

Accessibility on SVG and SEO

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Web Technologies Study Center

Objective

- Facilitate the participation of Brazilian community in global Web development environment

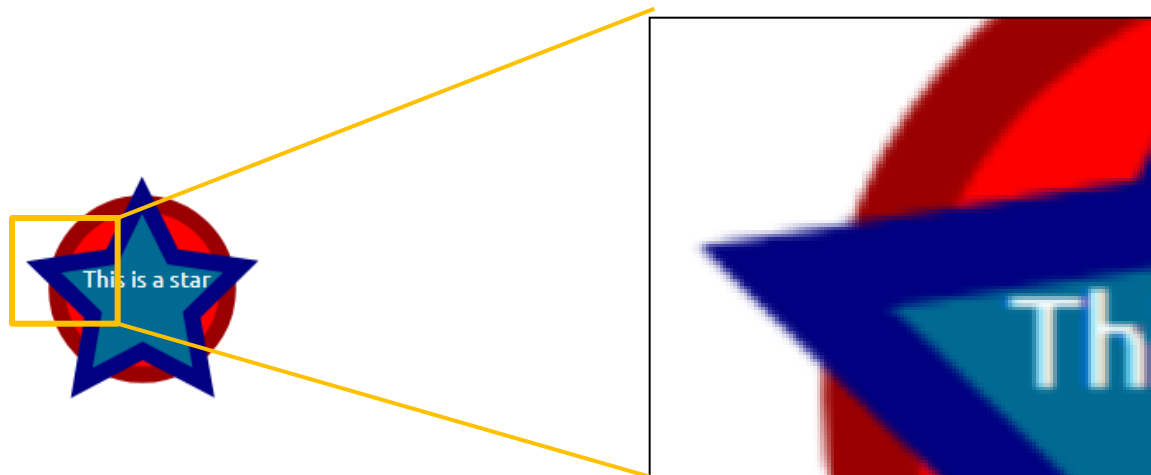
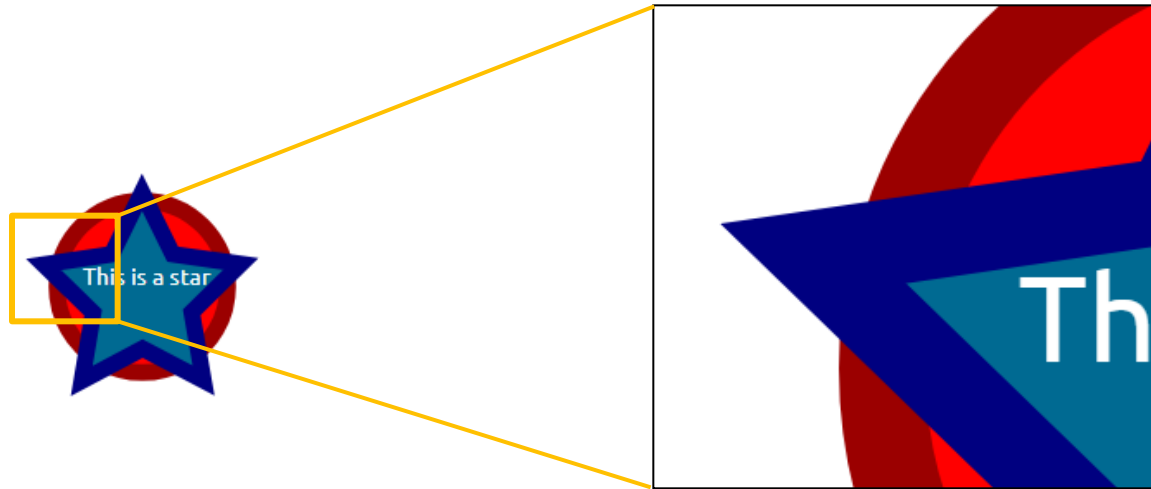
Mission

- Promote activities that encourage the use of open technologies and standardized on the Web.

Summary

- SVG format vs bitmap format
- Accessible images on the web
- Describing images on the Web
- Screen readers and browser tests
- Search Engine Optimization
- The experiment
- Conclusion

SVG format vs bitmap format



Accessible images on the web

- Images on the web needs alternative text, for screen readers users



Picture of
keyboard
keys W, 3
and C



Accessible images on the web

```

```



```
<svg xmlns="http://www.w3.org/2000/svg" width="200"  
height="200">  
<!--rest of SVG code-->  
</svg>
```

Describing SVG images on the Web

The `<desc>` and `<title>` elements:

According to SVG documentation, these two elements are intended to describe images. Both elements are rendered as text and are not visible in the browser. The `<title>` element could show a tooltip when the user mouse over it (this depends on its implementation by browsers).

Describing SVG images on the Web

The `<text>` element:

Defines a composite graphic element of text. Some attributes may define visual characteristics, such as direction of the text, position and filling-in of the text. This element is rendered in text on the page, and is displayed visually by the Web browser. Its position on the page and also in the SVG graph depends on their position in the code and also the X and Y co-ordinates that define their position within the container.

Describing SVG images on the Web

The `role="img"` and `aria-label="description"` attributes:

The `role="img"` attribute changes the semantics of the element so it behaves as an image, while the attribute `aria-label="description"` provide a description of the element in which it has been inserted.

Text alternatives on SVG

```
<svg xmlns="http://www.w3.org/2000/svg" width="200" height="200" id="svg01" aria-  
labelledby="title-star" aria-describedby="desc-star">
```

```
<title id="title-star">Estrela azul no elemento TITLE</title>
```

```
<desc id="desc-star">Imagem de uma estrela azul sobre um círculo vermelho  
no elemento DESC</desc>
```

```
<g transform="translate(0,-852.36218)">
```

```
<path style="fill:#ff0000;stroke:#9b0000;stroke-width:10;" d="m 144.10177,103.8611  
a 51.799896,51.799896 0 1 1 -103.599794,0 51.799896,51.799896 0 1 1
```

```
103.599794,0 z" transform="translate(5.6978374,845.45332)" role="img" aria-  
label="Imagem de uma estrela azul no atributo ARIA-LABEL" />
```

```
<path style="fill:#006a92;stroke:navy;stroke-width:10;" d="M 106.58415,98.958225  
69.586242,79.647381 32.703751,99.177762 39.636472,58.023282  
9.6646592,28.981168 50.947225,22.857144 69.306117,-14.622251  
87.887424,22.747375 129.20566,28.625949 99.40697,57.845672 z"  
transform="translate(28.564552,907.03667)" />
```

```
<text style="fill:#ffffff;">
```

```
<tspan x="62.024254" y="948.65192">This is a star</tspan>
```

```
</text>
```

```
</g>
```

```
</svg>
```



Screen Readers and Browsers tests

	<TITLE>	<DESC>	<TEXT>	"ARIA-LABEL"
SAFARI 9 / VOICEOVER 7 / MACOS X	Yes	Yes	Yes	Yes
FIREFOX 44 / VOICEOVER 7 / MACOS X	No	No	Yes	Yes
CHROME 48 / VOICEOVER 7 / MACOS X	Yes	No	Yes	Yes
IE11/ JAWS 17 / WINDOWS 7	Yes	Yes	Yes	Yes
FIREFOX 44 / JAWS 17 / WINDOWS 7	No	No	Yes	Yes
CHROME 48 / JAWS 17 / WINDOWS 7	No	No	Yes	Yes
IE11 / NVDA 2016 / WINDOWS 7	Yes	No	Yes	No
FIREFOX 44 / NVDA 2016 / WINDOWS 7	No	No	Yes	Yes
CHROME 48 / NVDA 2016 / WINDOWS 7	Yes	No	Yes	Yes

Search Engine Optimization

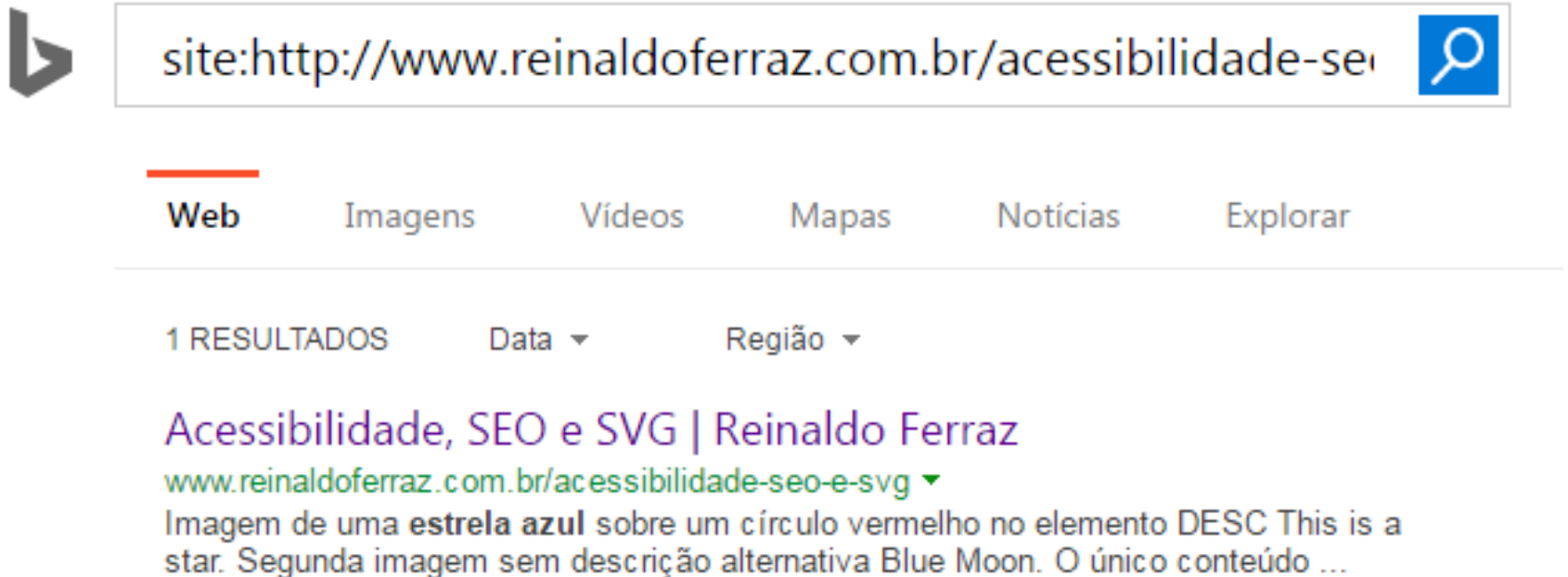
- The technique of developing websites in a way that they are search-engine friendly is called Search Engine Optimization (SEO).
- This technique consists of a group of technical strategies used to increase the number of visitors to a website by obtaining a high-ranking position in the search engine results page
- Search engine optimization is based on making small modifications to parts of websites (including image descriptions).

The experiment

- Alternative texts are important for Web Accessibility but how this texts are indexed by search engines on the Web?
- One image in SVG format was published on a Website
- Images were published using the following resources:
 - Elements `<desc>`, `<title>` and `<text>`
 - Attributes `role="img"` and `aria-label="description"`
- The tests were made using Google, Bing, DuckDuckGo and Yahoo search engines

Text alternatives and indexation

The content was indexed by search engines.




The image shows a search engine interface. At the top left is a grey arrow icon. To its right is a search bar containing the text "site:http://www.reinaldoferraz.com.br/acessibilidade-seo" and a blue magnifying glass icon. Below the search bar is a horizontal menu with six items: "Web" (underlined in red), "Imagens", "Vídeos", "Mapas", "Notícias", and "Explorar". Below the menu, it says "1 RESULTADOS" followed by "Data" and "Região" with dropdown arrows. The main result is titled "Acessibilidade, SEO e SVG | Reinaldo Ferraz" in purple. Below the title is the URL "www.reinaldoferraz.com.br/acessibilidade-seo-e-svg" with a dropdown arrow. The snippet below the URL reads: "Imagem de uma **estrela azul** sobre um círculo vermelho no elemento DESC This is a star. Segunda imagem sem descrição alternativa Blue Moon. O único conteúdo ...".

Text alternatives and indexation

The content was indexed by search engines.



site:http://www.reinaldoferraz.com.br/acessibilidade-seo-e-svg/ "Estrela azul" 

Imagens Vídeos

Mostrando resultados de: <http://www.reinaldoferraz.com.br/acessibilidade-seo-e-svg/>

[Todos os Resultados](#)



Acessibilidade, **SEO** e **SVG** | Reinaldo Ferraz

Imagem de uma **estrela azul** sobre um círculo vermelho no elemento DESC This is a star. Segunda Imagem sem descrição alternativa Blue Moon. O único conteúdo textual de cada **SVG** é apenas o que está dentro do elemento `<text>` e é exibido na imagem pelo navegador.



reinaldoferraz.com.br/acessibilidade-seo-e-svg/

Text alternatives and indexation

The content was indexed by search engines.



The image shows a screenshot of a Yahoo! search engine interface. At the top, there is a navigation bar with links for Home, Mail, Flickr, Tumblr, News, Sports, Finance, Celebrity, Answers, and Groups. Below this is the search bar with the text "YAHOO!" on the left and a search button on the right. The search query is "site:http://www.reinaldoferraz.com.br/acessibilidade-seo-e" with a clear button (X) next to it. Below the search bar, there are tabs for "Web", "Images", "Video", "News", "More", and "Anytime". The "Web" tab is selected. The search results show a single result for the URL "www.reinaldoferraz.com.br/acessibilidade-seo-e-svg" with a dropdown arrow. The snippet below the URL reads: "Imagem de uma estrela azul sobre um círculo vermelho no elemento DESC This is a star. Segunda imagem sem descrição alternativa Blue Moon. O único conteúdo ...". At the bottom right of the search results, it says "1 result". Below the search results, there is a second search bar with the same query and a search button.

Home Mail Flickr Tumblr News Sports Finance Celebrity Answers Groups

YAHOO! site:http://www.reinaldoferraz.com.br/acessibilidade-seo-e X Search

Web Images Video News More v Anytime v

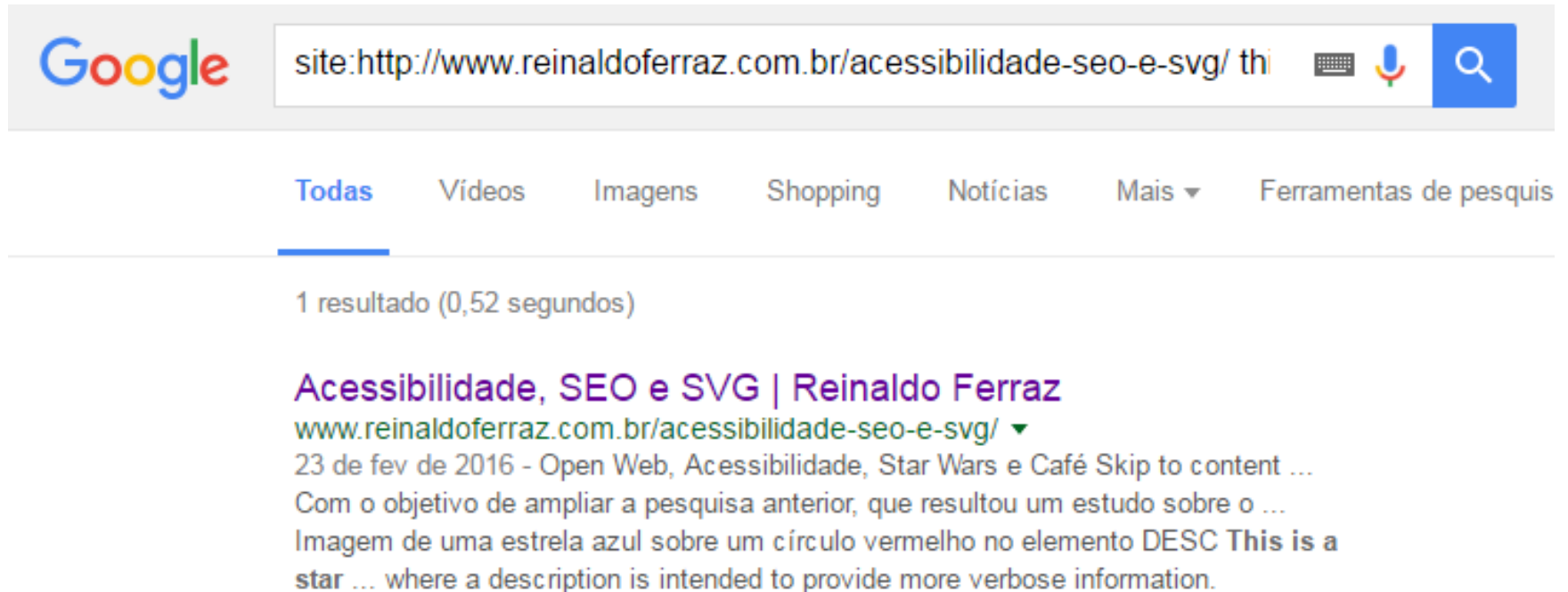
Acessibilidade, SEO e SVG | Reinaldo Ferraz
www.reinaldoferraz.com.br/acessibilidade-seo-e-svg v
Imagem de uma estrela azul sobre um círculo vermelho no elemento DESC This is a star.
Segunda imagem sem descrição alternativa Blue Moon. O único conteúdo ...

1 result

site:http://www.reinaldoferraz.com.br/acessibilidade-seo-e X Search

Text alternatives and indexation

The content was indexed by search engines.



The image shows a Google search interface. The search bar contains the query "site:http://www.reinaldoferraz.com.br/acessibilidade-seo-e-svg/ thi". Below the search bar, there are navigation tabs for "Todas", "Vídeos", "Imagens", "Shopping", "Notícias", "Mais", and "Ferramentas de pesquisa". The "Todas" tab is selected. Below the tabs, it shows "1 resultado (0,52 segundos)". The search result is for the page "Acessibilidade, SEO e SVG | Reinaldo Ferraz" with the URL "www.reinaldoferraz.com.br/acessibilidade-seo-e-svg/". The snippet below the title reads: "23 de fev de 2016 - Open Web, Acessibilidade, Star Wars e Café Skip to content ... Com o objetivo de ampliar a pesquisa anterior, que resultou um estudo sobre o ... Imagem de uma estrela azul sobre um círculo vermelho no elemento DESC This is a star ... where a description is intended to provide more verbose information."

Google

site:http://www.reinaldoferraz.com.br/acessibilidade-seo-e-svg/ thi

Todas Vídeos Imagens Shopping Notícias Mais Ferramentas de pesquisa

1 resultado (0,52 segundos)

Acessibilidade, SEO e SVG | Reinaldo Ferraz
www.reinaldoferraz.com.br/acessibilidade-seo-e-svg/ ▼
23 de fev de 2016 - Open Web, Acessibilidade, Star Wars e Café Skip to content ...
Com o objetivo de ampliar a pesquisa anterior, que resultou um estudo sobre o ...
Imagem de uma estrela azul sobre um círculo vermelho no elemento DESC This is a
star ... where a description is intended to provide more verbose information.

Summary

	Google	Yahoo	Bing	Duck Duck Go
<desc>	Yes	Yes	Yes	Yes
<title>	No	No	No	No
<text>	Yes	Yes	Yes	Yes
role="img" aria-label	No	No	No	No

Conclusions

- `<text>` and `role="img" + aria-label="description"` are accessed by most screen readers and browsers tested
- `<desc>` and `<text>` are indexed by all search engine tools tested
- The combination of these elements can bring more accessibility for imagens in SVG and can be better indexed by search engine.

Thank you
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