The power of ALT and LANG Attributes

Reinaldo Ferraz #id242018

ceweb.br nic.br cgi.br

@reinaldoferraz

W3C®
Brasil

ceweb.br

nic.br cgi.br

```
<img src="#" alt="Picture of a train">

<html lang="pt-BR">
```

```
<img src="#" alt="Picture of a train">

<html lang="pt-BR">
```

alt

alt

The alt attribute on images is a very important accessibility attribute. Authoring useful alt attribute content requires the author to carefully consider the context in which the image appears and the function that image may have in that context.

https://www.w3.org/TR/html5/semantics-embedded-content.html#alt-text

proposed new tag: IMG

Marc Andreessen (*marca@ncsa.uiuc.edu*)
Thu, 25 Feb 93 21:09:02 -0800

- **Messages sorted by:** [date][thread][subject][author]
- **Next message:** Tony Johnson: "Re: proposed new tag: IMG"
- **Previous message:** Bill Janssen: "Re: xmosaic experience"
- **Next in thread:** Tony Johnson: "Re: proposed new tag: IMG"

I'd like to propose a new, optional HTML tag:

IMG

Required argument is SRC="url".

This names a bitmap or pixmap file for the browser to attempt to pull over the network and interpret as an image, to be embedded in the text at the point of the tag's occurrence.

An example is:

<IMG SRC="file://foobar.com/foo/bar/blargh.xbm">

(There is no closing tag; this is just a standalone tag.)

This tag can be embedded in an anchor like anything else; when that happens, it becomes an icon that's sensitive to activation just like a regular text anchor.

http://1997.webhistory.org/www.lists/www-talk.1993q1/0182.html

A suggestion for alt text.

Daniel N. Wood (*dwood@cory.eecs.berkeley.edu*)
Sat, 15 Apr 1995 18:10:36 +0500

- **Messages sorted by:** [date][thread][subject][author]
- **Next message:** ADMINISTRATOR.ROUTER@occshost.nlm.nih.gov: "ERROR REPLY:"
- **Previous message:** Martian: "Re: Word wrapping"

I would like to suggestion an addition to the FIG tag. (And perhaps
the IMG tag.)

It seems to me that there are two common scenarios for alt text.

1) The alt text is a perfect substitute for the image. For example:

Replace IBM's logo with the word IBM.
Alt text for some sort of fancy graphical title or headline.
A set of hyperlinks which duplicate the function of an image
map.

2) The alt text describes the image. For example:

A photo of me.
An image map that is a _real_ map.
Charts or figures.

Wouldn't it be valuable to distinguish between these two cases?

This would allow a more advanced `delayed image loading' for people on
slow links or strange hardware. I am sure there are other uses as well

http://1997.webhistory.org/www.lists/www-html.1995q2/0128.html

accessibility

```
<img src="foto.jpg" alt=“keyboard keys
W, 3 and C" />
```

```
<img src=“foto.jph” alt="keyboard keys W,
3 and C" />
```

Picture of the keyboard keys W, 3 and C

Best practices to describe images:

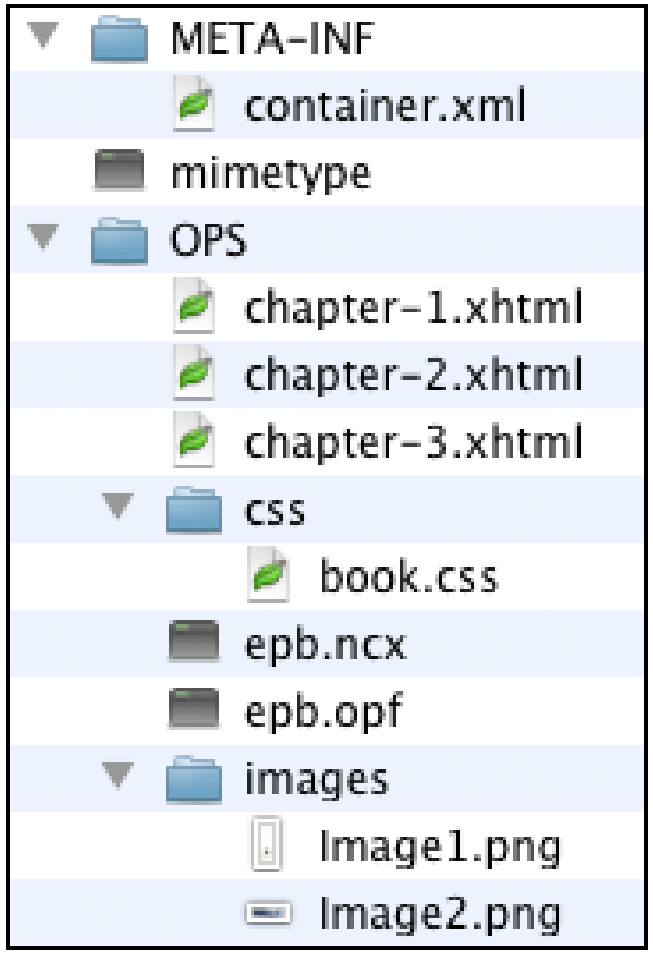
- Avoid “Picture of” or “image of”
- Do not use long sentences

```
<img src=“leonie.jpg” alt=“Léonie Watson”>
```

```
<img src=“book.jpg” alt=“Book”>
```

```
<img class="spotlight" alt="The image may contain: Reinaldo Ferraz, smiling, sitting and drink" aria-busy="false" src="https://scontent-nrt1-1.xx.fbcdn.net/v/t1.0-9/33922970_1021671626523897 4_4339601107241140224_n.jpg?_nc_cat=0&amp;oh=893330091d9d196e6514e54bad3452ae&amp;oe=5C1B2A7B" style="width: 2048px; height: 1536px;">
```

ePub accessibility

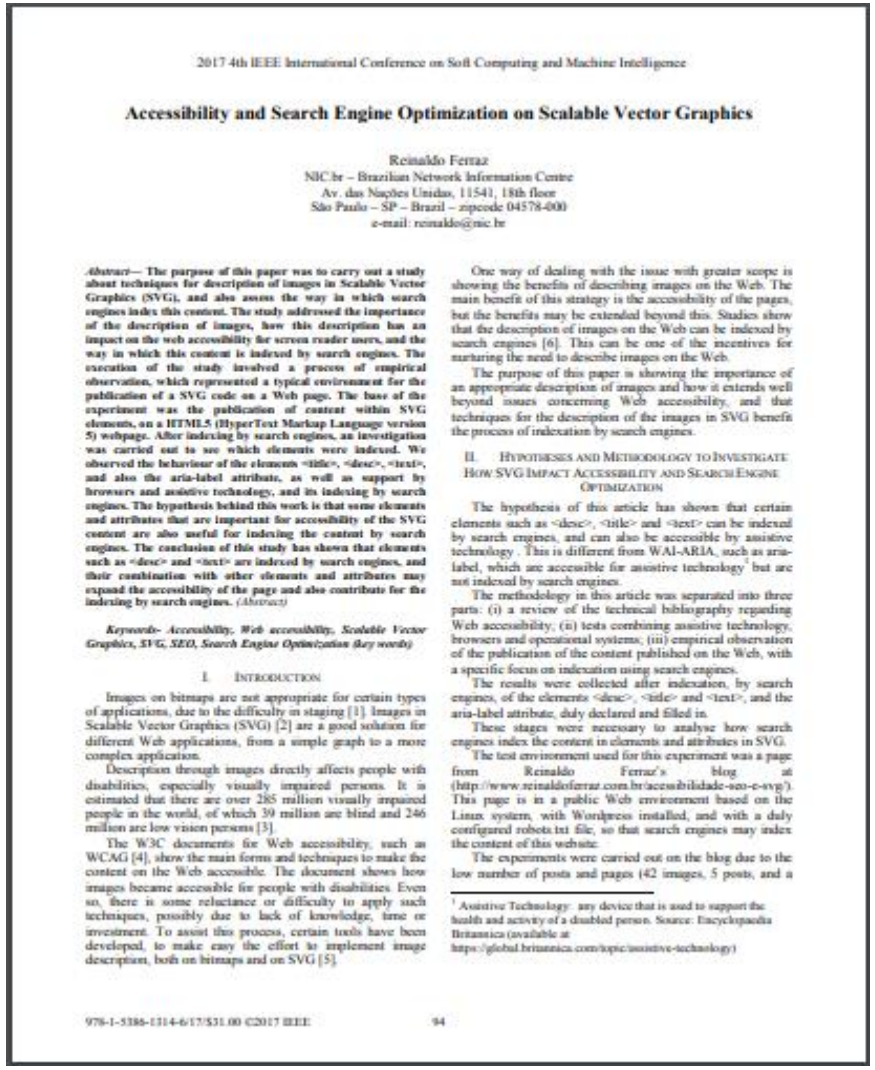



```
<ops:switch id="XHTMLServerSideSwitch"
xmlns:ops="http://www.idpf.org/2007/ops">
<ops:case required-namespace="http://www.w3.org/1999/xhtml"
                  required-modules="server-side-image-map">
              <a href="http://www.example.com/examplemap.map">
                 <img src="example.gif" ismap="ismap"
                         title="Example Map"
                         alt="A picture of an example." />
                 </a>
         </ops:case>
</ops:switch>
```

http://www.idpf.org/epub/20/spec/OPS_2.0.1_draft.htm

SEO

http://ceweb.br/media/docs/publicacoes/19/acessibilidade-exploring-web-attributes.pdf



2017 4th IEEE International Conference on Soft Computing and Machine Intelligence

Accessibility and Search Engine Optimization on Scalable Vector Graphics

Reinaldo Ferraz
NIC.br – Brazilian Network Information Centre
Av. das Nações Unidas, 11541, 18th floor
São Paulo – SP – Brazil – zipcode 04578-000
e-mail: reinaldo@nic.br

***Abstract*— The purpose of this paper was to carry out a study about techniques for description of images in Scalable Vector Graphics (SVG), and also assess the way in which search engines index this content. The study addressed the importance of the description of images, how this description has an impact on the web accessibility for screen reader users, and the way in which this content is indexed by search engines. The execution of the study involved a process of empirical observation, which represented a typical environment for the publication of a SVG code on a Web page. The base of the experiment was the publication of content within SVG elements, on a HTML5 (HyperText Markup Language version 5) webpage. After indexing by search engines, an investigation was carried out to see which elements were indexed. We observed the behaviour of the elements <title>, <desc>, <text>, and also the aria-label attribute, as well as support by browsers and assistive technology, and its indexing by search engines. The hypothesis behind this work is that some elements and attributes that are important for accessibility of the SVG content are also useful for indexing the content by search engines. The conclusion of this study has shown that elements such as <desc> and <text> are indexed by search engines, and their combination with other elements and attributes may expand the accessibility of the page and also contribute for the indexing by search engines.** *(Abstract)*

Keywords- Accessibility, Web accessibility, Scalable Vector Graphics, SVG, SEO, Search Engine Optimization (key words)

I. Introduction

Images on bitmaps are not appropriate for certain types of applications, due to the difficulty in staging [1]. Images in Scalable Vector Graphics (SVG) [2] are a good solution for different Web applications, from a simple graph to a more complex application.

Description through images directly affects people with disabilities, especially visually impaired persons. It is estimated that there are over 285 million visually impaired people in the world, of which 39 million are blind and 246 million are low vision persons [3].

The W3C documents for Web accessibility, such as WCAG [4], show the main forms and techniques to make the content on the Web accessible. The document shows how images became accessible for people with disabilities. Even so, there is some reluctance or difficulty to apply such techniques, possibly due to lack of knowledge, time or investment. To assist this process, certain tools have been developed, to make easy the effort to implement image description, both on bitmaps and on SVG [5].

One way of dealing with the issue with greater scope is showing the benefits of describing images on the Web. The main benefit of this strategy is the accessibility of the pages, but the benefits may be extended beyond this. Studies show that the description of images on the Web can be indexed by search engines [6]. This can be one of the incentives for nurturing the need to describe images on the Web.

The purpose of this paper is showing the importance of an appropriate description of images and how it extends well beyond issues concerning Web accessibility, and that techniques for the description of the images in SVG benefit the process of indexation by search engines.

II. Hypotheses and Methodology to Investigate How SVG Impact Accessibility and Search Engine Optimization

The hypothesis of this article has shown that certain elements such as <desc>, <title> and <text> can be indexed by search engines, and can also be accessible by assistive technology[1]. This is different from WAI-ARIA, such as aria-label, which are accessible for assistive technology[1] but are not indexed by search engines.

The methodology in this article was separated into three parts: (i) a review of the technical bibliography regarding Web accessibility; (ii) tests combining assistive technology, browsers and operational systems; (iii) empirical observation of the publication of the content published on the Web, with a specific focus on indexation using search engines.

The results were collected after indexation, by search engines, of the elements <desc>, <title> and <text>, and the aria-label attribute, duly declared and filled in.

These stages were necessary to analyse how search engines index the content in elements and attributes in SVG.

The test environment used for this experiment was a page from Reinaldo Ferraz's blog at (http://www.reinaldoferraz.com.br/acessibilidade-seo-e-svg/). This page is in a public Web environment based on the Linux system, with Wordpress installed, and with a duly configured robots.txt file, so that search engines may index the content of this website.

The experiments were carried out on the blog due to the low number of posts and pages (42 images, 5 posts, and a

[1] Assistive Technology: any device that is used to support the health and activity of a disabled person. Source: Encyclopaedia Britannica (available at https://global.britannica.com/topic/assistive-technology)

978-1-5386-1314-6/17/$31.00 ©2017 IEEE

https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=8279605

```
<img src="http://www.reinaldoferraz.com.br/wp-
content/uploads/2014/02/tr47ujhtt767.png"
alt="Foto de um pão francês em um prato branco"
title="A foto do pão é a primeira a utilizar o atributo title
nesse post“>
```

```
<img src="http://www.reinaldoferraz.com.br/wp-
content/uploads/2014/02/aswe98jdk93.png"
alt="Foto de uma ampulheta"
title="A foto da ampulheta é de autoria de Reinaldo Ferraz">
```

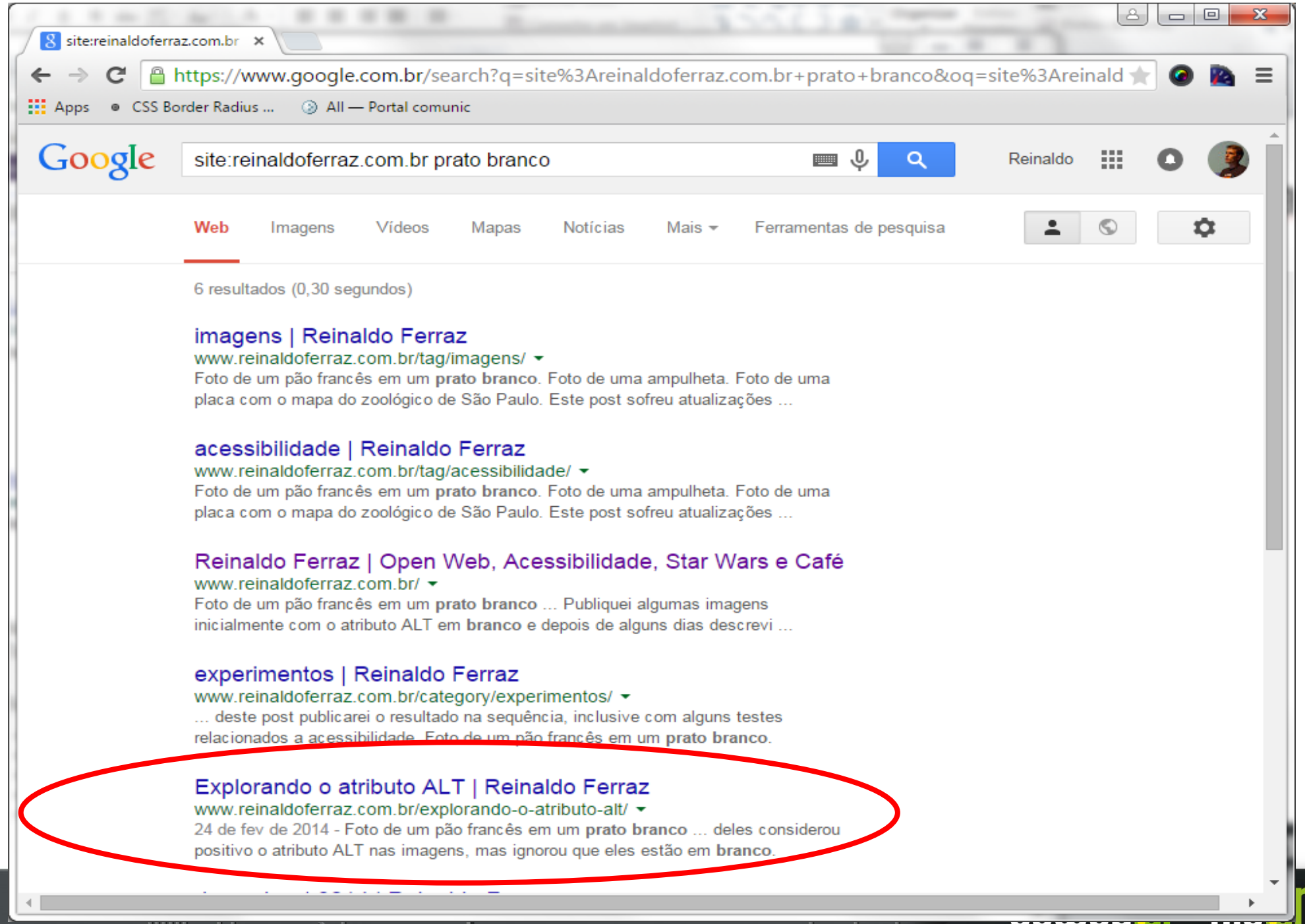
```
<img src="http://www.reinaldoferraz.com.br/wp-
content/uploads/2014/02/yjjl9675yp.png"
alt="Foto de uma placa com o mapa do zoológico de São Paulo"
title="Crédito desta foto: Reinaldo Ferraz">
```

Google
Brasil

YAHOO!

bing

DuckDuckGo


site:reinaldoferraz.com.br
https://www.google.com.br/search?q=site%3Areinaldoferraz.com.br+prato+branco&oq=site%3Areinald
Apps
CSS Border Radius ...
All — Portal comunic
Google
site:reinaldoferraz.com.br prato branco
Reinaldo
Web
Imagens
Vídeos
Mapas
Notícias
Mais
Ferramentas de pesquisa
6 resultados (0,30 segundos)
imagens | Reinaldo Ferraz
www.reinaldoferraz.com.br/tag/imagens/
Foto de um pão francês em um prato branco. Foto de uma ampulheta. Foto de uma placa com o mapa do zoológico de São Paulo. Este post sofreu atualizações ...
acessibilidade | Reinaldo Ferraz
www.reinaldoferraz.com.br/tag/acessibilidade/
Foto de um pão francês em um prato branco. Foto de uma ampulheta. Foto de uma placa com o mapa do zoológico de São Paulo. Este post sofreu atualizações ...
Reinaldo Ferraz | Open Web, Acessibilidade, Star Wars e Café
www.reinaldoferraz.com.br/
Foto de um pão francês em um prato branco ... Publiquei algumas imagens inicialmente com o atributo ALT em branco e depois de alguns dias descrevi ...
experimentos | Reinaldo Ferraz
www.reinaldoferraz.com.br/category/experimentos/
... deste post publicarei o resultado na sequência, inclusive com alguns testes relacionados a acessibilidade. Foto de um pão francês em um prato branco.
Explorando o atributo ALT | Reinaldo Ferraz
www.reinaldoferraz.com.br/explorando-o-atributo-alt/
24 de fev de 2014 - Foto de um pão francês em um prato branco ... deles considerou positivo o atributo ALT nas imagens, mas ignorou que eles estão em branco.

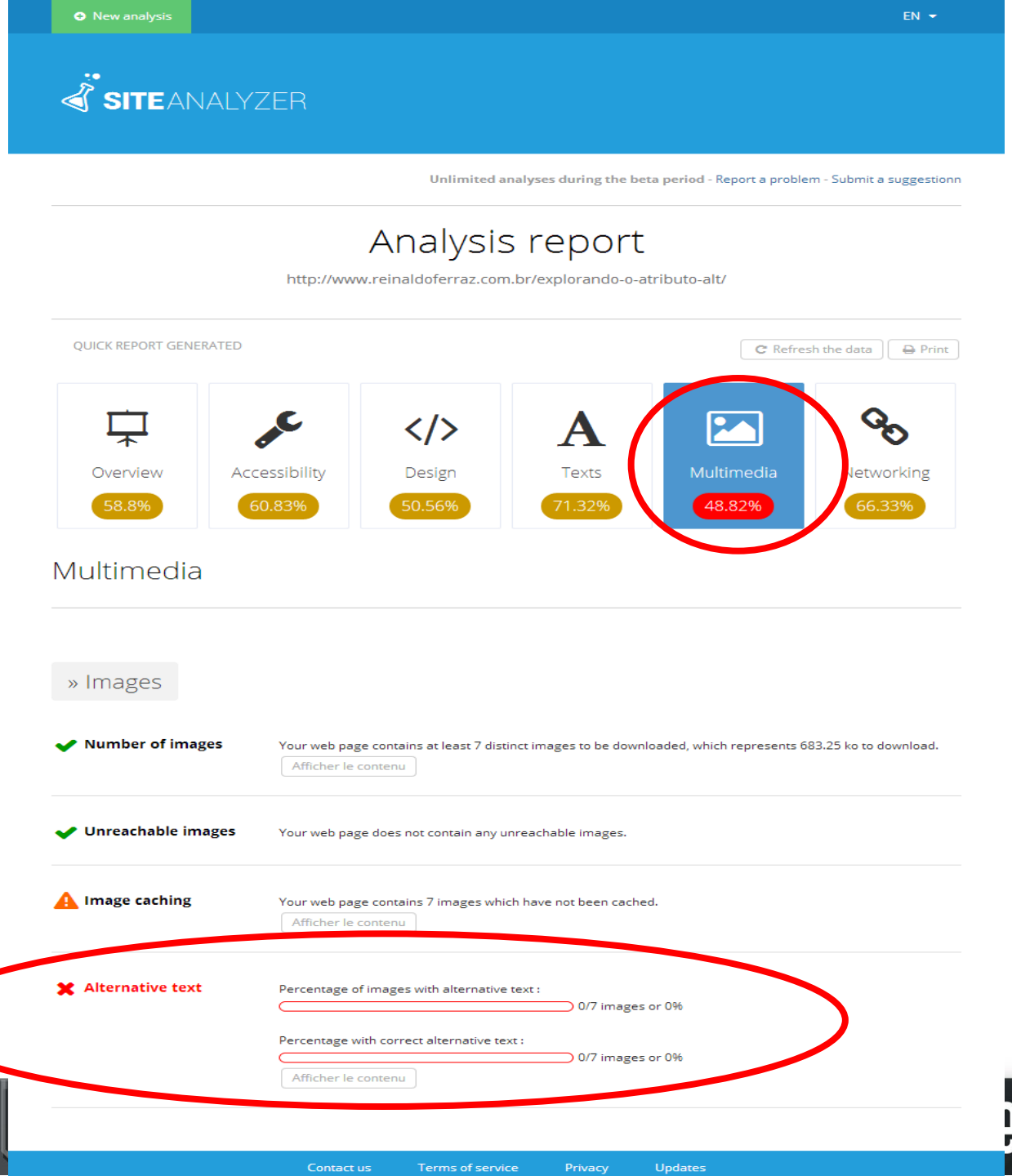
	Google	Yahoo	Bing	Duck Duck Go
ALT	Yes	No	No	No
TITLE	No	No	No	No

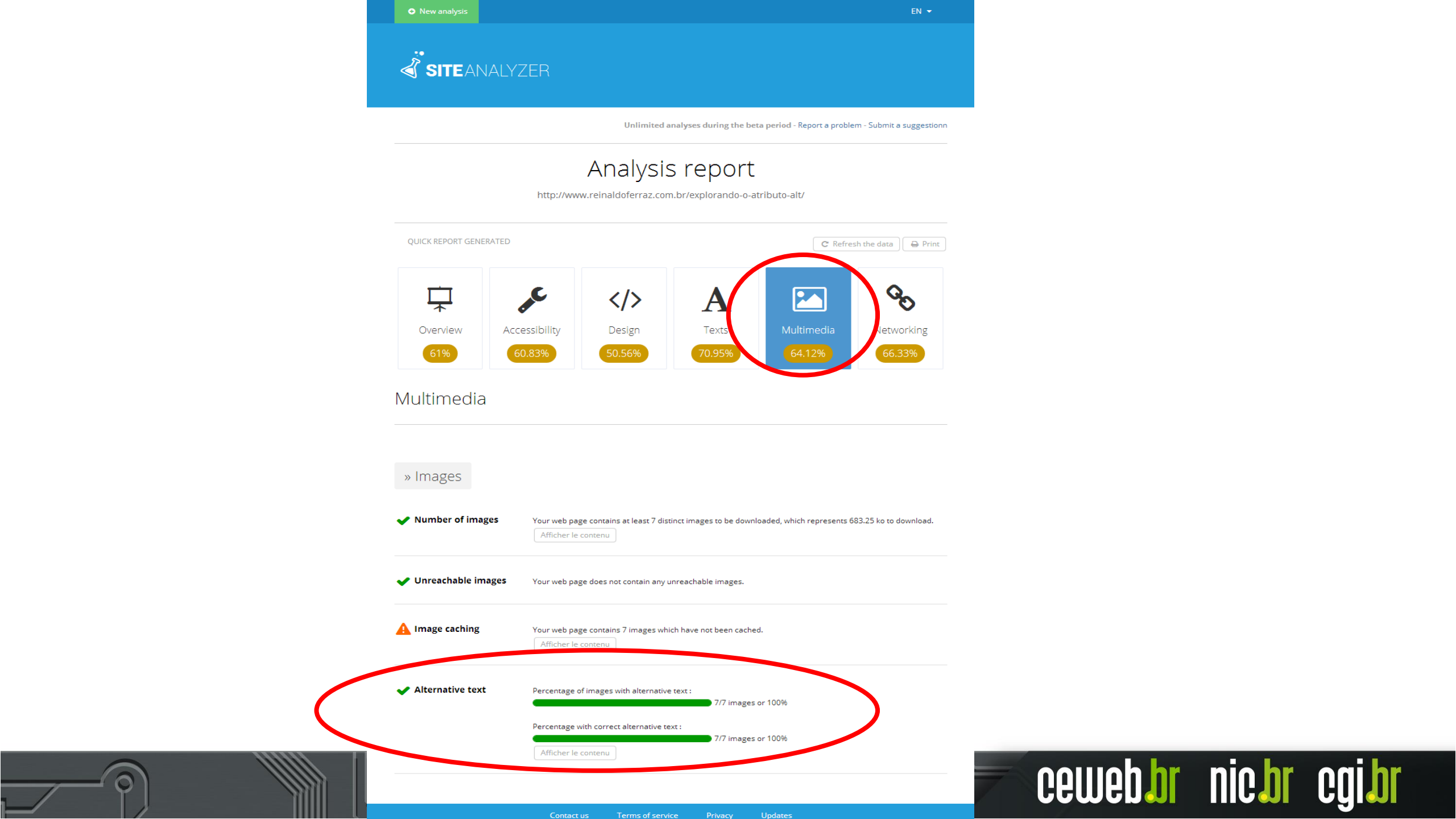
https://www.site-analyzer.com/

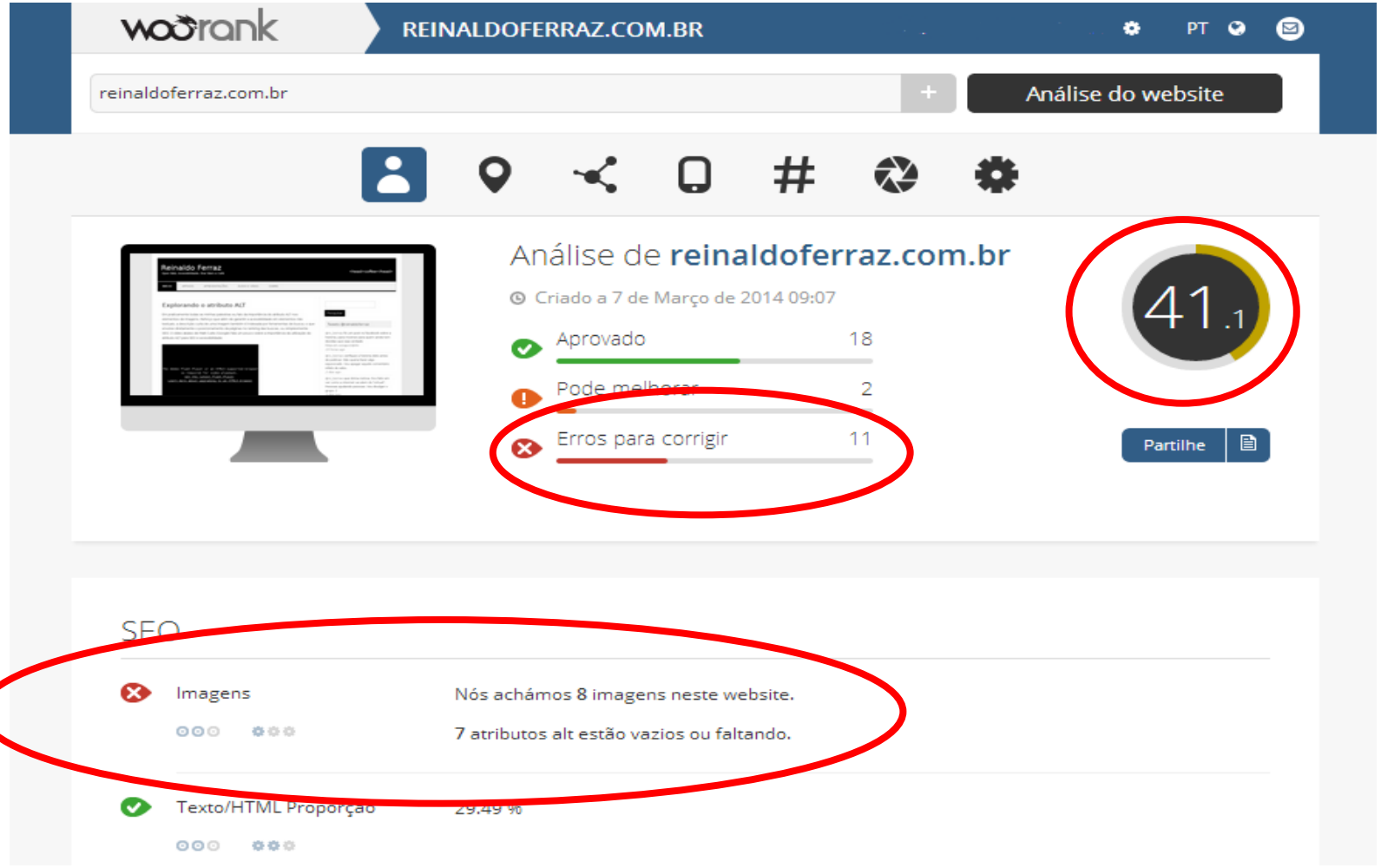
https://www.woorank.com/pt

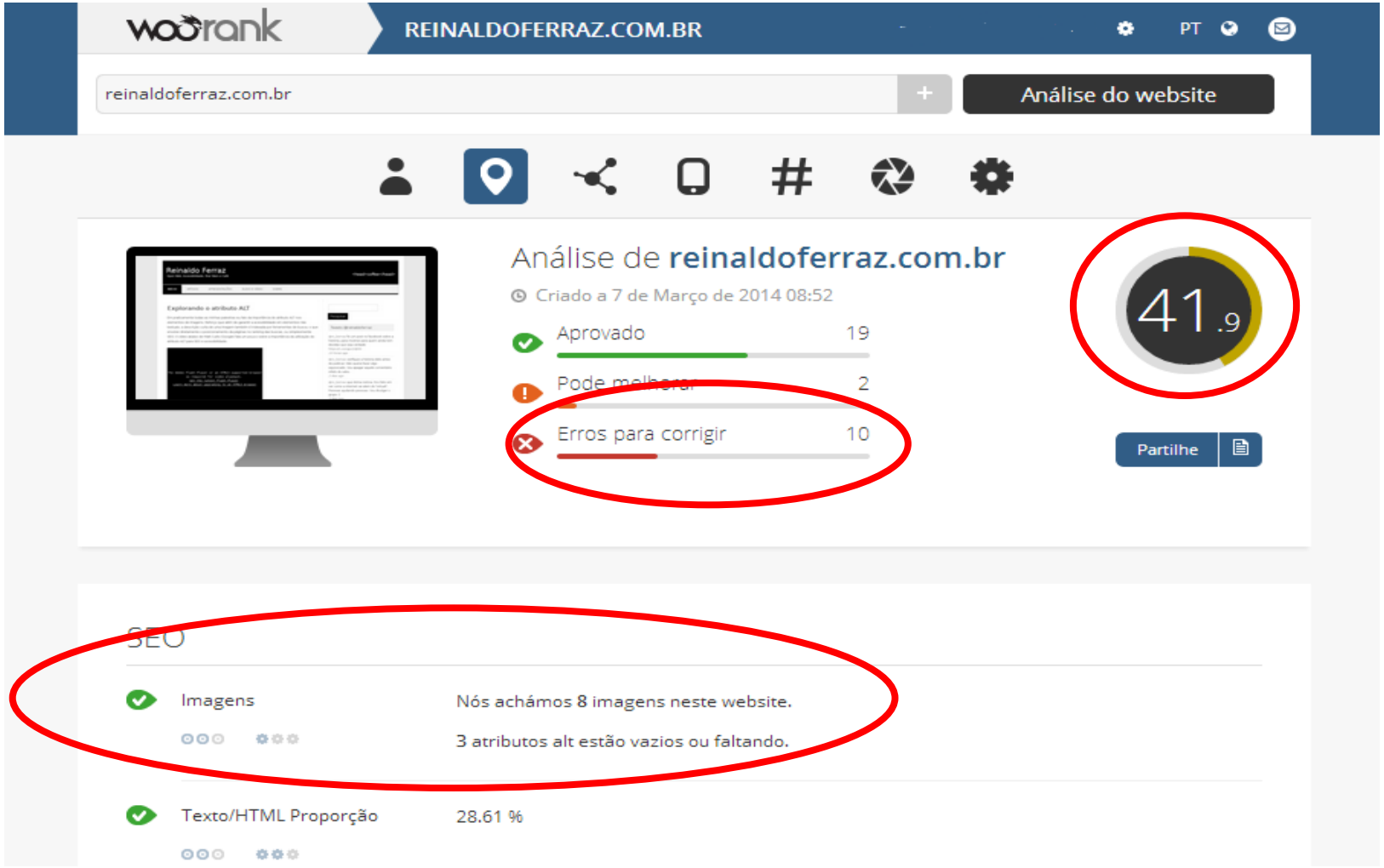
http://www.seoworkers.com/

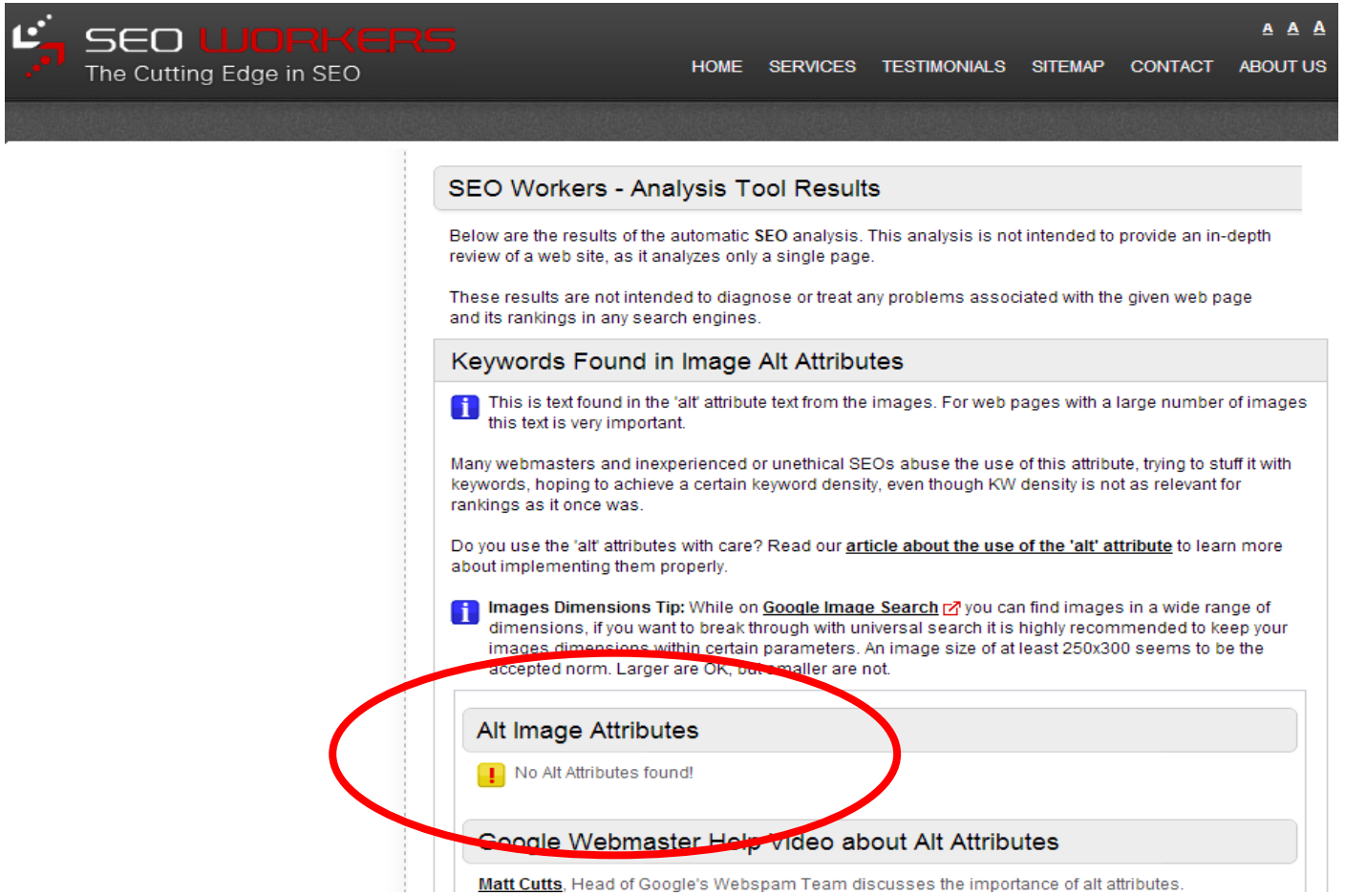
Performed in March 2014

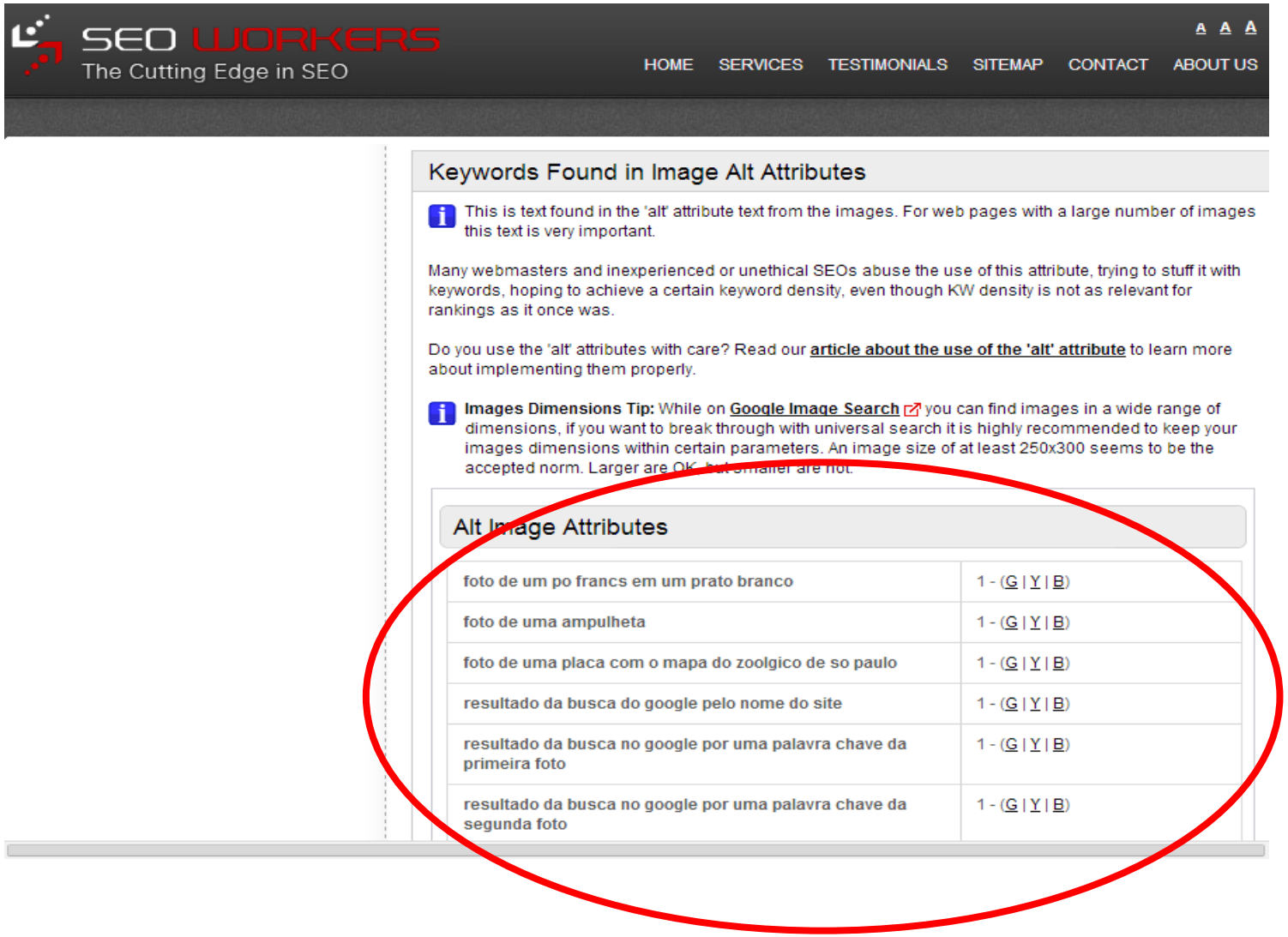

New analysis
EN
SITEANALYZER
Unlimited analyses during the beta period - Report a problem - Submit a suggestionn
Analysis report
http://www.reinaldoferraz.com.br/explorando-o-atributo-alt/
QUICK REPORT GENERATED
Refresh the data
Print
Overview
58.8%
Accessibility
60.83%
Design
50.56%
Texts
71.32%
Multimedia
48.82%
Networking
66.33%
Multimedia
» Images
Number of images
Your web page contains at least 7 distinct images to be downloaded, which represents 683.25 ko to download.
Afficher le contenu
Unreachable images
Your web page does not contain any unreachable images.
Image caching
Your web page contains 7 images which have not been cached.
Afficher le contenu
Alternative text
Percentage of images with alternative text :
0/7 images or 0%
Percentage with correct alternative text :
0/7 images or 0%
Afficher le contenu
Contact us
Terms of service
Privacy
Updates


New analysis
EN
SITEANALYZER
Unlimited analyses during the beta period - Report a problem - Submit a suggestionn
Analysis report
http://www.reinaldoferraz.com.br/explorando-o-atributo-alt/
QUICK REPORT GENERATED
Refresh the data
Print
Overview
61%
Accessibility
60.83%
Design
50.56%
Texts
70.95%
Multimedia
64.12%
Networking
66.33%
Multimedia
» Images
Number of images
Your web page contains at least 7 distinct images to be downloaded, which represents 683.25 ko to download.
Afficher le contenu
Unreachable images
Your web page does not contain any unreachable images.
Image caching
Your web page contains 7 images which have not been cached.
Afficher le contenu
Alternative text
Percentage of images with alternative text :
7/7 images or 100%
Percentage with correct alternative text :
7/7 images or 100%
Afficher le contenu
Contact us
Terms of service
Privacy
Updates


woorank
REINALDOFERRAZ.COM.BR
PT
reinaldoferraz.com.br
Análise do website
Análise de reinaldoferraz.com.br
Criado a 7 de Março de 2014 09:07
Aprovado 18
Pode melhorar 2
Erros para corrigir 11
41.1
Partilhe
SEO
Imagens
Nós achámos 8 imagens neste website.
7 atributos alt estão vazios ou faltando.
Texto/HTML Proporção
29.49 %


woorank
REINALDOFERRAZ.COM.BR
PT
reinaldoferraz.com.br
Análise do website
Análise de reinaldoferraz.com.br
Criado a 7 de Março de 2014 08:52
Aprovado 19
Pode melhorar 2
Erros para corrigir 10
41.9
Partilhe
SEO
Imagens
Nós achámos 8 imagens neste website.
3 atributos alt estão vazios ou faltando.
Texto/HTML Proporção
28.61 %


SEO WORKERS
The Cutting Edge in SEO
A A A
HOME SERVICES TESTIMONIALS SITEMAP CONTACT ABOUT US
SEO Workers - Analysis Tool Results
Below are the results of the automatic SEO analysis. This analysis is not intended to provide an in-depth review of a web site, as it analyzes only a single page.
These results are not intended to diagnose or treat any problems associated with the given web page and its rankings in any search engines.
Keywords Found in Image Alt Attributes
This is text found in the 'alt' attribute text from the images. For web pages with a large number of images this text is very important.
Many webmasters and inexperienced or unethical SEOs abuse the use of this attribute, trying to stuff it with keywords, hoping to achieve a certain keyword density, even though KW density is not as relevant for rankings as it once was.
Do you use the 'alt' attributes with care? Read our article about the use of the 'alt' attribute to learn more about implementing them properly.
Images Dimensions Tip: While on Google Image Search you can find images in a wide range of dimensions, if you want to break through with universal search it is highly recommended to keep your images dimensions within certain parameters. An image size of at least 250x300 seems to be the accepted norm. Larger are OK, but smaller are not.
Alt Image Attributes
No Alt Attributes found!
Google Webmaster Help Video about Alt Attributes
Matt Cutts, Head of Google's Webspam Team discusses the importance of alt attributes.


SEO WORKERS
The Cutting Edge in SEO
A A A
HOME SERVICES TESTIMONIALS SITEMAP CONTACT ABOUT US
Keywords Found in Image Alt Attributes
This is text found in the 'alt' attribute text from the images. For web pages with a large number of images this text is very important.
Many webmasters and inexperienced or unethical SEOs abuse the use of this attribute, trying to stuff it with keywords, hoping to achieve a certain keyword density, even though KW density is not as relevant for rankings as it once was.
Do you use the 'alt' attributes with care? Read our article about the use of the 'alt' attribute to learn more about implementing them properly.
Images Dimensions Tip: While on Google Image Search you can find images in a wide range of dimensions, if you want to break through with universal search it is highly recommended to keep your images dimensions within certain parameters. An image size of at least 250x300 seems to be the accepted norm. Larger are OK, but smaller are not.
Alt Image Attributes
foto de um po francs em um prato branco
1 - (G | Y | B)
foto de uma ampulheta
1 - (G | Y | B)
foto de uma placa com o mapa do zoolgico de so paulo
1 - (G | Y | B)
resultado da busca do google pelo nome do site
1 - (G | Y | B)
resultado da busca no google por uma palavra chave da primeira foto
1 - (G | Y | B)
resultado da busca no google por uma palavra chave da segunda foto
1 - (G | Y | B)

	Site Analyzer	Woorank	SEO Workers
ALT	Yes	Yes	Yes
TITLE	No	No	No

A imagem abaixo é a foto de um rádio relógio cinza.

A imagem acima é uma foto de um despertador digital.

<img src="http://www.reinaldoferraz.com.br/wp-content/uploads/2014/02/2016-02-19-17.51.23.jpg" **alt=""** >

Google site:http://www.reinaldoferraz.com.br/explorando-o-atributo-a Reinaldo

Todas Shopping **Imagens** Vídeos Notícias Mais Ferramentas de pesquisa

Rádio Relógio Philips

Rádio Relógio Moderno

Rádio Relógio Toshiba

Explorando o atributo ALT | Reinaldo ...

www.reinaldoferraz.com.br - 400 × 300 - Pesquisa por imagem

A imagem abaixo é a foto de um rádio relógio cinza.

Visitar página | Visualizar imagem

Imagens relacionadas:

As imagens podem ter direitos autorais - Enviar feedback

xofone Desenho

Saxofone Papel de Parede

Saxofone Wallpaper

Explorando o atributo ALT | Reinaldo ...

www.reinaldoferraz.com.br - 400 × 300 - Pesquisa por imagem

Saxofone descrição desta foto do rádio relógio é um experimento para verificar a indexação

Visitar página | Visualizar imagem

Imagens relacionadas:

```
<div class="foto"
role="img" aria-label="Company logo">
</div>
```

lang

lang

The lang attribute (in no namespace) specifies the primary language for the element's contents and for any of the element's attributes that contain text.

https://www.w3.org/TR/html5/dom.html#the-lang-and-xmllang-attributes

accesskey
class
contenteditable
dir
hidden
id
lang Global Attribute
spellcheck
style
tabindex
title
translate

```
<html lang=“pt-BR”>

.....

<p>
    O texto da página está em português
  <span lang=“en”>and in english</span>.
</p>
```

```
Prefix: sl-rozaj-osojs
Prefix: sl-rozaj-solba
Comments: For standardized Resian an orthography was published in 1994.
%%
Type: variant
Subtag: 1996
Description: German orthography of 1996
Added: 2005-10-16
Prefix: de
%%
Type: variant
Subtag: abl1943
Description: Orthographic formulation of 1943 - Official in Brazil
  (Formulário Ortográfico de 1943 - Oficial no Brasil)
Added: 2015-05-06
Prefix: pt-BR
Comments: Denotes conventions established by the Academia Brasileira de
  Letras in 1943 and generally used in Brazil until 2009
%%
Type: variant
Subtag: alalc97
Description: ALA-LC Romanization, 1997 edition
Added: 2009-12-09
```

http://www.iana.org/assignments/language-subtag-registry/language-subtag-registry

Nu Html Checker

This tool is an ongoing experiment in better HTML checking, and its behavior remains s

Showing results for contents of text-input area

Document checking completed. No errors or warnings to show.

Source

```
1. <!DOCTYPE html>↩
2. <html lang="pt-BR">↩
3. <head>↩
```

ceweb.br nic.br cgi.br

1. **Error** **Bad value** `pndb-BR` **for attribute** `lang` **on element** `html`**: Found reserved lan**

From line 1, column 16; to line 2, column 21

```
TYPE html>↩<html lang="pndb-BR">↩<head
```

Syntax of language tag:

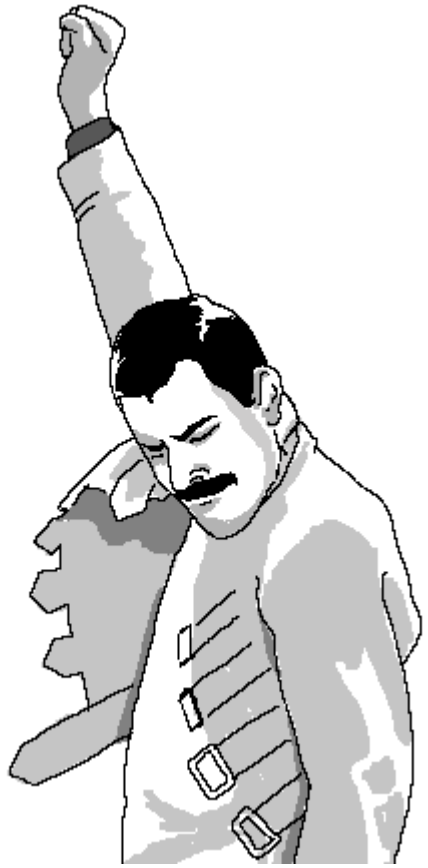
An RFC 5646 language tag consists of hyphen-separated ASCII-alphanumeric subtags. There is a
shortest ISO 639 language code (e.g. `en` for English) and zero or more additional subtags adding p
region subtag which most commonly is a two-letter ISO 3166 country code (e.g. `GB` for the United Ki
subtags.

Document checking completed.

Source

```
1. <!DOCTYPE html>↩
2. <html lang="pndb-BR">↩
3. <head>↩
```

accessibility



Is this the real life?
Is this just fantasy?
Caught in a landslide
No escape from reality

Is dis de real life?
Is dis just fantasi?
Cauti in a landslide
No escape from reality

da concessionária Norte Energia, responsável por esta obra do Program
camento (PAC), mostram que entre os quase 24 mil trabalhadores da hi
rada a maior em construção do mundo – as mulheres representam 14,
is alto do que o normalmente registrado na construção civil, de pouco n
nte.

2, a Pesquisa Nacional por Amostragem de Domicílios (PNAD) do IBGE
ões de trabalhadores da construção, 97,1% eram homens e apenas 2,
uinte, a PNAD mostrou pequena elevação da participação feminina: os
m a ser de 96,8% e de 3,2%, respectivamente.

ança das mulheres na UHE Belo Monte já foi destacada até pela presi
r.

Morena Sales tem 28 anos, é mineira, engenheira civil e uma das trabs
há pouco mais de dois anos. Antes ela atuava na construção de uma pe
rica, onde era a única mulher. "Aqui a gente vê mulher desde o campo,
o, carpinteiras, e até na parte de apoio para produção, como [o setor] a
al. Mas tem muita mulher engenheira que trabalha no planejamento, na
, no meio ambiente, e na área civil", conta.

nte do setor de controle de qualidade do empreendimento, Rayana rece
dos homens que ocupam igual posto e nunca sentiu preconceito no trab

VLibras Player

ceweb.br nic.br cgi.br

styling

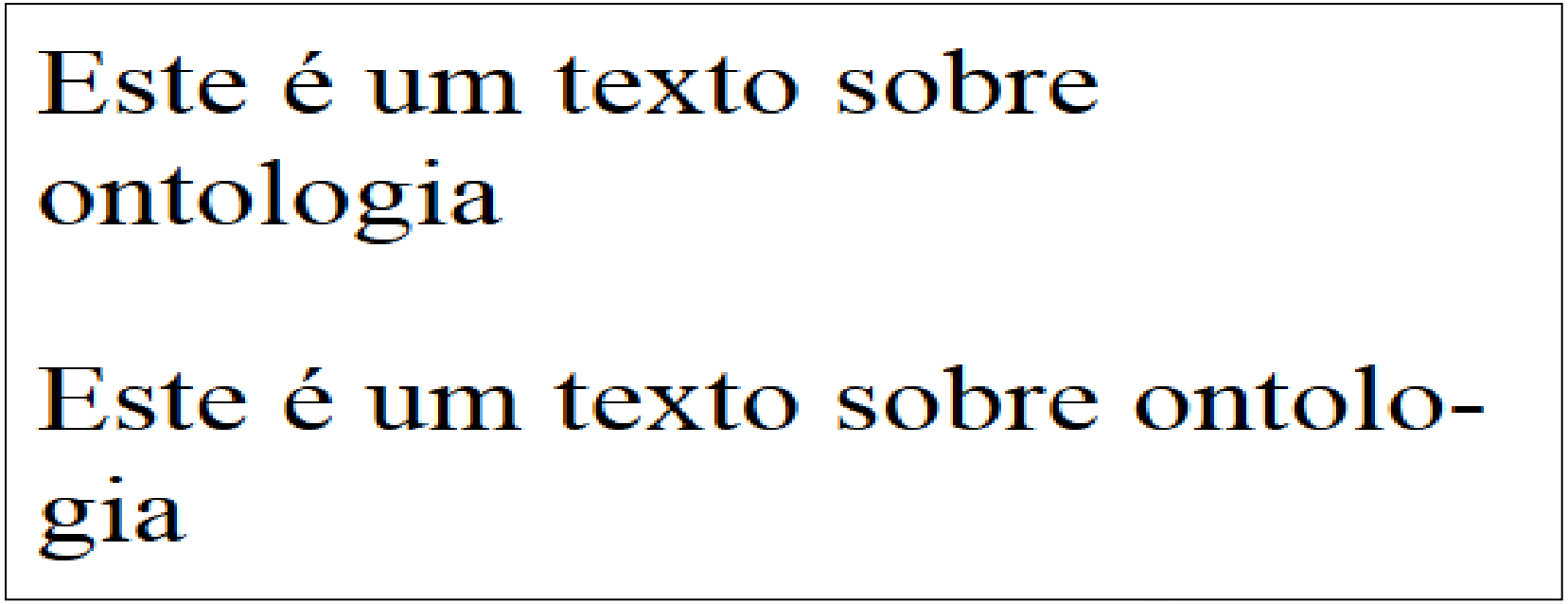
```
body {
font-family:
"Times New Roman", Times, serif;
}

:lang(ar) {
font-family:
"Traditional Arabic", "Al Bayan", serif;
direction: rtl;
}
```

```
<div lang=“en“ class=“hello”>
Hello World!
</div>

<div lang="pt-BR" class=“hello”>
Olá Mundo!
</div>

<div lang=“fr" class=“hello”>
Salut, Monde!
</div>
```

```
.love {
        padding: 1em;
}

.love:lang(en) {
        background-color: green;
        color:white;

}

.love:lang(pt-BR) {
        background-color: yellow;
}

.love:lang(fr) {
        background-color: blue;
        color:white;
}
```

Hyphenation

```
p { hyphens: auto;}

<p>Este é um texto sobre ontologia</p>

<p lang="pt-br">
Este é um texto sobre ontologia</p>
```



CSS Hyphenation - WD

Method of controlling when words at the end of lines should be hyphenated using the "hyphens" property.

Usage	% of all users		
Global	22.74%	+ 66.92% =	89.66%
unprefixed:	4.89%	+ 66.92% =	71.81%

Current aligned | Usage relative | Date relative | Show all | ?

IE	Edge *	Firefox	Chrome	Safari	iOS Safari *	Opera Mini *	Chrome for Android	UC Browser for Android	Samsung Internet
			49						
			63 [1]						
			67 [1]						
		61	68 [1]	11.1	11.2				4
11	17	62	69 [1]	12	11.4	all	69 [1]	11.8	7.2
	18	63	70 [1]	TP	12				
		64	71 [1]						
			72 [1]						

Notes | Known issues (0) | Resources (5) | Feedback

Chrome < 55 and Android 4.0 Browser support "-webkit-hyphens: none", but not the "auto" property. It is advisable to set the @lang attribute on the HTML element to enable hyphenation support and improve accessibility.

[1] Only supported on Android & Mac platforms (and only the "auto" value) for now. See commit & related bug.

ceweb.br nic.br cgi.br

Just sumarizing:

Use
ALT e LANG
Attributus in your web project

Thank you

reinaldo@nic.br

@reinaldoferraz

nic.br cgi.br

www.nic.br | www.cgi.br