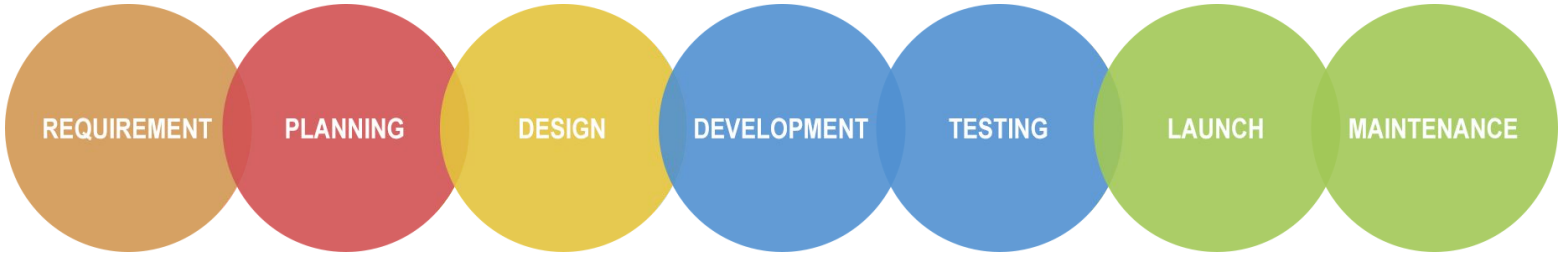
Front End Developer

王逸賢

Andy Wang

@王逸賢 @website

Website Process



So, UI / UX...

So, UI / UX...

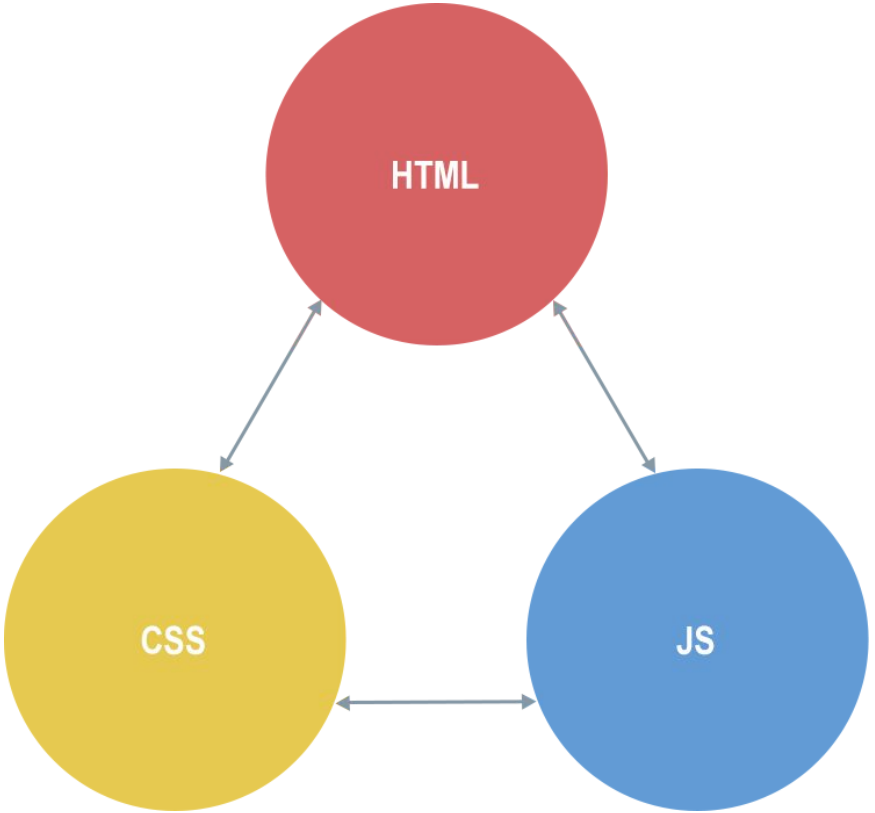
Is Designer's Things

Front-End 3-factor

HTML - structure

CSS - style

JS - behavior



HTML

HyperText Markup Language

index.html

```html
<!DOCTYPE html>
<html>
<head>
<title>Title</title>
<meta charset="UTF-8">
<meta lang="tw">
<!-- 瀏覽器呈現設置為不同版本的兼容級別 -->
<meta http-equiv="X-UA-Compatible" content="IE=edge,chrome=1">
<meta name="description" content="Descroption"/>
<meta name="keywords" content="Keywords"/>
<!-- css -->
<link rel="stylesheet" href="css/demo.css">
<!-- JS -->
<script src="https://ajax.googleapis.com/ajax/libs/jquery/1.9.1/jquery.min.js"></script>
<script src="js/demo.js"></script>
</head>
<body>
  <h1>一級標題</h1>
  <h2>二級標題</h2>
  <h3>三級標題</h3>
  <h4>四級標題</h4>
  <h5>五級標題</h5>
  <h6>六級標題</h6>
  <br>
  <p>Hello world!</p>
  <button>點我更換 Hello World</button>
</body>
</html>
```

CSS

Cascading Style Sheets

JS jQuery
write less, do more.

JavaScript 唯一被各家瀏覽器所共同支援的程式語言

jQuery JavaScript函式庫

FLASH

Adobe Flash Player

More Interactive

http://saizenmedia.com/fubon/

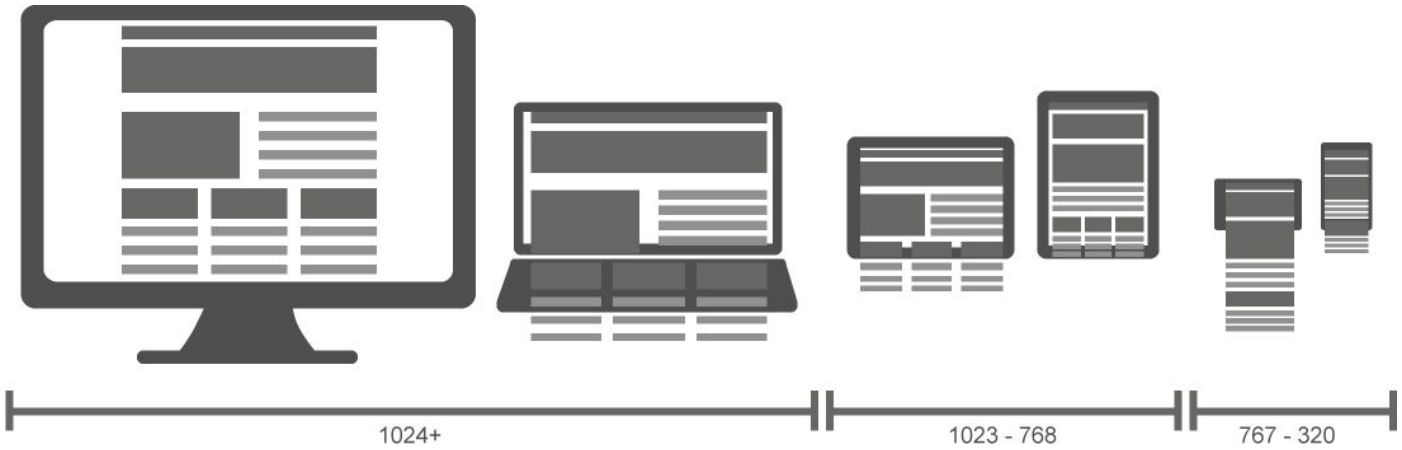
以上是 6 年前的我

「每 18 至 24 個月，前端都會難一倍」

-赫門《前端服務化之路》@2015 shenJS

Mobile device

iPhone4 @2010, iPad @2010, Laptop @?, Android Phone @?



https://mydevice.io/devices/

RWD / AWD

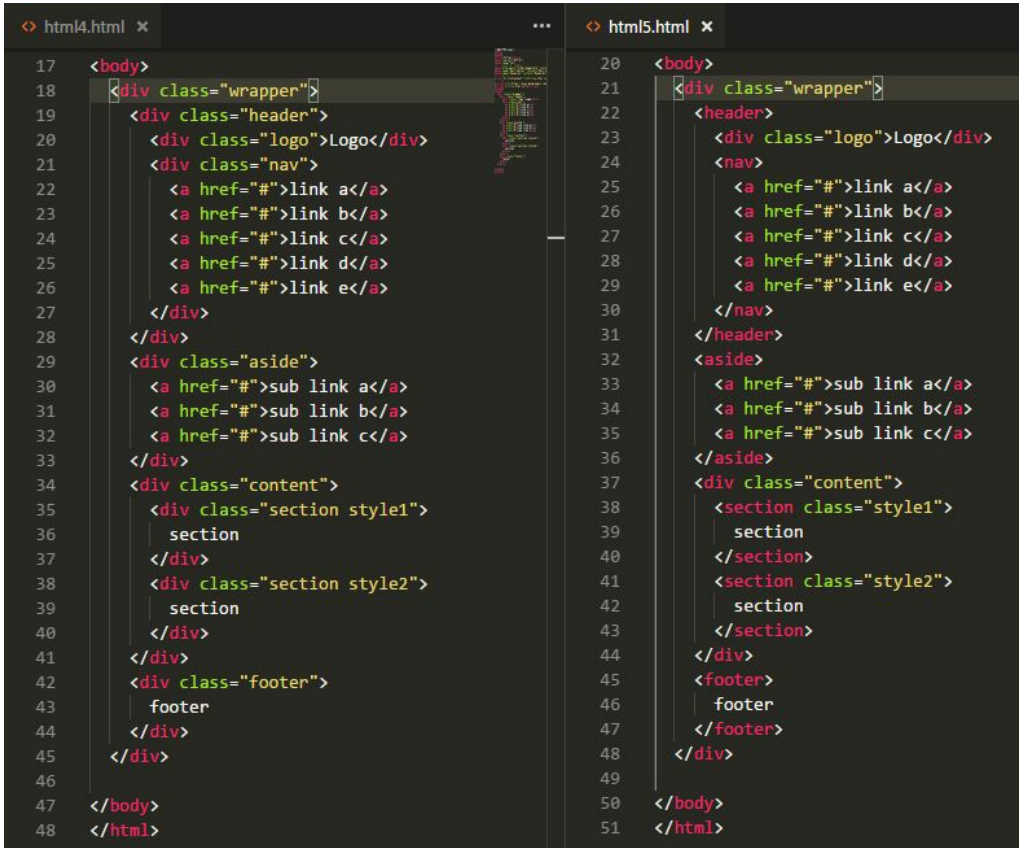
Responsive Web Design

Adaptive Web Design

HTML 5

[HTML5 NEW TAG]

svg, canvas



html4.html

```
<body>
  <div class="wrapper">
    <div class="header">
      <div class="logo">Logo</div>
      <div class="nav">
        <a href="#">link a</a>
        <a href="#">link b</a>
        <a href="#">link c</a>
        <a href="#">link d</a>
        <a href="#">link e</a>
      </div>
    </div>
    <div class="aside">
      <a href="#">sub link a</a>
      <a href="#">sub link b</a>
      <a href="#">sub link c</a>
    </div>
    <div class="content">
      <div class="section style1">
        section
      </div>
      <div class="section style2">
        section
      </div>
    </div>
    <div class="footer">
      footer
    </div>
  </div>

</body>
</html>
```

html5.html

```
<body>
  <div class="wrapper">
    <header>
      <div class="logo">Logo</div>
      <nav>
        <a href="#">link a</a>
        <a href="#">link b</a>
        <a href="#">link c</a>
        <a href="#">link d</a>
        <a href="#">link e</a>
      </nav>
    </header>
    <aside>
      <a href="#">sub link a</a>
      <a href="#">sub link b</a>
      <a href="#">sub link c</a>
    </aside>
    <div class="content">
      <section class="style1">
        section
      </section>
      <section class="style2">
        section
      </section>
    </div>
    <footer>
      footer
    </footer>
  </div>

</body>
</html>
```

CSS3

CSS3 introduction

Media Queries

Transform, Transitions, Animation

Bootstrap

bootstrap introduction

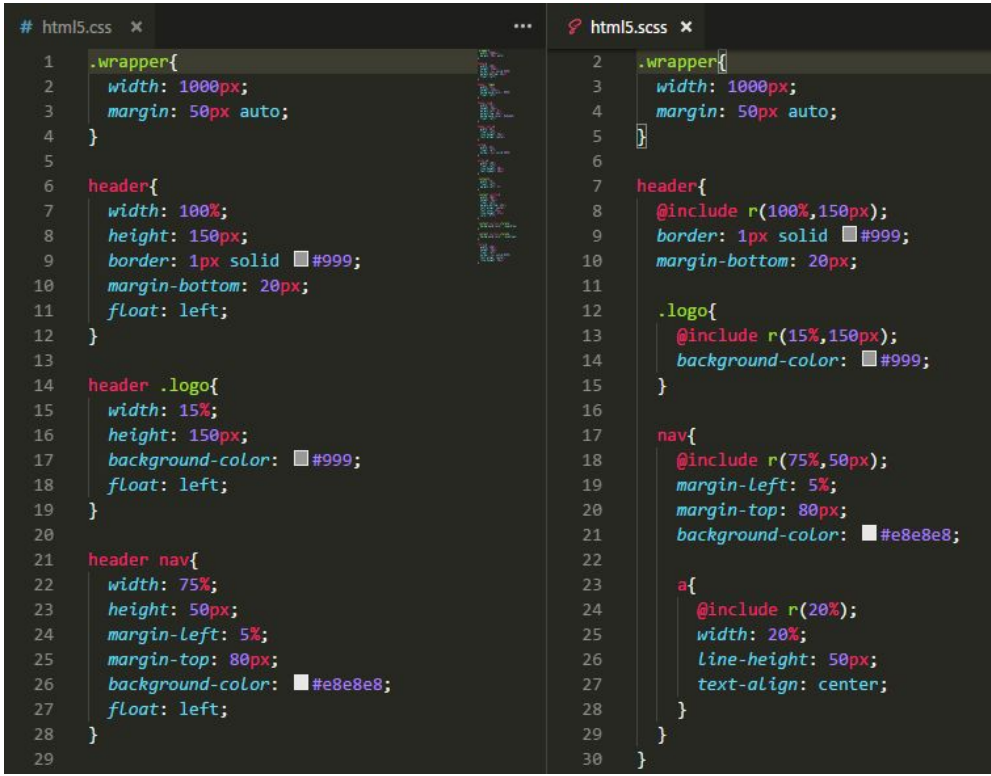
faster development, but too heavy

Sass, Scss, Compass

巢狀結構

@include, @mixin, @function...

利用 compass - 解決前綴字



html5.css

```css
.wrapper{
  width: 1000px;
  margin: 50px auto;
}

header{
  width: 100%;
  height: 150px;
  border: 1px solid #999;
  margin-bottom: 20px;
  float: left;
}

header .logo{
  width: 15%;
  height: 150px;
  background-color: #999;
  float: left;
}

header nav{
  width: 75%;
  height: 50px;
  margin-left: 5%;
  margin-top: 80px;
  background-color: #e8e8e8;
  float: left;
}
```

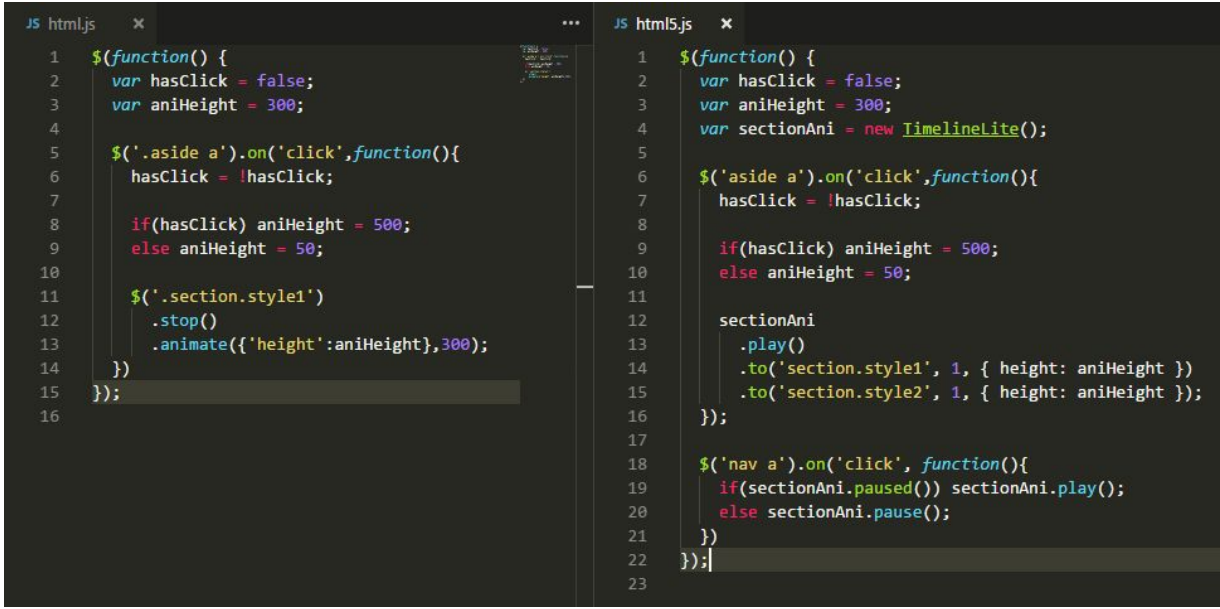
html5.scss

```scss
.wrapper{
  width: 1000px;
  margin: 50px auto;
}

header{
  @include r(100%,150px);
  border: 1px solid #999;
  margin-bottom: 20px;

  .logo{
    @include r(15%,150px);
    background-color: #999;
  }

  nav{
    @include r(75%,50px);
    margin-left: 5%;
    margin-top: 80px;
    background-color: #e8e8e8;

    a{
      @include r(20%);
      width: 20%;
      line-height: 50px;
      text-align: center;
    }
  }
}
```

TweenMax

Timeline progress

Optimization



html.js

```
$(function() {
  var hasClick = false;
  var aniHeight = 300;

  $('.aside a').on('click',function(){
    hasClick = !hasClick;

    if(hasClick) aniHeight = 500;
    else aniHeight = 50;

    $('.section.style1')
      .stop()
      .animate({'height':aniHeight},300);
  })
});
```

html5.js

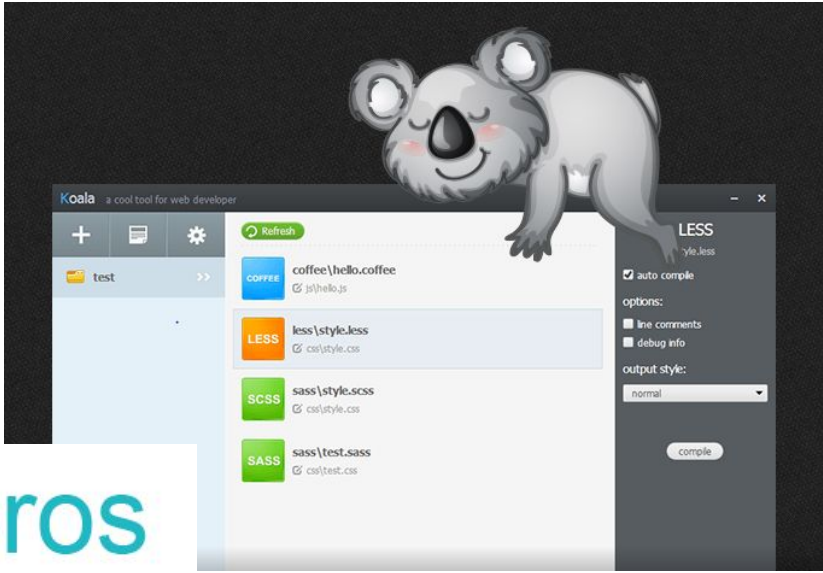
```
$(function() {
  var hasClick = false;
  var aniHeight = 300;
  var sectionAni = new TimelineLite();

  $('aside a').on('click',function(){
    hasClick = !hasClick;

    if(hasClick) aniHeight = 500;
    else aniHeight = 50;

    sectionAni
      .play()
      .to('section.style1', 1, { height: aniHeight })
      .to('section.style2', 1, { height: aniHeight });
  });

  $('nav a').on('click', function(){
    if(sectionAni.paused()) sectionAni.play();
    else sectionAni.pause();
  })
});
```

Automation Tools

[Koala]

[Prepros]

[Fire.app]



Prepros

Fire.app

以上是目前國泰銀行主要使用的技術

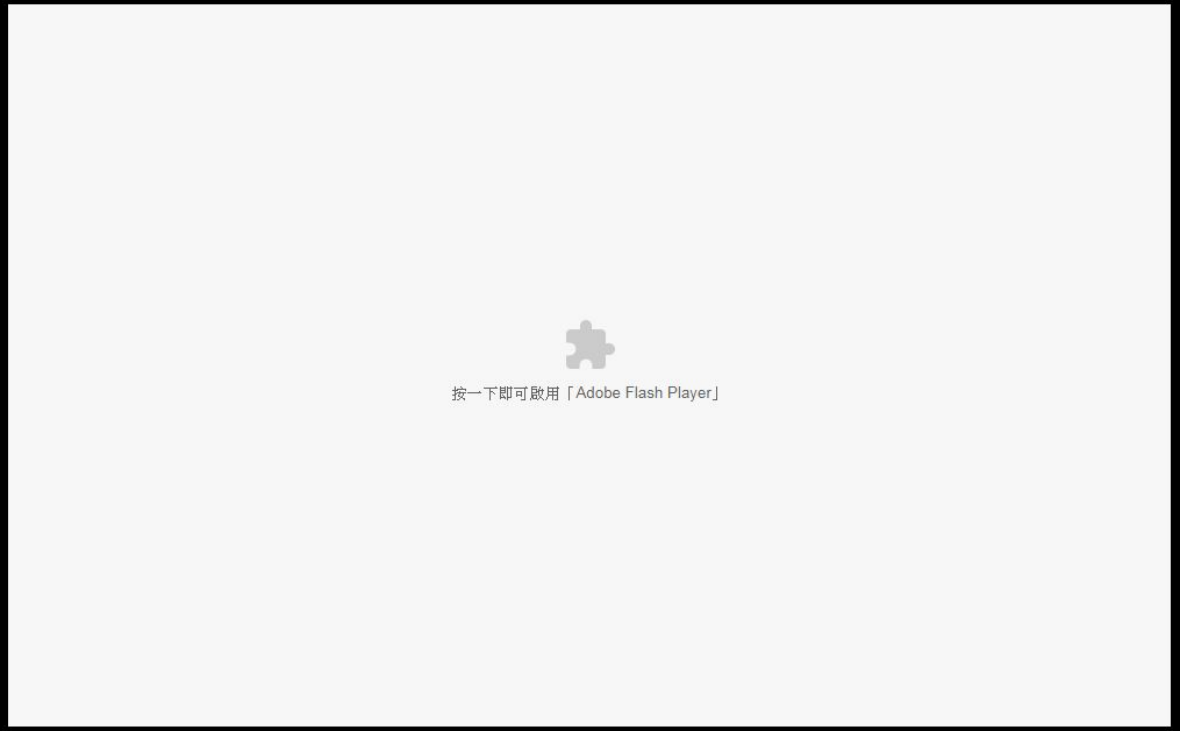
但也是 4 年前的我

FLASH

The Best And Awesome Version

about
о компании
contact
связь
blog
блог
fubon
two tales
web
сайты
pixel art
пиксель арт
other
другое
play
stop
volume

按一下即可啟用「Adobe Flash Player」



Amazing...

Node.js

能夠在伺服器端運行JavaScript的開放原始碼

使用Google V8 JavaScript 引擎

NPM - Node Package Manager

Gulp

Use node.js, npm

compile html, css, js

run a webserver (with LiveReload)

compress photo (png,jpg...)

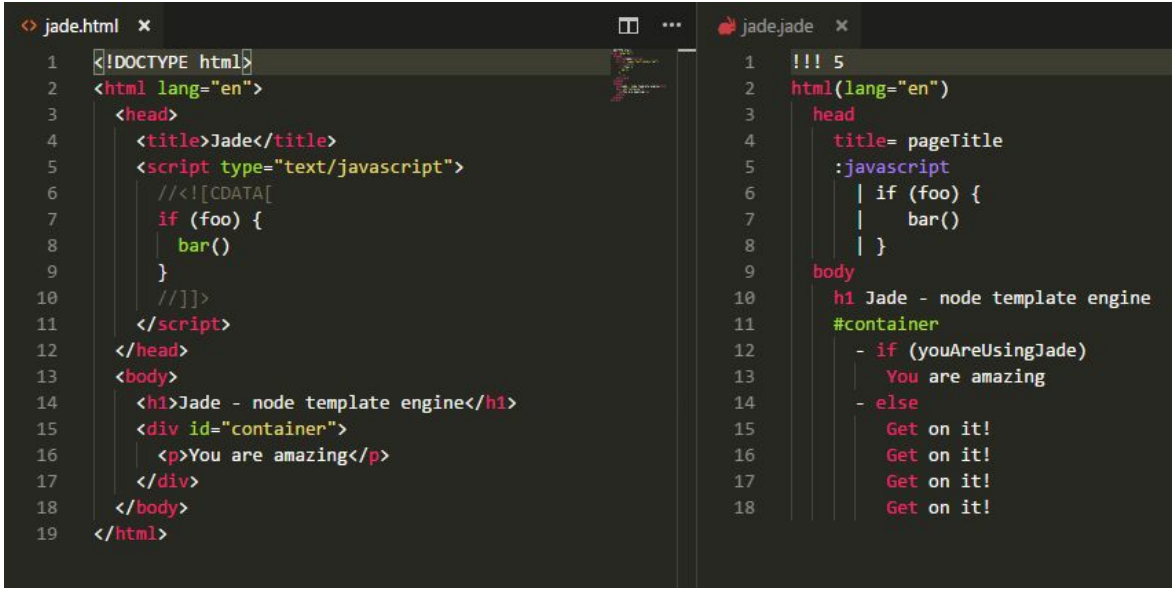
Jade

JADE
NODE TEMPLATE ENGINE

[Jade introduction]

簡化 html

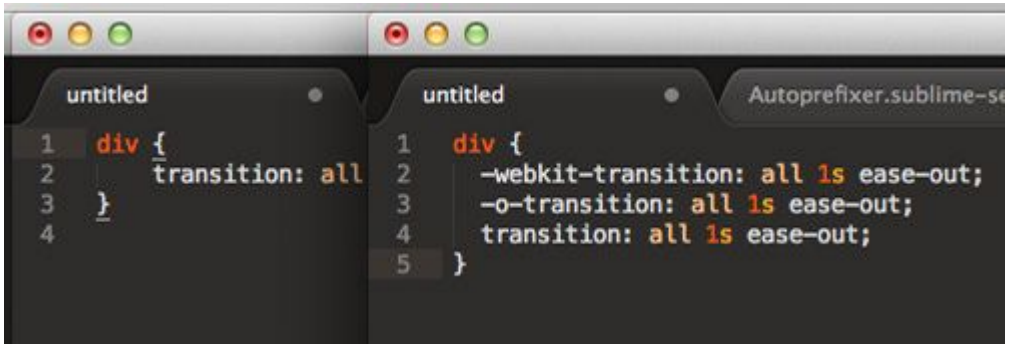
[include template]



Autoprefixer

better than compass

without @include



Aangular JS

First Time - JS Data Binding

First Time - Lifecycle

MVW - Model-View-Whatever

todoMVC: Demo Source

Multi-page -> SPA

Single Page Application

解決 poor user experience

減少伺服器傳輸成本

前後端分離

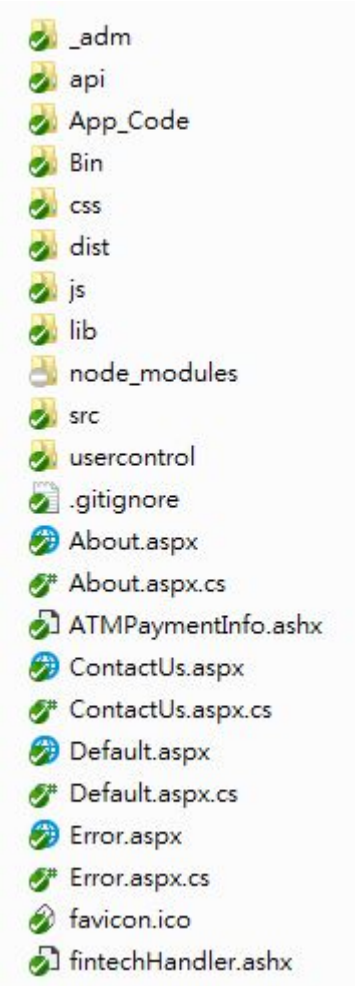
前後端分離

可同時進行開發

不用維護同一份檔案, 資料架構

利前端使用 JS framework

利後端專注 data processing, API development



以上是 2 年前的我

jade -> Pug

美玉變巴哥???

Styled-components

base on Css Modules

component css

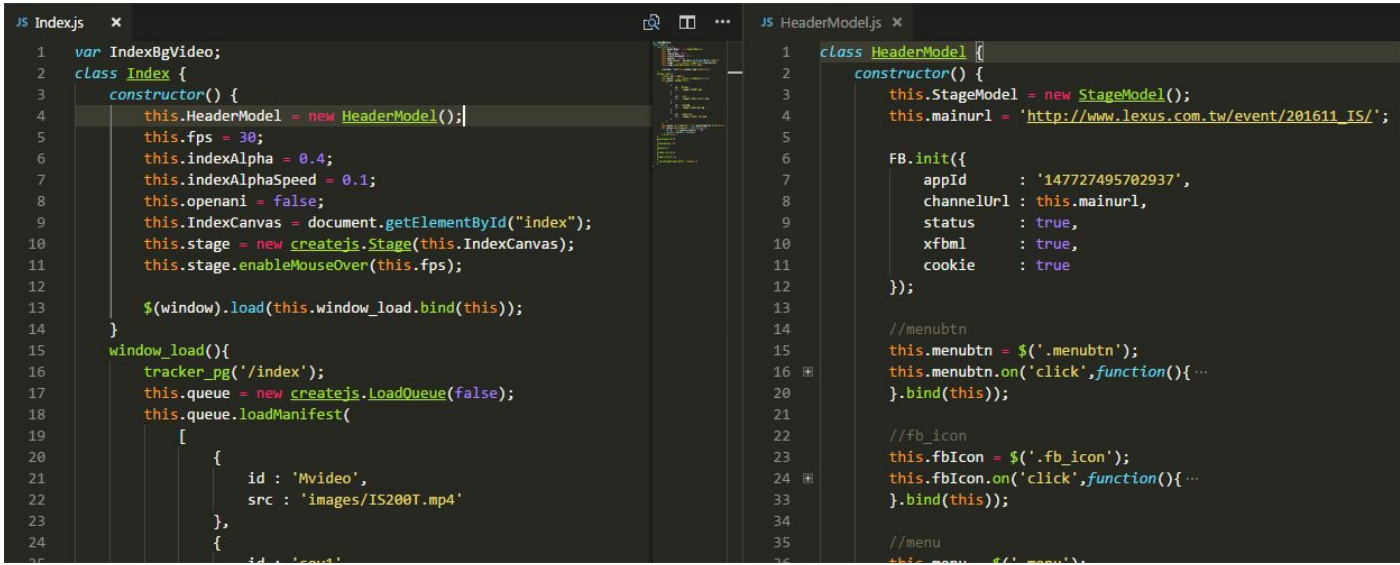
local-scoped

ES6

Introduction

ES5 ES6 Diff

classes



Index.js

```
var IndexBgVideo;
class Index {
    constructor() {
        this.HeaderModel = new HeaderModel();
        this.fps = 30;
        this.indexAlpha = 0.4;
        this.indexAlphaSpeed = 0.1;
        this.openani = false;
        this.IndexCanvas = document.getElementById("index");
        this.stage = new createjs.Stage(this.IndexCanvas);
        this.stage.enableMouseOver(this.fps);

        $(window).load(this.window_load.bind(this));
    }
    window_load(){
        tracker_pg('/index');
        this.queue = new createjs.LoadQueue(false);
        this.queue.loadManifest(
            [
                {
                    id : 'Mvideo',
                    src : 'images/IS200T.mp4'
                },
                {
```

HeaderModel.js

```
class HeaderModel {
    constructor() {
        this.StageModel = new StageModel();
        this.mainurl = 'http://www.lexus.com.tw/event/201611_IS/';

        FB.init({
            appId      : '147727495702937',
            channelUrl : this.mainurl,
            status     : true,
            xfbml      : true,
            cookie     : true
        });

        //menubtn
        this.menubtn = $('.menubtn');
        this.menubtn.on('click',function(){···
        }.bind(this));

        //fb_icon
        this.fbIcon = $('.fb_icon');
        this.fbIcon.on('click',function(){···
        }.bind(this));

        //menu
```

Webpack

entry, bundle, output

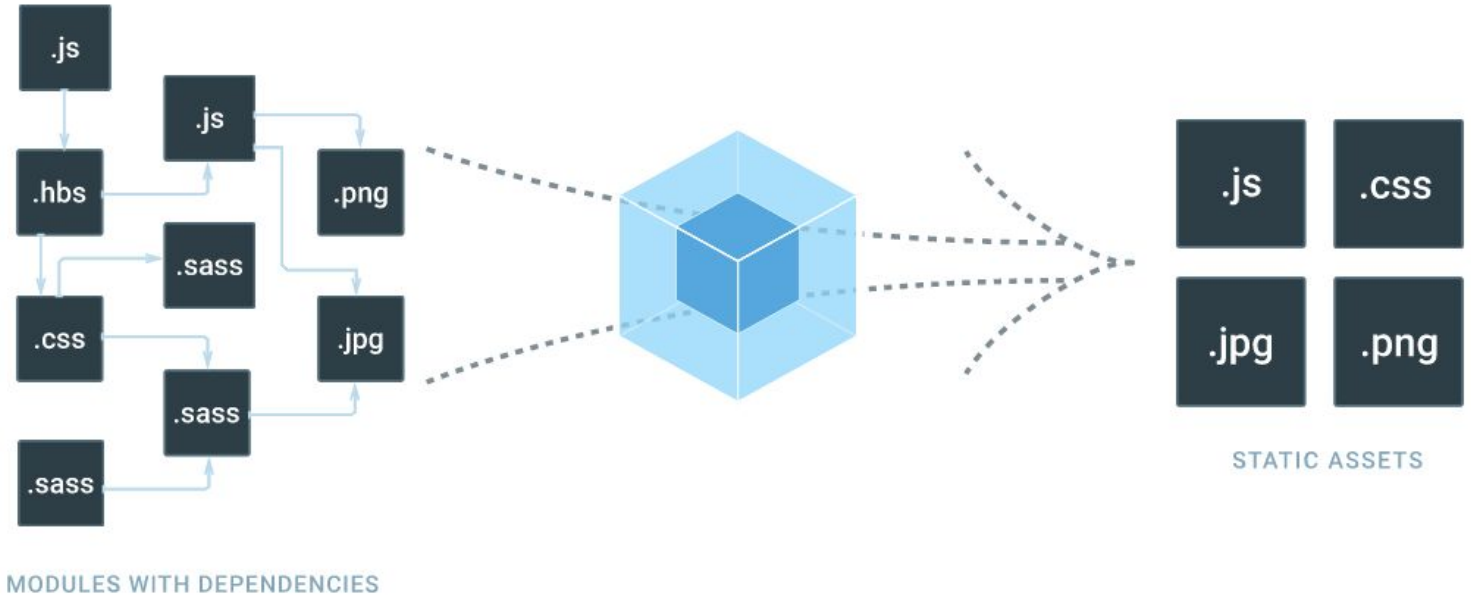
Loader

webpack.config.js

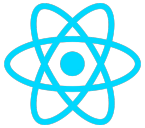
```
const webpack = require('webpack');
const ExtractTextPlugin = require('extract-text-webpack-plugin');
const autoprefixer = require('autoprefixer');

let extractStyles = new ExtractTextPlugin('css/common.css')
let extractHtml = new ExtractTextPlugin('[name].html')
let BabiliPlugin = require("babili-webpack-plugin")

module.exports = {
  context: __dirname,
  devtool: 'source-map',
  entry: {
    index: './src/js/app.js',
    // about: './src/js/about.js',
  },
  output: {
    path: __dirname + '/dist',
    // filename: 'js/[name].js'
    filename: 'js/app.js'
  },
  module: {
    rules: [
      {
        test: /\.pug$/,
        loader: extractHtml.extract({
          loader: ['html-loader', 'pug-html-loader?pretty&exports=false']
        })
```

Webpack

multi task?
one bundle -> multi loader -> one page



React



Lifecycle better

Virtual dom

performance better

.jsx

functional component

styled components

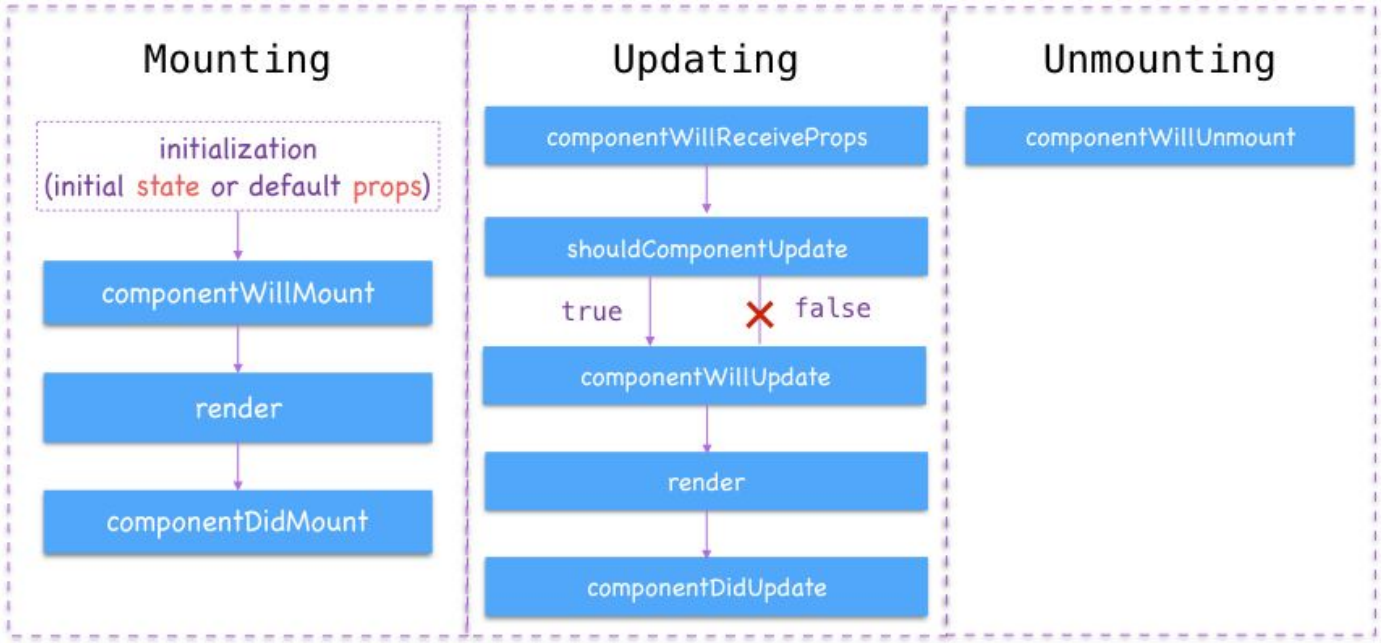
react router

react redux

todoMVC: Demo Source

React

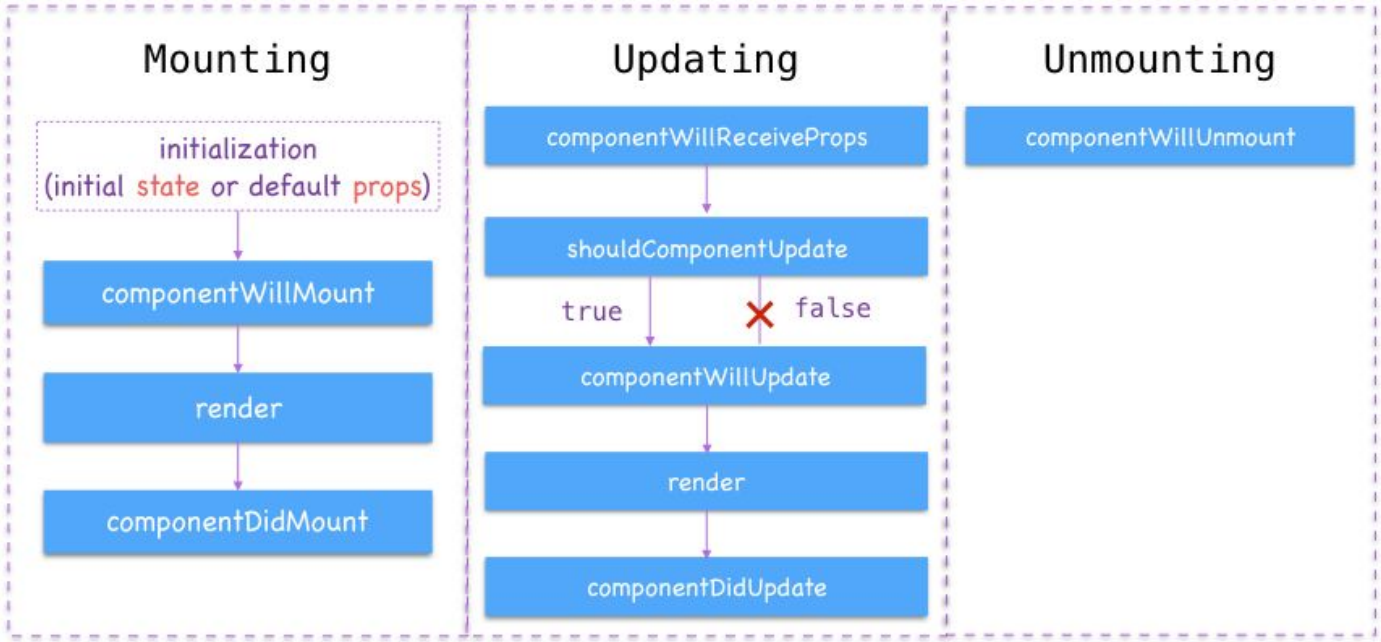
這麼cool, 怎麼可以不用 react ?!



React

這麼cool, 怎麼可以不用 react ?!

因為太囉嗦... 我覺得不行



Vue.js

Vue.js

MVVM

Lifecycle better (for me)

Virtual dom

todoMVC: Demo Source

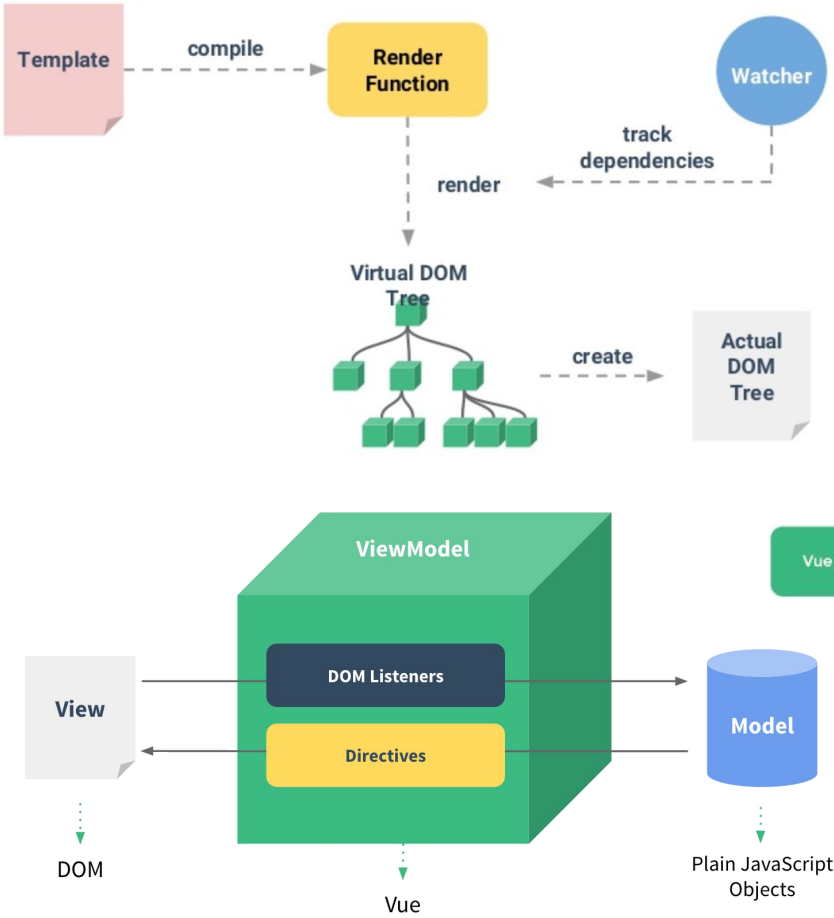
vuex - like redux

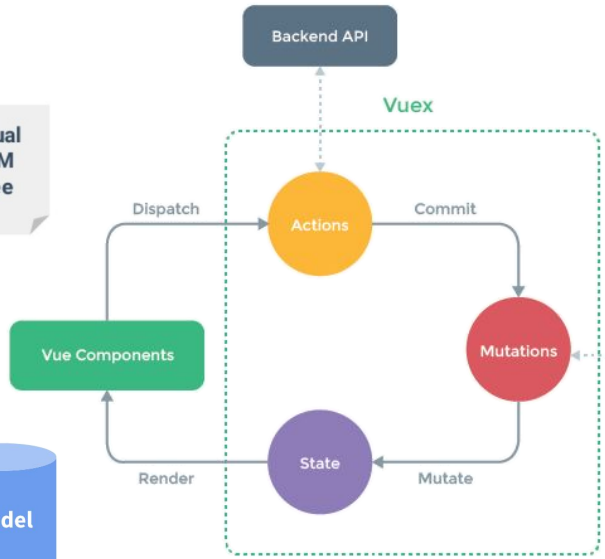
vue router

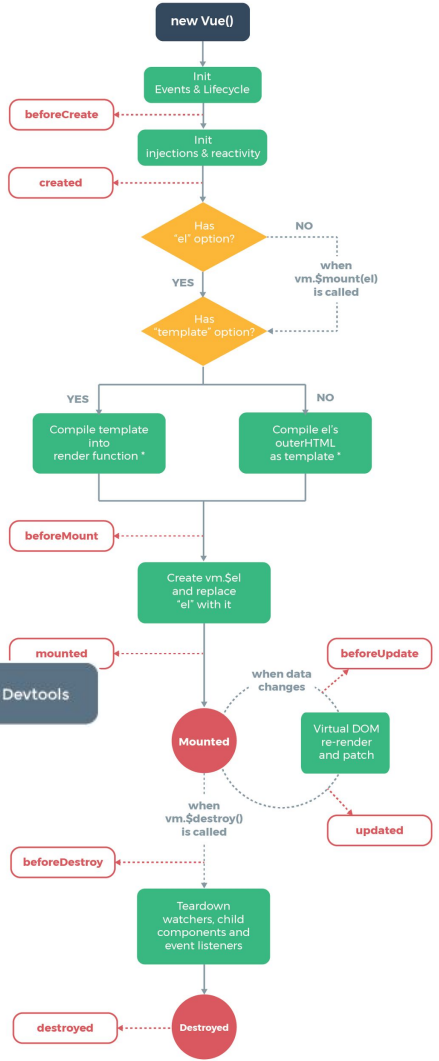
.vue

- componential
- scoped css

Vue.js


Template
compile
Render Function
Watcher
track dependencies
render
Virtual DOM Tree
create
Actual DOM Tree
ViewModel
DOM Listeners
Directives
View
Model
DOM
Vue
Plain JavaScript Objects

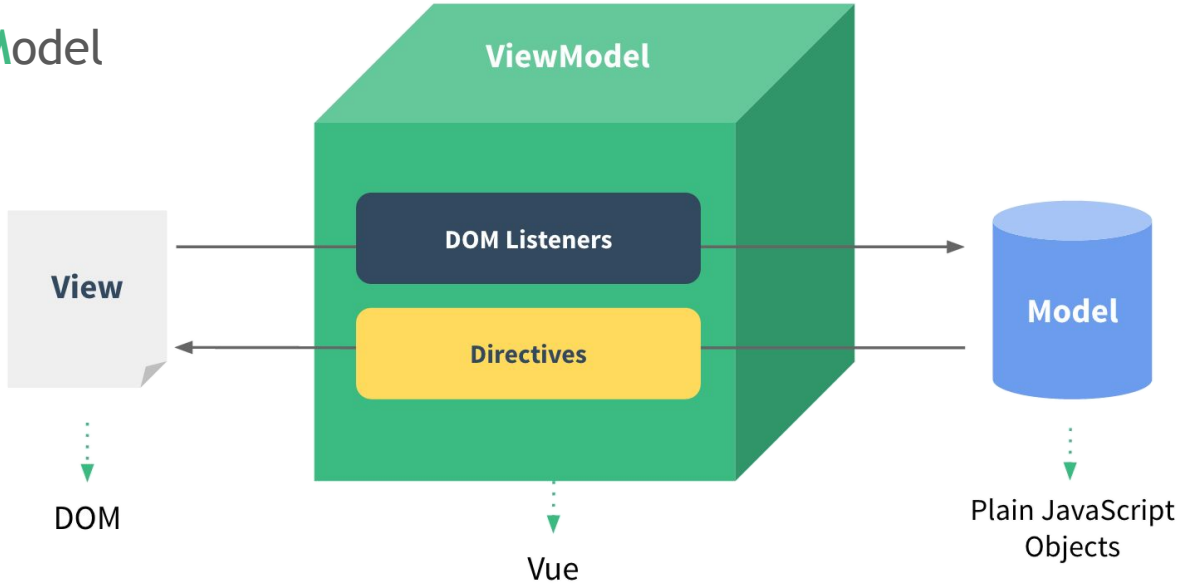

Backend API
Vuex
Dispatch
Actions
Commit
Vue Components
Mutations
Devtools
State
Render
Mutate


new Vue()
Init Events & Lifecycle
beforeCreate
Init injections & reactivity
created
Has "el" option?
NO
when vm.$mount(el) is called
YES
Has "template" option?
YES
NO
Compile template into render function *
Compile el's outerHTML as template *
beforeMount
Create vm.$el and replace "el" with it
mounted
beforeUpdate
when data changes
Mounted
Virtual DOM re-render and patch
when vm.$destroy() is called
updated
beforeDestroy
Teardown watchers, child components and event listeners
destroyed
Destroyed

先嚇嚇他 . . .

Vue.js - MVVM

Model-View-ViewModel



Vue.js - Lifecycle

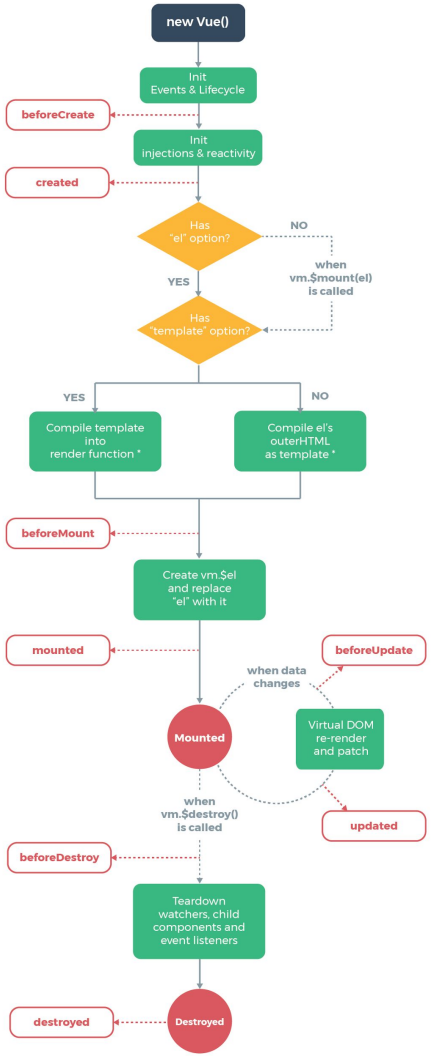
beforeMount

mounted

watch

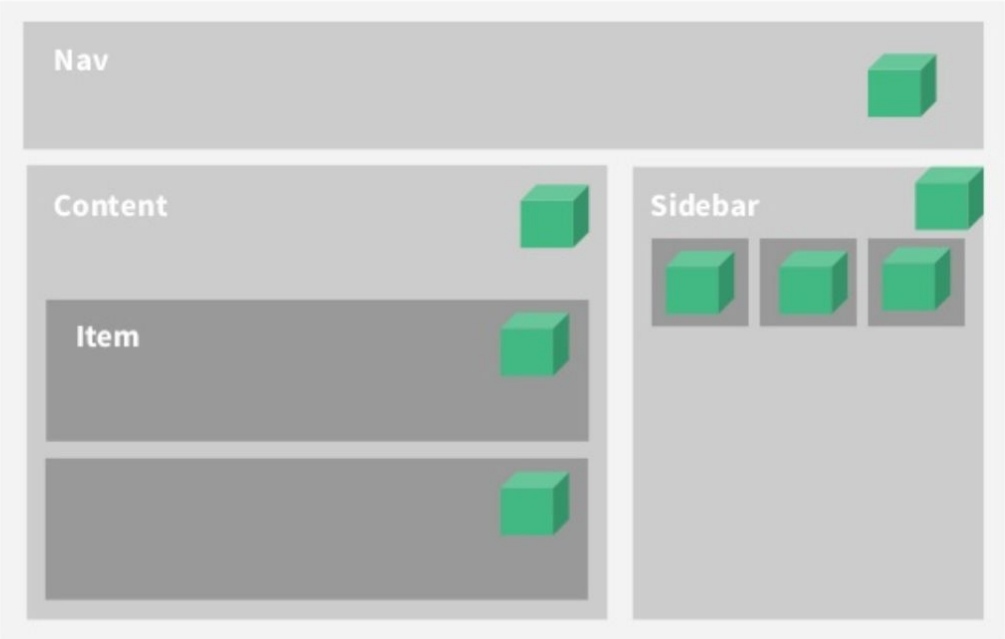
beforeDestroy

destroyed

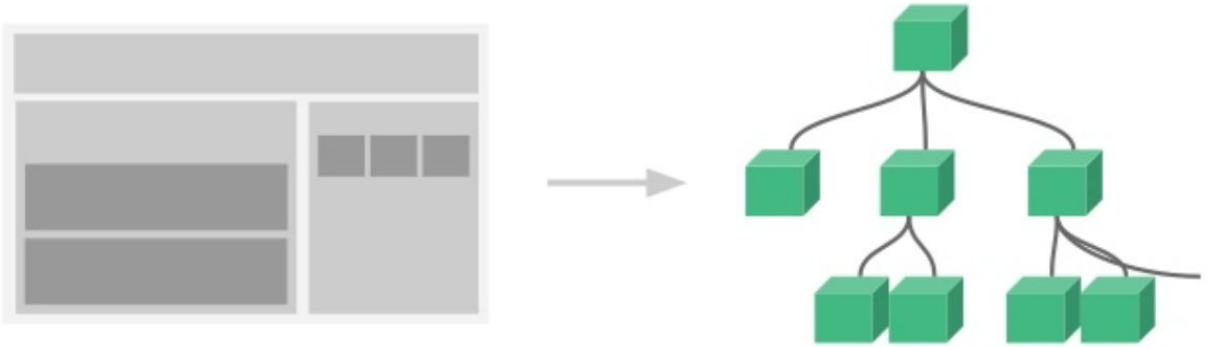


photo

Vue.js - Virtual DOM



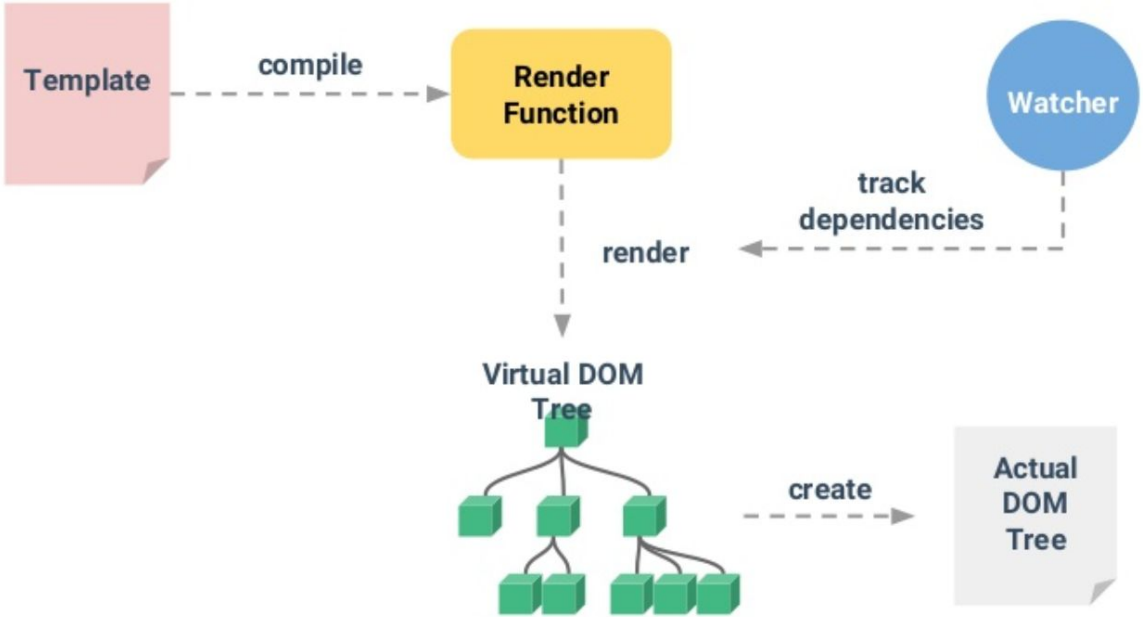
Vue.js - Virtual DOM



Vue.js - Virtual DOM

比對 Virtual 與 Actual

做出最優化的 update



Vue.js - .vue

better maintenance

one .vue -> one **ViewModel**
- 包含所有 **view** 所需元素 (html,css,js)

scoped css

Index.vue

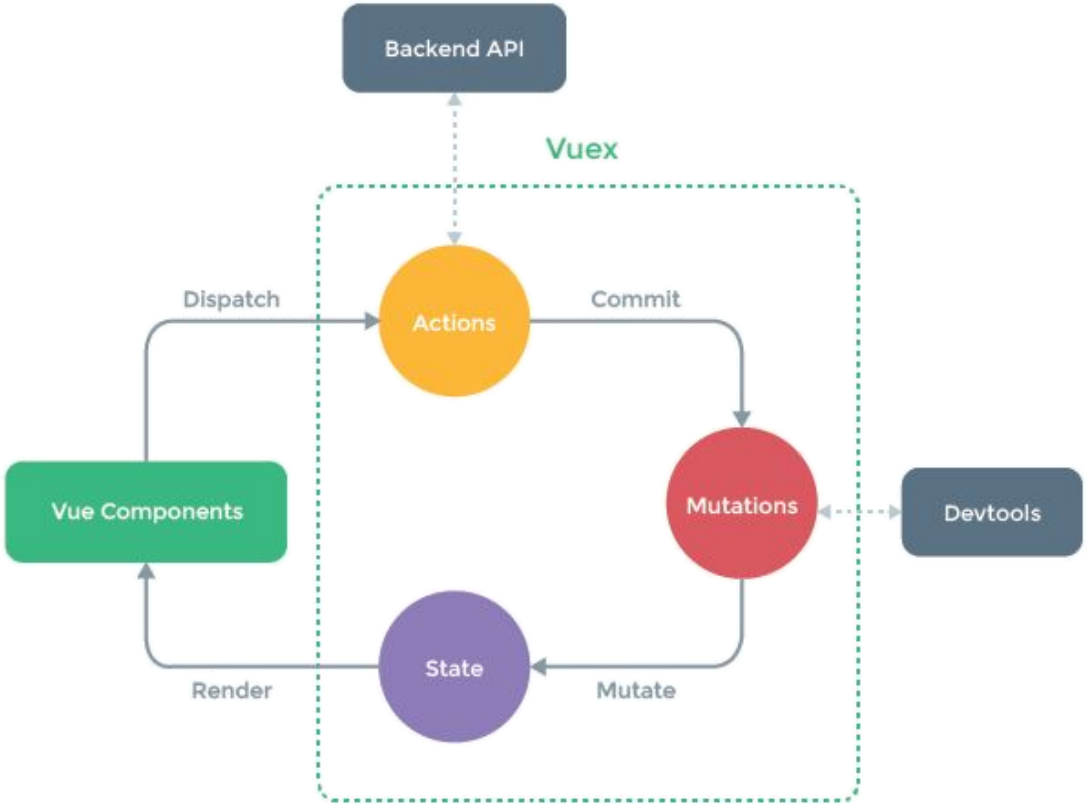
```
<style lang="scss" scoped>
@import "./css/index/index.scss";
</style>

<template lang="pug">
  .wrapper.index

</template>

<script>

export default {
  name: 'Index',
  data(){
    return {

    }
  },
  computed: {
    ...Vuex.mapState({
      loadingShow: state => state.loadingShow,
    }),
  },
  methods:{
    ...Vuex.mapActions(['changeLoading']),
  },
  watch:{

  },
  beforeCreate(){

  },
  created(){

  },
  beforeMount(){

  },
  mounted(){
    this.changeLoading(false)
  },
```

Vue.js - Vuex

Manage **Model**
- state management

Global state

MapState
- **better maintenance**



```
if( new Date() >= new Date(‘2017/10/27 16:00’) )
    alert('謝謝大家') return
```

3rd Party API / SDK

Other Libraries

Facebook

API, SDK

Google map

API

飯粒

Create.js

API

Youtube

API

飯粒

reCAPTCHA

https://developers.google.com/recaptcha/docs/invisible

國泰網路銀行...

Thanks!