51CTO WOT

World Of Tech 2024

WOT全球技术创新大会

2024

智启新纪
慧创万物

使用Astro做独立开发者的探索之路

@i5ting

目录

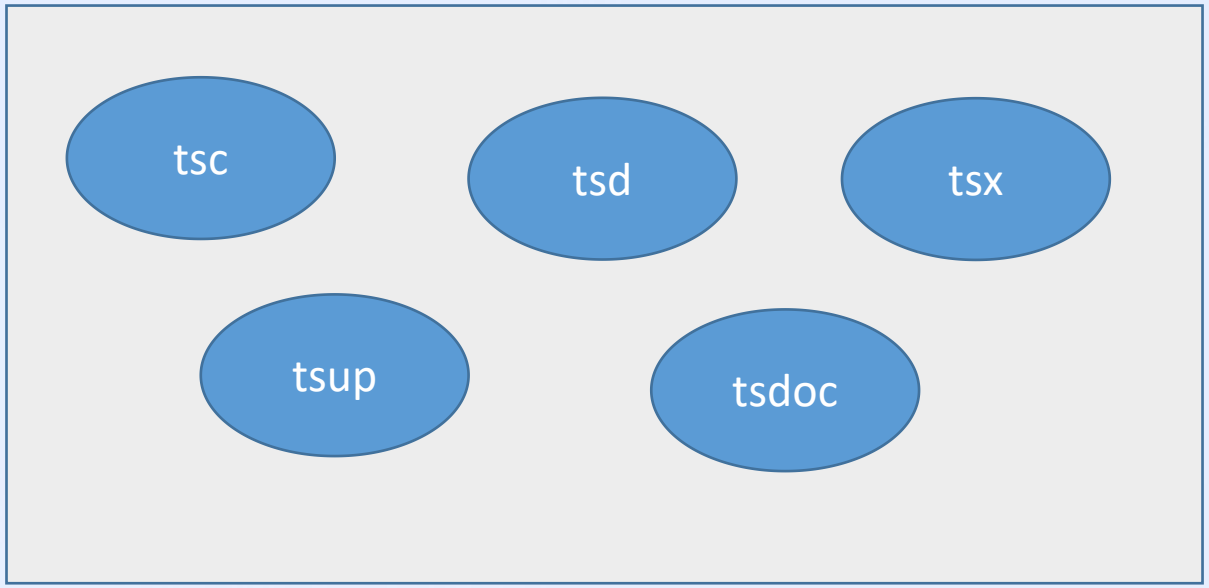
1. 写好一个专业的前端项目有多难？
2. trpc和Astro实现原理，以及从中获得的启发；
3. 使用Astro和AI辅助，做独立开发者的探索之路；
4. 前端谋生的N种可能。

01

有多难?

写好一个专业的前端项目

躲不过去的TS



IoC/装饰器

设计模式

OOP

类型体操

基础，搞定个Equal就很久

Menoreopo

What is in this repository?

- Tsup as a TypeScript universal package.
- Tsx as a Node.js enhanced with esbuild to run TypeScript & ESM
- Tsd as type test runner
- Tsdoc as document
- PNPM as workspace manager and package manager.
- Vitest as a test runner.
- Size Limit as a size limit plugin.
- Prettier as a code formatter.
- ESLint as a code linter.
- NX as cacheable operations.
- Changesets as a way to manage changes and releases.
- c8 as coverage
- supertest as server test
- cypress as e2e test

https://github.com/npmstudy/your-node-v20-menoreopo-project

想说爱你不容易

难

- 降本增笑
- 更卷
- 换血

还有的玩吗？

- 验收工具

02

新技术

TRpc和Astro实现原理，以及从中获得的启发

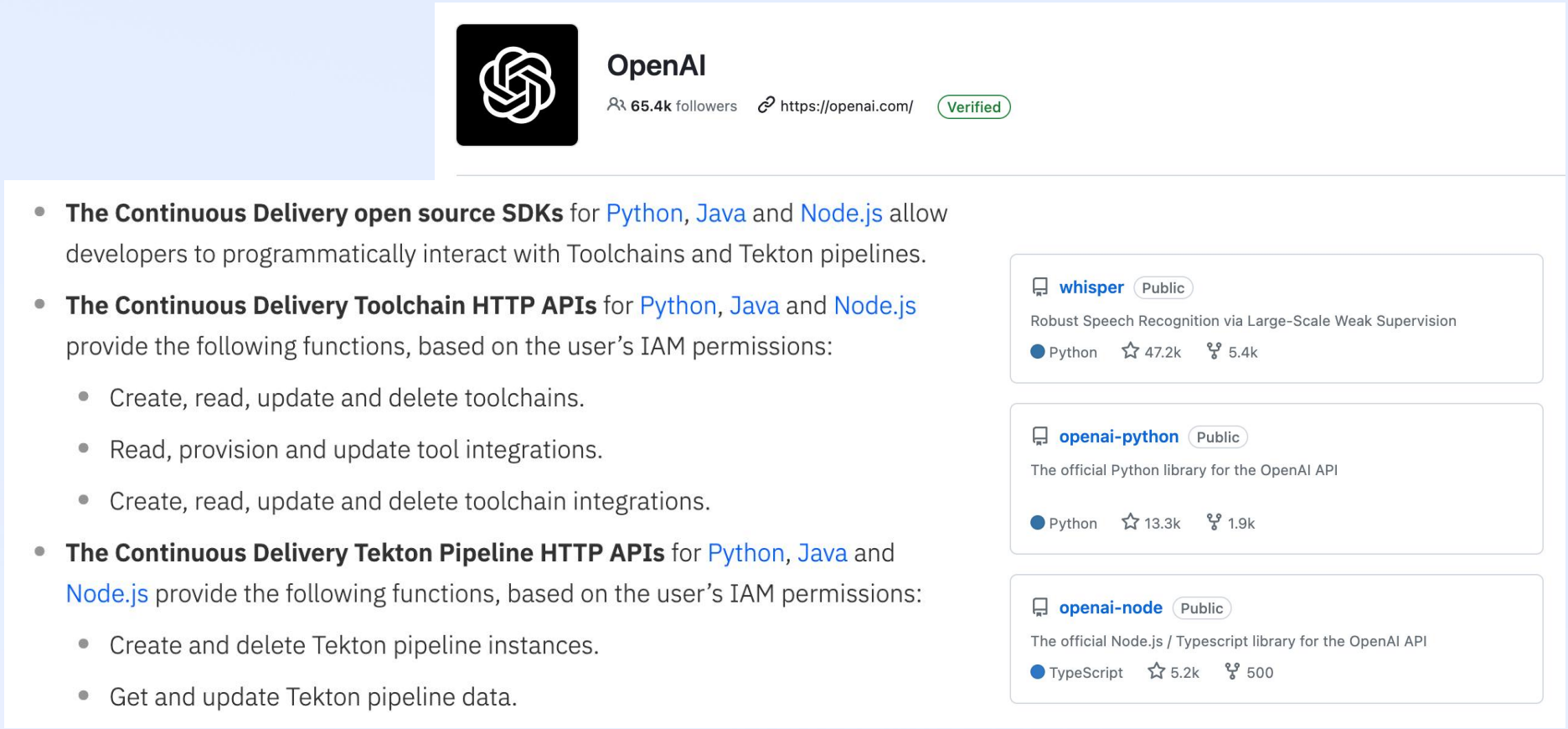
我对AI的一点理解

能使用现代Web规范的地方尽量使用。

- 1、在淘宝做了2年前端智能化，d2c和p2c。
- 2、商用难，营销创意大众化我觉得可以
- 3、我自己用Notion、Github Copilot、Sider
- 4、曾经想让chatgpt帮我写一个rust版本的koa，未果

悲观又期待，以前围绕os、以后会不会围绕llm?

SDK：Python、Java、Node.js



https://www.ibm.com/blog/announcement/new-java-python-and-node-sdks-and-apis-for-ibm-cloud-continuous-delivery/

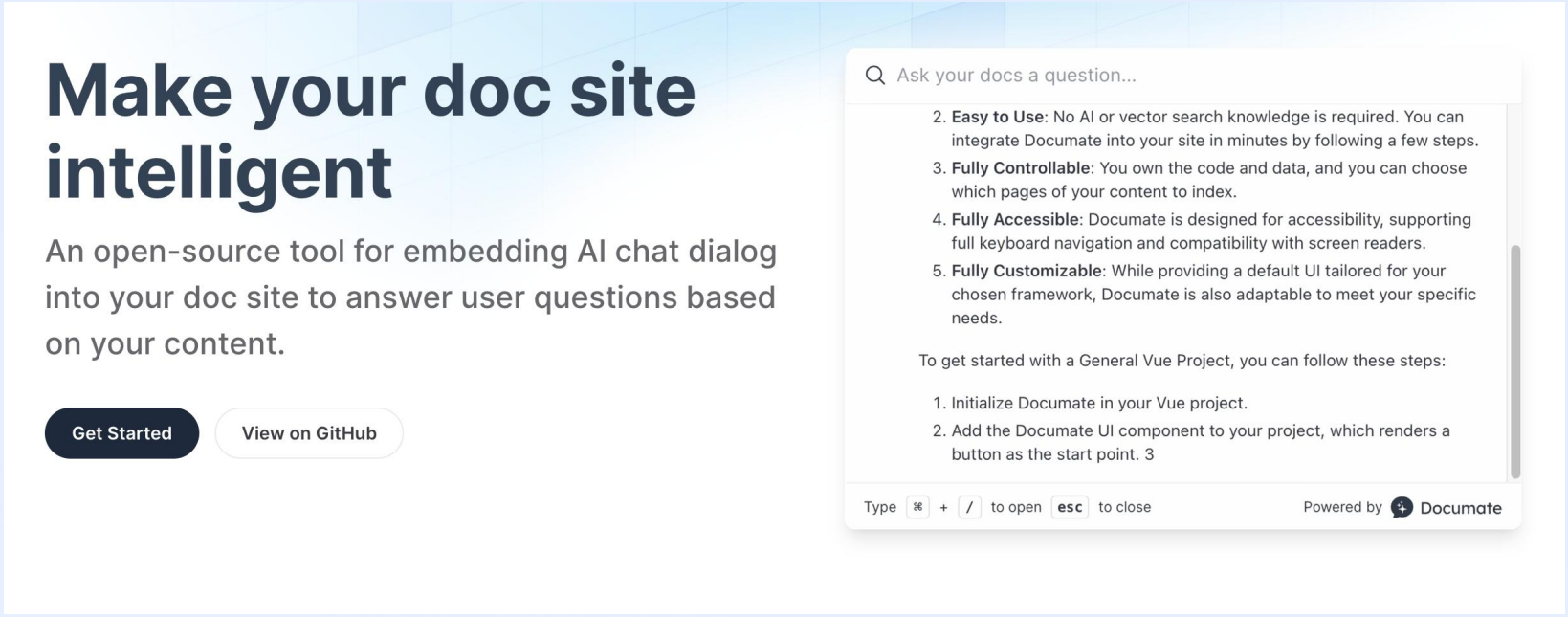
AI能做的事儿

Stack

- Auth: Clerk
- App logic: Next.js
- VectorDB: Pinecone / Supabase pgvector
- LLM Orchestration: Langchain.js
- Image Model: Replicate
- Text Model: OpenAI
- Text streaming: ai sdk
- Deployment: Fly

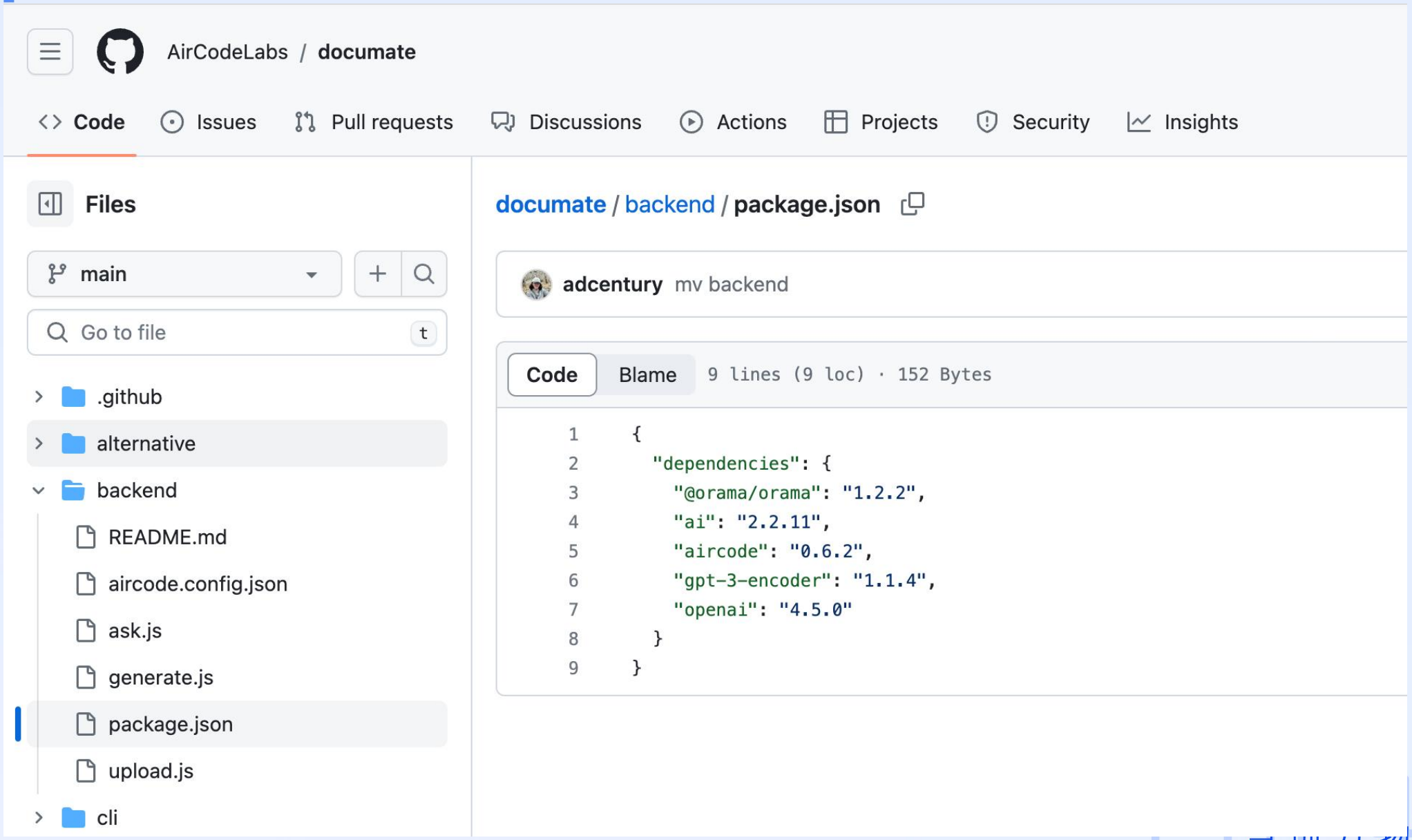
https://github.com/a16z-infra/ai-getting-started

documate



https://github.com/AirCodeLabs/documate

实现


AirCodeLabs / documate
Code
Issues
Pull requests
Discussions
Actions
Projects
Security
Insights
Files
main
Go to file
t
.github
alternative
backend
README.md
aircode.config.json
ask.js
generate.js
package.json
upload.js
cli
documate / backend / package.json
adcentury mv backend
Code
Blame
9 lines (9 loc) · 152 Bytes
{
"dependencies": {
"@orama/orama": "1.2.2",
"ai": "2.2.11",
"aircode": "0.6.2",
"gpt-3-encoder": "1.1.4",
"openai": "4.5.0"
}
}

github.com/AirCodeLabs/documate/blob/main/backend/generate.js

Files

main

Go to file t

- .github
- alternative
- backend
  - README.md
  - aircode.config.json
  - ask.js
  - generate.js
  - package.json
  - upload.js
- cli
- docs
- examples
- ui
- .editconfig
- .gitattributes
- .gitignore
- .prettierrc
- CODE_OF_CONDUCT.md
- CONTRIBUTING.md
- LICENSE
- README.md
- SECURITY.md
- package.json
- pnpm-lock.yaml

Documentation · Share feedback

documate / backend / generate.js

Code | Blame | 48 lines (38 loc) · 1.15 KB

```
4
5   const PagesTable = aircode.db.table('pages');
6
7   async function generateEmbeddings(project) {
8     // Find all the pages without embeddings
9     const pages = await PagesTable
10      .where({ project, embedding: null })
11      .find();
12
13    if (!pages || pages.length === 0) {
14      return { ok: 1 };
15    }
16
17    // Replace newlines with spaces for OpenAI embeddings
18    const input = pages.map(page => page.content.replace(/\n/g, '
19
20    try {
21      const openai = new OpenAI({
22        apiKey: process.env.OPENAI_API_KEY,
23      });
24
25      const { data, usage } = await openai.embeddings.create({
26        model: 'text-embedding-ada-002',
27        input,
28      });
29
30      const updatedPage = pages.map((page, index) => ({
31        _id: page._id,
32        embedding: data[index].embedding,
33      }));
34
35      for (let i = 0; i < updatedPage.length; i += 100) {
36        await PagesTable.save(updatedPage.slice(i, i + 100));
37      }
38
39      return { ok: 1 };
40    } catch (error) {
41      console.error(`Failed to generate embeddings for ${project}`
42      throw error;
43    }
44  }
45
46  module.exports = {
47    generateEmbeddings,
48  }
```

Files

main

Go to file t

- .github
- alternative
- backend
  - README.md
  - aircode.config.json
  - ask.js
  - generate.js
  - package.json
  - upload.js
- cli
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- SECURITY.md
- package.json
- pnpm-lock.yaml

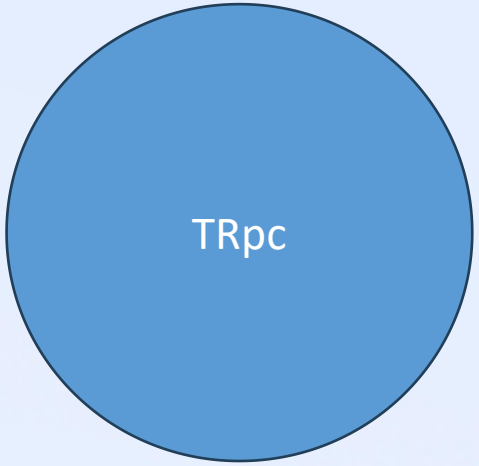
Documentation · Share feedback

documate / backend / ask.js

Code | Blame | 130 lines (110 loc) · 3.8 KB

```
62      // Search vectors to generate context
63      const memDB = await create({
64        schema: {
65          path: 'string',
66          title: 'string',
67          content: 'string',
68          embedding: 'vector[1536]',
69        },
70      });
71      await insertMultiple(memDB, pages);
72
73      const { hits } = await searchVector(memDB, {
74        vector: embedding,
75        property: 'embedding',
76        similarity: 0.8,  // Minimum similarity. Defaults to `0.8`
77        limit: 10,        // Defaults to `10`
78        offset: 0,        // Defaults to `0`
79      });
80
81      let tokenCount = 0;
82      let contextSections = '';
83
84      for (let i = 0; i < hits.length; i += 1) {
85        const { content } = hits[i].document;
86        const encoded = tokenizer.encode(content);
87        tokenCount += encoded.length;
88
89        if (tokenCount >= MAX_CONTEXT_TOKEN && contextSections !== '')
90          break;
91        }
92
93        contextSections += `${content.trim()}\n---\n`;
94      }
95
96      // Ask gpt
97      const prompt = `You are a very kindly assistant who loves to hel
98
99  Context sections:
100 ${contextSections}
101
102 Question:
103 ${question}
104
105 Answer as markdown (including related code snippets if available):`
106
```

我关注的2个技术
能否低成本引入AI？



协作关系

探索独立开发者

未来

trpc

server.ts

```ts
import { initTRPC } from "@trpc/server";
import { z } from "zod";

const t = initTRPC.create();

export const appRouter = t.router({
  greeting: t.procedure
    .input(
      z.object({
        name: z.string().optional(),
      })
    )
    .query(({ input }) => {
      //       ^? (parameter) input: {  name?: string | undefined;}
      return {
        msg: `Hello ${input.name ?? "World"}`,
      };
    }),
});

export type AppRouter = typeof appRouter;
```

client.ts 1

```ts
// You, 29 seconds ago | 1 author (You)
import { createTRPCProxyClient, httpBatchLink } from "@trpc/client";
import type { AppRouter } from "./server";

async function main() {
  const client = createTRPCProxyClient<AppRouter>({
    links: [
      httpBatchLink({
        url: "http://localhost:3000/api/trpc",
        maxURLLength: 2083,
      }),
    ],
  });

  const res = await client.greeting.query({
    msg: "John",
  });

  console.log(res.msg);
  //           ^? const res: {  msg: string;}
}

main();
```

Query、Mutation、Subscription

- 它利用了 TypeScript 的强大推断功能来推断出你 API 路由的类型定义。

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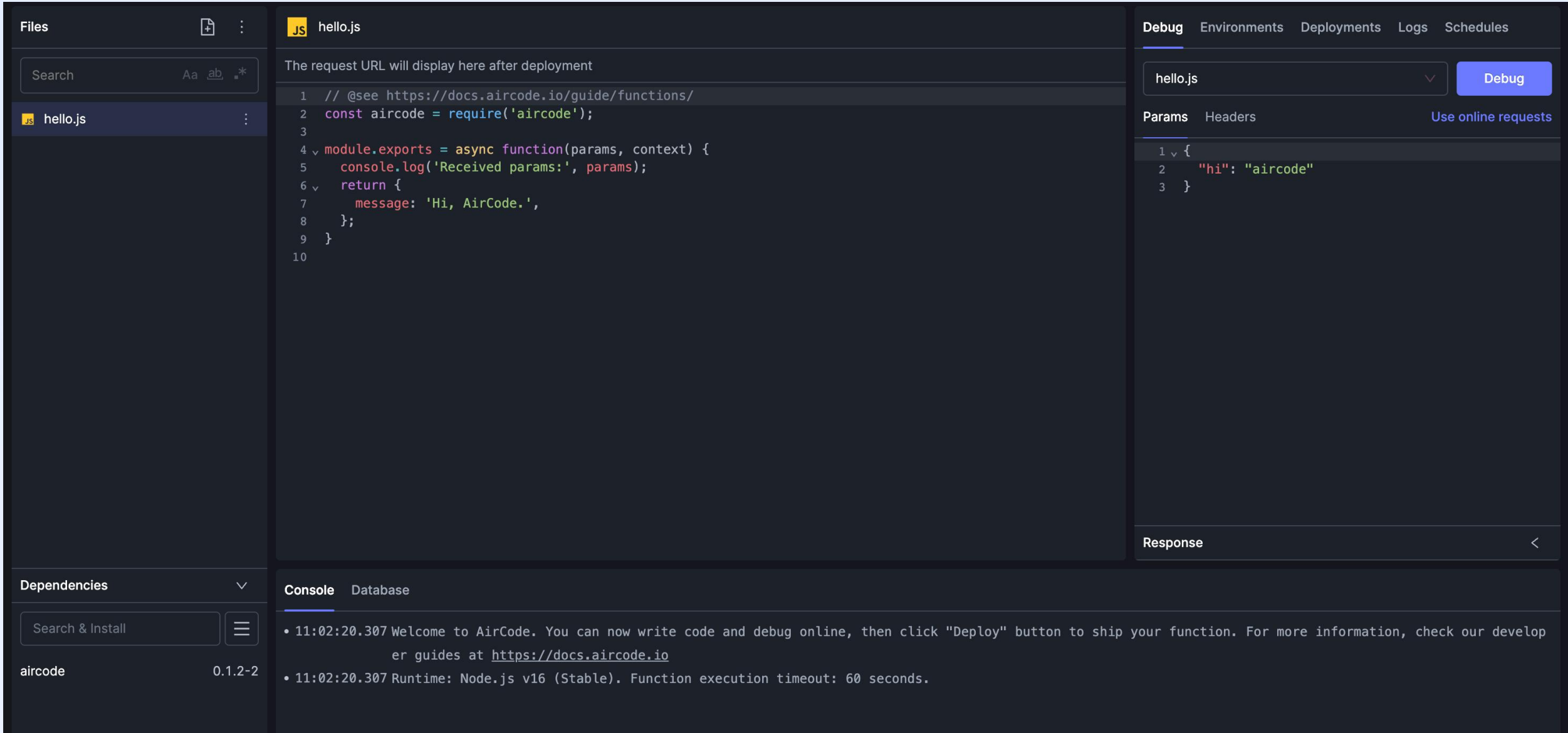
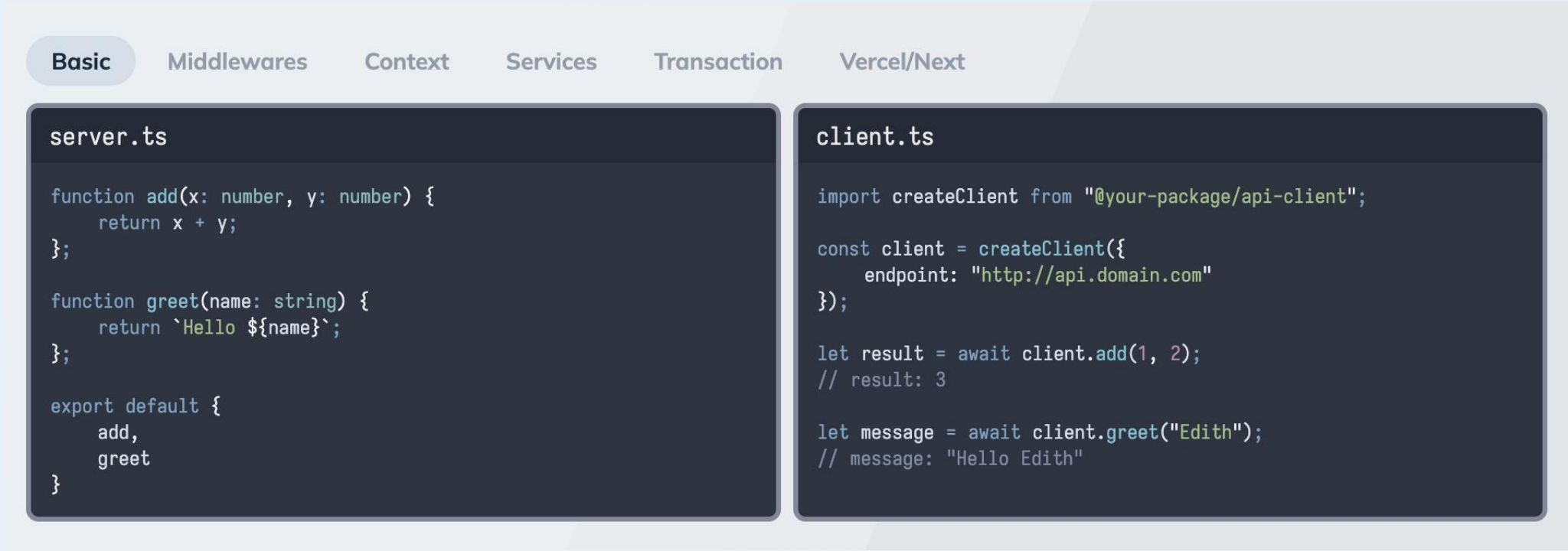
Aircode



Httpc



https://httpc.dev/

我自己写了一版玩

```
import { createClient } from '@tomrpc/client'

const client = createClient({
  host: '127.0.0.1',
  port: 3000,
  namespace: '',
});
const res = await client.a('hello');
console.dir(res);
```

实际上，执行

```
http://127.0.0.1:3000/a?$p=[%22hello%22]
```

对应的 Server 函数

```
rpc.fn('a', function (a: string) {
  return a;
});
```

```
rpc.fn('com.yourcompony.a', function (a: string) {
  if (this.method === 'post'){
    return return `${this.path} , ${a} `;
  }
});
```

隐藏http协议

JavaScript

```
http://127.0.0.1:3000/add?$p=[1,2]
```

GET

JavaScript

```
POST /update
Content-Type: application/json

[{"name": "new-name"}]
```

Post

当你想在aircode里做POST请求，代码如下

```
module.exports = async function(params, context) {
  return {
    method: context.method,
    paramsFromPost: params
  };
}
```

其实就是Koa的ctx透传了，没有做啥其他方法。

我的server写法，直接用this（此处的this就函数被apply的ctx）。

```
rpc.fn('com.yourcompany.a', function (a: string) {
  if (this.method === 'post'){
    return return `${this.path} , ${a} `;
  }
});
```

```
import { createClient } from '@tomrpc/client';

const client = createClient({
  host: '127.0.0.1',
  port: 3000,
  namespace: 'com.yourcompany',
  methodFilter: function (lastKey: string) {
    if (lastKey === 'a') {
      return 'post';
    } else {
      return 'get';
    }
  },
});

const res = await client.a('hello');
console.dir(res);
```

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整体设计

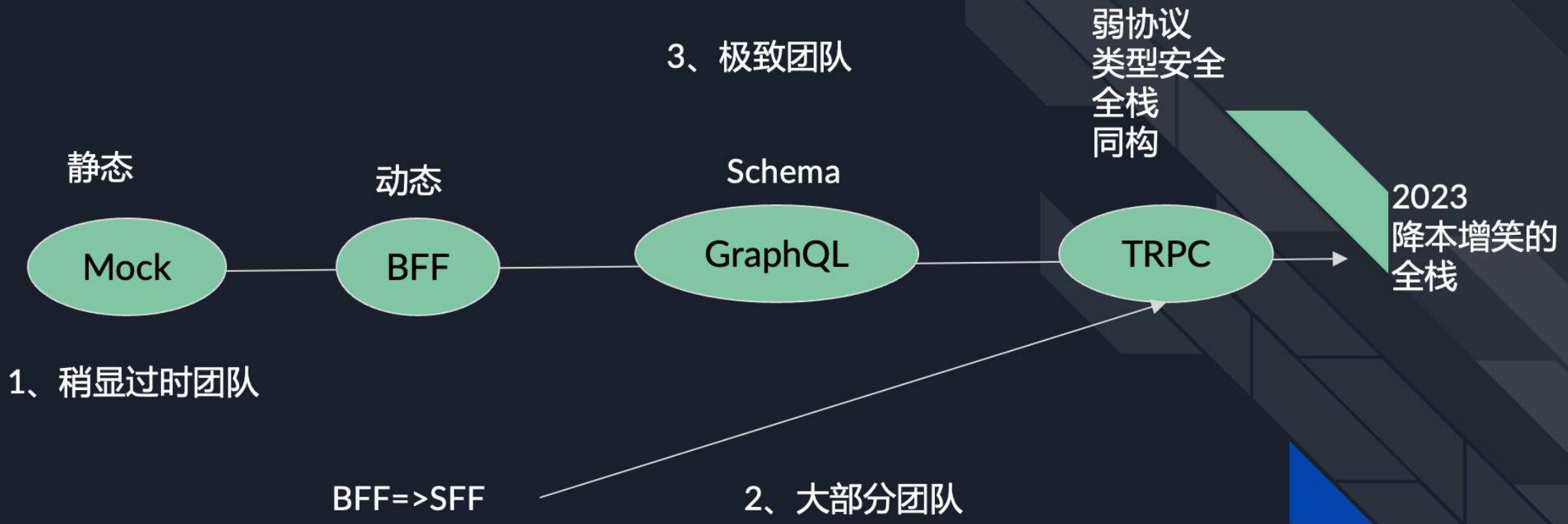
Tomcat

> Build function-based API with minimal code

- Basic
  - @tomrpc/core 最核心的函数机制
  - @tomrpc/client 客户端，支持Node.js和浏览器
- Advance
  - @tomrpc/mount 自动加载某目录下面的所有文件，如果e
- Application（Todo）
  - @tomrpc/app 组合core和mount，增加内置中间件、环境
  - 内置cors、serve、view、jwt中间件

```
import { join } from 'desm';
import { createApp } from '@tomrpc/app';

const rpc = createApp({
  name: 'tomapp',
  base: import.meta.url,
  port: 3001,
  debug: false,
  mount: './f',
  buildin: {
    serve: {
      enable: true, root: join(import.meta.url, '.', 'public'), opts: {}
    },
    cors: { enable: true },
    view: {
      enable: true,
      root: join(import.meta.url, '.', 'view'),
      opts: {
      map: {
        html: 'ejs',
      },
      },
    },
  },
});

rpc.fn('a', function (a) {
  return { a: a };
});

rpc.start();
```

总结一下


静态
Mock
动态
BFF
Schema
GraphQL
3、极致团队
弱协议
类型安全
全栈
同构
TRPC
2023
降本增笑的
全栈
1、稍显过时团队
BFF=>SFF
2、大部分团队

rag

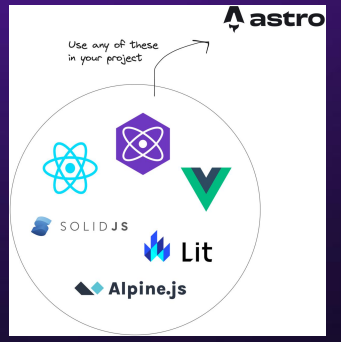
2、野心极大的Astro

craftquest

Astro

What is Astro?

Astro is a JavaScript web framework optimized for building fast, content-driven websites.



Server-First
Astro improves website performance by rendering components on the server, sending lightweight HTML to the browser with zero unneccessary JavaScript overhead.

Content-Driven
Astro was designed to work with your content, no matter where it lives. Load data from your file system, external API, or your favorite CMS.

Customizable
Extend Astro with your favorite tools. Bring your own JavaScript UI components, CSS libraries, themes, integrations, and more.

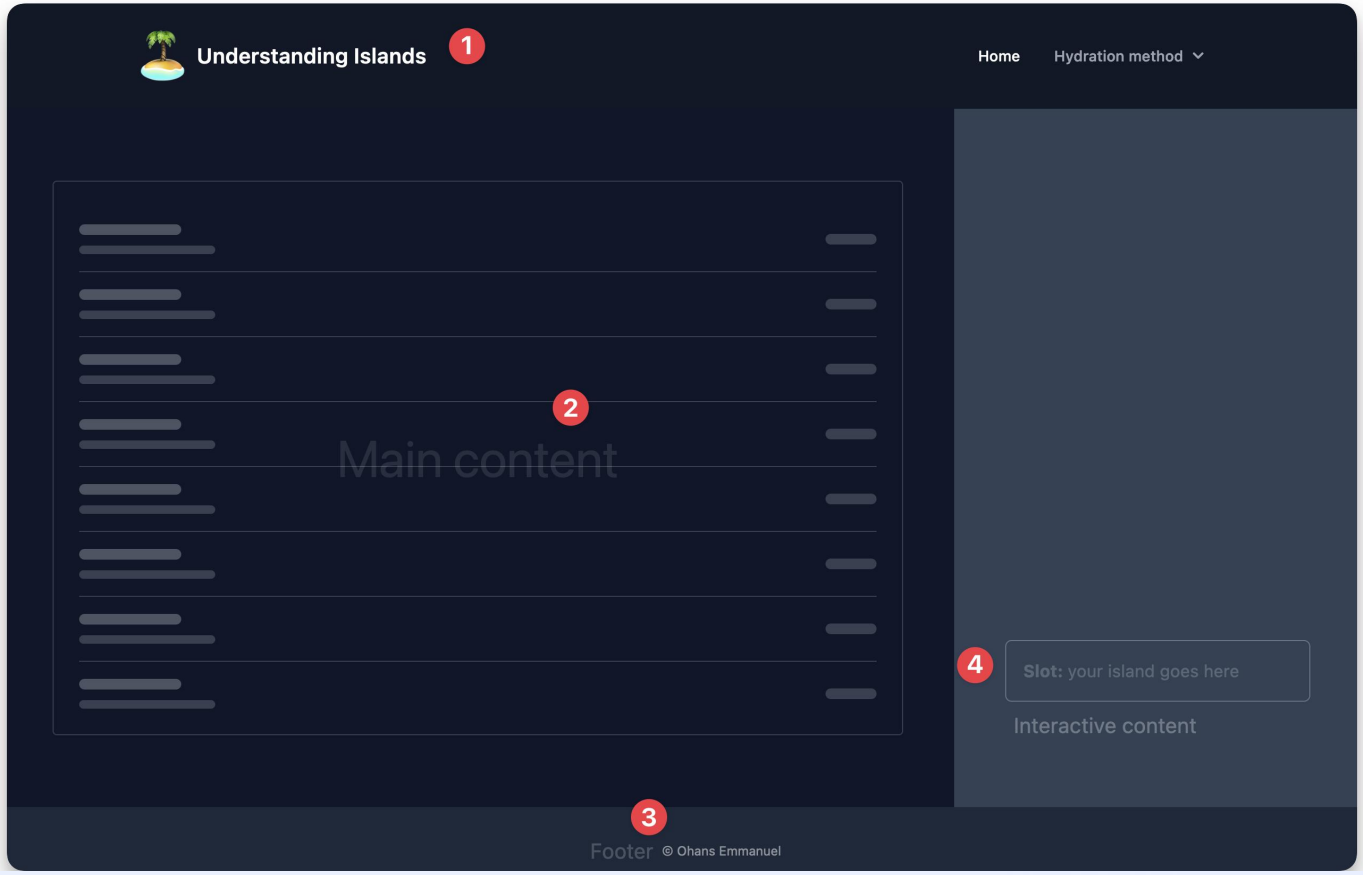
FredKSchott : Snowpack

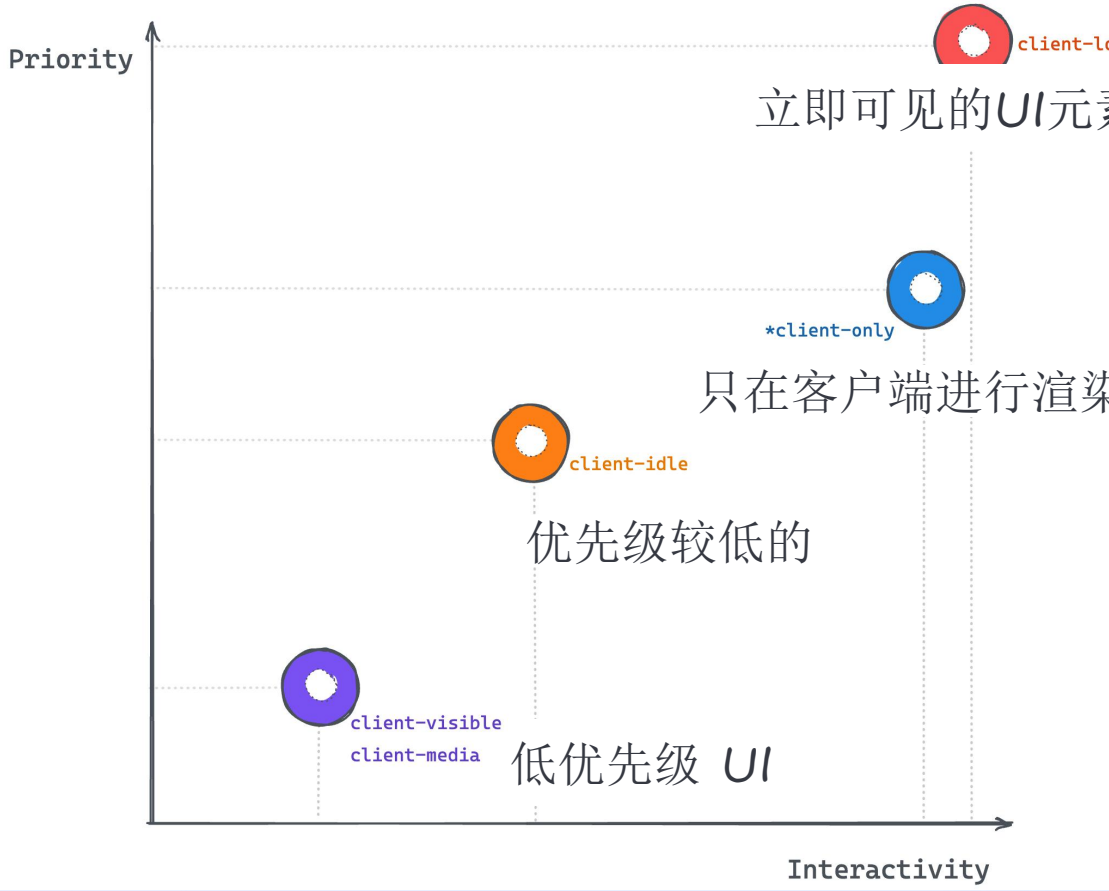
何为面向内容


```
// 1. Import utilities from `astro:content`
import { z, defineCollection } from 'astro:content';

// 2. Define a `type` and `schema` for each collection
const blogCollection = defineCollection({
  type: 'content', // v2.5.0 and later
  schema: z.object({
    title: z.string(),
    tags: z.array(z.string()),
    image: z.string().optional(),
  }),
});

// 3. Export a single `collections` object to register your collection(s)
export const collections = {
  'blog': blogCollection,
};
```

通过mdx嵌入各种组件

核心：控制权


Understanding Islands
1
Home
Hydration method
2
Main content
4
Slot: your island goes here
Interactive content
3
Footer © Ohans Emmanuel


Priority
client-lo
立即可见的UI元素
*client-only
只在客户端进行渲染
client-idle
优先级较低的
client-visible
client-media
低优先级 UI
Interactivity

```
<SomeReactComponent client:only="react" />
<SomePreactComponent client:only="preact" />
<SomeSvelteComponent client:only="svelte" />
<SomeVueComponent client:only="vue" />
<SomeSolidComponent client:only="solid-js" />
```

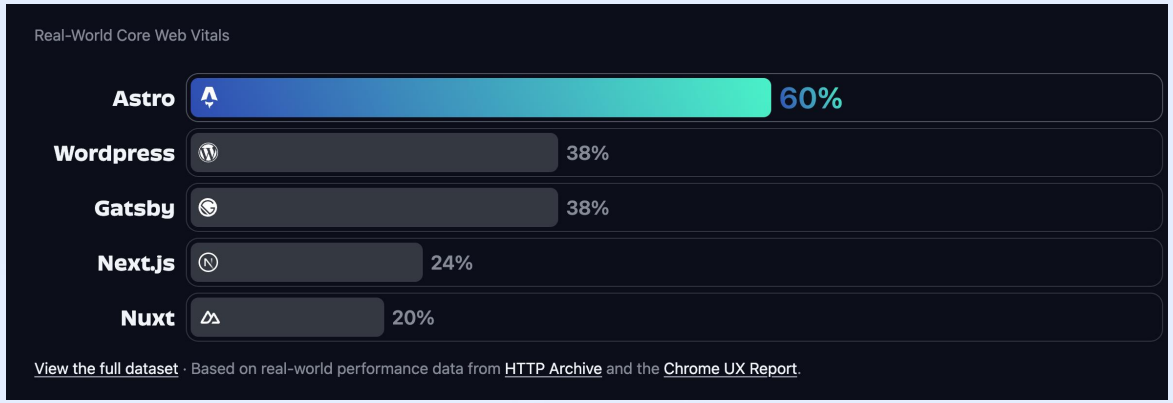
.astro组件和react组件，其实没啥本质区别，唯一需要注意的就是组件加载声明周期控制，即使用client指令。

- `client:load` 它的意思Load and hydrate the component JavaScript immediately on page load.
- `client:only={string}` 回跳过HTML server-rendering，并且只在client上渲染。

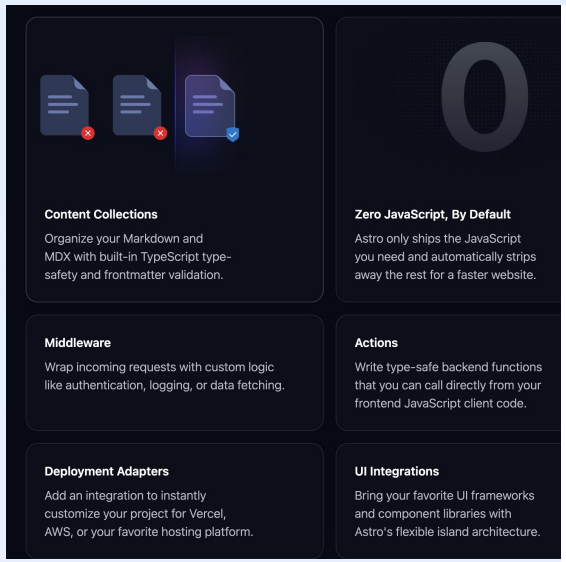
使用React组件，这里以评论为例

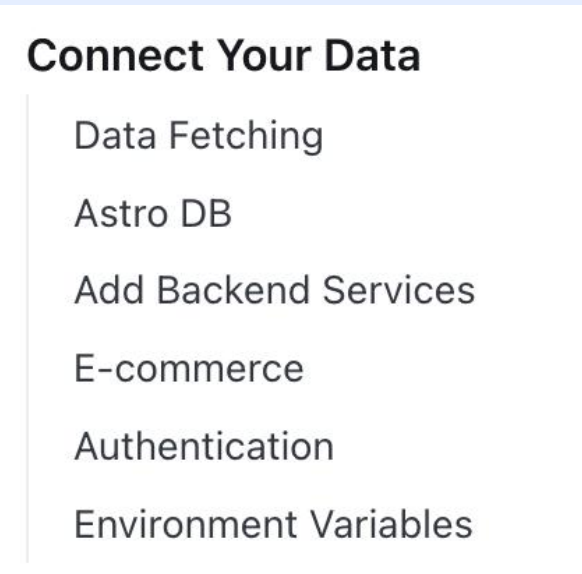
```js
<Comments client:only="react" />
```


SSR
NUXTJS
NEXT.JS
SVELTEKIT
SPA
MPA
SSG


Real-World Core Web Vitals
Astro
60%
Wordpress
38%
Gatsby
38%
Next.js
24%
Nuxt
20%
View the full dataset · Based on real-world performance data from HTTP Archive and the Chrome UX Report.

野心


Content Collections
Organize your Markdown and MDX with built-in TypeScript type-safety and frontmatter validation.
Zero JavaScript, By Default
Astro only ships the JavaScript you need and automatically strips away the rest for a faster website.
Middleware
Wrap incoming requests with custom logic like authentication, logging, or data fetching.
Actions
Write type-safe backend functions that you can call directly from your frontend JavaScript client code.
Deployment Adapters
Add an integration to instantly customize your project for Vercel, AWS, or your favorite hosting platform.
UI Integrations
Bring your favorite UI frameworks and component libraries with Astro's flexible island architecture.


Connect Your Data
Data Fetching
Astro DB
Add Backend Services
E-commerce
Authentication
Environment Variables

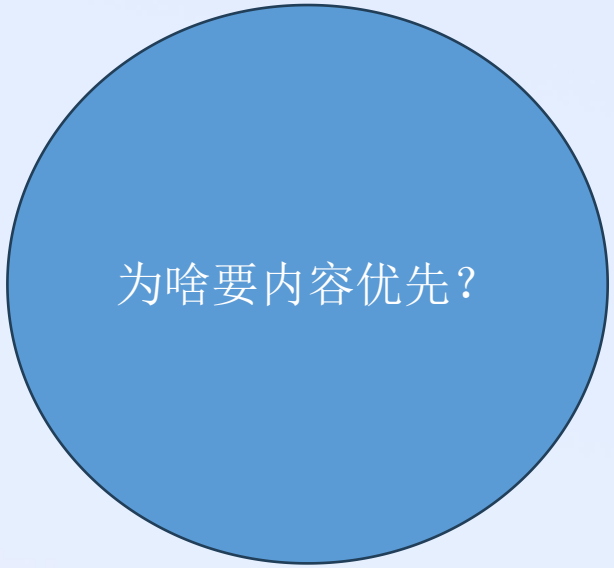
src/actions/index.ts

```ts
import { defineAction, z } from "astro:actions";

export const server = {
  click: defineAction({
    input: z.object({
      name: z.string(),
      massage: z.string(),
    }),
    handler: async ({ name }) => {
      console.log(`Received name: ${name}`);
      // Do something such as querying a database
      return { success: true, data: `Hello ${name
    },
  }),
};
```

src/components/ActionButton.tsx

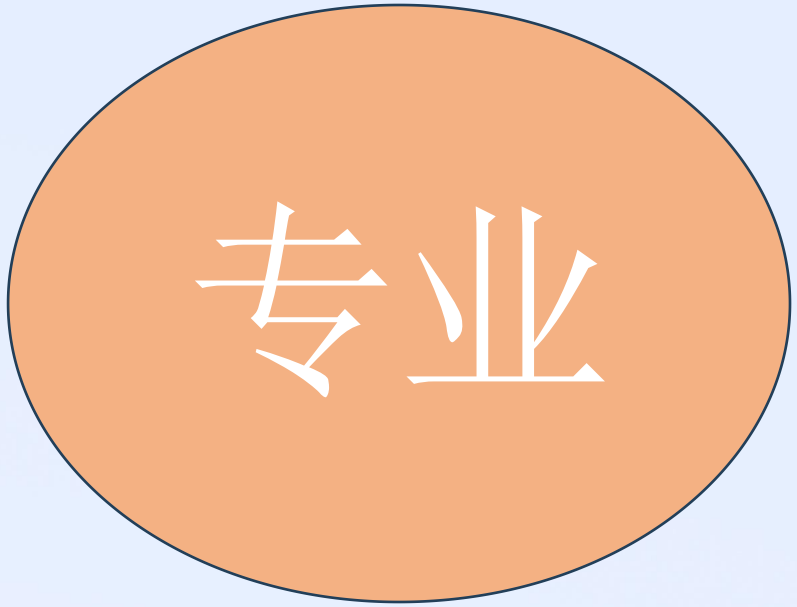
```tsx
import { actions } from "astro:actions";

export function ActionButton() {
  return (
    <button onClick={async (e) => {
          e.preventDefault();
          const result = await actions.click({
            name: 'liruifengv',
            massage: 'hello',
          });
          console.log(result);
          if (result.success) {
            alert(result.data);
          }
        }}>
      click me
    </button>
  );
}
```

Trpc和Astro的2个问号



时代变了

你站哪边？



TS/Nest + Next.js + TRPC

JS/Astro + 啥快用啥

03

独立开发者

使用Astro和AI辅助，做独立开发者的探索之路；

替代70%？

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独立开发者

出海

看上去很美

← 主题帖

npmstudy
@i5ting

2gua提问：独立开发者的最佳技术栈是什么？

基础4大件：node+astro+react+tailwind

后端node里已经有了。koa\express就够了，vercel上发布。
当然，vercel funcion、next也行
如果在补一个，shadcn/ui可以算一个。

至此。6大技术栈

1、node
2、astro
3、react
4、tailwind
5、next
6、shadcn/ui

使用场景

- 门户、博客、文档，astro无敌，性能好，开发简单，如果想ssr，也可以有很多node adapter
- 简单api，express、koa、vercel funcion、next都可以
- astro可以quick，也可以dirty。我个人比较习惯react，组件生态足够。实在需要，加个shadcn/ui
- 我不喜欢next，但next有一些生态是不错的，拿过来改改用，还是很爽的
- 关于css，tailwind写响应式，真是太爽了，不是那么关注可读性，那真是太快了
- 以上技术和各种现有服务都非常容易集成，比如clark、paddle等

独立开发者要求快，能复用就复用，将精力放到产品设计上才是正经事。

以上。欢迎讨论

下午12:00 · 2024年3月15日 · **19.3万** 查看

搜索

相关用户

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@i5ting
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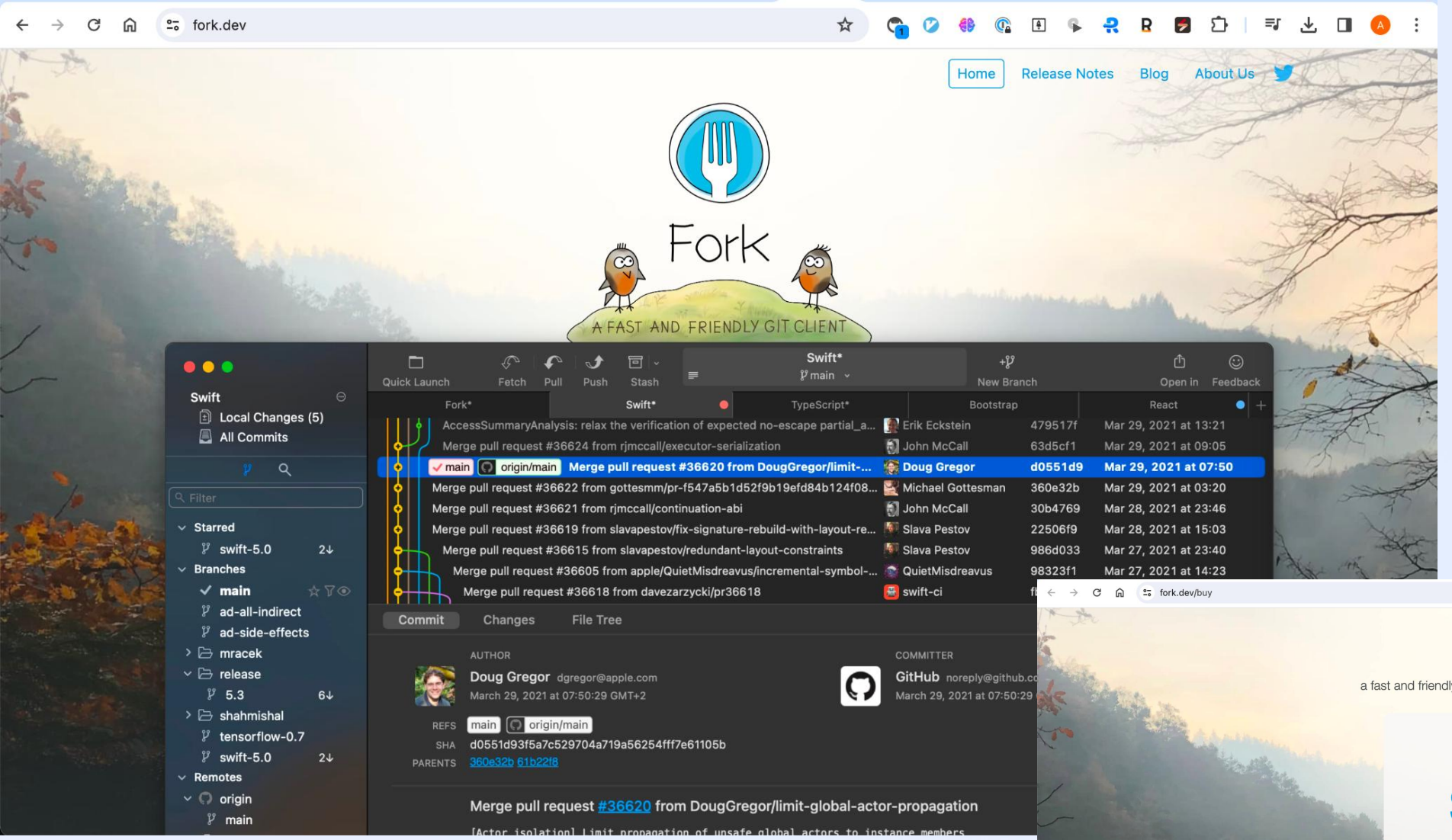
#hololivefesEXPO24

Quick and dirty?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Branches
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release
5.3
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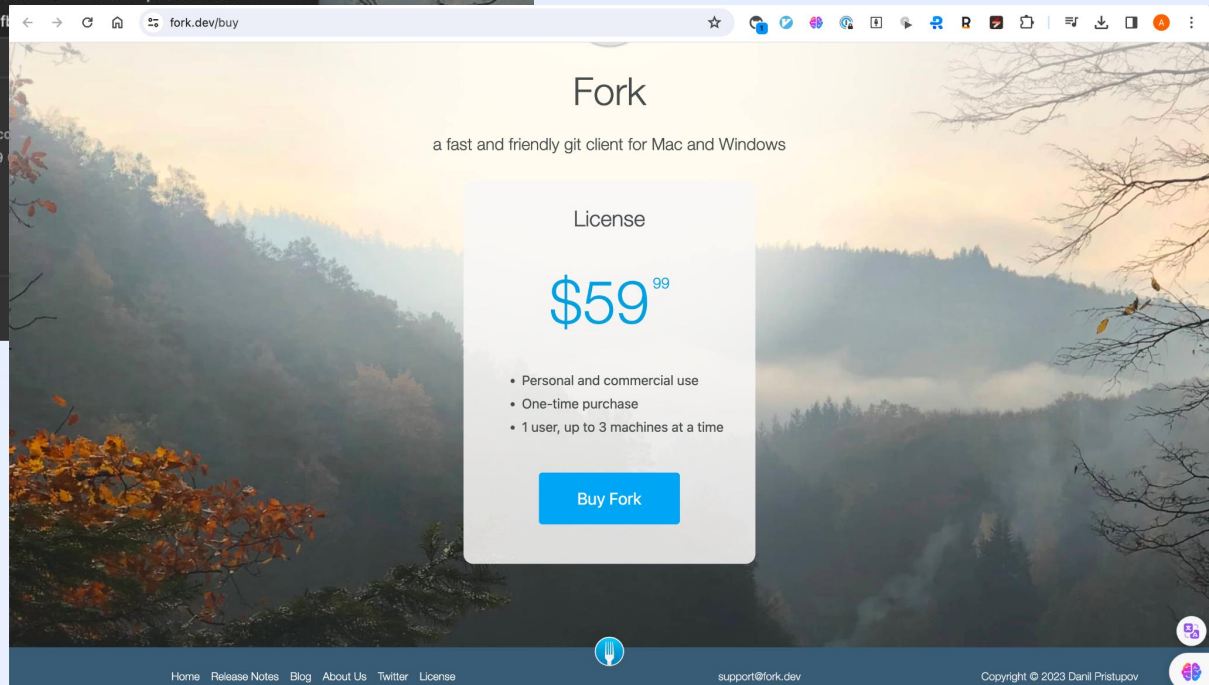
tensorflow-0.7
swift-5.0
Remotes
origin
main
Fork*
Swift*
TypeScript*
Bootstrap
React
AccessSummaryAnalysis: relax the verification of expected no-escape partial_a... Erik Eckstein 479517f Mar 29, 2021 at 13:21
Merge pull request #36624 from rjmccall/executor-serialization John McCall 63d5cf1 Mar 29, 2021 at 09:05
main origin/main Merge pull request #36620 from DougGregor/limit-... Doug Gregor d0551d9 Mar 29, 2021 at 07:50
Merge pull request #36622 from gottesmm/pr-f547a5b1d52f9b19efd84b124f08... Michael Gottesman 360e32b Mar 29, 2021 at 03:20
Merge pull request #36621 from rjmccall/continuation-abi John McCall 30b4769 Mar 28, 2021 at 23:46
Merge pull request #36619 from slavapestov/fix-signature-rebuild-with-layout-re... Slava Pestov 22506f9 Mar 28, 2021 at 15:03
Merge pull request #36615 from slavapestov/redundant-layout-constraints Slava Pestov 986d033 Mar 27, 2021 at 23:40
Merge pull request #36605 from apple/QuietMisdreavus/incremental-symbol-... QuietMisdreavus 98323f1 Mar 27, 2021 at 14:23
Merge pull request #36618 from davezarzycki/pr36618 swift-ci
Commit
Changes
File Tree
AUTHOR
Doug Gregor dgregor@apple.com
March 29, 2021 at 07:50:29 GMT+2
COMMITTER
GitHub noreply@github.co
March 29, 2021 at 07:50:29
REFS main origin/main
SHA d0551d93f5a7c529704a719a56254fff7e61105b
PARENTS 360e32b 61b22f8
Merge pull request #36620 from DougGregor/limit-global-actor-propagation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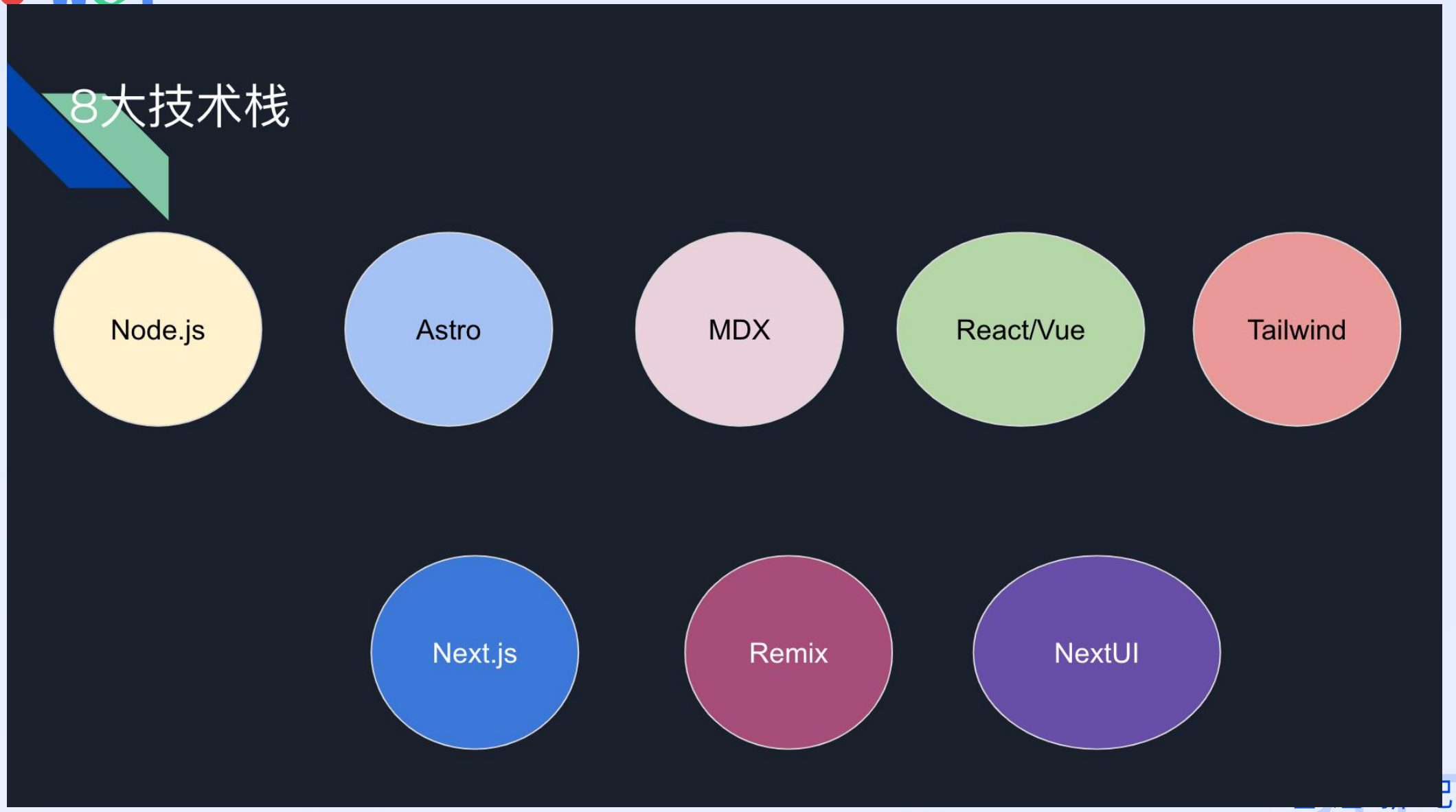
8大技术栈
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MDX
React/Vue
Tailwind
Next.js
Remix
NextUI

场景

Astro

Starlight

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Supabase

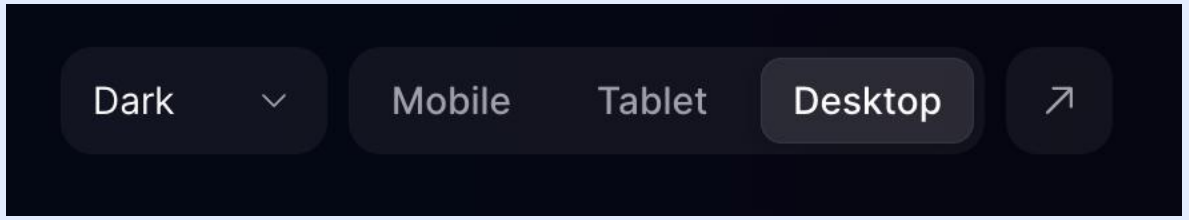
Paddle

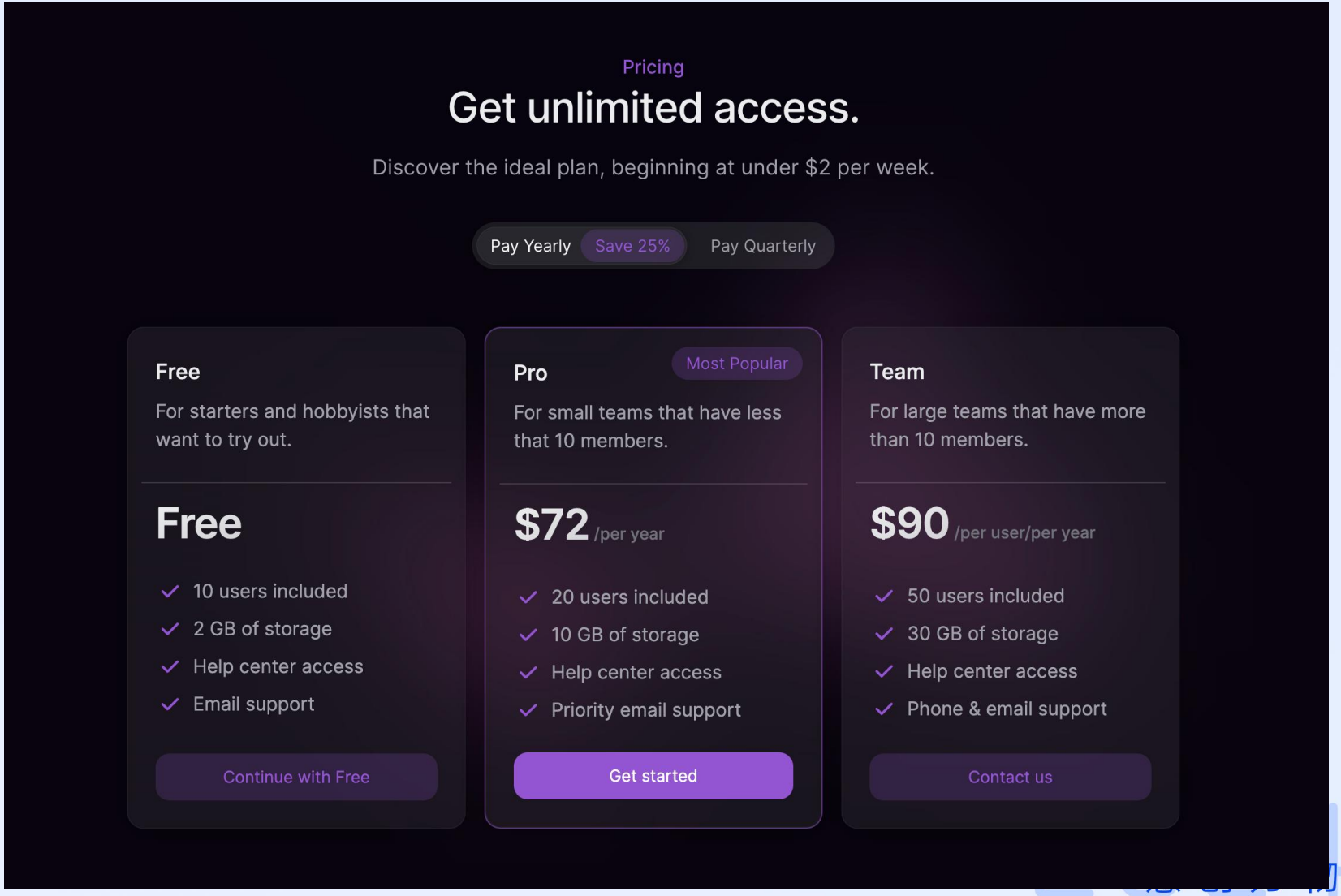
Unkey

Stripe

150+

240





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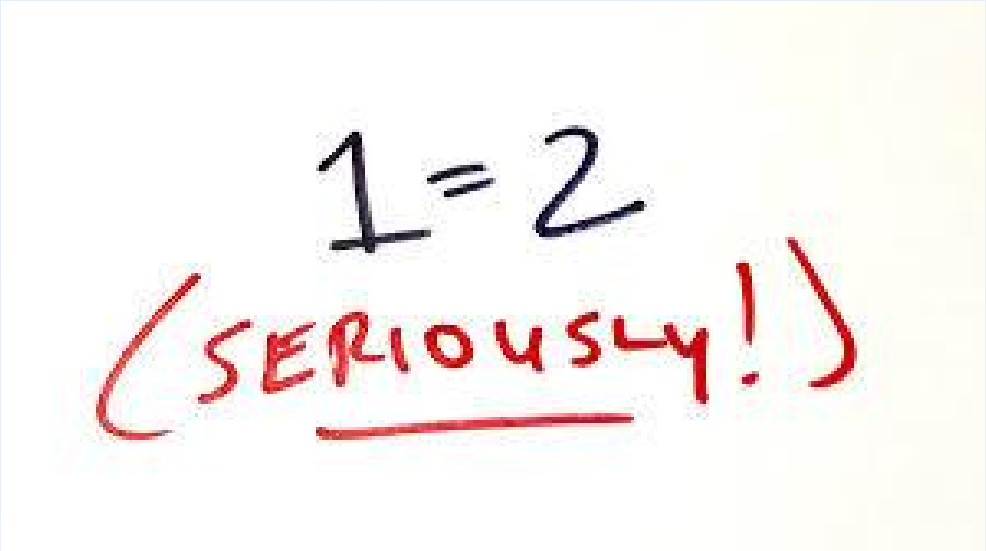
- 如上所讲技术
- 到低码搞一个工具，
- 做landing page
- 如何运营销售

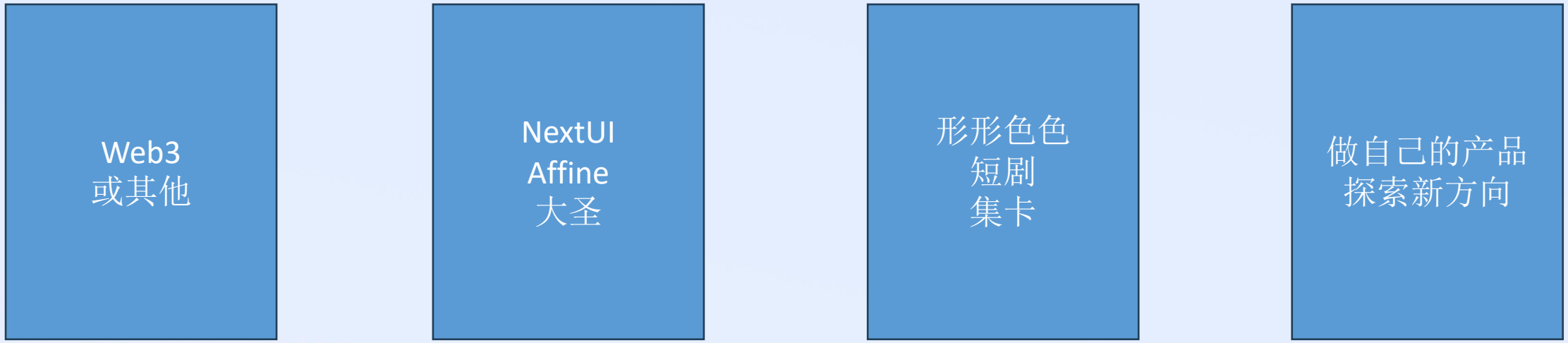


04 未来

前端谋生的N种可能

苟住或者下一个卷地，其他

去处



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Indie hacker

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谢 谢 观 看

THANKS