



COMP1710/6780

Web Development and Design

Week 7 17-21 April 2023



Apologies

Assignment pt 1 marks delayed

Should be available tomorrow but definitely
by Thursday



Final exam date

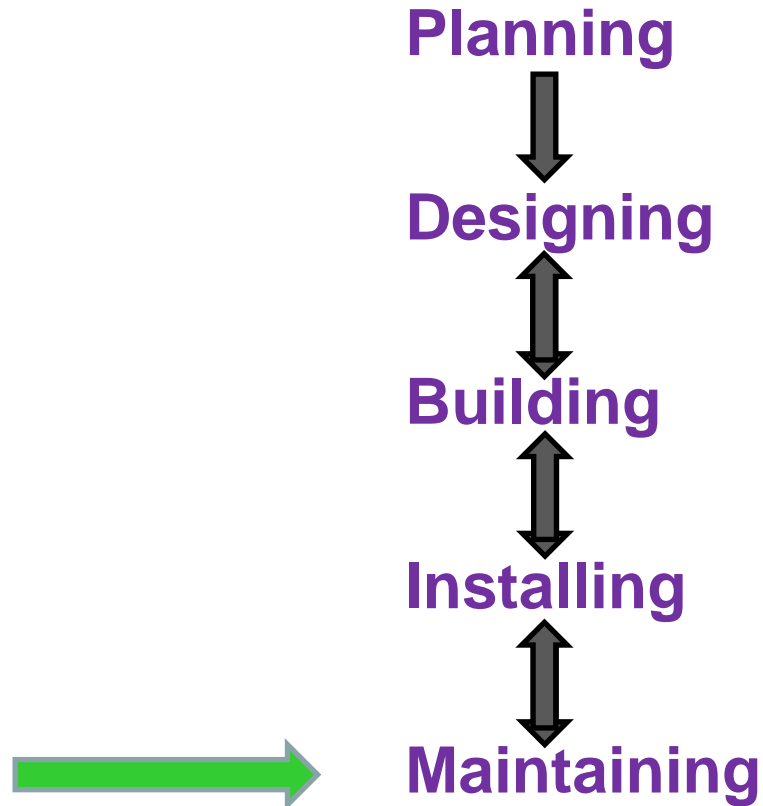
The final exam date has been set and at present is scheduled for:
Wednesday 14th June 2023 9:30am

Please keep in mind that you will need to monitor the Examinations schedule (<https://exams.anu.edu.au/timetable/>) for any changes.

This is your responsibility (though we will try to give you notice if we see a change)

We will be using Proctorio. You will have 15 minutes reading time and 120 minutes writing time. You can bring one A4 page with notes on both sides, Unannotated paper-based dictionary (no approval required),

Reminder from Week 2



Maintaining – some indicative questions to consider

- Monitor your site – who is visiting? how many? how long do they stay?
- Consider Search Engine Optimization (SEO)
- Fix problems
- Keep fresh

A note about SEO “According to our research, 24 website characteristics came up as factors affecting any website’s [Google] ranking, with the most references mentioning quality and quantity of backlinks, social media support, keyword in title tag, website structure, website size, loading time, domain age, and keyword density.”

Ziakis, C.; Vlachopoulou, M.; Kyrkoudis, T.; Karagkiozidou, M. Important Factors for Improving Google Search Rank. *Future Internet* **2019**, *11*, 32. <https://doi.org/10.3390/fi11020032>

Maintaining – some indicative questions to consider

- **Monitor your site – who is visiting? how many? how long do they stay?**
- **Consider Search Engine Optimization (SEO)**
- Fix problems
- Keep fresh

A note about SEO “According to our research, 24 website characteristics came up as factors affecting any website’s [Google] ranking, with the most references mentioning quality and quantity of backlinks, social media support, keyword in title tag, website structure, website size, loading time, domain age, and keyword density.”

Ziakis, C.; Vlachopoulou, M.; Kyrkoudis, T.; Karagkiozidou, M. Important Factors for Improving Google Search Rank. *Future Internet* **2019**, *11*, 32. <https://doi.org/10.3390/fi11020032>

We will discuss



Web Analytics



WHAT



Uses of data



WHY



Search Engine Optimization



HOW

WEBDEVELOPMENT STATS





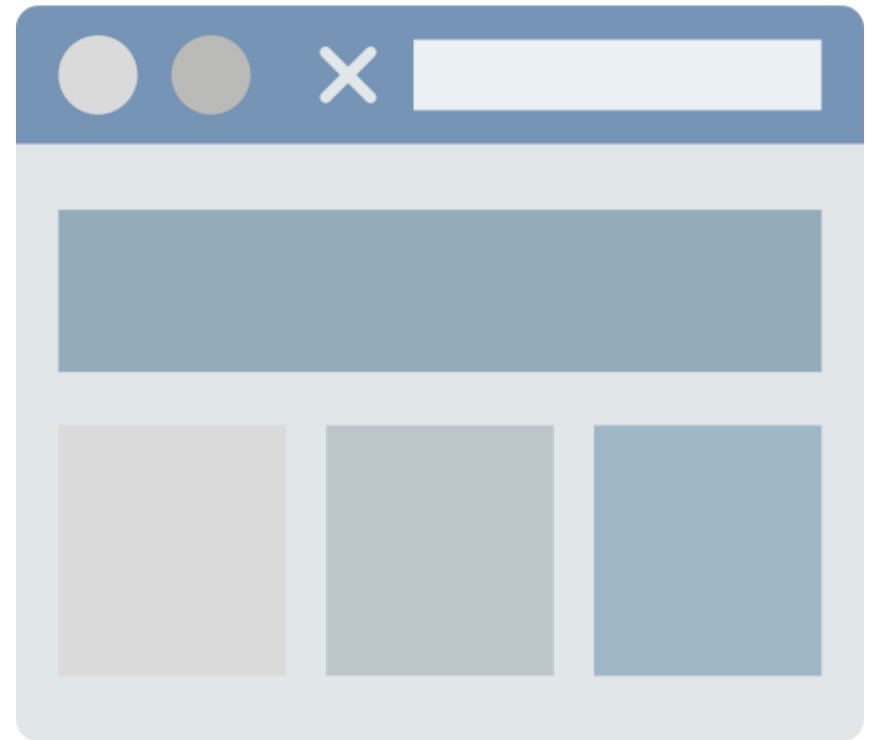
When you think of website analytics, what kinds of statistics do you think of?



WEBDEVELOPMENT STATS

Most visited pages

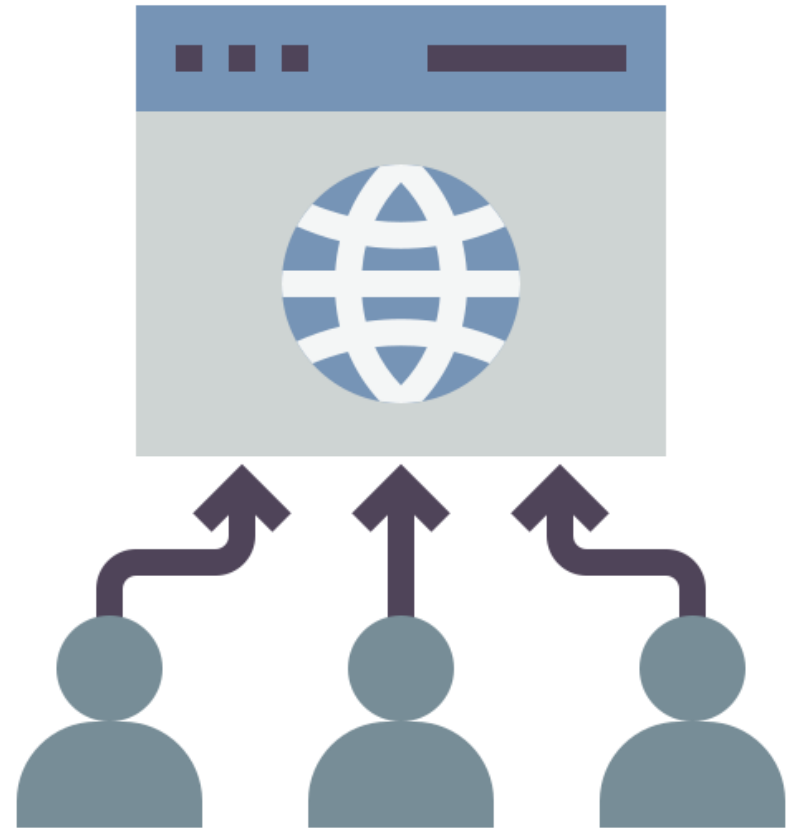
- Page views
- Path navigation



WEBDEVELOPMENT STATS

Traffic sources

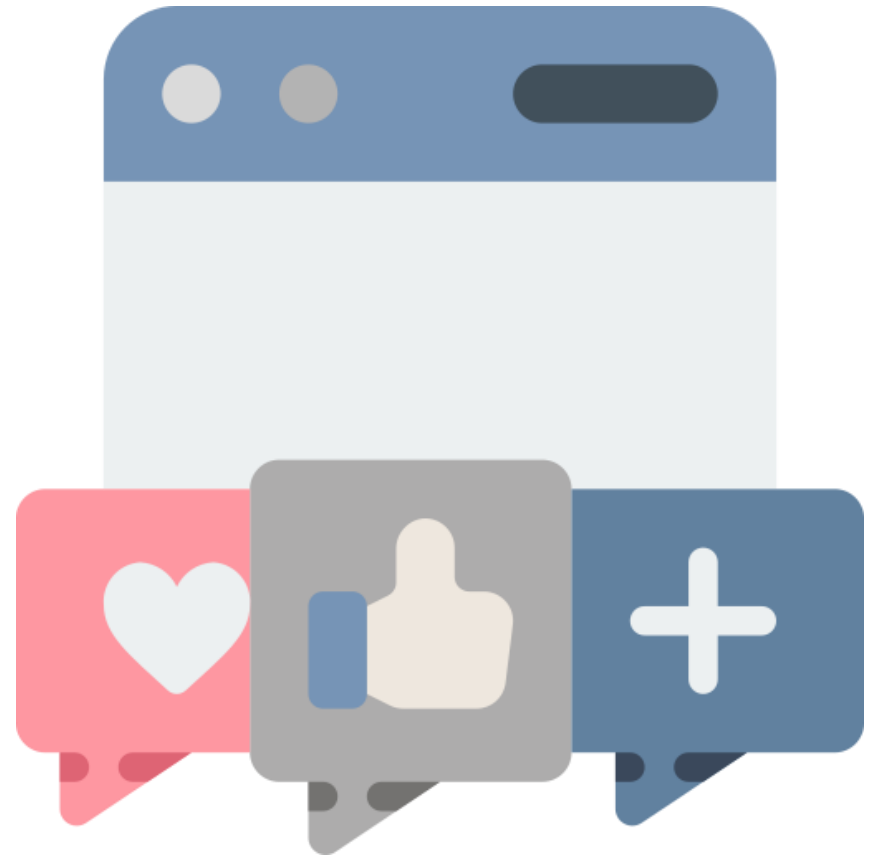
- Search
- Websites
- Social media
- Direct link



WEBDEVELOPMENT STATS

Engagement

- Returning visits
- Visit length
- Downloads
- Clicks
- Page-scrolls



WEBDEVELOPMENT STATS

System Stats

- Browsers
- Platforms
- Operating System
- Screen Resolution



WEBDEVELOPMENT STATS

Locations

- Country
- IP address



WEBDEVELOPMENT STATS



Google Analytics

Get started

WEBDEVELOPMENT STATS



Google Analytics

Visualize your data

WEBDEVELOPMENT STATS



Google Analytics

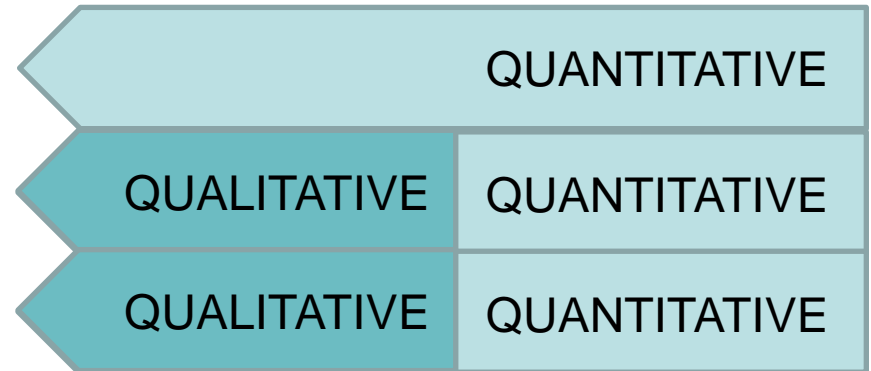
Demo accounts

WEBDEVELOPMENT STATS

- Web analytics tools
- Market Research
- User Research
 - User Testing
 - Surveys
 - A/B testing

WEBDEVELOPMENT STATS

- Web analytics tools
- Market Research
- User Research
 - User Testing
 - Surveys
 - A/B testing



USES OF DATA





How can you use your data about your website?



USES OF DATA

Data processing

- Metrics
- Classification
- Targets
- Insights
- Communication
- Strategies
- Decisions

Let your data
tell a story

Have you met
your goals?

Why?

How can you
improve?

Provide INSIGHTS with DATA

SEO and web statistics – let's unpack this

- Monitor your site – who is visiting? how many? how long do they stay?
- **Consider Search Engine Optimization (SEO)**
- Fix problems
- Keep fresh



Do you think SEO is important?



Search Engines



There are many search engines



DuckDuckGo.

Aol.

But we'll be concentrating on Google

SEO Terms

Crawler (spiders)



I crawl over your website
...to read your content
and follow all your links...

Discovery of data

SEO Terms

Indexing



Then I store and categorize all the information
...in an index.

An index is a database.

Storage of data

SEO Terms

Serving SERP



I am doing all that hard work
so that the search engine can
show you what I found
on the Search Engine Result Page

Displaying ranked search results

SEO Terms

SERP

- First listing in SERP (Search Engine Results Page) provides a 30% click through rate
- Second listing in SERP provides a 16% click through rate
- Third listing provides a 10% click through rate
- Listings on page 2 etc. of SERPs provide < 2% click through rate



SEO

Ranking factors - Google

Backlinks



Social Media



Title tag &
Keyword density



Website
Structure



Size &
Loading time



Domain age

SEO

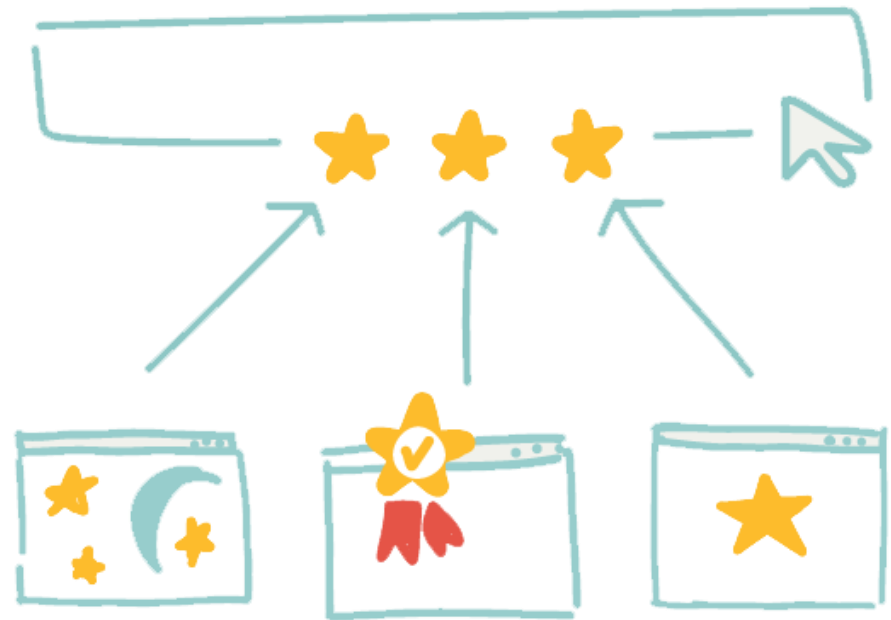
Backlinks



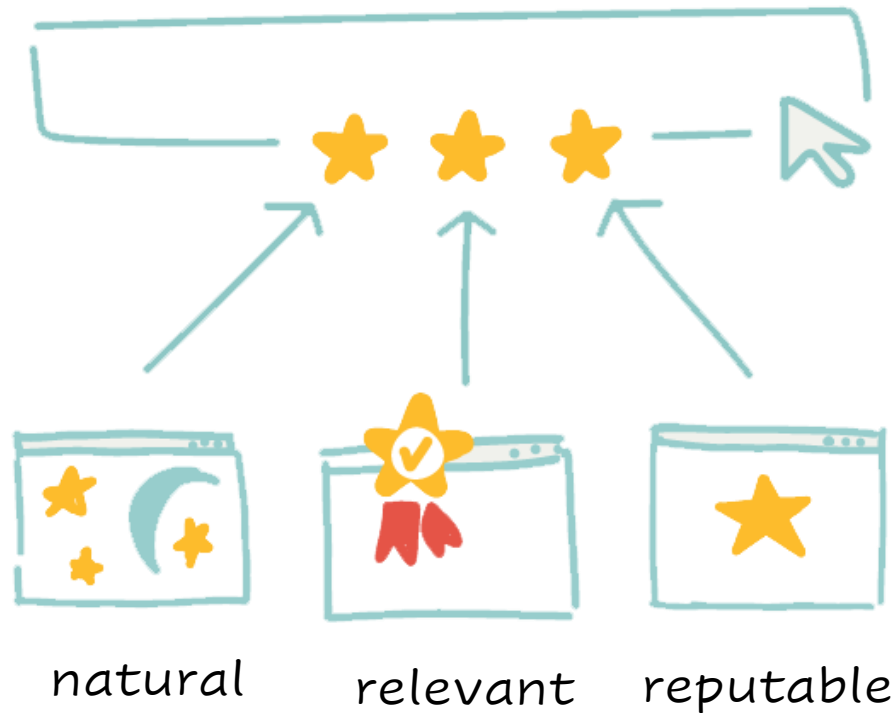
Links pointing from other websites to your website

Google treats them as 'VOTES'

High-quality sources
Increase credibility of that vote



SEO Backlinks



SEO Backlinks



Elements of a Backlink

```
<a href="https://victoriousseo.com/seo-company-san-francisco/">San Francisco SEO Company</a>
```



1 START OF LINK TAG

2 DESTINATION URL

3 ANCHOR TEXT

4 END OF LINK TAG

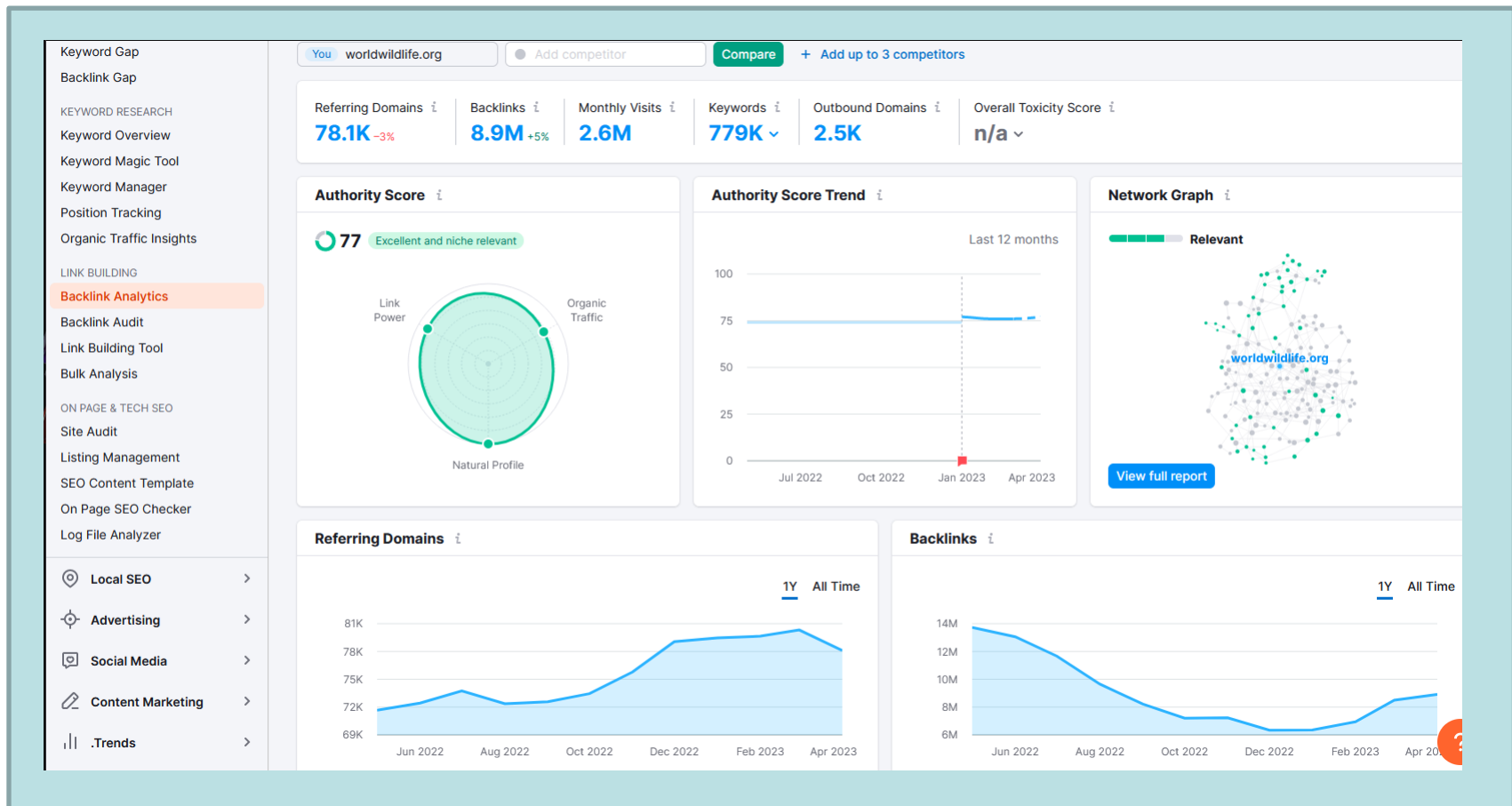
Helps You Determine The Scalability Of Your Websites And Applications

Scalability is a big component of a business's prosperity. For a business to prosper, it must be scalable. The same applies to websites and applications. For instance, take a video streaming website, it must be able to handle the usual daily demands of its customers. When there is a new release, and there are likely to be many customers visiting the streaming website, it should be able to cater for the increased demand. Additionally, the site should be able to meet the demand of its new clients as the business grows. Load testing helps a business determine the scalability of its online platforms, and you can [learn more here](#).

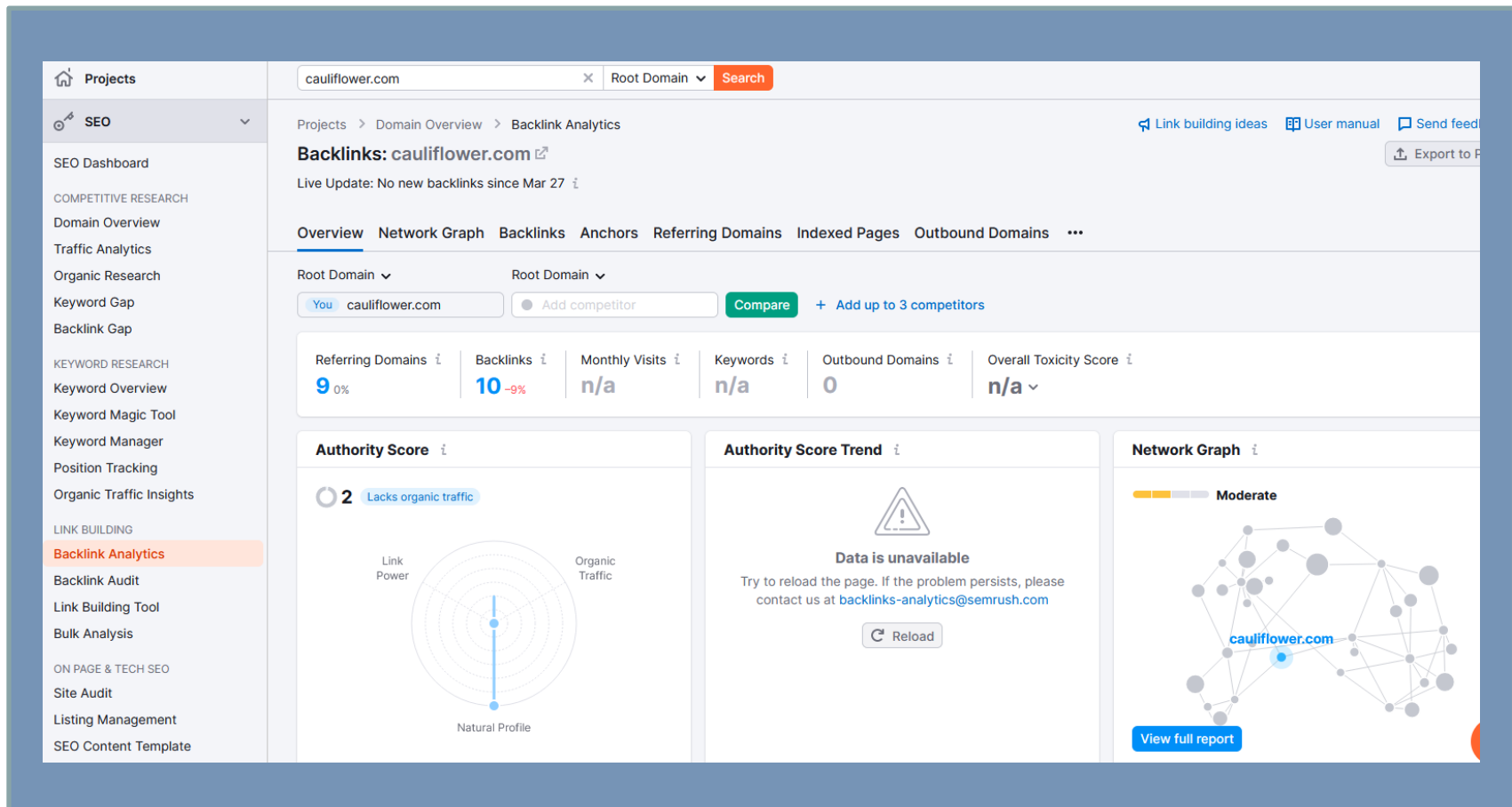


Generic anchor text

SEO Backlinks



SEO Backlinks

The screenshot displays the Semrush Backlink Analytics dashboard for the domain **cauliflower.com**. The interface includes a left-hand navigation menu with categories like Projects, SEO, Competitive Research, Keyword Research, and Link Building. The main content area shows the domain overview with a search bar and a 'Root Domain' dropdown. Below this, a table of key metrics is presented:

Referring Domains	Backlinks	Monthly Visits	Keywords	Outbound Domains	Overall Toxicity Score
9 0%	10 -9%	n/a	n/a	0	n/a

Below the metrics, there are three main sections:

- Authority Score:** A radar chart comparing 'Link Power' and 'Organic Traffic' against a 'Natural Profile'. The score is 2, with a note 'Lacks organic traffic'.
- Authority Score Trend:** A section indicating 'Data is unavailable' with a warning icon and a message to reload the page or contact support at backlinks-analytics@semrush.com.
- Network Graph:** A visual representation of the backlink network, showing connections between various domains. A 'View full report' button is available.

SEO Social Media



*...social media links count
as much as a
single drop in an ocean.*



BUT



SEO Social Media



...social media comes in handy..

*...not because
SEs will rank you better...
because you market your content*



SEO Keywords



Keyword in URL	Must be related to the content of the website
	Should be short and understandable
Keyword in heading tags	Higher ranking
Keyword in meta description tag	The text that shows in the search result just below the link
Keyword length in title	Up to 70 characters
Keyword length in description	Up to 155 characters
Keyword density in text	Should not negatively impact readability

SEO

Keywords



Text length of content

Richer content contains more targeted keywords

Unique, high-quality content

Increases chances of higher ranking in searches for related keywords

Alt text

Helps to index images and videos

SEO

Website Structure



Clear navigation system

HTML navigation bar

Complementary to
Javascript frames/buttons

allows traceability by search
engines



SEO

Website Structure

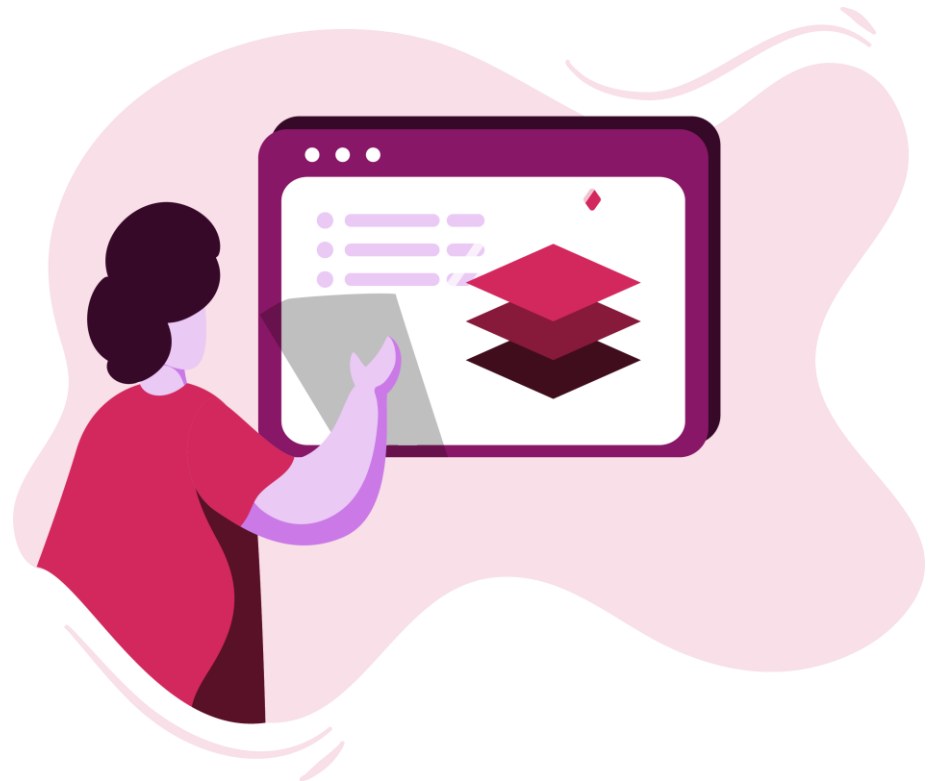


Clear website structure

Less than four layers

Embedding most important
pages, links and titles

into the home page



SEO

Website Structure

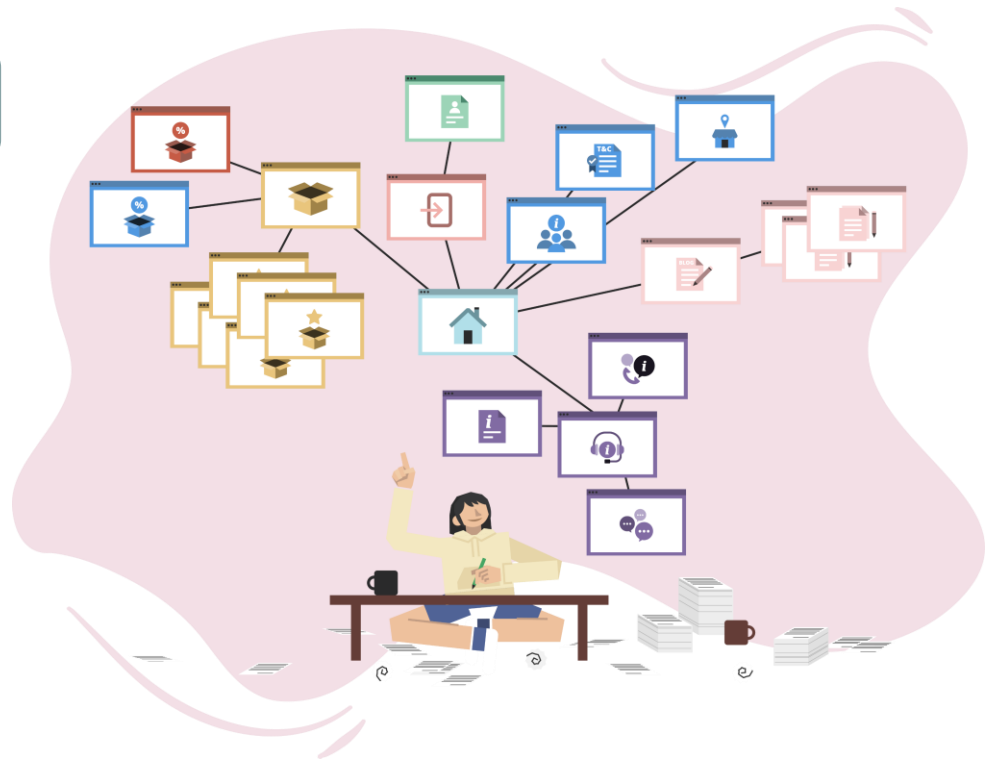


Sitemap

Simple sitemap
Listing all URLs on your
website

helps the crawler to find all
subpages

Makes it easier for search
engines to index the pages



SEO

Website Structure

Sitemap

Simple sitemap
Listing all URLs on your
website

helps the crawler to find all
subpages

Makes it easier for search
engines to index the pages



SEO

Website size

Lots of quality content

More pages

Higher ranking



SEO

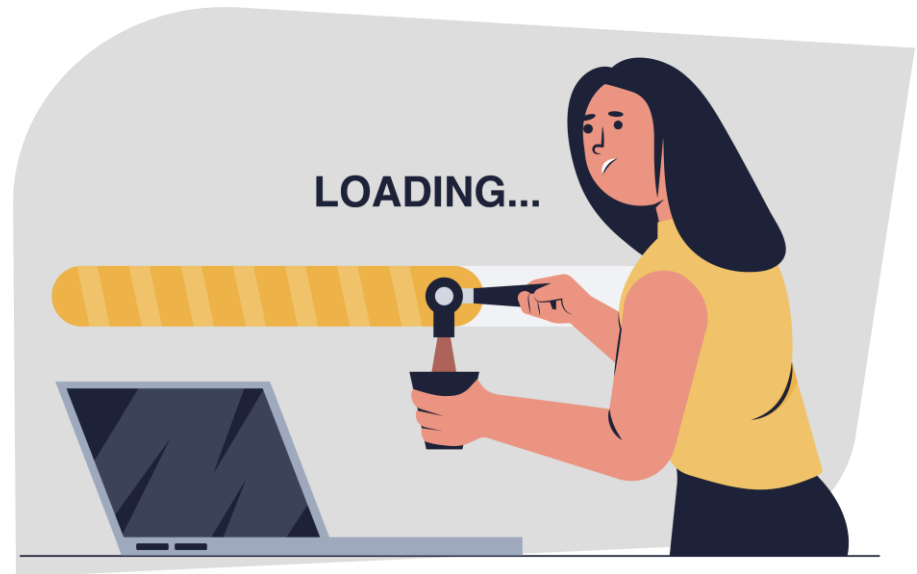
Website loading time



Fast loading

Keep size of images, videos
small

Higher ranking



SEO

Domain age



Older domains

The older a domain

The higher it tends to rank



SEO

Domain age




It's not the age itself that impacts ranking

It's the effort over time

Most important?: quality and quantity of backlinks, social media support, keyword in title tag, website structure, website size, loading time, domain age, and keyword density.”

Table 2. Averages for each factor.

Seo Factors	Hotel Athens	Email Marketing	Casual Shoes	Average
Keyword in Title Tag	0.0511	0.0000	0.2456	0.0989
Keyword in H1/H2/H3 Tag	-0.5404	-0.2359	0.2107	-0.1885
Keyword Density	-0.0677	0.3049	-0.2364	0.0003
Keyword in URL	-0.5890	-0.1362	-0.2443	-0.3232
Keyword in meta description Tag	-0.0323	-0.0691	0.1809	0.0265
Alt text	0.2270	-0.1745	0.1237	0.0587
Title Length	0.0631	-0.3293	0.0000	-0.0887
URL Length	0.4373	0.4908	-0.2716	0.2188
Text to Code ratio	-0.0094	-0.2253	0.0619	-0.0576
Text Length	-0.4582	-0.2330	-0.1727	-0.2880
Quantity of Backlinks	-0.6771	-0.2914	0.0686	-0.3000
404 Page	0.1745	0.0000	0.2474	0.1406
SSL Certificate	-0.3928	-0.3093	-0.3093	-0.3371
 Sitemap XML	-0.1260	0.2270	0	0.0337
Number of Site Pages	-0.5652	0.0229	-0.1659	-0.2361
Domain Age	-0.4779	-0.1130	-0.2535	-0.2815
Responsive Layout	0.2474	0.0908	0.0000	0.1127
W3C Validation	0.3712	0.0619	-0.3712	0.0206
Bounce Rate	-0.4942	-0.0092	0.1605	-0.1143
Time on Site	-0.5043	-0.0092	0.3499	-0.0545
Loading Time	-0.6444	0.4415	0.2623	0.0198

SEO Periodic table

Ux +4 USER EXPERIENCE Does your site have a user experience that makes your users want to come back and read more? USER	Eg +2 ENGAGEMENT Visitors should spend time with your pages, not bounce. USER	Ac +4 ANCHORS Link anchor text words should be relevant to the destination URL of the link. LINKS	St +4 STRUCTURE Make sure the page's structure is easy for both users and bots to understand. ARCHITECTURE
Tt +5 TITLES Build keywords into your titles. HTML	Hd +3 HEADINGS Build keywords into your headers and subheaders. HTML	ALT +1 IMAGE ALT Alt text for images improves accessibility and image SEO. HTML	Qu +5 QUALITY Pages must be well written and have substantial quality. CONTENT

SEO Periodic table



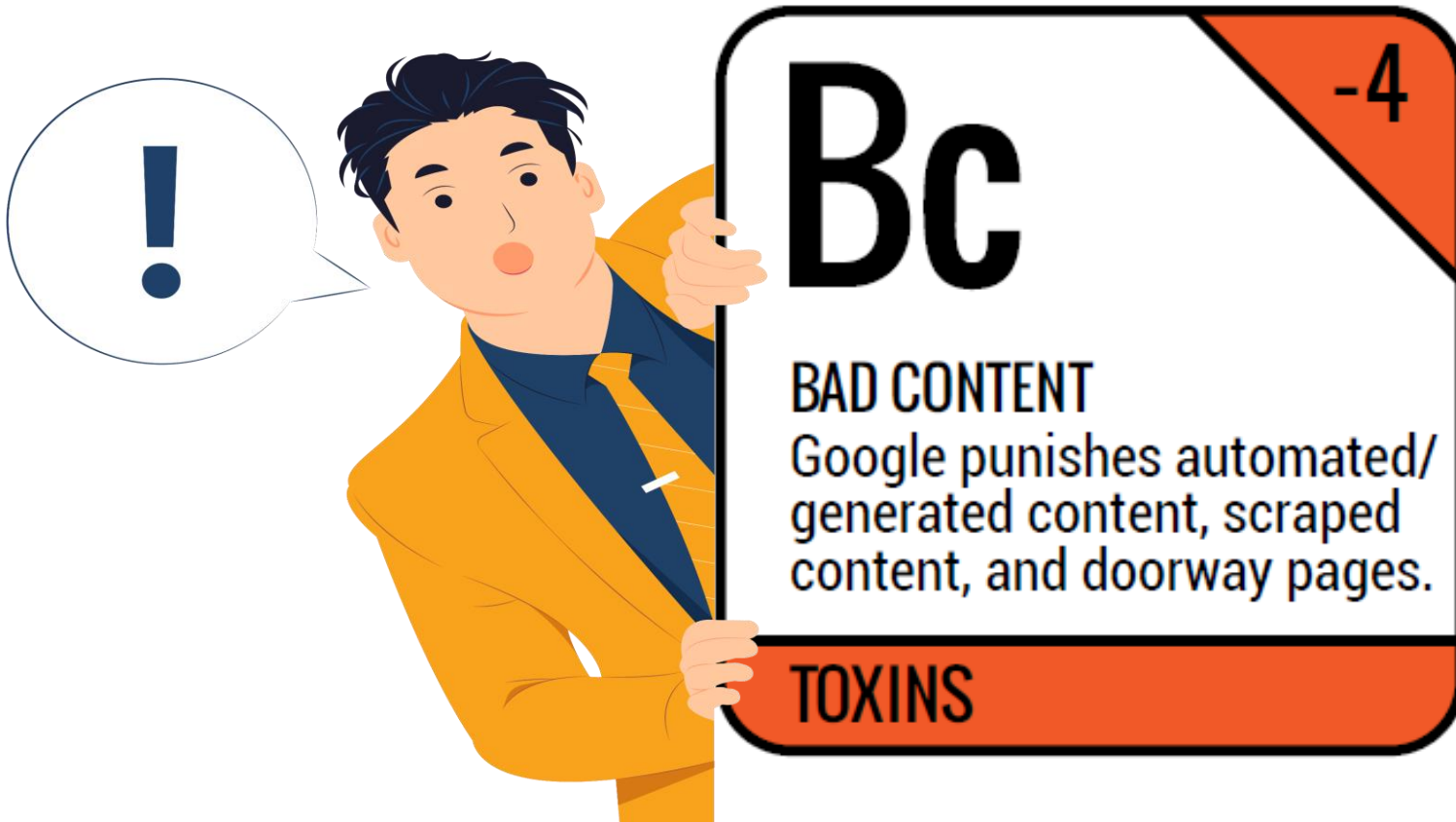
Ux +4 USER EXPERIENCE Does your site have a user experience that makes your users want to come back and read more? USER	Eg +2 ENGAGEMENT Visitors should spend time with your pages, not bounce. USER	Ac +4 ANCHOR TEXT Link text should be relevant to the URL of the page. LINKS	St +4 STRUCTURE The structure of your site should be clear and logical. LINKS
Tt +5 TITLES Build keywords into your titles. HTML	Hd +3 HEADINGS Build keywords into your headers and subheaders. HTML	ALT +1 IMAGE ALT Alt text for images improves accessibility and image SEO. HTML	Q +1 QUALITY Pages must be well written and have substantial quality. CONTENT

SEO Periodic table

Mm +3 MULTIMEDIA Images, video and audio can set your content apart. CONTENT	Sp +2 SPEED Your site should load quickly on any device. Ready for user interaction. (FID) ARCHITECTURE	Ds +2 DESCRIPTIONS Meta tags should describe what pages are about. HTML	Dt +4 DEPTH Shallow content fails. Aim for substance. CONTENT
--	--	---	---

SEO

Watch Out!



SEO

Black hat & White hat



against search engine guidelines

Unethical methods
produce
low-quality content
to increase ranking



follows search engine guidelines

Legitimate approach
produces
high-value content
to increase ranking



SEO

Black hat & White hat



- Keyword stuffing
- Cloaking
- Low-quality content
- Buying links



- Relevant keywords
- High-quality content
- Quality links



SEO

On/off page optimization

On-Page

Mostly focuses on webpage content

Ensures SE understand a page's topic and keywords

Off-Page

Non-content measures

Focused on promoting your site



SEO

Ranking factors - Google

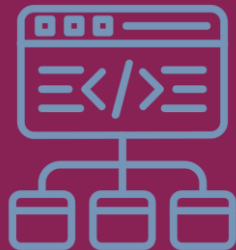
Backlinks



Social Media



Title tag &
Keyword density



Website
Structure



Size &
Loading time



Domain age



Google Search Algorithm

SEO

Google Search Algorithm

E-E-A-T

Experience

Expertise

Authoritativeness

Trustworthiness



SEO Google Search Algorithm History





SEO



Resources

- Tools
 - Google Analytics
 - Back checker
- Literature
 - Ziakis, C.; Vlachopoulou, M.; Kyrkoudis, T.; Karagkiozidou, M. Important Factors for mproving Google Search Rank. *Future Internet* **2019**, 11, 32.
<https://doi.org/10.3390/fi11020032>
 - K. Sellamuthu, R. S, K. K and G. S, "On Page SEO Techniques for Better Ranking in Search Engines," *2022 8th International Conference on Smart Structures and Systems (ICSSS)*, Chennai, India, 2022, pp. 01-06, doi: 10.1109/ICSSS54381.2022.9782182.
 - <https://searchengineland.com/seotable>
 - <https://victoriousseo.com/blog/quality-backlink/>
 - <https://pixelweb.ie/black-hat-seo-strategies-to-avoid/>
 - <https://www.searchmetrics.com/glossary/index/>

Resources

- Literature
 - <https://www.semrush.com/blog/google-search-algorithm/>
 - <https://developers.google.com/search/docs/fundamentals/how-search-works>
 - <https://developers.google.com/search/blog/2022/12/google-raters-guidelines-e-e-a-t>
 - <https://yoast.com/google-algorithm-updates>

Have fun in the labs and...

Notes here about what they are doing (labs/quizzes)

... see you next week!

<https://www.flaticon.com/free-icons/data-collection>

<https://www.flaticon.com/authors/satawat-anukul>

<https://www.flaticon.com/free-icons/seo> Seo icons created by Freepik - Flaticon

Image source: <https://www.vecteezy.com/free-vector/nowruz>

<https://www.flaticon.com/free-icons/content> Content icons created by DinosoftLabs - Flaticon

<https://www.flaticon.com/free-icons/traffic> Traffic icons created by Becris - Flaticon

<https://www.flaticon.com/free-icons/engagement> Engagement icons created by Smashicons – Flaticon

<https://www.flaticon.com/free-icons/cross-platform> Cross platform icons created by Freepik - Flaticon

<https://www.vecteezy.com/free-vector/reporting> Reporting Vectors by Vecteezy

<https://www.vecteezy.com/free-vector/seo> SEO Vectors by Vecteezy

<https://www.flaticon.com/free-icons/hyperlink> Hyperlink icons created by bsd - Flaticon

<https://www.flaticon.com/free-icons/marketing> Marketing icons created by Freepik - Flaticon

<https://www.flaticon.com/free-icons/web-programming> Web programming icons created by smashingstocks - Flaticon

<https://www.flaticon.com/free-icons/site-map> Site map icons created by Vectors Tank - Flaticon

<https://www.flaticon.com/free-icons/location> Location icons created by Freepik - Flaticon

<https://www.flaticon.com/free-icons/web-development> Web development icons created by Freepik - Flaticon

<https://www.flaticon.com/free-icons/age> Age icons created by Freepik – Flaticon

<https://www.vecteezy.com/free-vector/searching> Searching Vectors by Vecteezy

<https://www.vecteezy.com/free-vector/watch-out> Watch Out Vectors by Vecteezy

<https://www.flaticon.com/free-icons/hat> Hat icons created by Good Ware - Flaticon

<https://www.flaticon.com/free-icons/threat> Threat icons created by VectorPortal - Flaticon

<https://www.flaticon.com/free-icons/shield> Shield icons created by Freepik - Flaticon

<https://www.vecteezy.com/free-vector/html> Html Vectors by Vecteezy

<https://www.vecteezy.com/free-vector/sitemap> Sitemap Vectors by Vecteezy

<https://www.vecteezy.com/free-vector/web-design> Web Design Vectors by Vecteezy

<https://www.vecteezy.com/free-vector/time> Time Vectors by Vecteezy

<https://www.vecteezy.com/free-vector/people> People Vectors by Vecteezy

<https://www.vecteezy.com/free-vector/speech> Speech Vectors by Vecteezy

<https://www.vecteezy.com/free-vector/website> Website Vectors by Vecteezy