Vue3 集训营

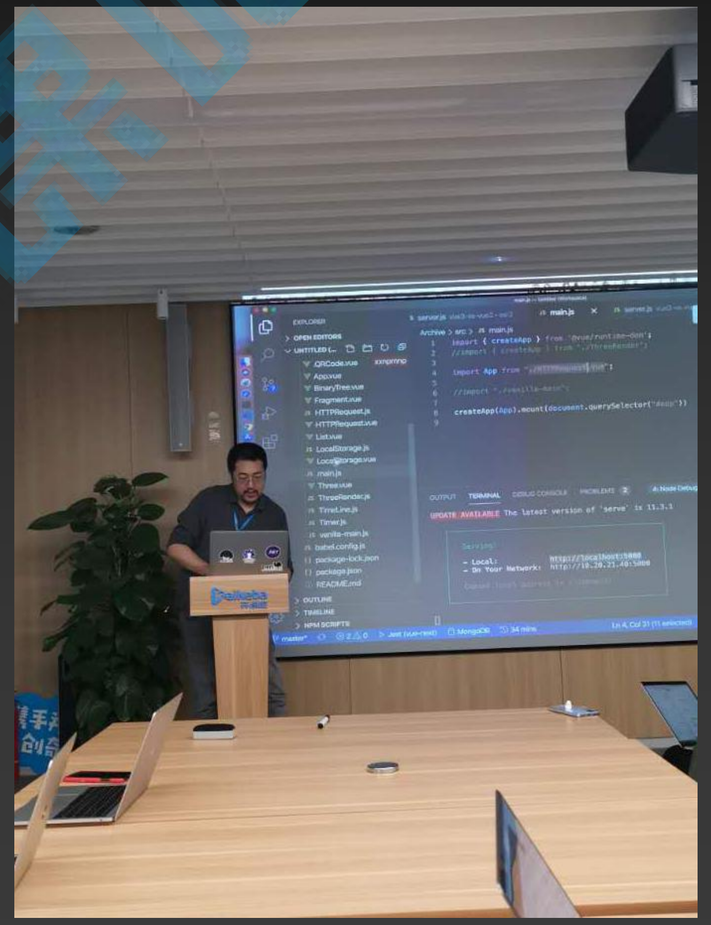
@崔效瑞

关于我

- 崔效瑞@键盘侠
- Github：https://github.com/cuixiaorui
- B站：https://space.bilibili.com/175301983
- 掘金：https://juejin.im/user/58feaeec61ff4b00667515f7/posts

关于集训营

- 玩中学《飞机大战》
- 打造面试亮点杀器



今日目标

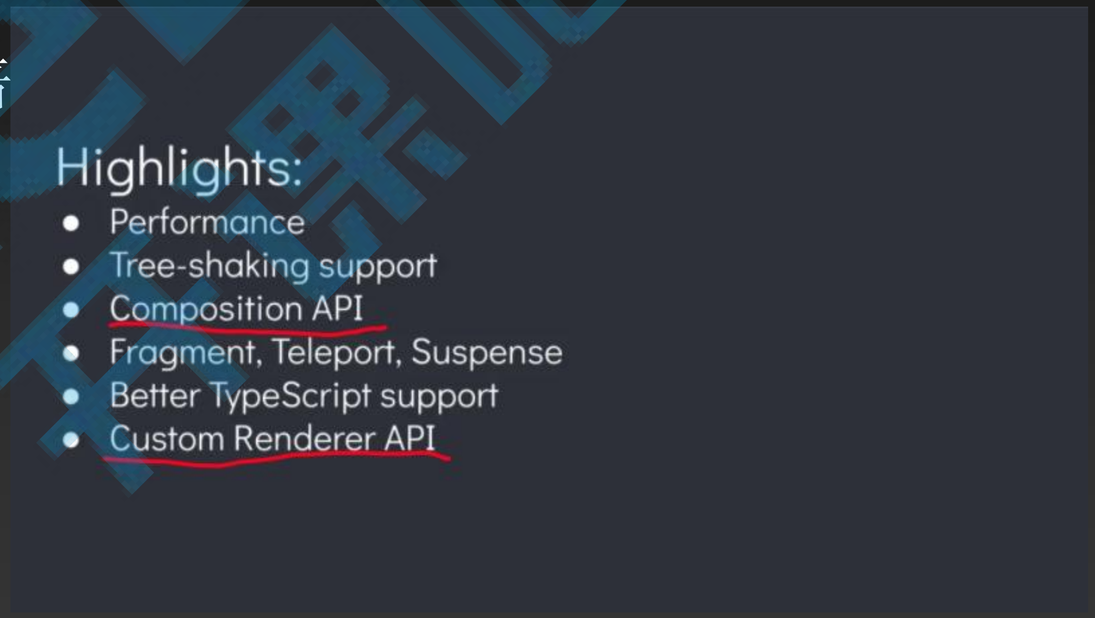
- 认识 vue3
- 构建《飞机大战》第一步
  - 使用 Custom renderer api 让视图渲染到 canvas 平台
- 分析 vue3 初始化流程

为什么要学习 vue3

- 投资知识
- 国内最火技术
- 招聘硬需求(亮点)
- 弯道超车最好的时机

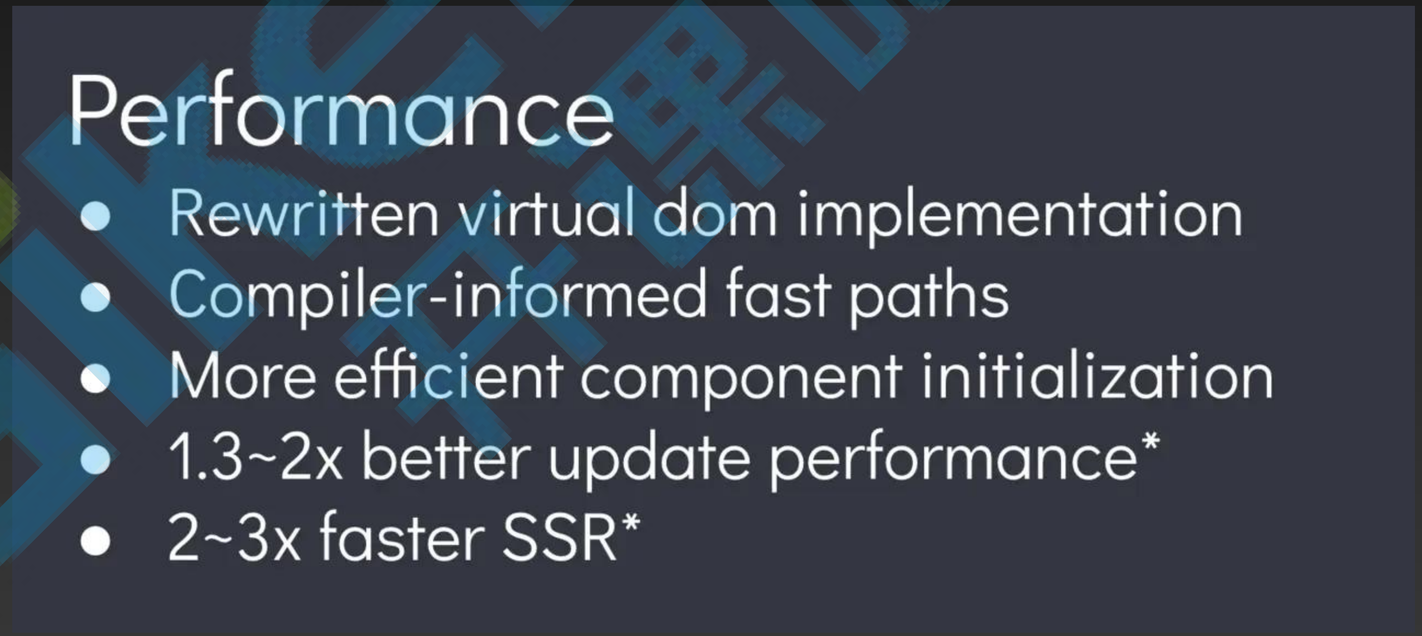
Vue3 亮点

- Performance (比 vue2 runtime快了2倍
- Tree shaking（按需编译代码）
- Ts support （更优秀的Ts支持）
- Composition API（组合 API）
- Custom Renderer API （自定义渲染器）
- 内置新特性组件



性能

- 重写了虚拟 dom 的实现
- 编译模板的优化(运行时编译)
- update 性能提高
- SSR 速度提高

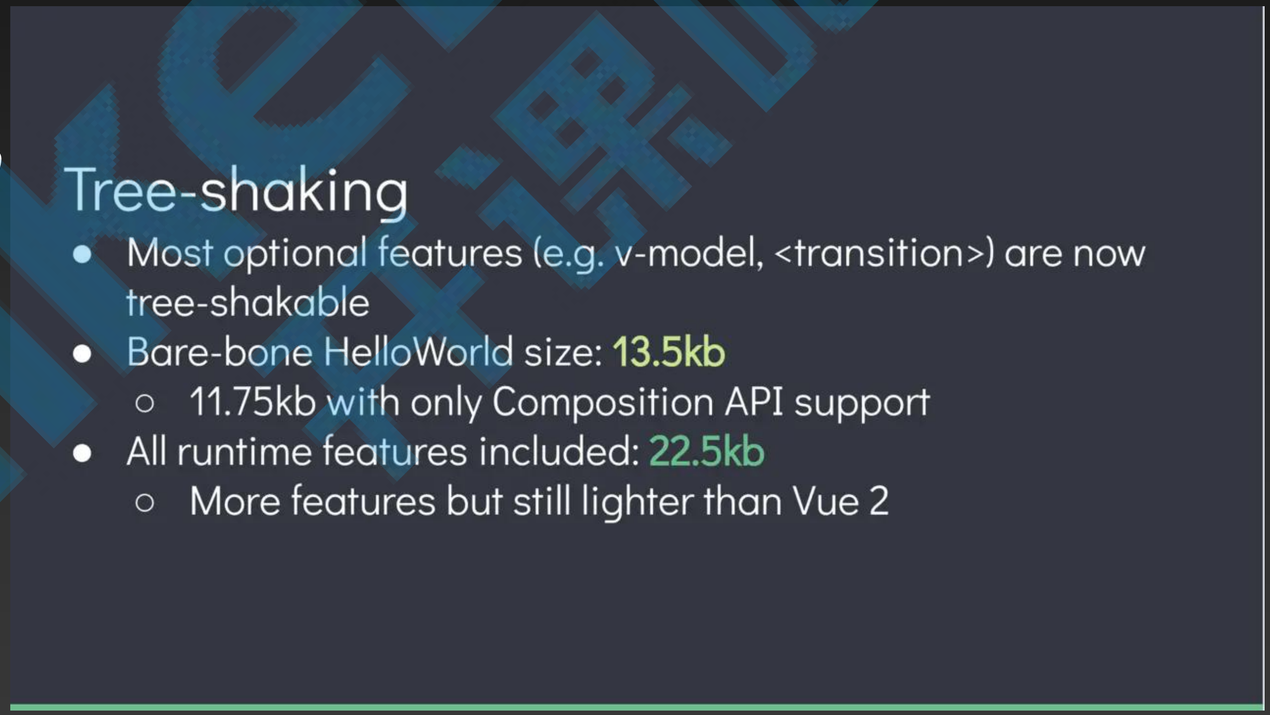


Vue3 vs Vue2

	Chrome mount	Chrome update avg	Chrome update best	Chrome memory (mb)
Vue 2 template + with	93.46	23.17	16.44	11.9
Vue 3 template + with	77.43	9.18	7.69	4.5
Improvement over v2 (template + with)	20.70%	152.40%	113.78%	164.44%
Vue 2 render fn (manual h, no this access)	90.9	15.75	8.18	10.2
Vue 3 render fn (manual h, no this access)	76.46	7.56	5.33	7.4
Improvement over v2 (manual)	18.89%	108.33%	53.47%	37.84%
Vue 2 template no with	97.44	13.18	8.29	9.9
Vue 3 template no with	62.82	5.64	3.78	4.5
Improvement over v2 (template no with)	55.11%	133.69%	119.31%	120.00%
Vue 2 raw (no reactive state)	88.67	12.27	7.99	8.6
Vue 3 raw (no reactive state)	47.6	3.37	2.38	3.7
Improvement over v2 (raw)	86.28%	264.09%	235.71%	132.43%

Tree shaking

- 按需打包
- Vue2 纯 helloWorld：31.94kb



TypeScript Support

- 自动的类型定义提示

Better TypeScript Support

- Codebase written in TS w/ auto-generated type definitions
- API is the same in JS and TS
  - In fact, code will also be largely the same
- TSX support
- Class component is still supported (vue-class-component@next is currently in alpha)

Fragment

- 不再限于模板中的单个根节点

HelloWorld.vue vue3/src/components/HelloWorld.vue/ { } "HelloWorld.vue"/ script

You, a few seconds ago | 1 author (You)

```vue
<template>
  <div>hello</div>
  <div>world</div>
</template>
```

Fragments

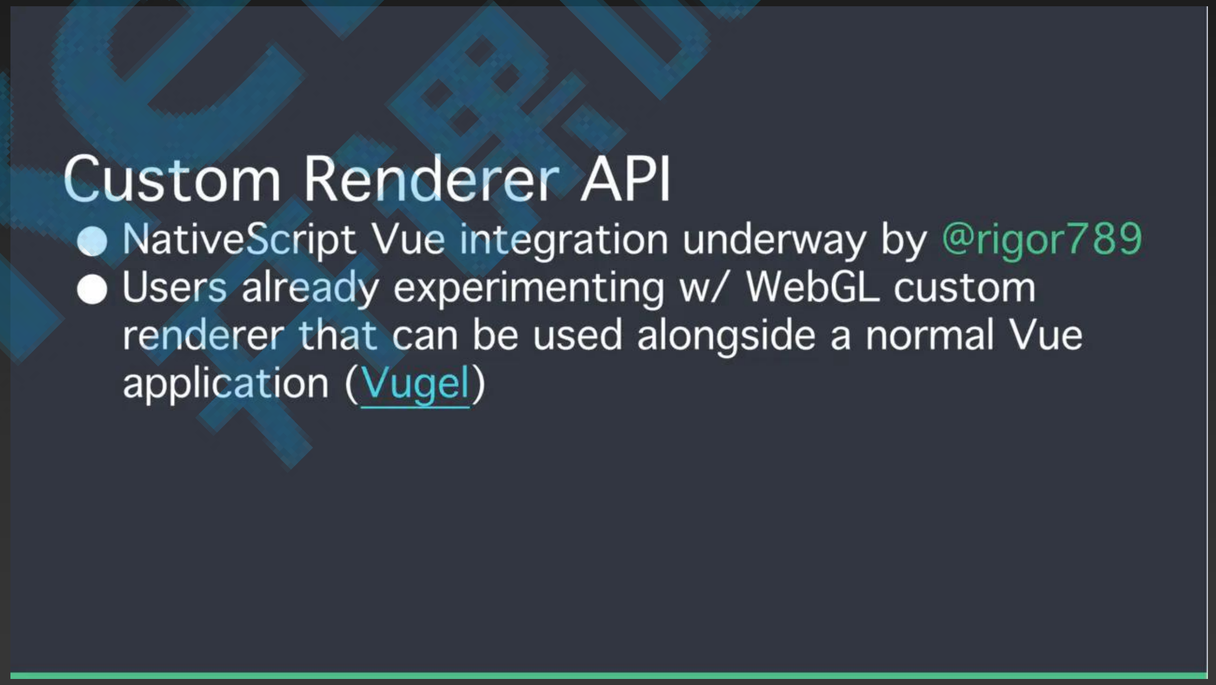
- No longer limited to a single root node in templates
- Manual render functions can simply return Arrays
- “Just works”

Composition API

- 灵活的逻辑组合与复用
- 响应式对象
  - ref
  - reactive
- 生命周期
  - onMounted
  - onUnmounted

Custom Renderer API

- 解决什么问题



解决什么问题

App.vue demo-vue/src/App.vue/{}"App.vue"/script

```vue
<template>
  <div id="app">
    <img alt="Vue logo" src="./assets/logo.png">
    <HelloWorld msg="Welcome to Your Vue.js App"/>
  </div>
</template>

<script>
import HelloWorld from './components/HelloWorld.vue'
```

总结为什么学vue3

- 更快
- 更好

Custom Renderer API

- createRenderer
- 接口
  - createElement
  - insert
  - patchProp

```
import {
  createRenderer,
} from '@vue/runtime-core'

function ensureRenderer() {
  return renderer || (renderer = createRendere (rendererOptions))
}
```

实现自定义的 renderer

- canvas 和 vue3 的碰撞
- canvas —-> pixi.js
- 目标：vue3 结合 pixi.js 实现把图形绘制到 canvas 上

setup 环境

- 配置 webpack
- 配置 scripts
  - build
  - serve

实现 renderer

- createRenderer({...nodeOps,patchProp})
- const nodeOps = {}
- function patchProp(){}

构建程序入口

- createApp()

JS main.js demo-vue/src/main.js

You, a few seconds ago | 1 author (You)

```
1  import { createApp } from "vue";
2  import App from "./App.vue";
3  createApp(App).mount("#app");
4
```

构建 canvas 根容器

- 引入 pixi.js
- 初始化 canvas 容器

构建根组件

- defineComposition()
- Renderer
- h
- vnode

完善渲染接口

- insert
- createElement
- setElementText

完善 patchProp

- patchProp(el,key,prevValue,nextValue)

交心时间

Runtime-dom

- 读一读源码

custom Renderer 实现原理

- 深入 runtime-core 模块
- 分析 insert 和 createElement 的整个流程

总结

- 灵魂拷问 - 你今天学到了啥？
- 自定义渲染器
  - 是什么（what）
  - 怎么用（how）
  - 实现原理（why）
- Vue3 运行时初始化流程分析

明天内容预告

- 飞机大战搞起来~