

# WEB FUNDAMENTALS

Carmen Noblejas  
Hector Ruíz  
Lucian Andrei Negoita  
Adrán Mompó  
Lorenzo Ramírez  
Amable Aguilar



# TABLE OF CONTENTS

01

Introduction

02

Fundamentals of Web  
Design

03

Web Accessibility

04

Loading Speed and  
Performance

05

Interaction of the User

06

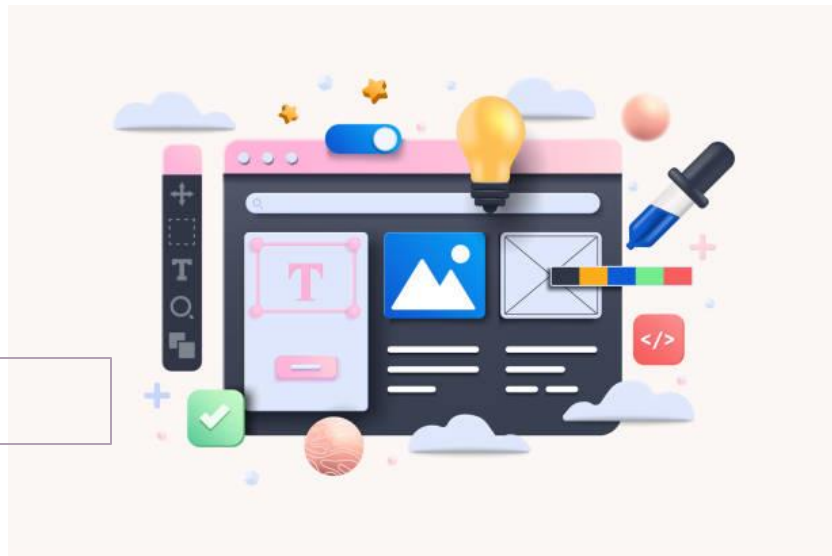
Evolution and Continuous  
Improvement

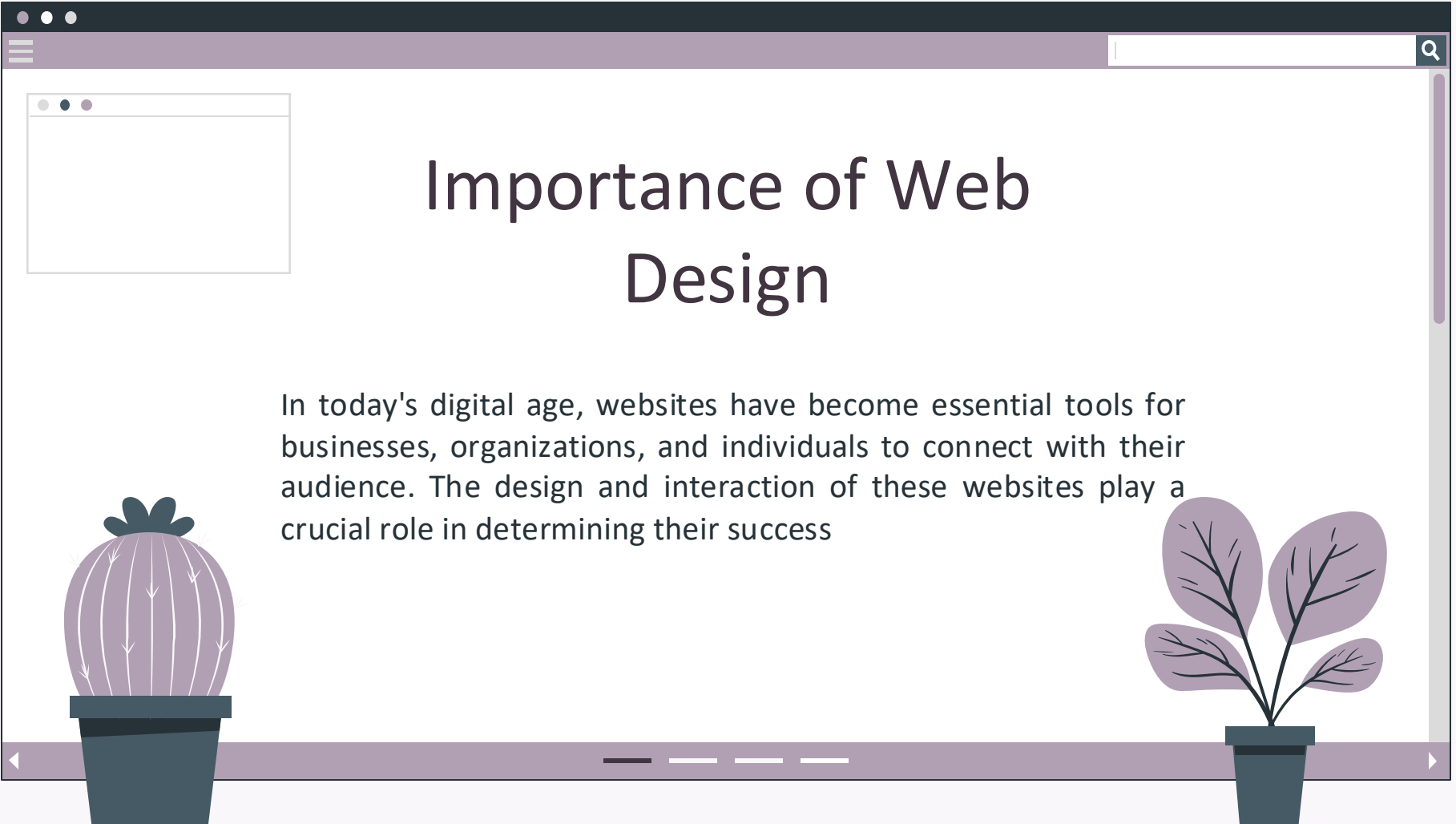


01

# INTRODUCTION

Importance of web desing and interaction





# Importance of Web Design

In today's digital age, websites have become essential tools for businesses, organizations, and individuals to connect with their audience. The design and interaction of these websites play a crucial role in determining their success

# Why Is It So Important?

## Brand Identity

A website's design is often the first impression users have of a brand.

## Accessibility

Proper design ensures that websites are usable by people

## User Experience (UX)

Good design and intuitive interactions create a positive user experience

## Information hierarchy

Good design helps organize and present information in a logical, easy-to-navigate manner.

## Performance

Efficient design and interactions contribute to faster load times and smoother navigation.

## Competitive Advantage

In a crowded digital landscape, superior design and interaction can set a website apart from competitors.

02

# Fundamentals of Web Design



# Visual Hierarchy, Consistency, Spacing and Alignment

## Visual Hierarchy

How the user perceives the importance.

- Size
- Positioning
- Color
- Contrast

## Consistency

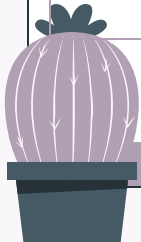
Goal: achieve cohesive user experience

- Typography
- Patterns
- Buttons

## Spacing and Alignment

In order to achieve aesthetics and readability

- Clean design
- Balanced design



# Visual Hierarchy

- How the user perceives the importance.
- Guide users through the website
- Positioning, color , contrast, size.



Poor Visual Hierarchy



Good Visual Hierarchy



**BEFORE**



**AFTER**

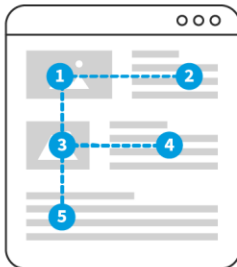




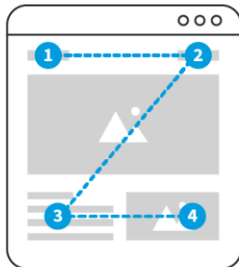
# Consistency

- Achieve cohesive user experience
- Familiar elements that appear repeatedly through the website
- Typography, patterns, colors...

**F-Pattern**



**Z-Pattern**



Interaction Design Foundation  
[interaction-design.org](https://interaction-design.org)

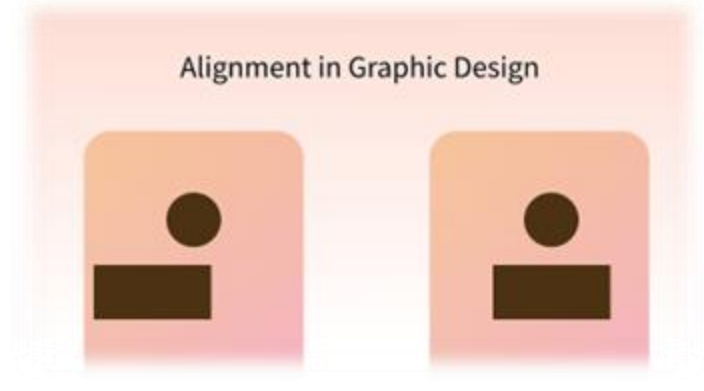
## Typographic Hierarchy

Print, Web & UI Design



# Spacing and Alignment

- Achieve a clean and organized design by including white spaces properly
- Achieve balanced and professional design by aligning text and elements



03

# Web Accessibility

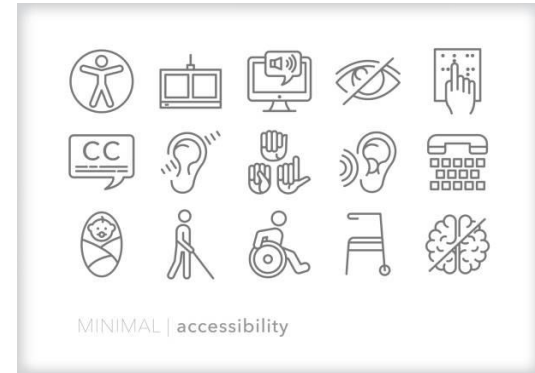


# In this day and age web pages have millions of users

Everyone with their own problems and limitations.

For example:

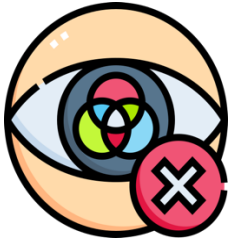
1. Color blindness
2. Deafness
3. Vision Problems
4. Cognitive Disabilities



When we want this type of people to have access to our website is when we consider the concept of **accessibility**.

# So... What is accessibility??

It is providing these users with a solid experience, a experience that takes into account their context and disabilities whether they are situational, temporary or permanent.



5% of users have color-blindness



20% of users have visual problems



5% of users have hearing problems



15% of users have cognitive problems

The range is broader than we might initially think!!!!



Here are some of the main points we can keep in mind to make a website more accessible for all users :)

# Well organised structure and navigation

- Good use of html semantics help users to get more familiar with the web functionalities and help screen readers used by blind people

```
<h1>Navigation Demo</h1>
<ul>
<li> <a href=/home>Home</a></li><li> <a href=/about-us aria-current="page">About us</li>
<a /contact>Contact
<li><a href=/pricing >Pricing</a></li>
</ul>
```



## Navigation Demo

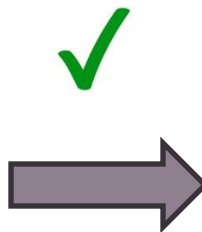
- [Home](#)
- [Contact](#)
- [Pricing](#)

# Well organised structure and navigation

- Good use of html semantics help users to get more familiar with the web functionalities and help screen readers used by blind people

```
<h1>Navigation Demo</h1>

<ul>
  <li>
    <a href="/home">Home</a>
  </li>
  <li>
    <a href="/about-us" aria-
current="page">About us</a>
  </li>
  <li>
    <a href="/pricing">Pricing</a>
  </li>
  <li>
    <a href="/contact">Contact</a>
  </li>
</ul>
```



## Navigation Demo

Home About us Pricing Contact





# Good use of color

- Good color contrast
- Good palette
- Customization or Color blind filters
- Avoid transmitting information just with color

Contrast ratio

4.27:1

3.16:1

2.31:1

1.72:1

1.3:1

The quick brown fox jumps over the lazy dog again

THIS  
IS GOOD  
CONTRAST

THIS  
IS BAD  
CONTRAST



# Appropriate Typography

- Adapt size to users age and necessities
- Use a readable typography
- Give a customize option



Accessible

Comic Sans:  
bad dad on no Illinois

Verdana:  
bad dad on no Illinois

Helvetica:  
bad dad on no Illinois



Not accessible

*Aquafina Script:*  
*bad dad on no Illinois*

**Uncial Antiqua:**  
bad dad on no Illinois

*Henry Penny:*  
bad dad on no Illinois

**BERKSHIRE HATHAWAY INC.**  
3555 Foreman Street  
Omaha, NE 68131  
Official Home Page

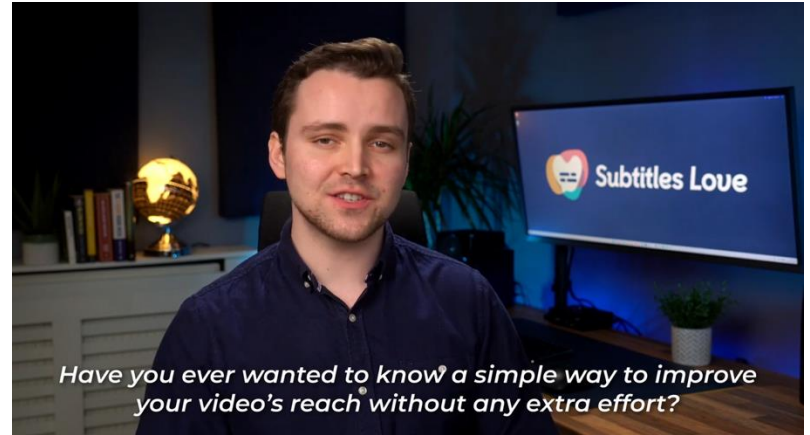
- [A Message from Warren E. Buffett](#)  
Updated April 30, 2022
- [Annual & Interim Reports](#)  
Updated April 30, 2022
- [Link to SEC Filings](#)
- [Special Letters from Warren & Charlie RE: Past, Present and Future](#)
- [Links to Berkshire Subsidiary Companies](#)
- [Corporate Governance](#)
- [Sustainability](#)
- [Information Regarding Warren E. Buffett's Annual Contributions to Five Foundations](#)
- [News Releases from Berkshire Hathaway and from Warren Buffett](#)  
Updated April 30, 2022
- [Annual Meeting Information](#)  
Updated March 22, 2022
- [Berkshire Hathaway Energy - 2021 Investor Presentation](#)
- [Warren Buffett's Letters to Berkshire Shareholders](#)  
Updated February 28, 2022
- [Charlie Munger's Letters to Wesco Shareholders](#)
- [Celebrating 50 Years of a Profitable Partnership](#)  
(A commemorative book first sold at the 2011 Annual Meeting and now for sale on eBay.)
- [Common Stock Information](#)
- [Facts Regarding Berkshire's 2021 Investments in Activision Common Stock](#)

# Enriched Multimedia

- Avoid too dynamic or blink multimedia
- Use images with descriptions and subtitled videos



Bandstand in modernist style, inside the fair circle. (1912)



# Make all options accessible via keyboard

Some users are unable to use a mouse due to tremors, paralysis, use of assistive technologies... Tab is their best friend !!!



## Navigation Demo

Home About us Pricing Contact

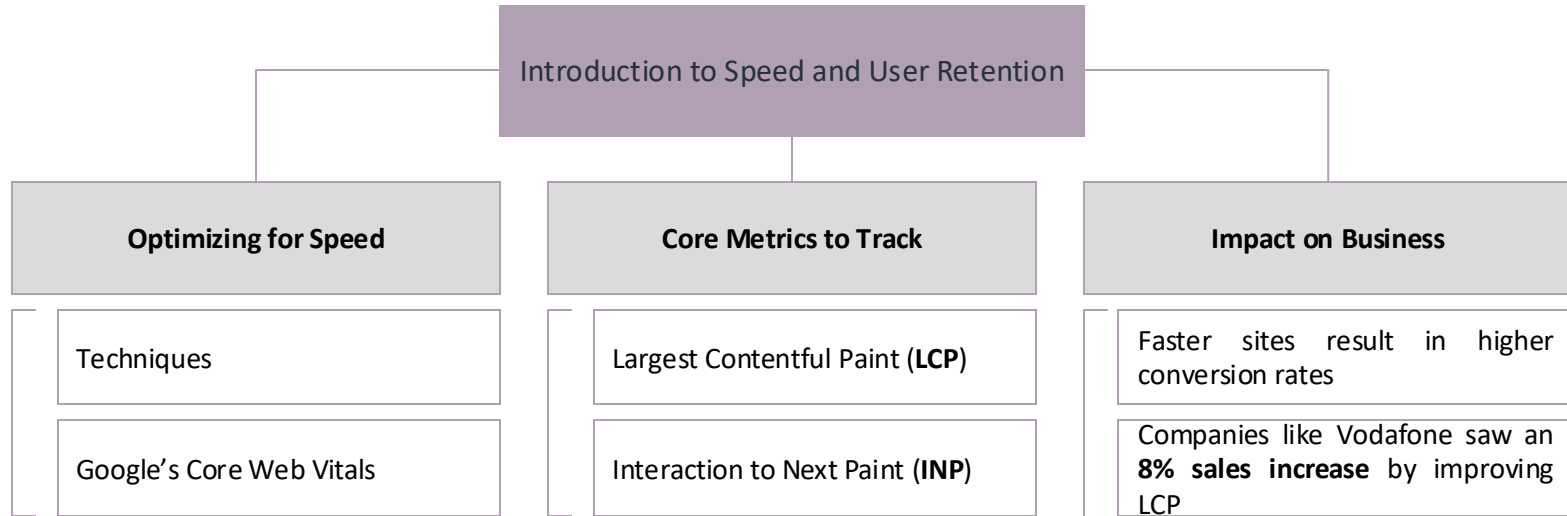
Is important to reflect it clearly on the web !!

04

# Loading Speed and Performance



# Loading Speed and Performance



# Fast load times and Core Web Vitals



## Speed

- Is not a single moment but an experience
- Traditional metrics (e.g., **load time**) don't capture the full experience



## Key Metrics

- **Time to Interactive (TTI)**
  - **Speed Index**



## Custom Metrics

- Pinterest's **Pinner Wait Time**
- Simplified reporting with **Lighthouse** scores



# Time to First Byte (TTFB) Optimization

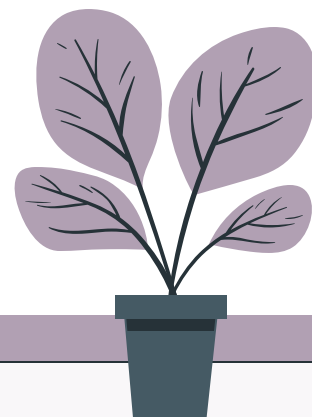
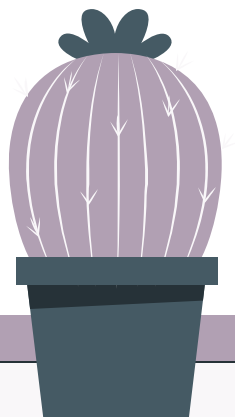
## TTFB

Time To First Byte



Measures the time from when a user makes a request to when the first byte of data is received.

**Lower is better, but does it matter?**





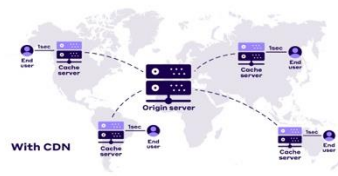
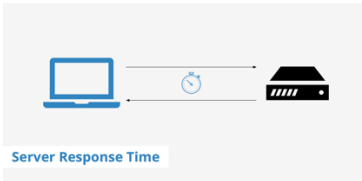
# TTFB Optimization

## Optimization tips

Server Processing Time

Use CDNs

Implement caching strategies



# Resource Preloading and Optimization



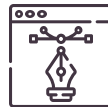
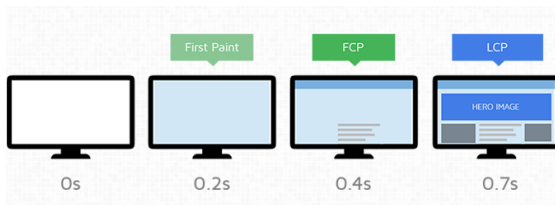
## Code Splitting

Javascript in smaller bundles



## Faster page load

Largest Contentful Paint  
Interactivity



## How?

- Webpack
- Rollup



05

# User Interaction



# Importance of Interactive Elements

## Guiding User Behavior

Reducing errors

Visual Cues

Improves user efficiency

## Providing Immediate Feedback

Reducing frustration

Microinteractions

Enhance sense of control

## Enhancing User Engagement

Navigate Easily

Direct Interaction

Encouraging Exploration

# Best Practices For Elements

## Consistency

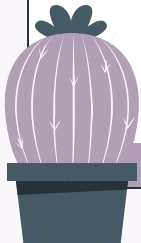
Keep the design of the elements consistent across the site in terms of color, size, and style

## Responsive Layouts

Make sure all elements are easy to interact with enough space

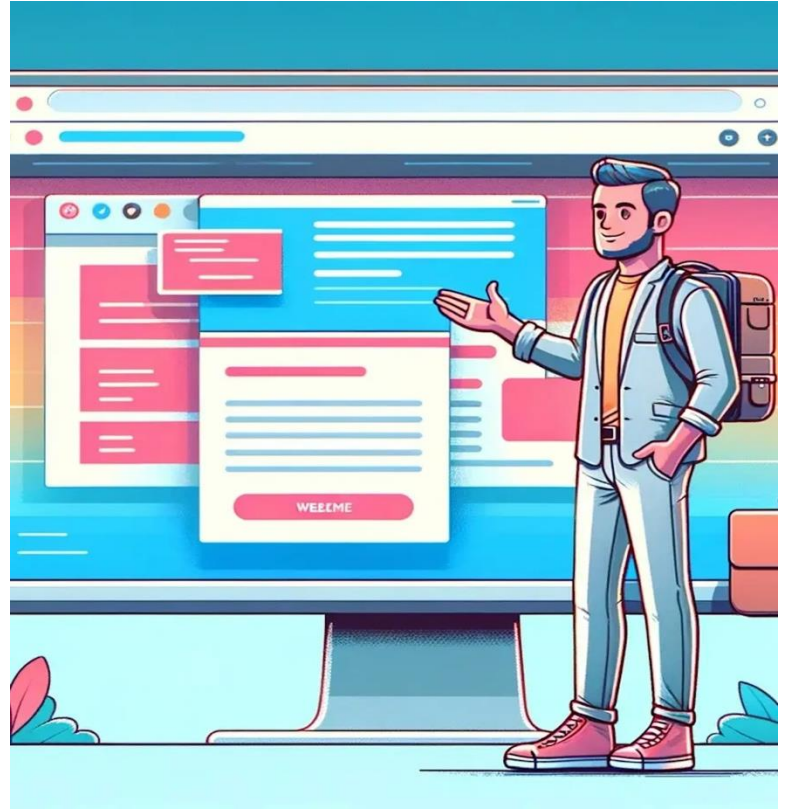
## Touch-Friendly Design

Make sure that the elements work well on all screen sizes with responsive design



06

# Evolution and Continuous Improvement



# Measuring the user interaction of a website

- Measure user engagement: metrics such as clicks, scrolls, page views...
- Then identifying issues (high bounce rates, abandoned shopping carts) and improving UX.



To achieve this, there are platforms that collect data from the websites and apps to create reports that provide insights into your business or organization. One example of this is Google Analytics.

# The tools to measure user interaction:



1.

**CREATE A GOOGLE ANALYTICS  
ACCOUNT.**

2.

**ADD A SMALL PIECE OF JAVASCRIPT  
MEASUREMENT CODE TO EACH PAGE.**

3.

**INFORMATION IS ORGANIZED AND  
PROCESSED INTO REPORTS AND  
STORED INTO A DATABASE.**

4.

**WE CAN THEN USE THE INFORMATION  
OF THE DATABASE TO IMPROVE THE  
WEBSITE IN THE MOST EFFECTIVE WAY  
POSSIBLE.**





# Improving a website

## Improving ✨

The website must be improved after thoroughly analyzing its shortcomings. This will help maintain high user engagement and satisfaction over time.

## Iterating 🔄

The digital landscape is constantly evolving.

### Iterative approach:

This approach should be repeated the needed number of times, as continuous optimization is an ongoing process that should be embraced to ensure sustainable growth and success online.

# BIBLIOGRAPHY

- Koshti, A. (2024, 16 abril). *The Role of Visual Hierarchy in Effective Web Design*. E2M Solutions. <https://www.e2msolutions.com/blog/visual-hierarchy-in-web-design/#:~:text=Visual%20hierarchy%20in%20web%20design%20is%20all%20about%20arranging%20elements,understand%20where%20to%20look%20next>.
- Influence, S. (2023, 1 febrero). *Developing a strategic and cohesive website for small businesses: A guide to an improved online presence*. Social Influence Web And Digital Lab. <https://social-influence.co/developing-a-strategic-and-cohesive-website>
- *Productos y herramientas para el desarrollo web: Google for Developers*. (s. f.). Google For Developers. <https://developers.google.com/focus/web-development?hl=es-419>
- Google Developers. (s.f.). ¿Qué es la velocidad del sitio? <https://web.dev/articles/what-is-speed?hl=es-419>
- Google Developers. (s.f.). Optimización del TTFB. <https://web.dev/articles/optimize-ttfb?hl=es-419>
- Google Developers. (s.f.). Reducir las cargas de JavaScript con la división de código. <https://web.dev/articles/reduce-javascript-payloads-with-code-splitting?hl=es-419>
- Objetivos táctiles accesibles. (2020, 31 marzo). web.dev. <https://web.dev/articles/accessible-tap-targets?hl=es>
- Conceptos básicos del diseño | web.dev. (s. f.). web.dev. <https://web.dev/learn/forms/design-basics?hl=es-419>



*That's all Folks!*