5P activity will help introduce the concept of well-written and appropriate Alt Text for images. It will support your understanding of why Alt Text is a fundamental component of web accessibility and can better aid your understanding of the role of Alt Text in providing equal access to digital content for all users.

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Timeline of Alt Text Development and Digital Accessibility Legislation

Activity

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1991: The introduction of the HTML (Hypertext Markup Language) specifications, which included the ability to add images to web pages. Initially, there wasn't a standardized method for providing alternative text for images.

1995: HTML 2.0 specification is officially recommended by the W3C, including support for the 'alt' attribute, allowing web developers to provide a text alternative for images.

1999: Web Content Accessibility Guidelines (WCAG) 1.0 is published by the W3C's Web Accessibility Initiative (WAI), providing the first comprehensive guidelines for web accessibility, including recommendations for the use of Alt Text.

2005: The Accessibility for Ontarians with Disabilities Act (AODA) becomes law, requiring organizations to identify, remove, and prevent barriers for people with disabilities in Ontario.

2008: WCAG 2.0 is published, offering more detailed guidance on making web content accessible, including clearer standards for alternative text that align with modern web technologies.

2013: The Standard on Web Accessibility was adopted, requiring all websites controlled by the Government of Canada to meet WCAG 2.0 Level AA guidelines, excluding live captions and pre-recorded audio descriptions.

2019: The ACA was passed with the aim to make Canada barrier-free by January 1, 2040. This federal law focuses on identifying, removing, and preventing barriers in areas that fall under federal jurisdiction, including information and communication technologies (ICT).

Attributions:

This page has been adapted from:

World Wide Web Consortium (W3C). (n.d.). Web Accessibility Initiative (WAI). Retrieved March 9, 2024, from https://www.w3.org/WAI/

Accessibility for Ontarians with Disabilities Act Alliance. (n.d.). AODA.ca. Retrieved March 9, 2024, from https://www.aoda.ca/

2.

CHAPTER 2: THE BASICS OF ALT TEXT

How Does It Work?

Alt Text, or alternative text, functions as a textual replacement for images on web pages and digital documents. When an image cannot be seen—whether due to a visual impairment, a slow internet connection that prevents the image from loading, or if the user has chosen to disable image display—the Alt Text is displayed or read aloud by screen readers. This ensures that the content and function of the image are still communicated to all users, maintaining the integrity of the digital experience.

Person reading braille wearing headphones connected to a computer.

What is a Screen Reader?

A screen reader is a software application designed to help people who are blind, have low vision, or have reading disabilities by reading the text displayed on the computer screen with a speech synthesizer or braille display. Screen readers are a key component of web accessibility, allowing users to interact with digital content, navigate websites, and perform tasks online.

Screen readers work by processing the contents of a webpage or software interface, and then conveying that information to the user through audible speech or braille. They rely on the structure and semantics of web content (such as HTML tags in webpages) to understand the layout and elements of a page. For example, they can announce headings, links, images (if Alt Text is provided), form controls, and other interactive elements, enabling users to understand the content structure and navigate through it efficiently.

Users can control the screen reader using keyboard shortcuts, gestures on touch devices, or braille display

controls, depending on the device and reader being used. These controls allow users to jump between headings, links, or other elements, read specific portions of the screen, or perform actions like clicking a button or filling out a form.

Popular screen readers include JAWS (Job Access With Speech) and NVDA (NonVisual Desktop Access) for Windows, VoiceOver for macOS and iOS devices, TalkBack for Android devices, and Narrator for Windows. Each screen reader has its own set of features, commands, and supported languages, tailored to various user needs and preferences.

The effectiveness of a screen reader in providing access to digital content heavily depends on how well the content is designed for accessibility. Proper use of semantic HTML, ARIA (Accessible Rich Internet Applications) roles, and adherence to web accessibility guidelines like the Web Content Accessibility Guidelines (WCAG) can significantly enhance the usability of web content for screen reader users. In HTML, Alt Text is implemented using the "alt" attribute in the image tag. Properly crafting this text requires understanding both the content being depicted by the image and the context in which the image is used. It's not just about describing what the image shows but conveying why the image is important in that specific context.

Example of NVDA Screen Reader

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Activity

This H5P activity helps you understand how screen readers interact with different elements of digital content.

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https://ecampusontario.pressbooks.pub/pictureperfect/?p=22#h5p-3

Technical aspects of Alt Text

When a webpage loads, the internet browser creates a tree-like structure that represents the content, structure, and style of the webpage. The screen reader interacts with the browser's 'accessibiilty tree', which informs the Screen Reader of how to navigate through the content. Semantic HTML uses specific tags (like <header>, <nav>, <article>, and <footer>) that provide information about the type of content they contain. Screen readers use these tags to interpret the structure of the webpage for the user, allowing for more intuitive navigation (e.g., jumping between headings or links).

For images, the screen reader looks for the alt attribute within the <img> tag. The content of the alt attribute is read aloud to describe the image. If the alt attribute is missing, the screen reader may read the image file name or skip it altogether, potentially missing crucial information.
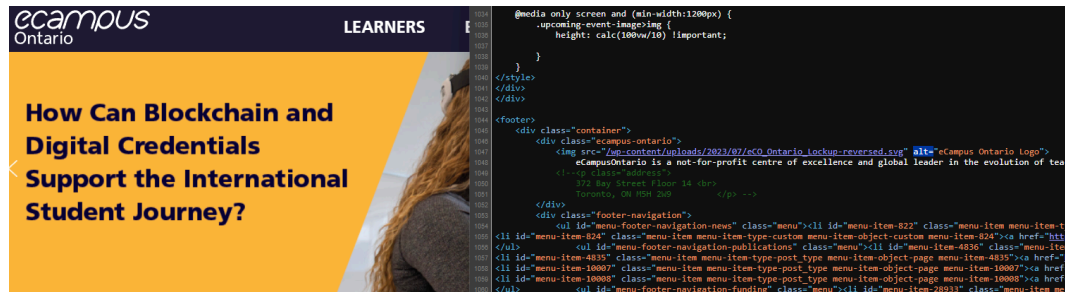
Alt Text Tag in the source code

Screen reader users navigate content using keyboard shortcuts specific to their screen reader software. These commands allow users to skip to the next element of a certain type (e.g., next heading, next link), read from the current position, or activate interactive elements like buttons.

Finally, the screen reader converts the text content and descriptions into synthesized speech or braille output (for those using a refreshable braille display). This process involves reading the text and conveying punctuation, indicating capital letters, and providing auditory cues for layout or text formatting.

Example of a Screen Reader

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3.

CHAPTER 3: WRITING EFFECTIVE ALT TEXT

The key principles for creating effective Alt Text center around conciseness, clarity, and relevance. Alt Text should succinctly convey the essence of an image, focusing on descriptive accuracy without interpretation, allowing all users to grasp the intended message or function of visual content. By prioritizing context and omitting redundant phrases like "image of," content creators can craft Alt Text that not only adheres to accessibility standards but also enriches the user experience. These foundational guidelines ensure that Alt Text serves as a bridge to understanding, making digital environments more inclusive and navigable for everyone.

Key Principles for Crafting Meaningful Alt Text

Conciseness and Clarity: Effective Alt Text should be concise yet descriptive enough to convey the essence of an image. Aim for brevity, ideally under 125 characters, to ensure screen readers present the information efficiently.

Descriptive, Not Interpretive: Focus on describing what is present in the image rather than offering an interpretation. Allow users to draw their own conclusions.

Context Matters: The Alt Text should be tailored to the context in which the image is used. The same image may require different alt text depending on its role in the content.

Omit Redundant Phrasing: Avoid starting Alt Text with phrases like "image of" or "picture of." Screen readers typically announce images, making such introductions unnecessary and redundant.

Strategies for Describing Images

Informational Images: For images conveying critical information, such as graphs or charts, describe the data or insight the image provides, not just its appearance. For example, "Bar graph showing a 30% increase in solar energy usage from 2010 to 2020."

Complex Images: For complex images like infographics, provide a brief overview of the key message in the Alt Text and offer a longer description nearby or link to a full description.

Functional Images: When images are used as controls (e.g., buttons), ensure the Alt Text describes the action it performs, such as "Search" for a magnifying glass icon.

Common Mistakes and How to Avoid Them

Being Too Vague: Generic descriptions like "chart" or "photo" offer little value. Be specific about what the image shows and why it's important.

Over-description: Including every detail can overwhelm the user with information. Focus on the image's relevance to the content.

Ignoring the User Experience: Consider how the Alt Text will sound when read by a screen reader and how it contributes to the overall understanding of the content.

Neglecting Testing: Regularly test your content with screen readers to understand how Alt Text is interpreted and where improvements are needed.

Activity

Practice writing Alt Text with the following H5P activity.

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https://ecampusontario.pressbooks.pub/pictureperfect/?p=71#h5p-4

Understanding Decorative Images

Not all images carry informational value or contribute directly to the content's meaning. Decorative images, which serve to enhance the visual appearance of a webpage without providing essential information, occupy a unique aspect in the design of accessible content. Understanding how to handle Alt Text for these decorative elements is important for maintaining an accessible and clutter-free experience for users relying on screen readers.

Decorative images can include background graphics, stylized text used purely for visual flair, icons that don't convey specific actions or information, and any visual elements added to create a certain look or feel rather than to inform. The key question to ask is: "Does this image add information or context necessary to understand the content?" If the answer is no, the image can be considered decorative.

The conventional approach to providing Alt Text for decorative images is to use an empty alt attribute (alt=""). This practice tells screen readers to skip over the image, as it does not contribute to the content's meaning. By effectively marking decorative images with empty alt attributes, content creators ensure that screen reader users do not have to navigate through irrelevant information. This approach aligns with web accessibility guidelines (e.g., WCAG), reinforcing the importance of these practices.

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Activity

Practise your identification of decorative images with this H5P activity.

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*https://ecampusontario.pressbooks.pub/pictureperfect/?p=71#h5p-5*

4.

CHAPTER 4: ALT TEXT IN MULTIMEDIA CONTENT

The need for accessible content encompasses video, audio, and interactive content. We will now delve into extending Alt Text principles beyond static images to multimedia content, ensuring that the benefits of digital accessibility are universal. We will explore the application of Alt Text in video thumbnails, the need for transcripts for audio content, and the role of descriptive text in interactive media. We will address how these practices are applied in other digital documents, ensuring that all forms of digital content are accessible to everyone. By integrating Alt Text with other accessibility features, we aim to provide a holistic approach to creating inclusive digital environments.

Extending Alt Text Principles to Video, Audio, and Interactive Media

Alt Text for Video Thumbnails

Video thumbnails serve as visual summaries, offering a glimpse into the content before a user decides to engage. For users who rely on screen readers, Alt Text for these thumbnails is crucial. This Alt Text should concisely convey the essence of the video, enabling users to make informed decisions about whether to view the content. Just like Alt Text for images, the Alt Text for video thumbnails should focus on describing the video's subject matter or theme, rather than detailing the visual elements of the thumbnail.
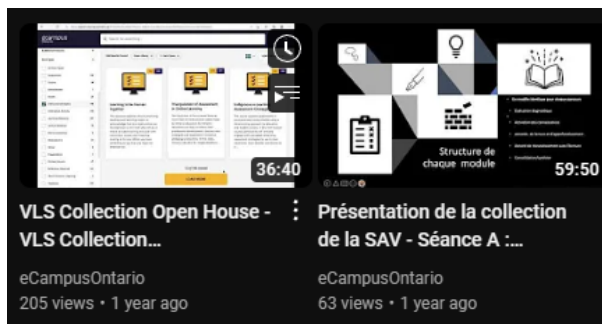
YouTube thumbnails for eCampus Ontario

Accessible Descriptions for Video Content

Beyond the thumbnail, accessible descriptions of video content are necessary to provide context and convey information that isn't accessible through the video's visual or audio components alone. This can include a brief overview of the video's content, key themes, and any important visual elements that are critical to understanding. These descriptions can be provided in the video's metadata, accompanying text on the webpage, or through a dedicated transcript.
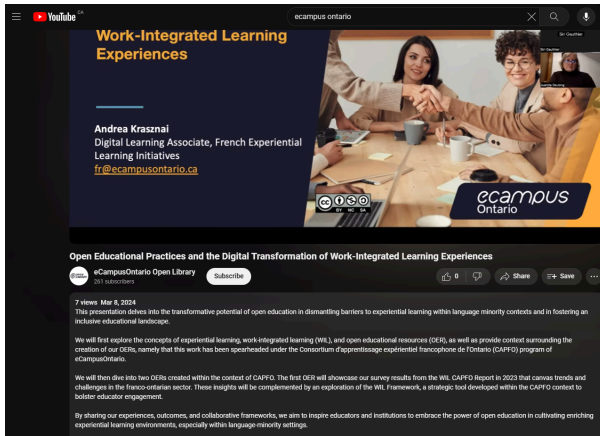
YouTube video description for eCampus Ontario

Captions and Audio Descriptions

Captions and audio descriptions play pivotal roles in enhancing the accessibility of video content. It is important to ensure these features are also accessible and of high quality, as poorly executed captions or audio descriptions can diminish the overall accessibility of the content.

Captions: Captions provide a textual representation of the audio content, including spoken dialogue, sound effects, and musical cues, ensuring that deaf or hard-of-hearing users can access the audio information. Captions should be synchronized with the video and reflect the audio content, including speaker identification and non-speech elements.

Audio Descriptions: Audio descriptions fill in the gaps for blind or visually impaired users by verbally describing significant visual details that are not conveyed through the main audio track. This includes actions, expressions, scene changes, and on-screen text. Audio descriptions are usually added during natural pauses in the audio or as a separate audio track.

Captions Overview

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Activity

For the next H5P activity focused on crafting audio descriptions, ensure you have a pen and paper ready or open a digital document for note-taking. As you watch the video provided, it will pause automatically when a marker appears. At each pause, take a moment to consider the visual content you've just seen. Write down your observations, aiming to capture a descriptive account of the events or scenes in the video, as if you were explaining what's happening to someone who can't see it.

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5.

CHAPTER 5: ADDING ALT TEXT IN DOCUMENTS

The creation of documents—whether they are PDFs, Word files, or PowerPoint presentations—has become a staple of communication, education, and information sharing. It's imperative that these documents are accessible to everyone, including individuals with disabilities who use assistive technologies like screen readers. This section explores the essential practices for embedding Alt Text in images across various document formats.

PDFs:

A PDF, or Portable Document Format, is a file format developed by Adobe in the 1990s to present documents, including text formatting and images, in a manner independent of application software, hardware, and operating systems.

Use Adobe Acrobat Pro to add Alt Text to images. This can be done by right-clicking an image, selecting "Properties," then the "Tag Panel," and entering the description in the "Alternate Text" field.

Video Demonstration

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Text Instructions:
Adding Alternative Text to Images in Adobe Acrobat Pro | Help – Illinois State

Source: Illinois State University

Word Documents:

Microsoft Word documents are ubiquitous in modern digital communication, providing a platform for creating, editing, and sharing text-based content. As part of the Microsoft Office suite, Word offers an extensive set of tools and features designed to enhance the writing process. As digital accessibility expands, Word also emphasizes features that support the creation of accessible documents, ensuring content can be navigated and understood by users with diverse needs.

Right-click an image and select "Edit Alt Text..." to add or edit the description. The Alt Text pane offers a space to write a concise, descriptive text about the image.

Utilize the built-in Accessibility Checker (under the "Review" tab) to identify and resolve any accessibility issues, including missing Alt Text.

Video and Text Instructions

Video: Improve accessibility with alt text – Microsoft Support

PowerPoint Presentations:

Microsoft PowerPoint is a powerful tool for crafting presentations, enabling users to convey ideas and data through textual and visual elements. Part of the Microsoft Office suite, PowerPoint supports the creation of slide-based presentations.

Similar to Word, right-click on an image and choose "Edit Alt Text..." to provide a description of the image for screen reader users.

Ensure that the reading order of slides is logical and consistent, and use the Accessibility Checker tool to evaluate the presentation's accessibility.

Video Demonstration

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://ecampusontario.pressbooks.pub/pictureperfect/?p=95#oembed-2

Text Instructions

Add alternative text to a shape, picture, chart, SmartArt graphic, or other object – Microsoft Support

Auto-generated Alt Text in Microsoft Office

Microsoft Office has introduced a feature that leverages artificial intelligence (AI) to automatically generate Alt Text for images inserted into documents, presentations, and emails across its suite, including Word, PowerPoint, and Outlook. This functionality aims to enhance document accessibility by providing descriptions for visual content. The auto-generated alt encourages creators to maintain accessibility standards without needing to input descriptions for each image manually. While it marks a significant step towards making content more accessible, users are encouraged to review and refine these automated descriptions to ensure accuracy and relevance, as the AI may not always capture the intended context or detail of the image perfectly.

For example, here are poorly generated Alt Text in Word:

An Ethiopic scroll mislabeled by generative Alt Text as a roll of toilet paper

Alt Text: A roll of toilet paper

6.

CHAPTER 6: TESTING AND EVALUATING ALT TEXT

Ensuring Alt Text effectively conveys the intended information and enhances accessibility requires testing, feedback, and ongoing refinement. This chapter reveals the methodologies and tools available for evaluating Alt Text, alongside strategies for incorporating user feedback and adopting continuous improvement practices to increase digital accessibility.

Tools and Techniques for Testing Alt Text Effectiveness

Screen Reader Software: Utilizing screen readers like JAWS, NVDA, or VoiceOver is fundamental in testing how Alt Text is interpreted and conveyed to users. Simulating the user experience can reveal if the Alt Text adequately describes images and works smoothly with the content.

Accessibility Evaluation Tools: Web accessibility evaluation tools, such as WAVE, Axe, and Google Lighthouse, offer automated checks that can identify missing or potentially inadequate Alt Text, among other accessibility issues. While these tools provide a good starting point, they cannot fully assess the quality and context-appropriateness of Alt Text.

Wave: WAVE Web Accessibility Evaluation Tools (webaim.org)

Axe: Accessibility Testing Tools and Software (deque.com)

Google Lighthouse: Lighthouse (google.com)

Gathering Feedback on Alt Text

User Testing with Diverse Participants: Conducting user testing sessions with participants who rely on screen readers can offer valuable insights into the effectiveness of your Alt Text. Observing how users interact with content and listening to their feedback can aid in improving how Alt Text is crafted.

Accessibility Audits: Regularly conduct accessibility audits that include a focus on Alt Text. These audits should be part of a broader strategy to ensure all aspects of digital content meet accessibility standards.

Training and Awareness: Invest in ongoing training for content creators and developers on the importance of Alt Text and up-to-date best practices. Staying informed about new tools, techniques, and guidelines is crucial for maintaining accessibility standards. Aim to work with an internal/external Accessibility Specialist at your organization who is familiar with WCAG, and accessibility polices and procedures.

Policy and Documentation: Develop and maintain internal guidelines and policies on digital accessibility, including specific standards for Alt Text. Documenting successful strategies and examples can serve as a valuable resource for your team.

There is tremendous importance of detailed and context-specific alt text, especially for multimedia content. The following case highlights how direct feedback from users who rely on screen readers can lead to meaningful improvements in digital accessibility.

During a recent accessibility audit conducted for a Learning Management system/platform, user testing sessions were organized with participants who rely on screen readers, including students with varying degrees of visual impairments. One of the key findings from these sessions was related to a series of instructional videos on the platform. While each video had alt text for its thumbnail and descriptive transcripts available, participants noted that the alt text for some thumbnails was too generic (e.g., "instructional video"), failing to convey the specific topic or content of the video.

Based on this feedback, the instructional design team revisited the alt text for video thumbnails on the platform. They revised the alt text to include more descriptive and informative content, such as "Video on Photosynthesis Process in Plants" instead of just "Biology Video." This change significantly improved the navigability and usability of the platform for users with visual impairments, as they could now make informed decisions on which videos to engage with based on the thumbnail descriptions alone.

7.

RESOURCES

Here's a list of resources for further reading and exploration of digital accessibility to enhance your understanding and skills in creating accessible content:

Websites

World Wide Web Consortium (W3C) Web Accessibility Initiative (WAI)

https://www.w3.org/WAI/

The WAI website is the go-to resource for guidelines, techniques, and resources for web accessibility, including the latest on WCAG.

An Author's Guide to Writing Alt Text

https://www.tandfonline.com/pb-assets/tandf/authors/tf-alt-text-guide.pdf

Provides insights into what alt text (alternative text) is and why it's crucial for accessible publishing.

Harvard Guide to Using Alt Text

Write helpful Alt Text to describe images | Digital Accessibility (harvard.edu)

A comprehensive guide on formatting bibliography entries.

Online Courses

"Introduction to Web Accessibility" by edX and W3C

A comprehensive course developed by the W3C that covers the basics of web accessibility, strategies, guidelines, and web standards designed to create an inclusive web.

"Accessibility: How to Design for All" by Coursera

This course focuses on the principles of inclusive design and accessibility, offering practical approaches to ensure digital products are usable by as many people as possible.

Alt Text Checklist

WebAIM provides a comprehensive checklist encapsulating best practices for writing meaningful alt text, focusing on conciseness, context relevance, and descriptiveness to aid content creators.

WebAIM: Alternative Text

Detailed Screen Reader Software Guide

NVDA provides a guide on their features, usage, and tips for testing digital content accessibility.

NVDA 2023.3.4 User Guide (nvaccess.org)

Legal Frameworks and Guidelines on Digital Accessibility

Learn about the laws and framework for making Ontario more accessible.

Accessibility in Ontario | ontario.ca