

The background of the slide features a dark gray circuit board pattern with white lines representing traces and components. The pattern is visible at the top and bottom of the slide, framing the central white area.

Interação Imersão Inclusão

Reinaldo Ferraz
Conferência Web.br – 25 de outubro de 2017

nic.br



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reinaldo@nic.br

slideshare.com/CentroWeb

Pessoas com deficiências no Brasil

24%

45.623.910 pessoas

Fonte: Censo 2010

Interação

World Wide Web

The WorldWideWeb (W3) is a wide-area [hypermedia](#) information retrieval initiative aiming to give universal access to a large universe of documents.

Everything there is online about W3 is linked directly or indirectly to this document, including an [executive summary](#) of the project, [Mailing lists](#) , [Policy](#) , November's [W3 news](#) , [Frequently Asked Questions](#) .

[What's out there?](#)

Pointers to the world's online information, [subjects](#) , [W3 servers](#), etc.

[Help](#)

on the browser you are using

[Software Products](#)

A list of W3 project components and their current state. (e.g. [Line Mode](#) ,X11 [Viola](#) , [NeXTStep](#) , [Servers](#) , [Tools](#) , [Mail robot](#) , [Library](#))

[Technical](#)

Details of protocols, formats, program internals etc

[Bibliography](#)

Paper documentation on W3 and references.

[People](#)

A list of some people involved in the project.

[History](#)

A summary of the history of the project.

[How can I help ?](#)

If you would like to support the web..

[Getting code](#)

Getting the code by [anonymous FTP](#) , etc.

Interface

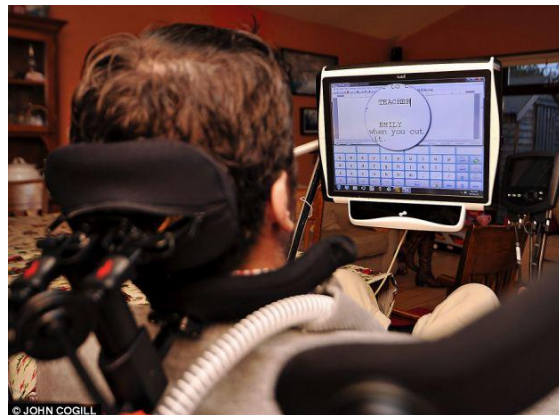
HyperText is a way to link and access information of various kinds as a web of nodes in which the user can browse at will. It provides a single user-interface to large classes of information (reports, notes, data-bases, computer documentation and on-line help). We propose a simple scheme incorporating servers already available at CERN.

Tim Berners-Lee, 12 de Novembro de 1990
WorldWideWeb: Proposal for a HyperText Project
<https://www.w3.org/Proposal.html>

Dispositivos de interação computacional (input)



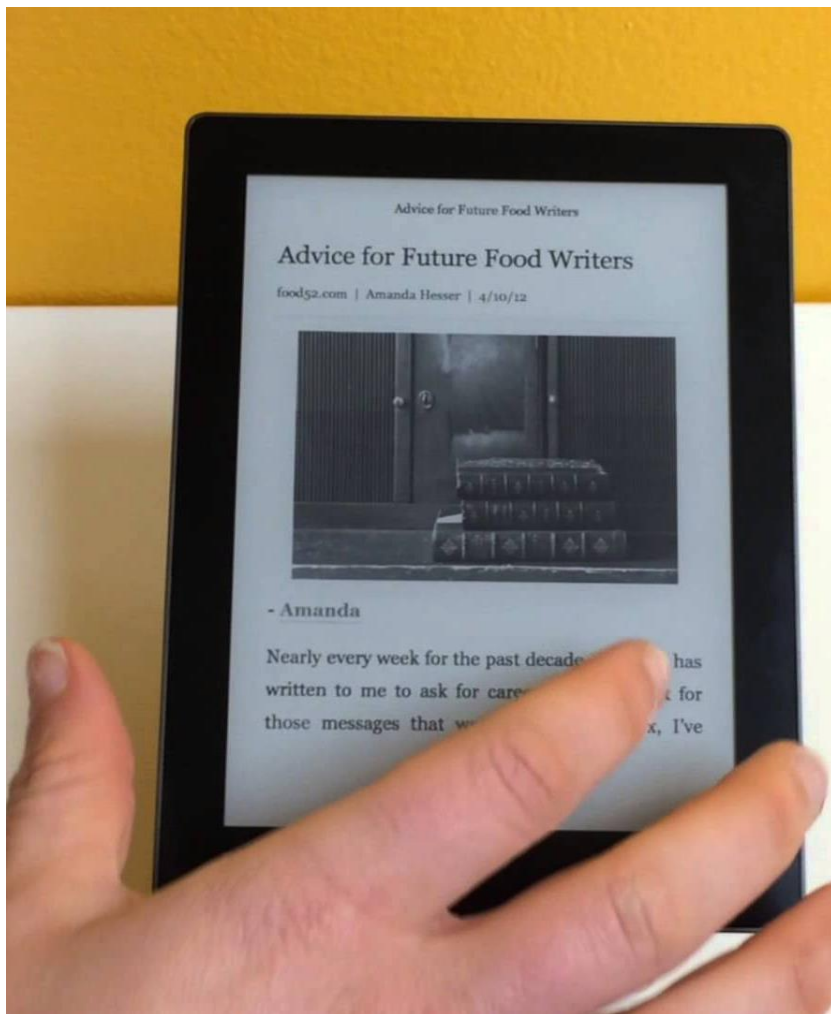
Tecnologia Assistiva de interação (hardware)

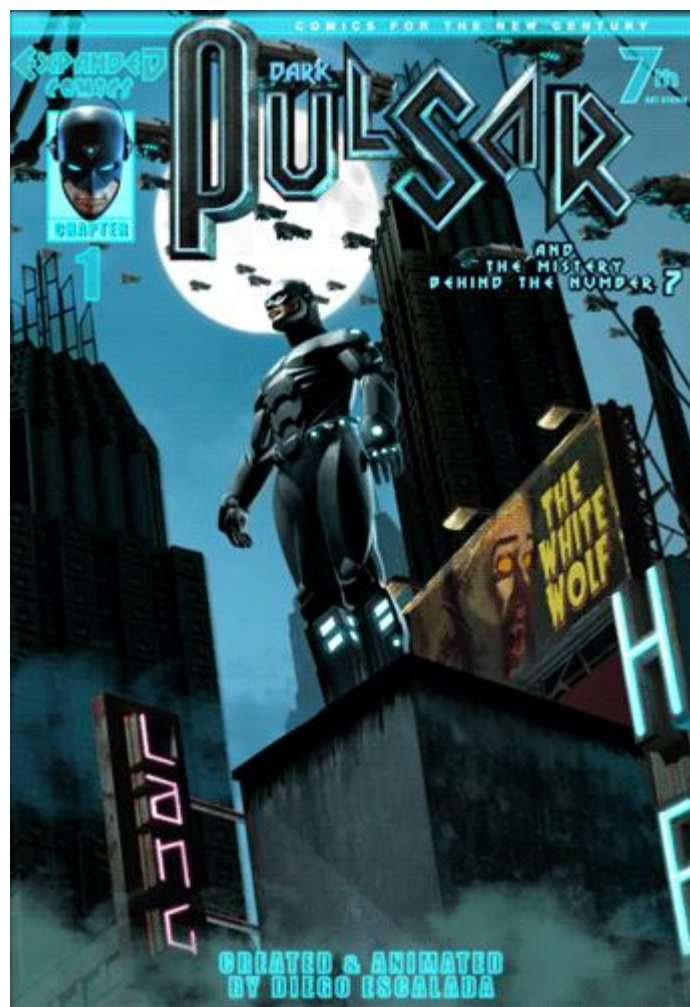


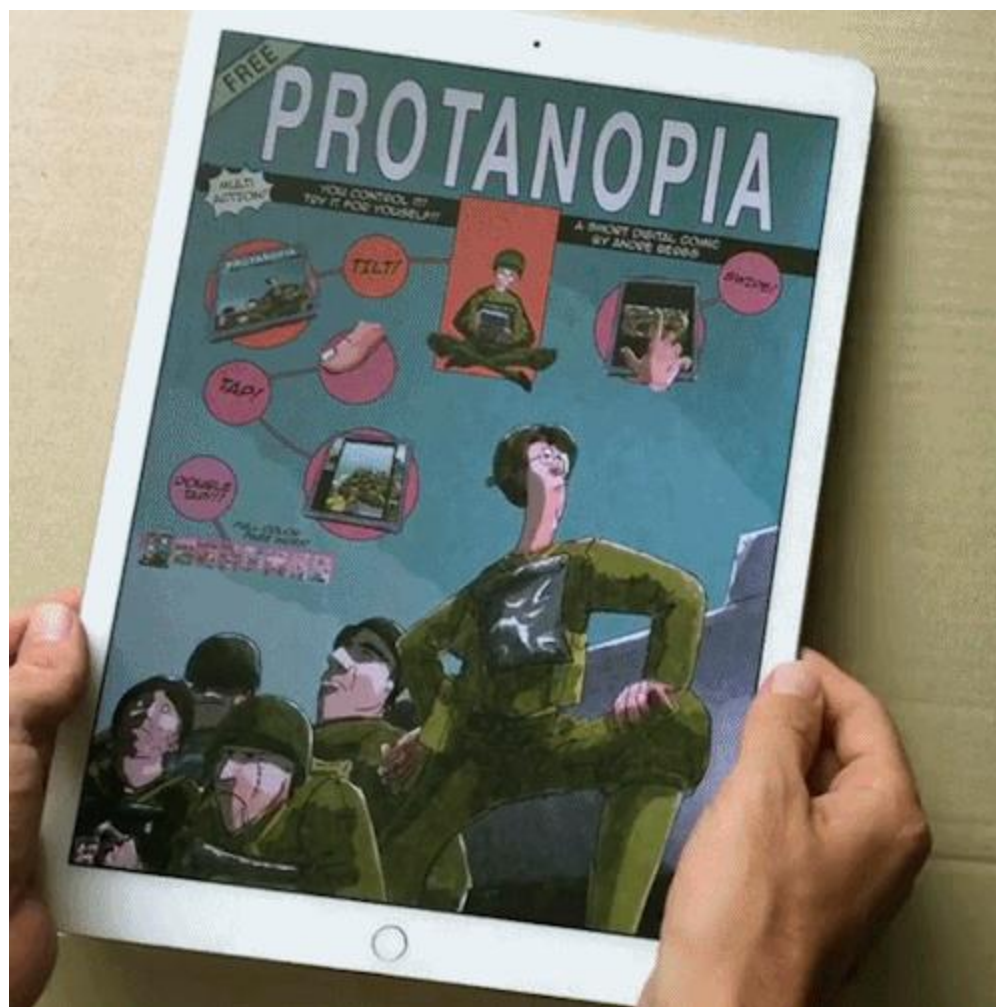
Tecnologia Assistiva de interação (software)

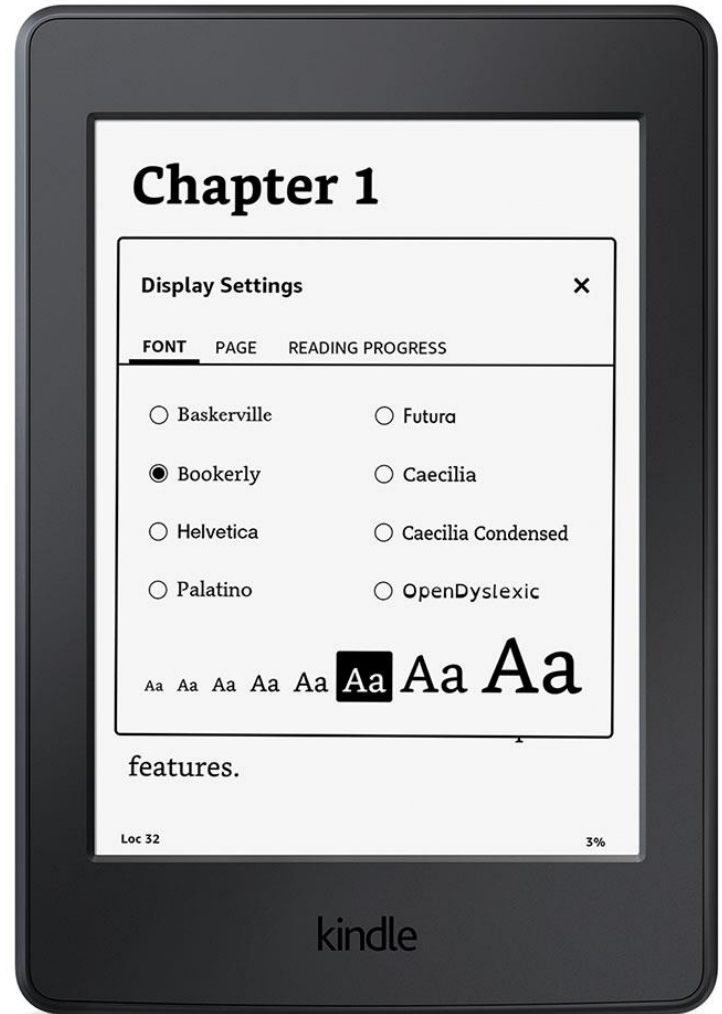
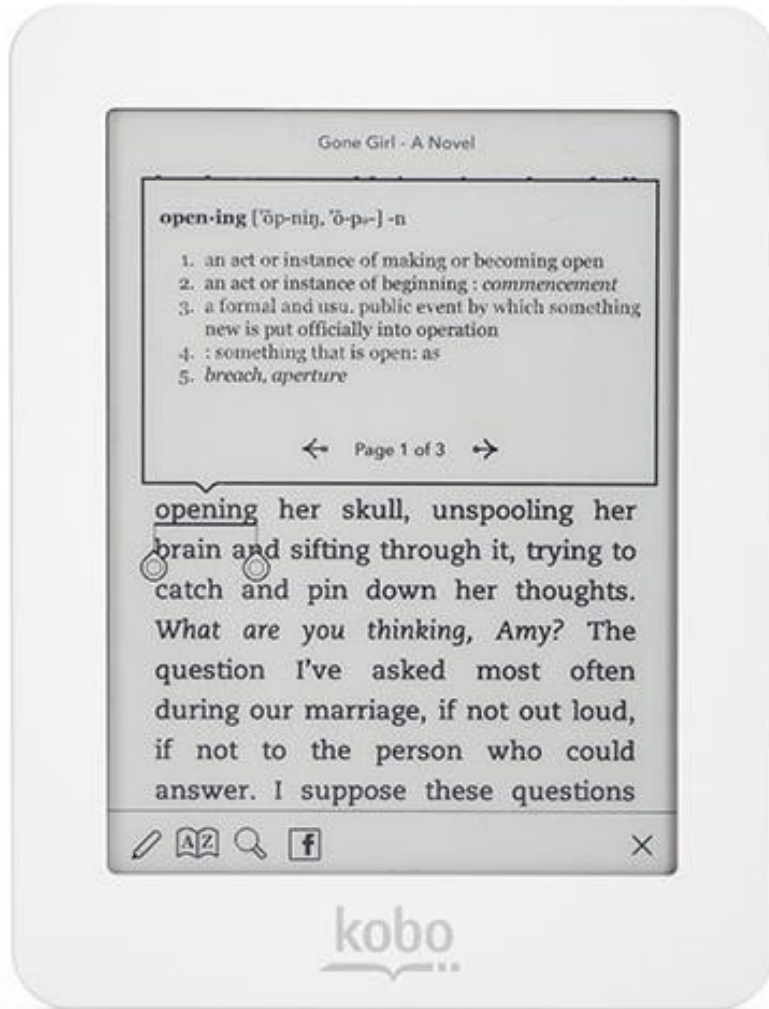


Além do browser











- Handheld media player for the blind and visually impaired.
- Plays DAISY books, MP3, MP4, EPUB, and many other media formats.
- Records voice and media with built-in microphone or line-in.
- Two built-in, human-sounding voices for a pleasant text-to-speech experience.
- Built-in wireless networking capability.
- Weighs less than 4 ounces (110 grams).
- Available in the following languages: English, Arabic, Croatian, Danish, Dutch, Estonian, Faroese, French, Finnish, German, Icelandic, Italian, Lithuanian, Norwegian, Polish, Portuguese, Russian, Spanish, Slovenian, Swedish, Turkish

Dispositivos sem telas



Need help? Contact the [Chromecast Support Team](#) for assistance.

Google Home app accessibility for Android phones and tablets

The Google Home app for Android works with the following accessibility features to make it easier to use your Android device with your Chromecast or Chromecast Audio if you have physical impairments:

- **TalkBack** is a pre-installed screen reader service provided by Google that you can use if you have visual impairments. It uses spoken feedback to describe the results of actions, such as opening an app, and events, such as notifications.
- **Magnification Gestures** is an accessibility feature that temporarily magnifies what's on your screen or uses magnification mode to easily zoom and pan your screen. Large text increases the text size on your device. (If you have low vision.)
- **BrailleBack** is an add-on accessibility service that helps blind users make use of braille devices. It works together with the TalkBack app to give a combined braille and speech experience. This app lets you connect a supported refreshable braille display to your device via Bluetooth. Screen content appears on the braille display, and you can navigate and interact with your device using the keys on the display. You can also input text using the braille keyboard.

<https://support.google.com/chromecast/answer/6279437?hl=en>

medium, to long touch and hold delay option, it gives you sufficient time to navigate the features of an app.

- **Switch Access** is an accessibility feature that helps you control your devices by allowing you to focus on and select



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All Help Topics

Alexa Support

Accessibility Features for Alexa

Differences Between Amazon Alexa Devices

Supported Alexa Features

Change the Wake Word

Personalize Your Alexa Device

Talk to Your Alexa Device

Using Multiple Alexa Devices

Alexa Notifications

About the Alexa Voice Remote for Echo

Pair the Alexa Voice Remote for Echo

Differences Between Alexa Voice Remote for Echo and Fire TV

Use Your Alexa Device to Control

Amazon Device Support > Alexa Support > Alexa Device Support >

Accessibility Features for Alexa

The Alexa app and Alexa-enabled products include several features for customers with accessibility needs related to vision, hearing, mobility, and speech.

Vision

- Support for the large text setting on Android (not available on iOS).
- Audio instructions for various steps of the setup on Amazon Alexa devices.
- Use the Alexa app with supported screen readers:
 - iPad and iPhones with VoiceOver (iOS 8 and above).
 - Mac OS X with VoiceOver.
 - Android devices (5.0+) with TalkBack.
 - FireOS with VoiceView.
 - PCs with JAWS and NVDA at <https://alexa.amazon.com>.
 - For more information about support for Alexa Communications, go to [About Alexa-to-Alexa Calling and Messaging](#).
- Customizable device settings to enable 'wake up' and 'end of request' sounds on compatible devices, in the Alexa app. In the menu, select **Settings**, your device, and then select **Sounds**.
- Adjustable volume with voice or touch on Amazon Alexa devices.
- High contrast in the Alexa app for better visibility.

<https://www.amazon.com/gp/help/customer/display.html?nodeId=202158280>

Hearing

- Echo devices can be paired with [supported Bluetooth speakers](#) (sold separately).
- Adjustable volume for timers, alarms, and media playback on compatible Amazon Alexa devices.

Devices

About Alexa on Other Alexa-Enabled Products

WARM SERIES

NEVER HAVE COLD FEET AGAIN!








HTML5 			
<i>One Web W3C for All</i>			



Location: ...
Date: ...

 **Evie Johnson**
...



Lisa

Alyssa

Mike



Imersão



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Virtual Reality Gaming Isn't so Great if You're Disabled

BY TONY POLANCO 10.24.2016 :: 12:00PM EDT @ROMUETH

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<https://www.geek.com/games/virtual-reality-gaming-isnt-so-great-if-youre-disabled-1676273/>



YOUR HEALTH



Affordable Virtual Reality Opens New Worlds For People With Disabilities

October 22, 2015 · 12:15 PM ET

LINDSEY HOSHAW

FROM KQED

"Agora a realidade virtual está sendo testada como uma forma de ajudar as pessoas com deficiência a explorar o mundo que pode ser difícil ou impossível na vida real. E está acontecendo a um preço bem ao alcance".

GOOD NEWS

Incredible Video Shows How A Boy With Disabilities Played A Piano With Just His Eyes

🕒 16/01/2015 12:09 -02 | **Atualizado** 16/01/2015 12:59 -02

7.1 K f t G+ in ✉

Dominique Mosbergen
The Huffington Post



http://www.huffpostbrasil.com/entry/play-piano-with-eyes-virtual-reality_n_6480500

SOMBRILLA

THE UTSA MAGAZINE

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UTSA's use of virtual environments is creating real-world solutions for heart surgeons, autistic children, multiple sclerosis patients, and more

<http://www.utsa.edu/sombrilla/fall2016/story/feature-virtual-reality.html>

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Serious game based dysphonic rehabilitation tool

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Author(s)

▾ Zhihan Lv ; ▾ Chantal Esteve ; ▾ Javier Chirivella ; ▾ Pablo Gagliardo

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Keywords

Metrics



Media

Abstract:

The purpose of this work is designing and implementing a rehabilitation software for dysphonic patients. Constant training is a key factor for this type of therapy. The patient can play the game as well as conduct the voice training simultaneously guided by therapists at clinic or exercise independently at home. The voice information can be recorded and extracted for evaluating the long-time rehabilitation progress.

<http://ieeexplore.ieee.org/abstract/document/7358619/>

PulmonaReality: transforming pediatric pulmonary function experience using virtual reality

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Authors: [Andrew Jacobson](#) [Texas A&M University](#)
[Jinsil Hwaryoung Seo](#) [Texas A&M University](#)

Published in:


· Proceeding
[SIGGRAPH '16 ACM SIGGRAPH 2016 Posters](#)
Article No. 86

Anaheim, California — July 24 - 28, 2016

[ACM](#) New York, NY, USA ©2016

[table of contents](#) ISBN: 978-1-4503-4371-8 doi> [10.1145/2945078.2945164](https://doi.org/10.1145/2945078.2945164)




 2016 Article







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This paper presents PulmonaReality, an interactive virtual reality game aimed at young patients to help immerse them into a world that makes pulmonary function tests more enjoyable for the user while providing more reliable results for the examiner. Computer games designed to work with medical tests have been shown to have potential. While there are existing games out there, they are beginning to show their age in comparison to many games played by modern-day patients. The design of our project focuses on usability and enjoyment for young children. In our preliminary user studies, children reported that the system was easy to use with minimal instruction and evoked a sense of wonder when they experienced our different interactive 3D environments.

<https://dl.acm.org/citation.cfm?id=2945164>



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Advanced



Computer Methods and Programs in Biomedicine

Volume 80, Supplement 1, December 2005, Pages S61-S70



Building interactive virtual environments for simulated training in medicine using VRML and Java/JavaScript

D. Koročec , A. Holobar, M. Divjak, D. Zazula

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[https://doi.org/10.1016/S0169-2607\(05\)80007-0](https://doi.org/10.1016/S0169-2607(05)80007-0)[Get rights and content](#)

Summary

Medicine is a difficult thing to learn. Experimenting with real patients should not be the only option; simulation deserves a special attention here. Virtual Reality Modelling Language (VRML) as a tool for building virtual objects and scenes has a good record of educational applications in medicine, especially for static and animated visualisations of body parts and organs.

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Abstract:

<http://docs.lib.purdue.edu/techmasters/30/>

emerging. VR is evermore becoming a hot topic in research and industry and many new and exciting interactive VR content and experiences are emerging. The biggest gap we see in these experiences are social and shared aspects of VR. In this demo we present our ongoing efforts towards



USABILITY STUDY OF DATA VISUALIZATION IN WEBVR

Title	Usability Study of Data Visualization in WebVR
Author(s)	Shivaraman, Raghu
Advisor(s)	Finamore, Troy W.
Keywords	Digital media ; Information technology ; Virtual reality ; Visualization--Data processing
Date	2017-06
Publisher	Drexel University
Thesis	M.S., Digital Media -- Drexel University, 2017

Abstract Virtual reality (VR) is one of the technologies that has slowly and steadily gained popularity in the recent years. Many companies such as Facebook, HTC and Samsung have invested billions of dollars in the production of VR headsets. The analyst team of the multinational finance giant Goldman Sachs predicts that VR/AR technology will have an estimated market value of 80 billion dollars by the year 2025. Most of the applications concerned with virtual reality is related to the entertainment industry. However, some recent works have shown us that VR can be used as an

<https://idea.library.drexel.edu/islandora/object/idea%3A7419>

experience. This project used the Samsung Galaxy S8 as the visualization device and VR Box along with Bluetooth controller as the equipment for viewing and interaction mechanism. The implementation was majorly carried out by collecting the data-set from an online repository called

Fatores técnicos

- Velocidade e boa conexão
- Conteúdo carregado/instalado previamente
- Espaço físico adequado
- Sem distrações

Fatores Humanos

- Nível de educação do usuário
- Idioma
- Habilidades físicas
- Atenção

Brian Chirls - WebVR: Accessibility, Democratization
and the Future of the Immersive Web

<https://www.youtube.com/watch?v=Uw2H4sm8Mds>

Significado



Elements Console Sources Network Performance

```
img class="spotlight" alt="A imagem pode conter: 1 pessoa, sorrindo, em pé, céu, atividades ao ar livre, água e natureza" data-bbox="395 730 645 875" src="https://scontent-gru2-
```

Styles Con

Filter

element.st

width: 0

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Quem sou
Bacharel e mestranda em
Ciência da Computação.

Pesquisadora em Interação
Humano-Computador (IHC) e
Acessibilidade Web.

Professora.

Membro do Grupo de

**mas eu sempre trabalh
de interface foi de inte**

Autoplay

Annotations

Speed Normal >

Subtitles/CC (1) Portuguese (auto-generated) >

Quality Auto 360p >

2:31 / 47:06

CC Settings Full Screen

http://www.planejamento.gov.br

Google




Foto: Gutenberg Cruz

Dados da concessionária Norte Energia, responsável por esta obra do Programa do Crescimento (PAC), mostram que entre os quase 24 mil trabalhadores da hidrelétrica considerada a maior em construção do mundo – as mulheres representam 14,4%, bem mais alto do que o normalmente registrado na construção civil, de pouco mais de 10% atualmente.


Em 2012, a Pesquisa Nacional por Amostragem de Domicílios (PNAD) do IBGE mostrou que entre os 8,3 milhões de trabalhadores da construção, 97,1% eram homens e apenas 2,9% mulheres. No ano seguinte, a PNAD mostrou pequena elevação da participação feminina: os homens passaram a ser de 96,8% e de 3,2%, respectivamente.

A **presença das mulheres na UHE Belo Monte** já foi destacada até pela presidente Dilma Rousseff.

Rayana Morena Sales tem 28 anos, é mineira, engenheira civil e uma das poucas mulheres na UHE Belo Monte há pouco mais de dois anos. Antes ela atuava na construção de uma peanha hidrelétrica, onde era a única mulher. “Aqui a gente vê mulher desde o campo, na armação, carpinteiras, e até na parte de apoio para produção, como [o setor] administrativo comercial. Mas tem muita mulher engenheira que trabalha no planejamento, na fiscalização, no trabalho, no meio ambiente, e na área civil”, conta.

Integrante do setor de controle de qualidade do empreendimento, Rayana recebe o mesmo salário dos homens que ocupam igual posto e nunca sentiu preconceito no trabalho aqui em gente de tudo que é lugar do Brasil. Então, o pessoal acaba sendo todas as diferenças, não só de gênero”, relata.

VLibras Player



22:03 18/03/2015

Dicionário

Categoria selecionada: [meios de comunicação](#)

[⏪ Voltar para Categorias - LIBRAS](#)

Clique em uma palavra abaixo:

imprimir	informação	Internet	interpretar
jornal	legenda	legenda	ler
LIBRAS	ligar	língua	lista
listar	livro	marketing	mimica
mostrar	movimento	mudar	nota
notícia	Oi	opinião	palestra
parabéns	pedir	perguntar	programa
proposta	publicar	recado	receber
reclamar	rede	relatório	repetir
responder	resposta	resumo	reunião
revista	sinal	sugestão	TDD

língua 

Categoria:

[corpo humano](#) [educação](#) [meios de comunicação](#)

Contexto:

formas de comunicação





Inglês Português Espanhol Detectar idioma



Português Inglês Espanhol

Traduzir

contra filé



11/5000

against filet



TRADUÇÕES E EXEMPLOS

contra-filé {masculino}

1. **gastronomia**

contra-filé

sirloin steak {subst.} [gastr.]

contra-filé

New York strip {subst.} [gastr.]

contra-filé

strip steak {subst.} [gastr.] [Ing. Amer.]

SOUTH AFRICAN SIGN LANGUAGE ASSISTIVE TRANSLATION

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Meraka Institute
Pretoria, South Africa
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ABSTRACT

We describe a novel approach and practical solution to an interactive sign language machine translation system from English to South African Sign Language. We interface the system with the GNApp application, which is an augmentative and alternative communication front-end, in order to resolve word sense ambiguities. This enhances the correctness of the rule-based translation system. We also argue that the GNApp interface can be applied to assist the South African Sign Language to English translation, without the need for a visual sign language recognition component.

KEY WORDS

Human-computer interface, machine translation, natural language processing, sign language.

1 Introduction

Advances in assistive technologies can bring benefits to daily communication of hearing and Deaf people. Such technologies include voice recognition, voice synthesis, signing avatars and machine translation (MT) [1, 2]. One of the most challenging aspects for assistive sign language tools is to interactively input signs into a computer, as sign languages are visual-spatial languages with no simple textual representation. Sign language recognition systems are still computationally intensive and lack in accu-



Figure 1. The GNApp AAC interface to compose English sentences annotated with POS.

- the AAC interface presents an opportunity to capture sign languages when *word-signs* are associated with input buttons on the various sheets; and

Inclusão

Empatia

Respeito



PORTO
ALEGRE

VIBUS

TREINAMENTO
Respeite o Ciclista

TREINAMENTO
Respeite o Ciclista

RUBIN
1999



Utazás a fűjessé, szimból / daktörvise



MoneyGram
Transfere Parasz



Foto: Flickr - Quinn Dombrowski





◀ ▶ Dezembro ▼ 2011 ▼ [X]

Mo	Di	Mi	Do	Fr	Sa	So
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5	6	7	8	9	10	11
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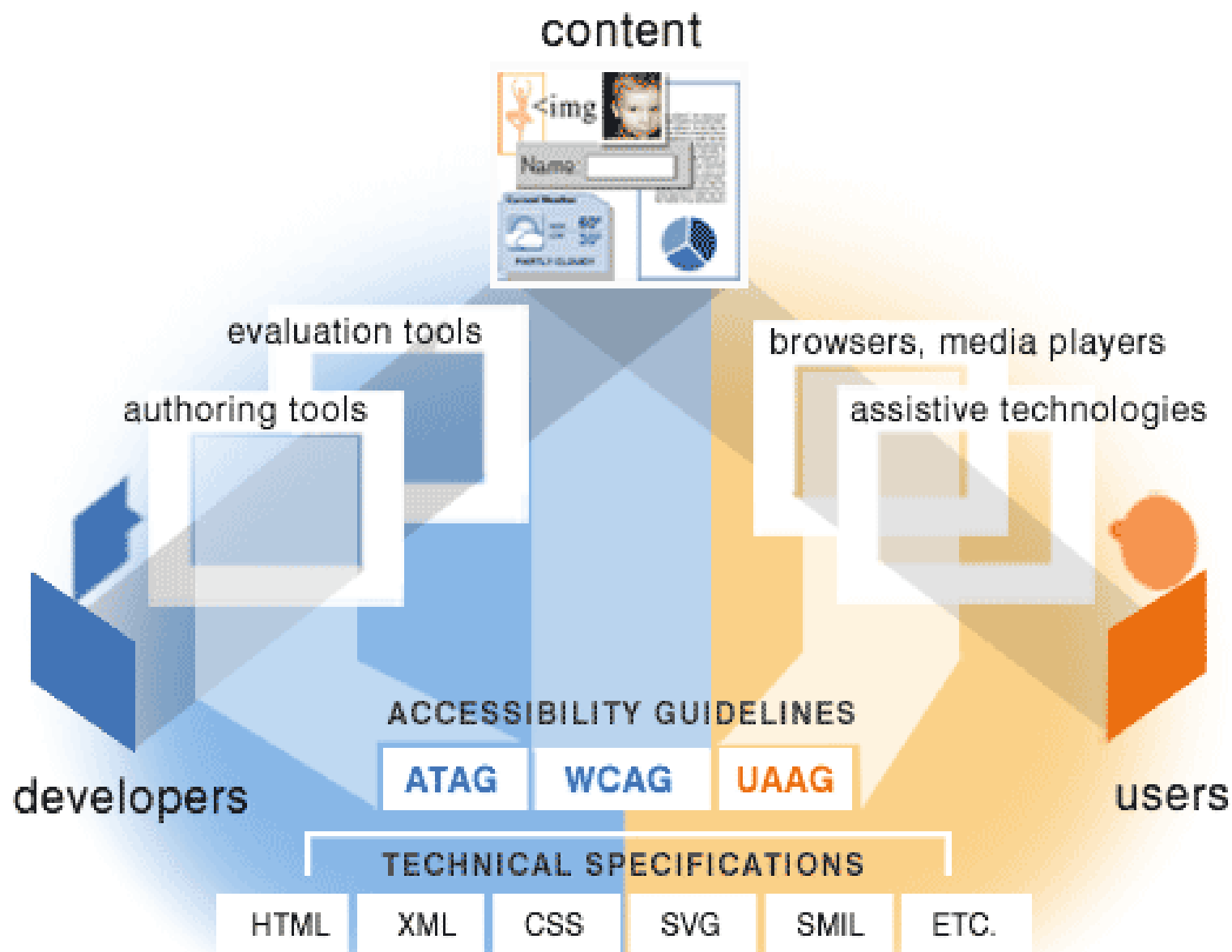
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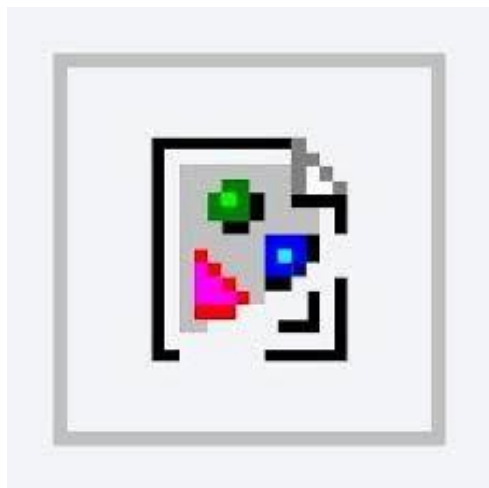
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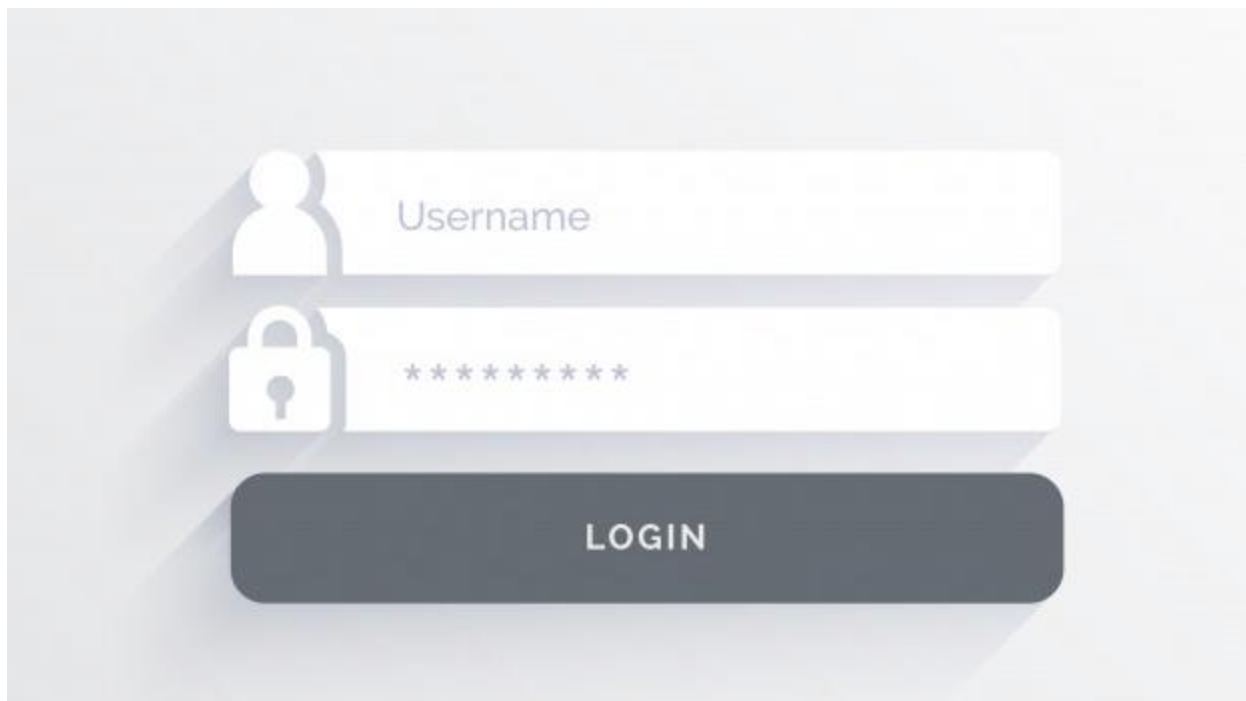
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Facilitar audição e a visualização



A minimalist login form illustration on a light gray background. It features three main elements: a white rounded rectangular input field for the username with a person icon on the left and the placeholder text 'Username'; a second white rounded rectangular input field for the password with a padlock icon on the left and ten asterisks for masking; and a dark gray rounded rectangular button with the text 'LOGIN' in white capital letters.

Imagem por Starline - Freepik.com

Facilitar audição e a visualização

Protanopia

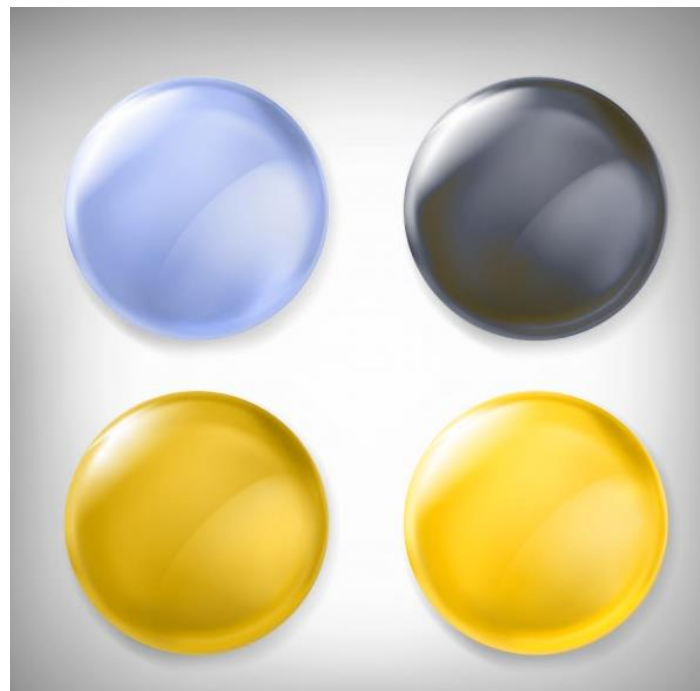
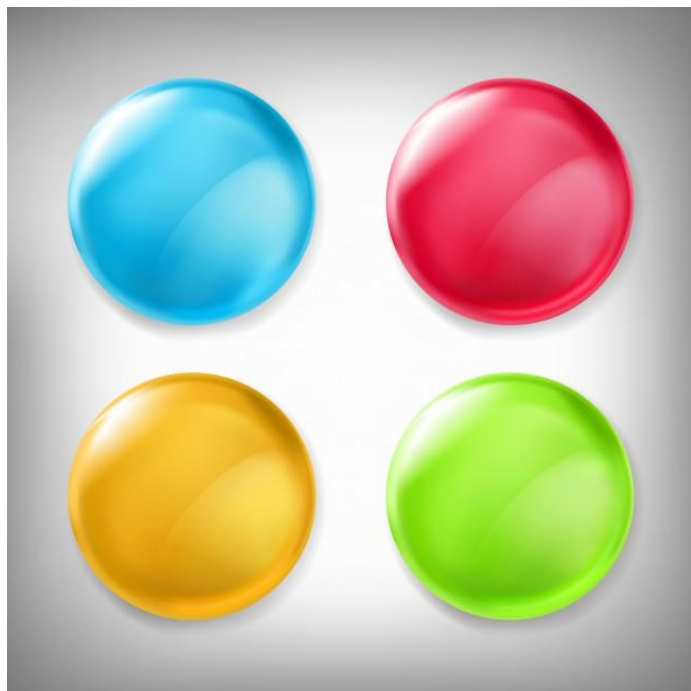


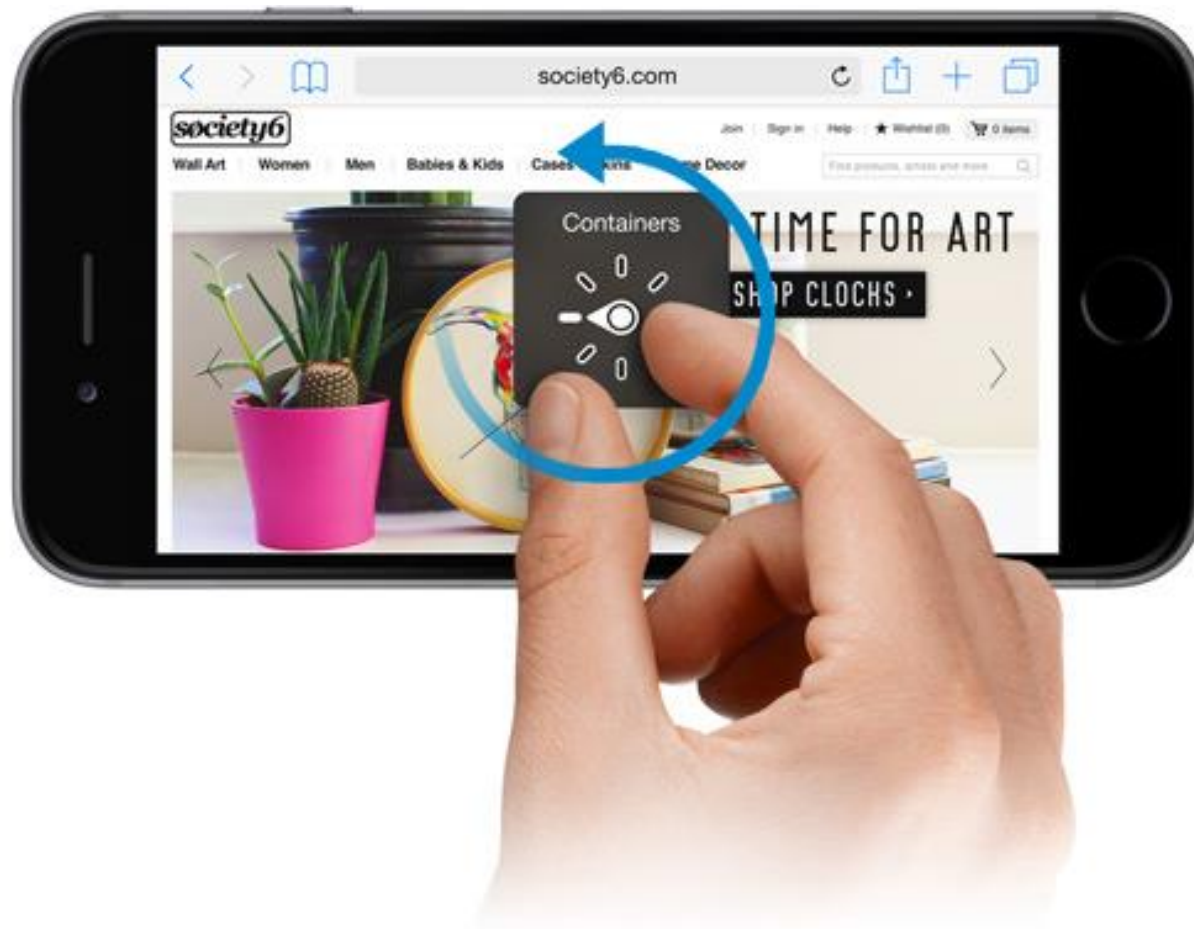
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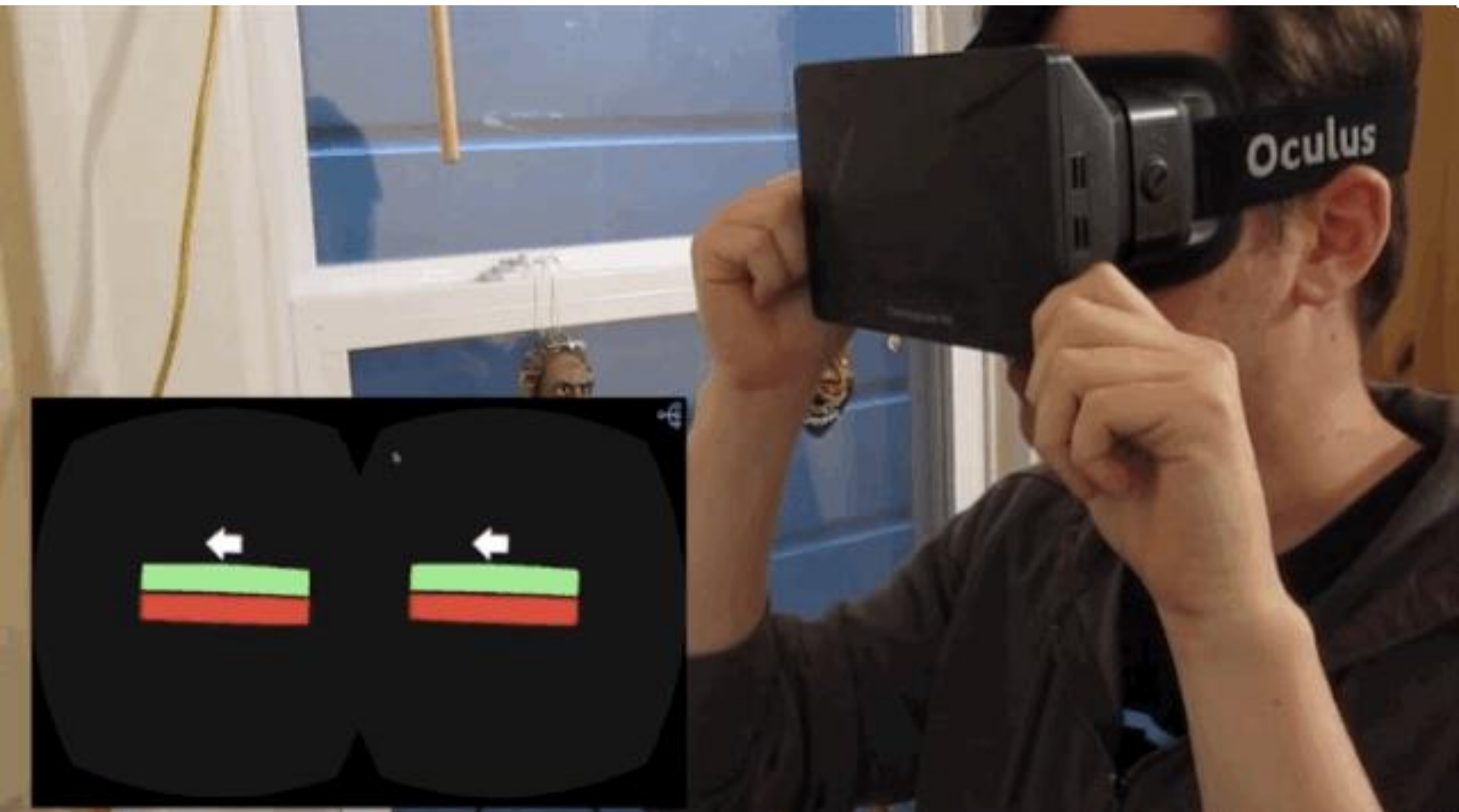


Imagem por Freepik.com

Funcionalidade disponível por teclado



Funcionalidade disponível por teclado



Não criar conteúdo que cause convulsões



“O poder da web está em sua universalidade. Acesso para todos, independente de deficiência, é um aspecto essencial”

Tim Berners-Lee

Obrigado

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