

前端开发

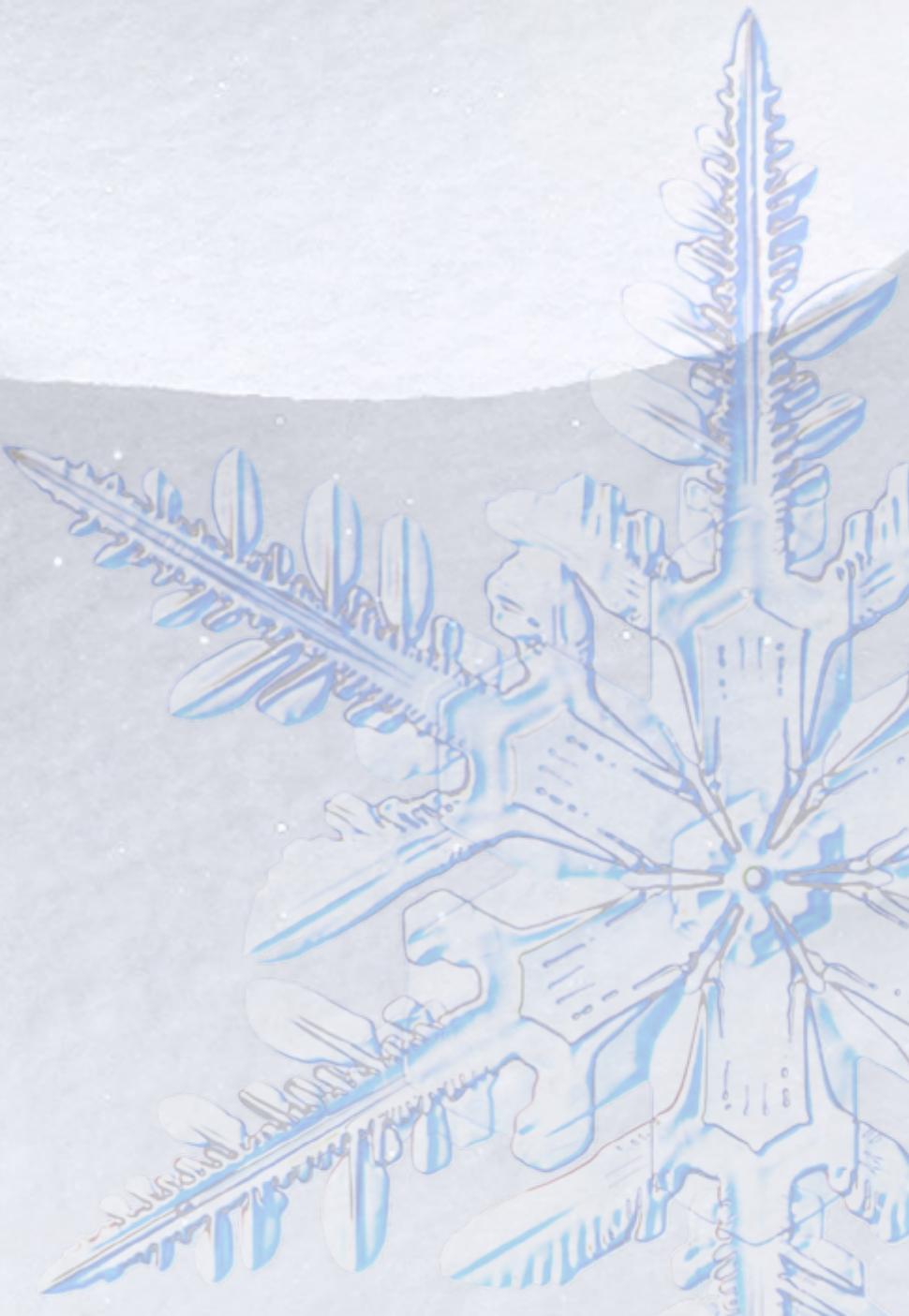


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目录

- * 课程介绍
- * 浏览器Browsers
- * 学习资源



课程目标

- ❄ web前端开发基本概念、基本原理
- ❄ web标准
- ❄ 前端开发主流技术
- ❄ 前端架构设计
- ❄ 前端性能优化
- ❄

主要内容

雪 全栈式

- * HyperText Markup Language (HTML)
- * Cascading Style Sheets (CSS)
- * JavaScript
- * Asynchronous JavaScript and XML (Ajax)
- * Nodejs
 - Structured Query Language (SQL) for interacting with databases

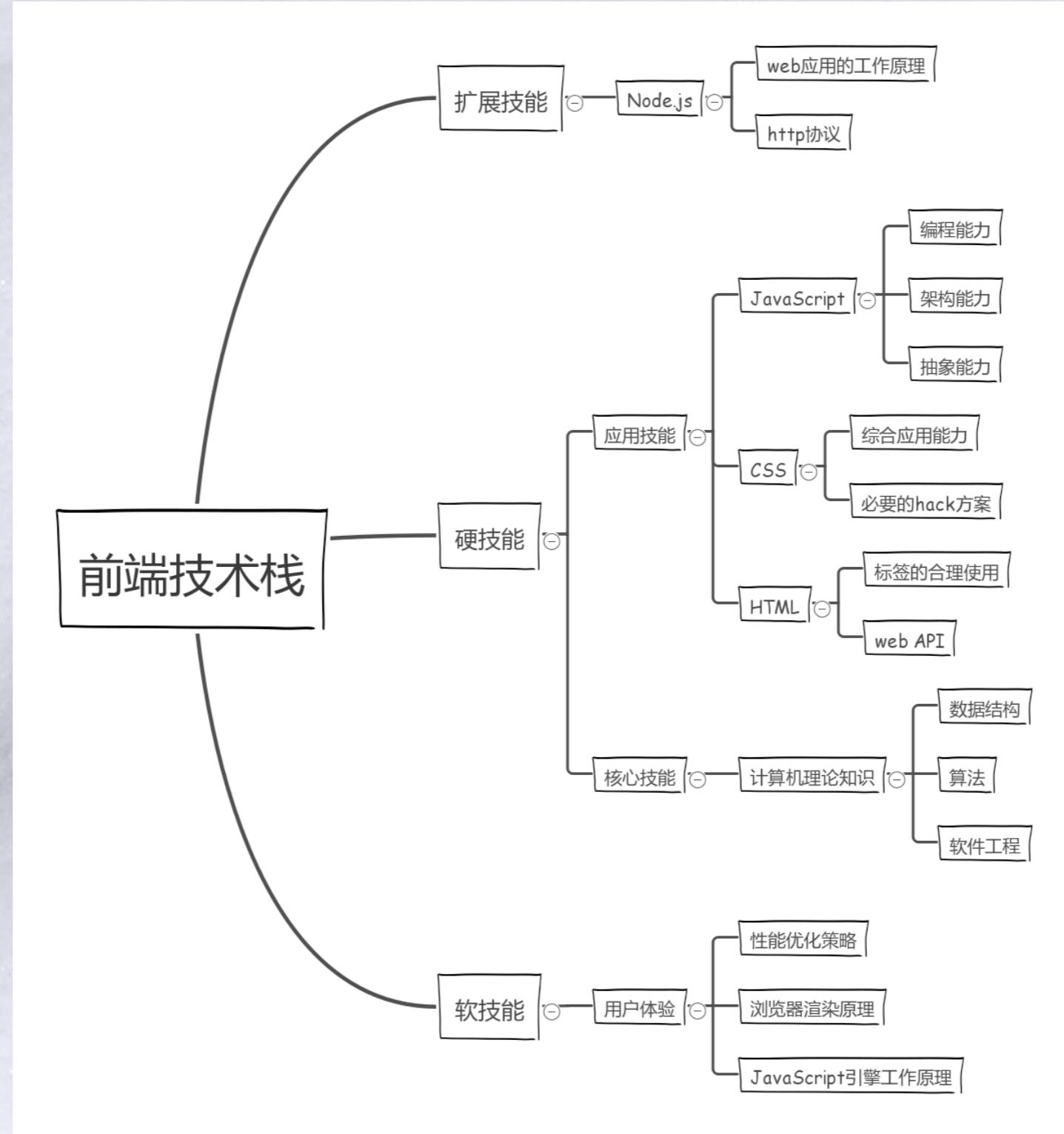
雪 性能优化

- * http
- * 方法、理论和实践

THE FRONT-END SPECTRUM



前端工程师应掌握的技术栈

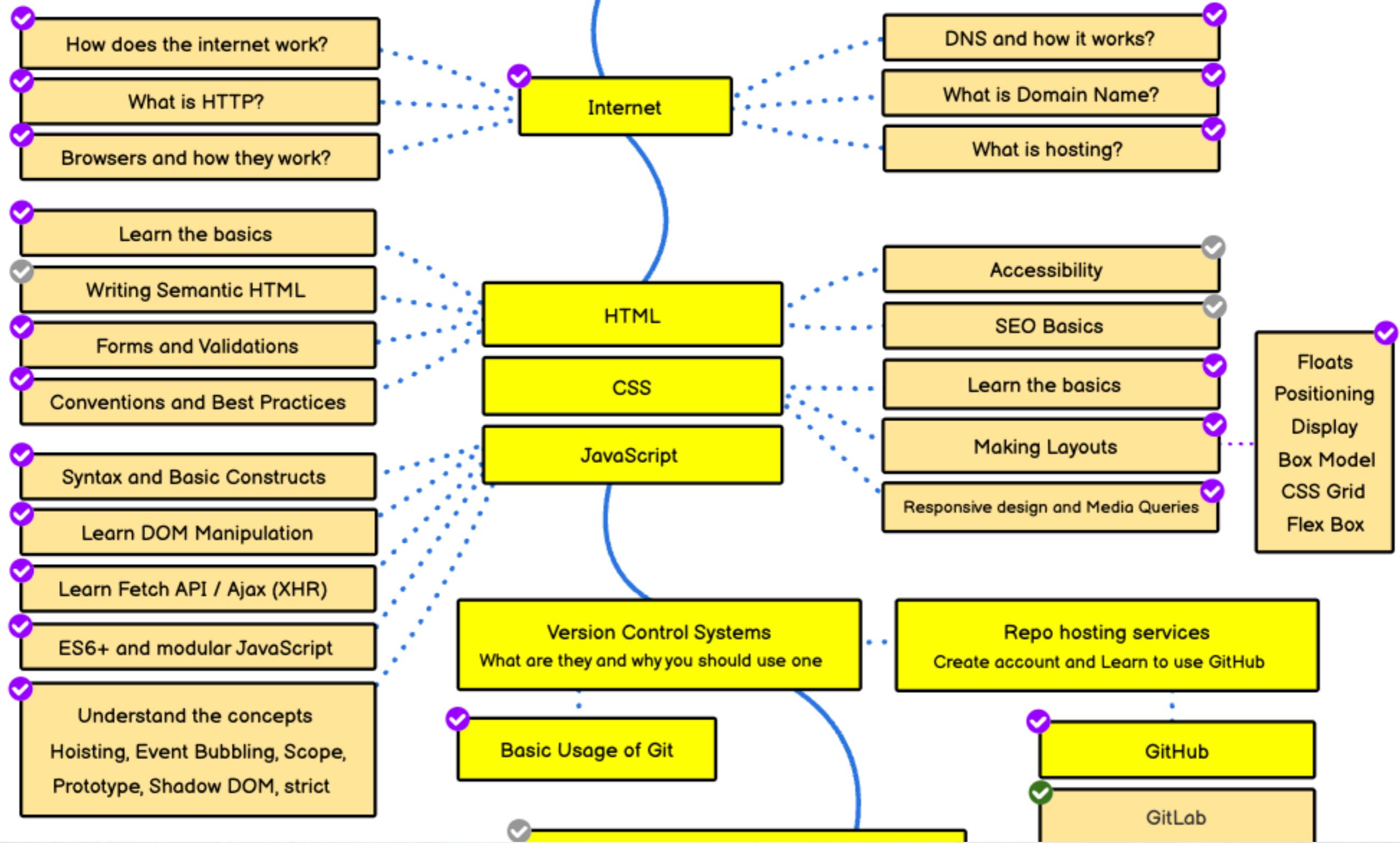


- Personal Recommendation / Opinion
- Alternative Option - Pick this or purple
- Order in roadmap not strict (Learn anytime)
- I wouldn't recommend

Find the detailed version of this roadmap along with resources and other roadmaps

<http://roadmap.sh>

Front-end



Learn Fetch API / Ajax (XHR)

✓ ES6+ and modular JavaScript

✓ Understand the concepts

Hoisting, Event Bubbling, Scope,
Prototype, Shadow DOM, strict

✓ npm

✓ yarn

✓ pnpm

✓ BEM

✓ Sass

✓ PostCSS

✓ React

✓ Angular

✓ Vue.js

✓ Svelte

✓ Solid JS

CSS Frameworks

Version Control Systems

What are they and why you should use one

✓ Basic Usage of Git

Web Security Knowledge

Get at least a basic knowledge of all of these

HTTPS

Content Security Policy

CORS

OWASP Security Risks

✓ Package Managers

✓ CSS Architecture

✓ CSS Preprocessors

Build Tools

Pick a Framework

Linters and Formatters

Task Runners

Module Bundlers

Modern CSS

Prettier

ESLint

npm scripts

Vite

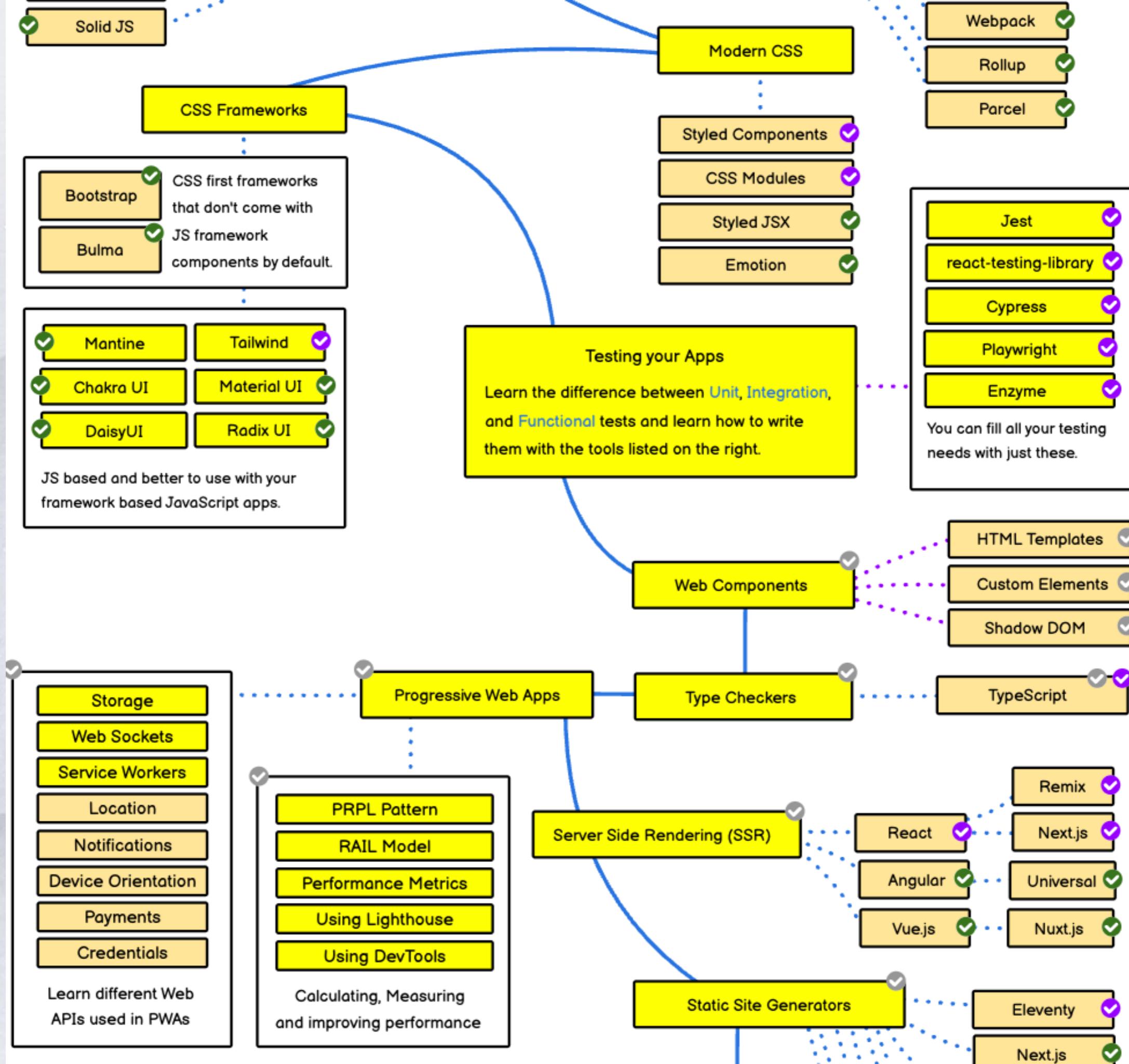
esbuild

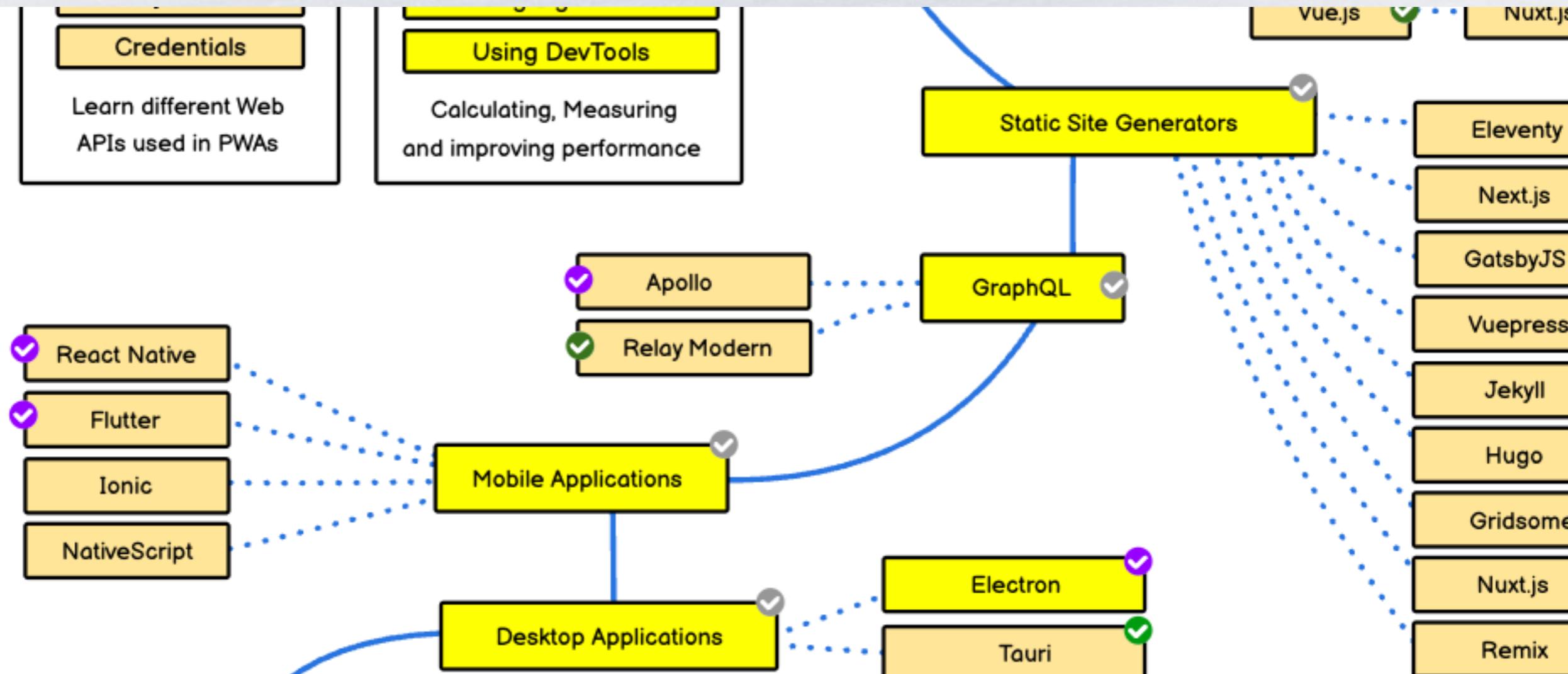
Webpack

Rollup

Parcel

Styled Components





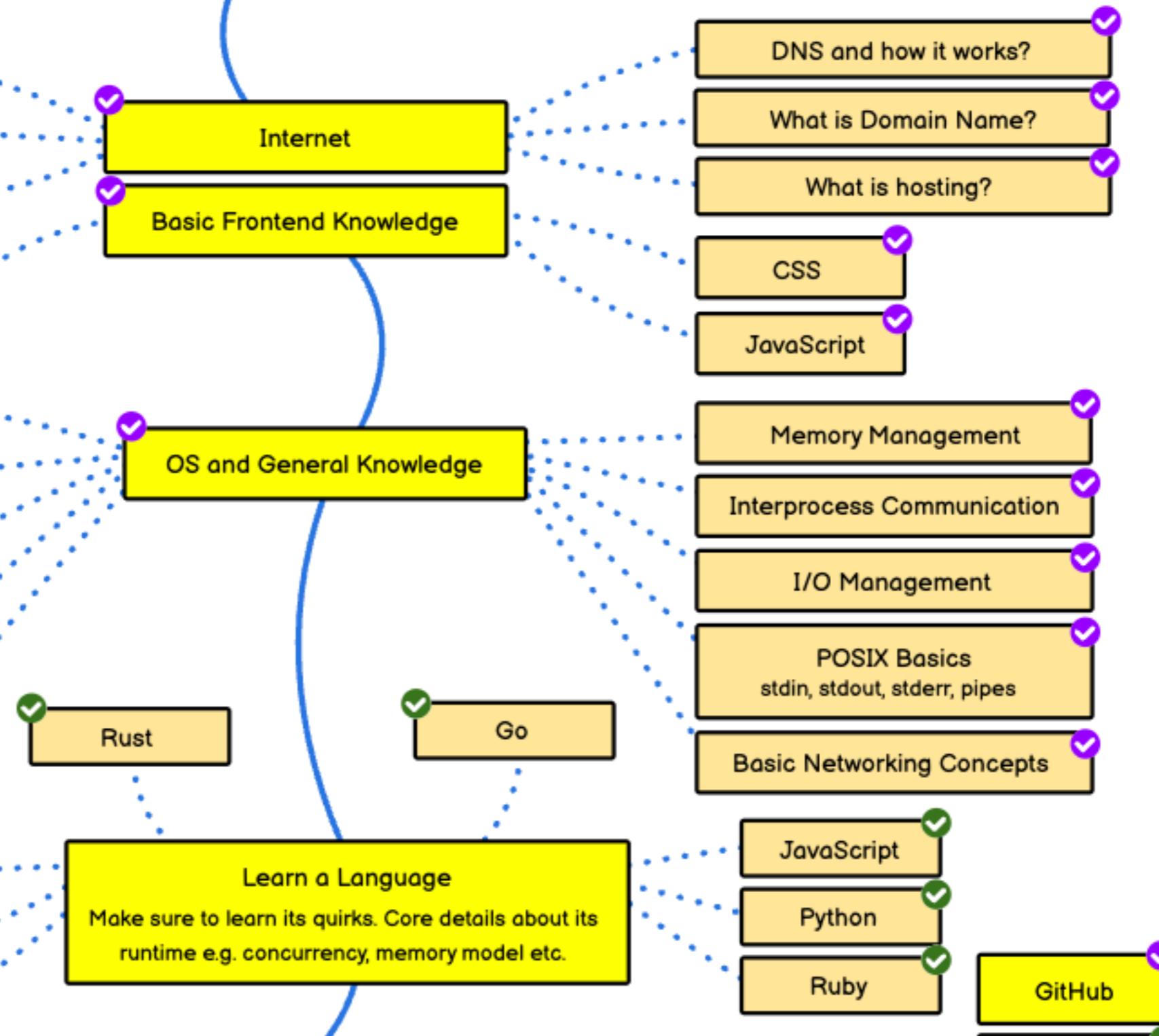
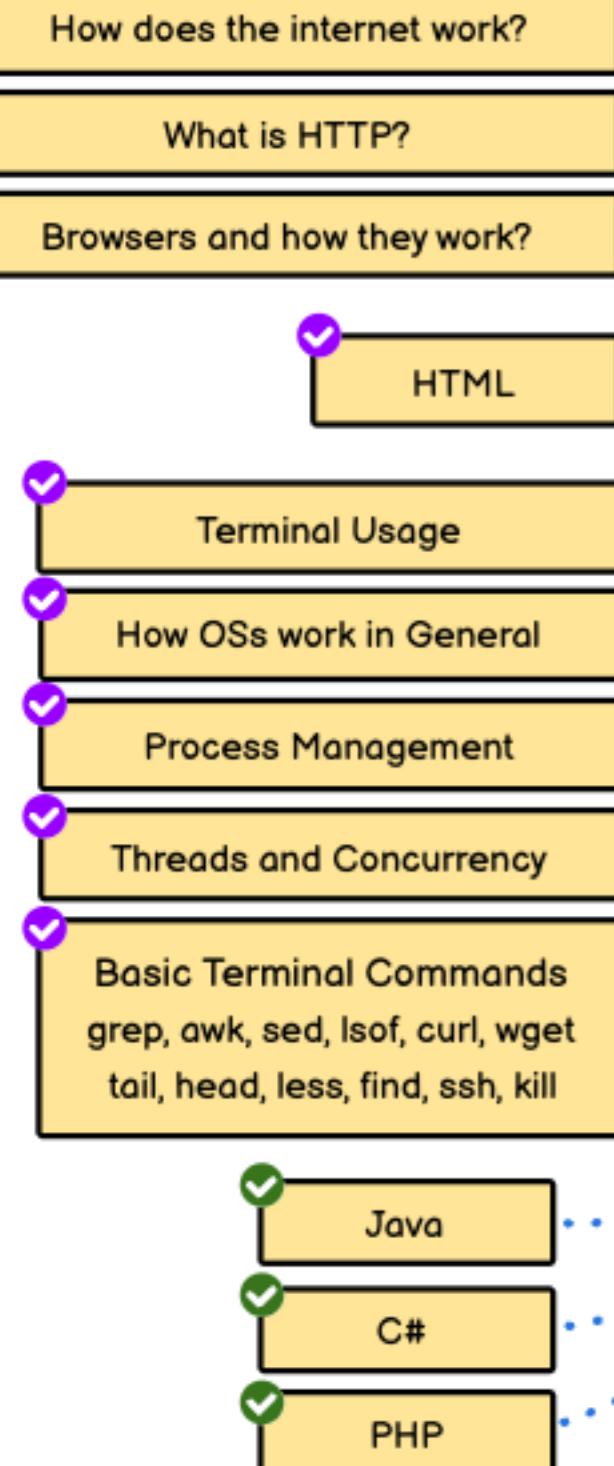
Web Assembly or WASM is the binary instructions generated from higher level languages such as Go, C, C++ or Rust. It is faster than JavaScript and WASM 1.0 has already shipped in the major browsers. W3C accepted it as an official standard at the end of 2019. It will still take quite some time to go mainstream though.

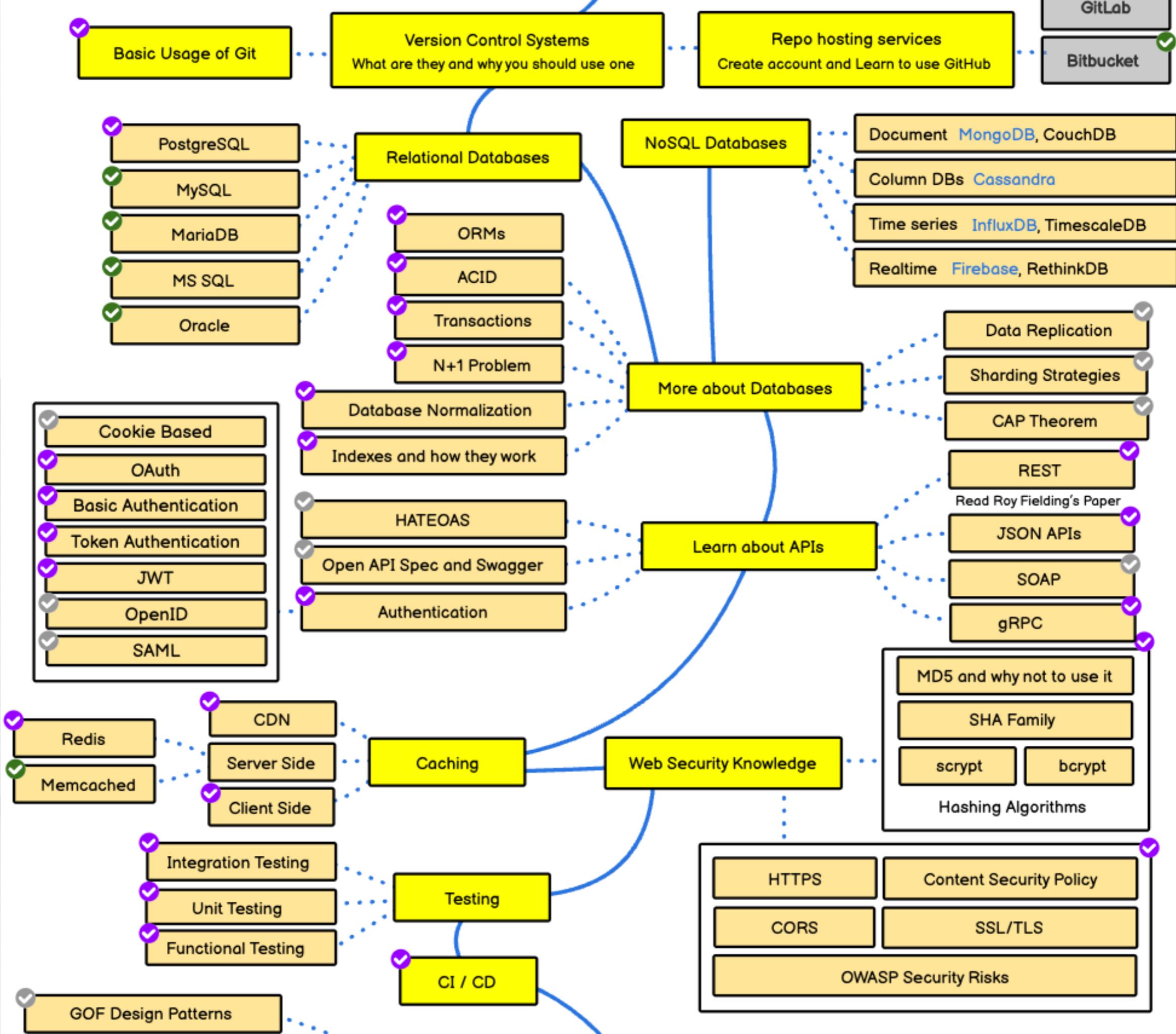
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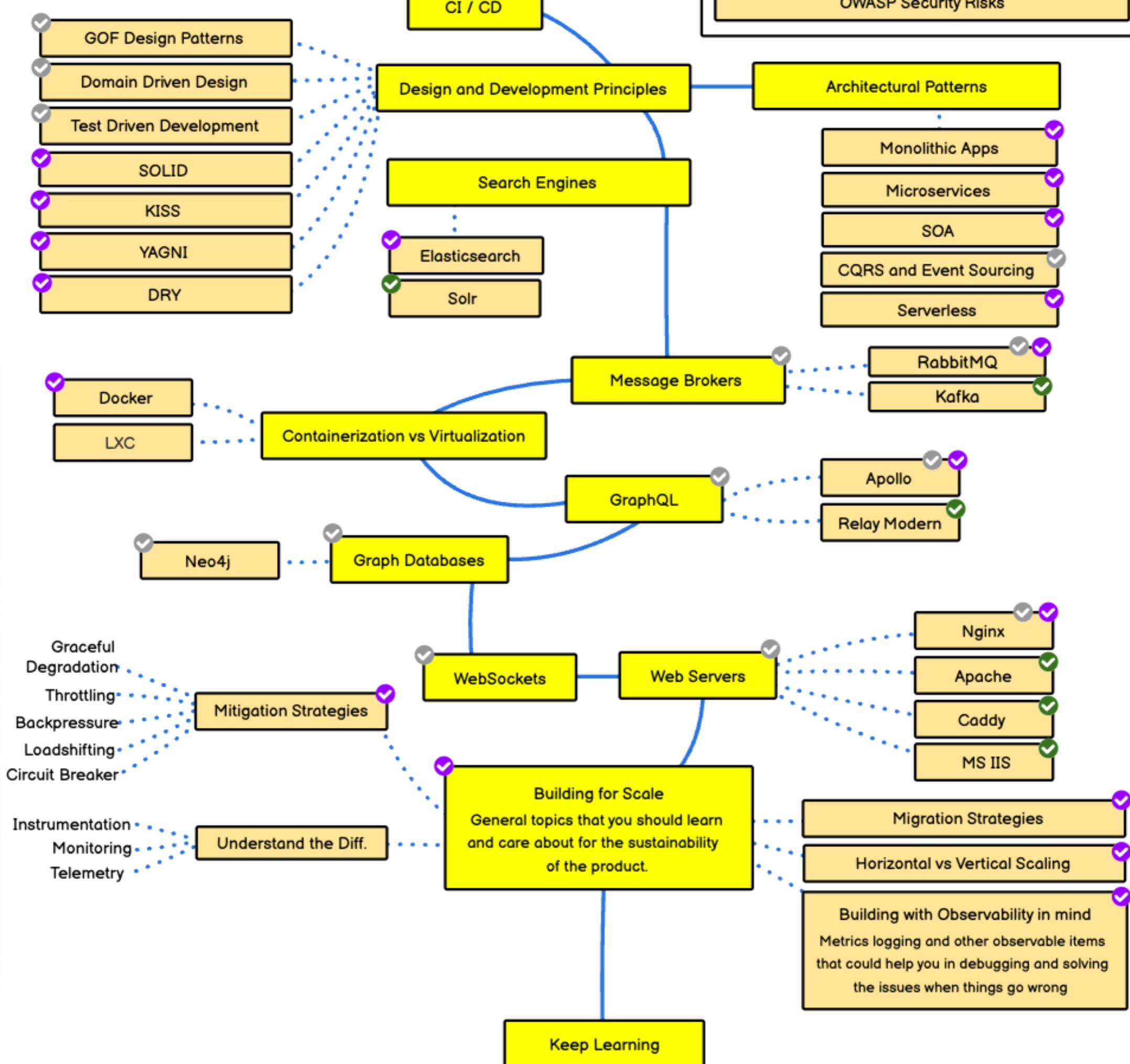
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Backend







课程安排

✿ 8周， 4课时/周

- * 授课
- * 作业

考核

课程作业

笔试

交流方式

❖ Moodle

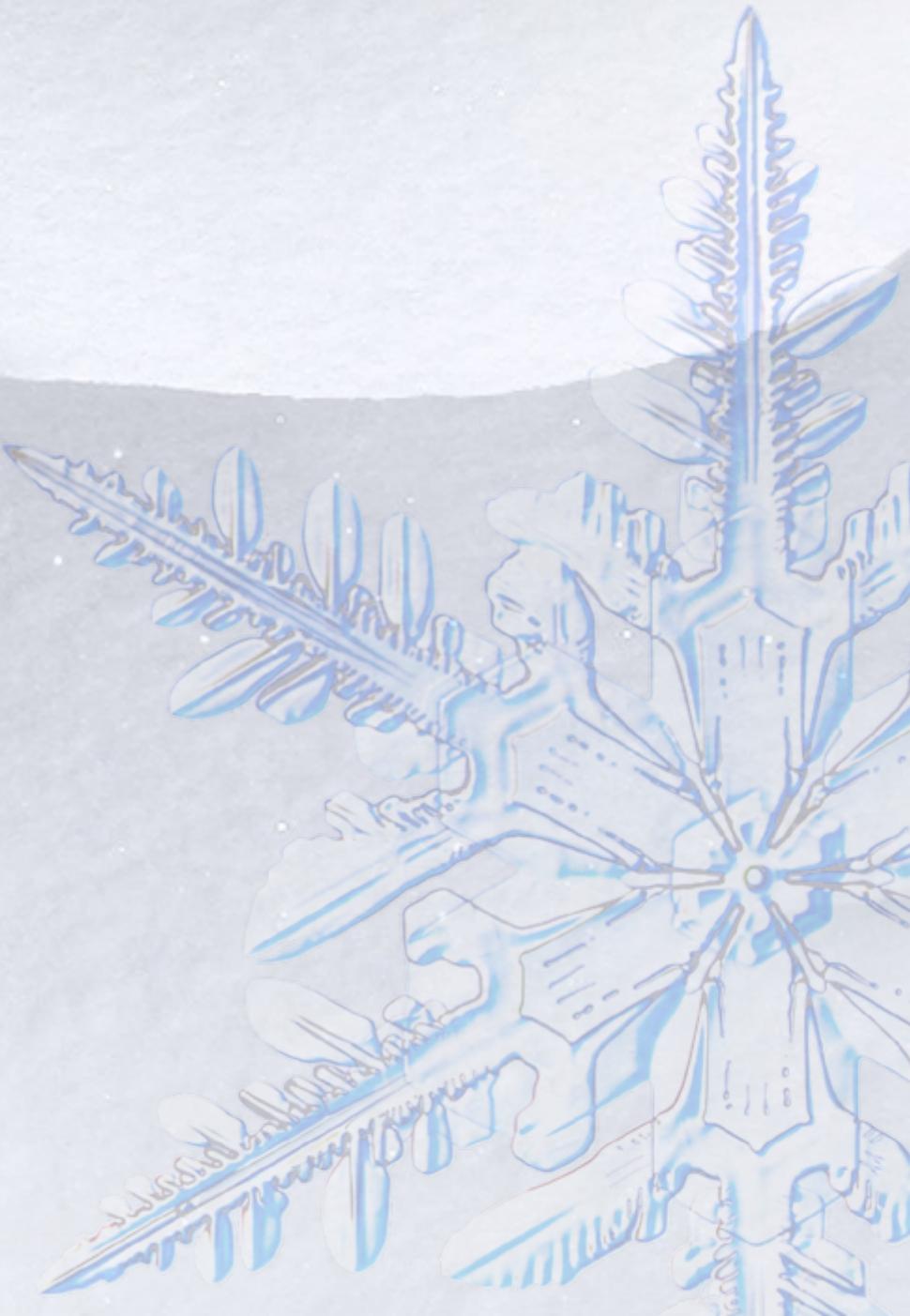
❖ qq群

❖ email: haitao.liu@nju.edu.cn



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拥抱不确定性

十年前

- * 微软垄断下严格限定的边界

现在

- * 宽松
- * 比如响应式web设计、渐进渐强

放弃所谓绝对的解决方案。。。。

- * 不同设备，不同的浏览器，不同规格的屏幕访问

从微软独家垄断到今天百花齐放

❄ 第一次浏览器大战

- * 1995 - 1999

❄ 后.com时代

- * 2000 - 2005, IE占据了90%左右的市场份额

* 今天

- * Chrome, Firefox, Opera, Safari, IE
- * 移动设备的大规模增长
- * 浏览器版本更新频率极快

我们现在所处的位置

❄ 可变因素

- * 屏幕分辨率
- * 像素深度
- * 浏览器兼容性
- * 屏幕大小
- * 人机交互输入框类型
- *

浏览器

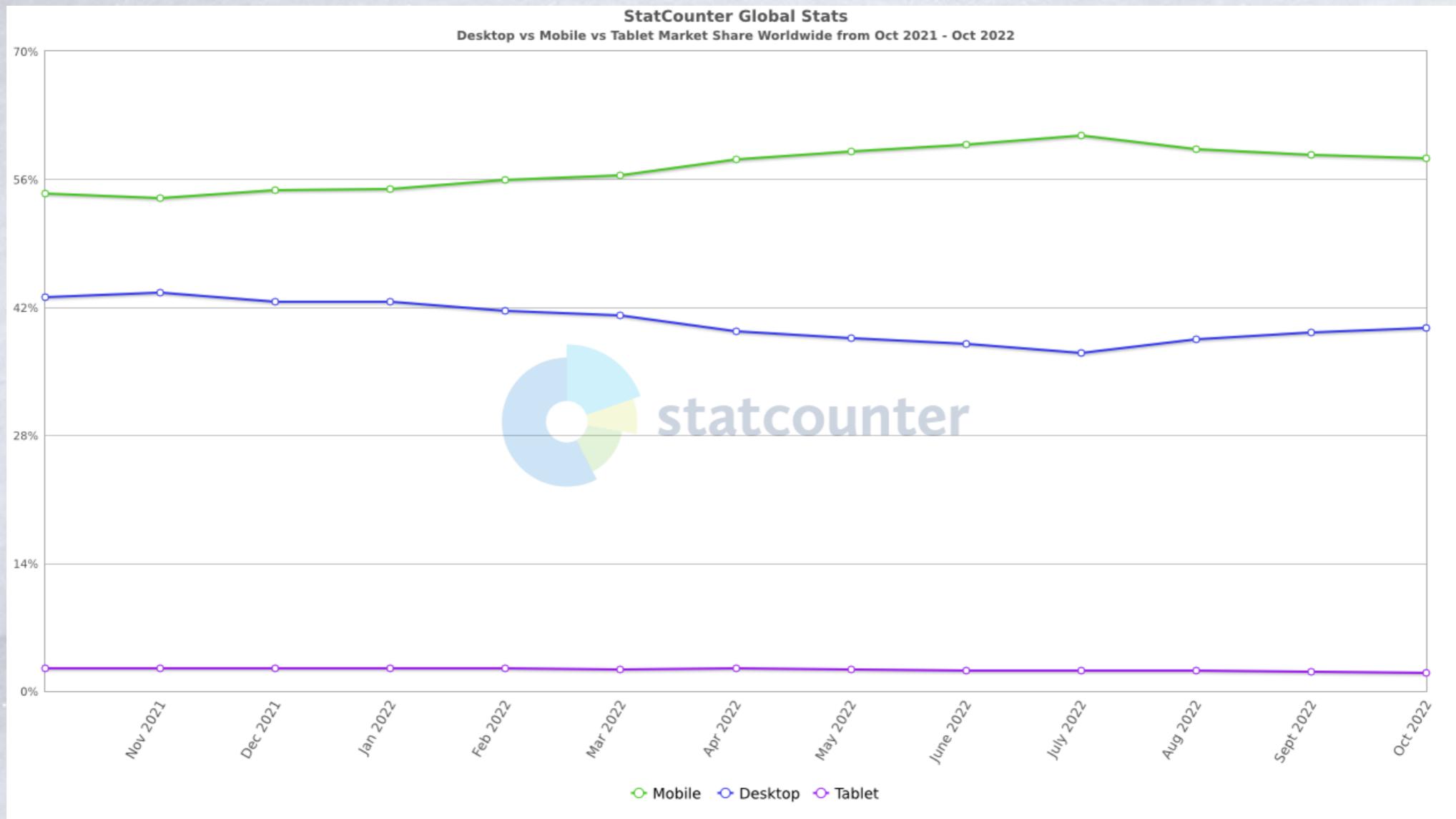
- ✿ 四大派系，核心是布局引擎，用以决定文档和样式如何渲染
 - * 微软的Trident，IE的内核
 - * 基于开源项目WebKit的浏览器
 - * 基于Blink开源项目的浏览器
 - * 2013从Webkit中派生，是最新版的Chrome和Opera的布局引擎
 - * Mozilla公司的Gecko，Firefox的内核

JavaScript引擎

- ❄ Chakra, IE
- ❄ SquirrelFish Extreme / Nitro, Webkit
- ❄ V8, Chrome和Opera
 - * 第一个在执行前将JS编译为原生代码的JS引擎
- ❄ SpiderMonkey, Firefox

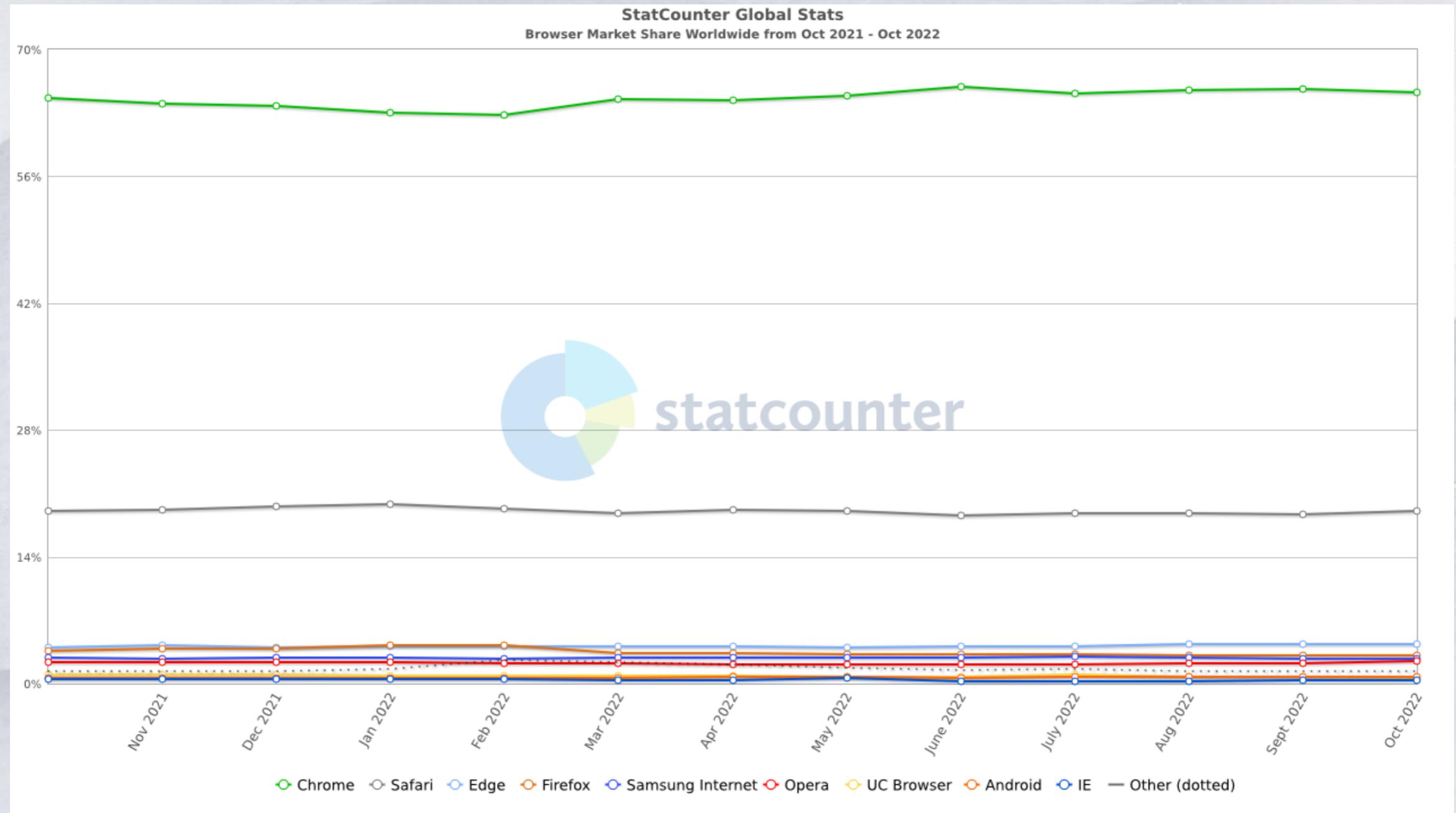
Desktop vs Mobile vs Tablet

全球市场份额



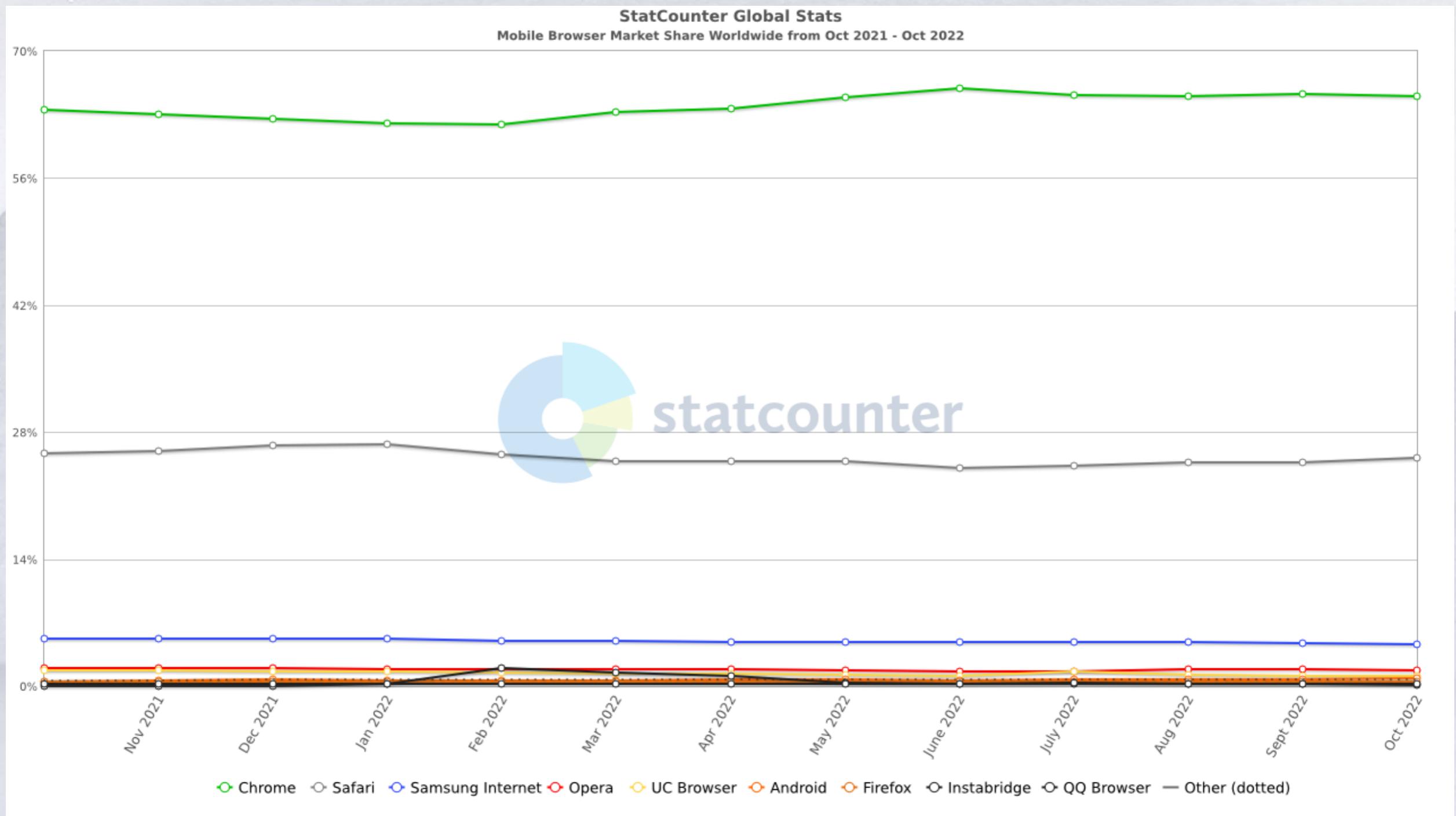
<https://gs.statcounter.com/platform-market-share/desktop-mobile-tablet>

浏览器市场份额 - 全球

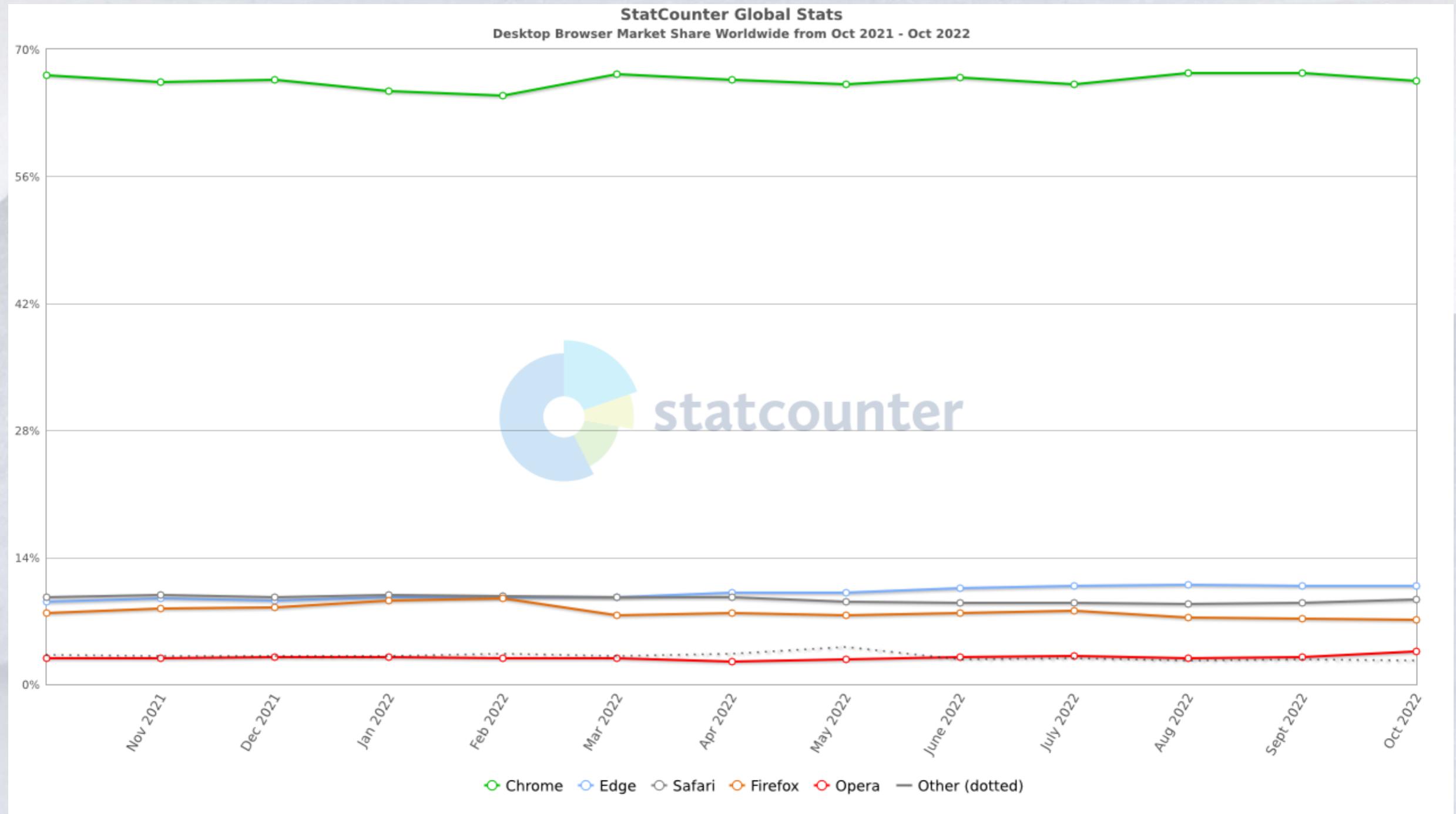


<https://gs.statcounter.com/browser-market-share>

移动浏览器市场份额 - 全球



桌面浏览器市场份额 - 全球

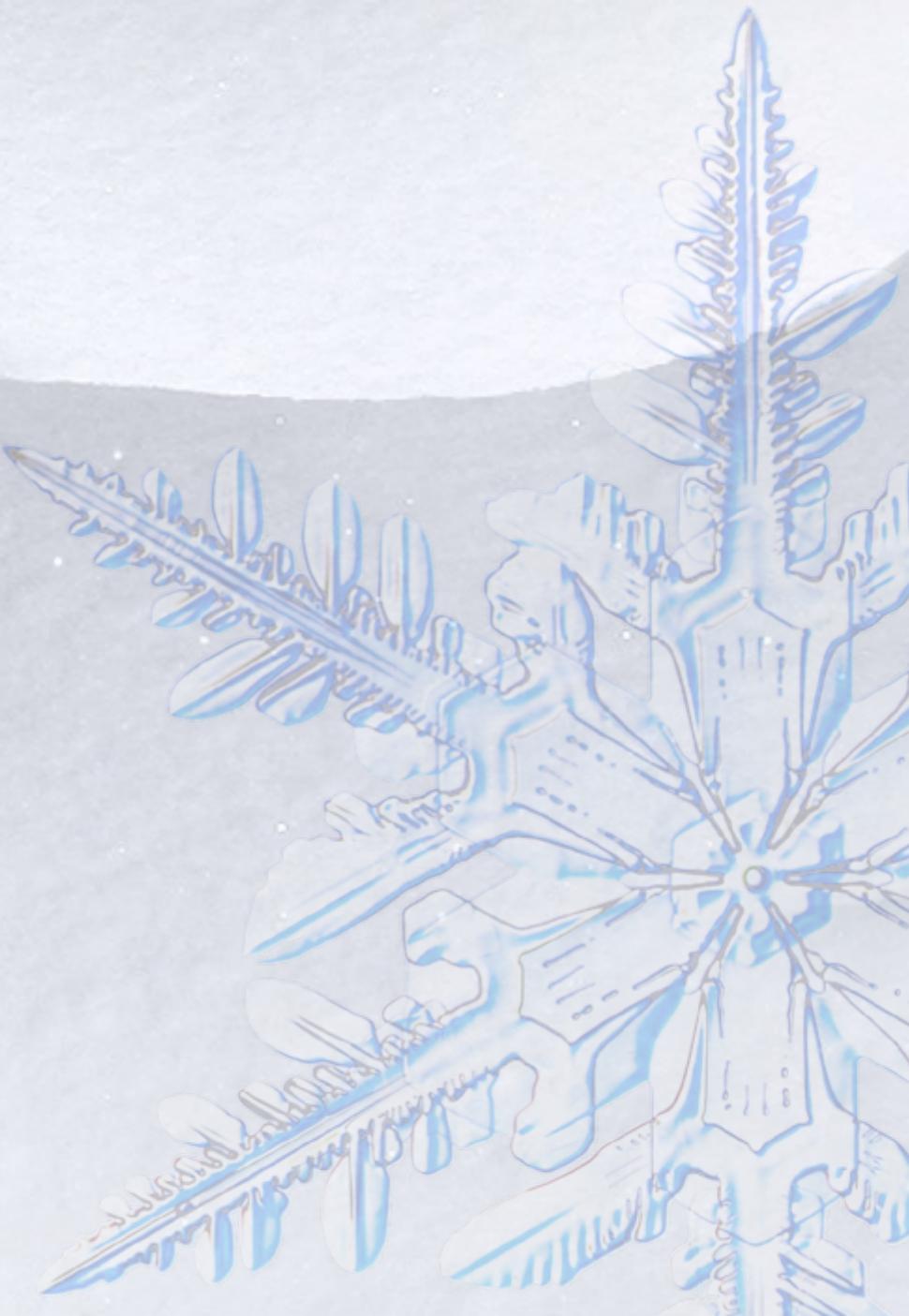


因此

- ❄ 测试尽可能多的浏览器是必要
- ❄ 然而为特定浏览器或浏览器版本开发或写特定的代码，很少奏效。这是一个过于庞大的清单
- ❄ 需要考虑的是特性，特性检测

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参考书及课件

❖ Slides available from:

- * Moodle

❖ Recommended Text:

- * 侯策 著。前端开发核心知识进阶：从夯实基础到突破瓶颈(博文视点出品)。电子工业出版社，2020。
- * Others: 参见各章

电子资源

- ❖ <https://devdocs.io/>
- ❖ MDN Web Docs, <https://developer.mozilla.org/zh-CN/>
- ❖ W3C Documentation
 - * <http://www.w3.org/>
- ❖ <http://www.w3schools.com/>
- ❖ www.stackoverflow.com
- ❖ More.....
- ❖ <https://frontendchecklist.io/>
- ❖ <https://scotch.io/>
- ❖ Egghead
- ❖ <https://frontendmasters.com/>

Software

- ❖ VS code/Atom.io/Sublime Text/
- ❖ JetBrains WebStorm
- ❖ Chrome
 - * 开发者工具，便于调试，与标准兼容性好，Web开发的首选浏览器。
- ❖ Others.....

Thanks!!!

