



Yongrui Zhao (@YongRuiZhao)
Chenhe Du (@Edward-HE)
Jianhang Wang (@2016236566)

Petty and Low Group

Vue.js and Bootstrap

Lai Xu (@July468)
Menglong Xing (@lalalawowowo)
Shuaijie Xu (@transcriptase947)



Background

Vue is a javascript framework for building user interfaces. It is capable of powering sophisticated Single -Page Applications (SPAs). It is one of the three most popular modern JavaScript frameworks. Vue.js was officially released in February 2014. From scaffolding, construction, plug-in, componentization, to editor tools, browser plug-in, etc., basically covered from development to testing and other aspects.

Bootstrap contains CSS- and (optionally) JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components. Bootstrap, originally named Twitter Blueprint, as a framework to encourage consistency across internal tools. On January 31, 2012, Bootstrap 2 was released. This version supports responsive web design (RWD). Bootstrap 3, was released on August 19, 2013, with a greater emphasis on responsive design. The first alpha version of Bootstrap 4 was released on August 19, 2015. The first beta version was finalized on January 18, 2018.

Main Feature

Bootstrap

Preprocessors: Bootstrap ships with vanilla CSS, but its source code utilizes the two most popular CSS preprocessors, Less and Sass. Quickly get started with precompiled CSS or build on the source. One framework, every device: Bootstrap easily and efficiently scales your websites and applications with a single code base, from phones to tablets to desktops with CSS media queries. Full of features: With Bootstrap, you get extensive and beautiful documentation for common HTML elements, dozens of custom HTML and CSS components, and awesome jQuery plugins.

Vue.js

1. Reactivity
2. Components
3. Modularity

"Responsiveness", "UI components" and "Consistent" are the key factors why developers consider Bootstrap; whereas "Simple and easy to start with", "Good documentation" and "Components" are the primary reasons why Vue.js is favored.

Pros and cons

Pros of Bootstrap

- ① Grid system (structure)
One of the advantages of BT is that you can adjust the page according to the user's screen size, so that it performs well in all sizes.
- ② CSS modularity (performance)
BT pre-defines a lot of CSS classes. When you use it, you can directly assign the corresponding class name to the class, such as text-left, text-align, .table, etc. BT defines a basic class of .bt. If you want other styles, you can expand on this basic class to achieve different visual effects.
- ③ JavaScript plugin (interactive)
BT's JavaScript plug-in is very rich, it can be used with existing or self-expanding. The good thing about the JS plugin is that even developers who don't understand JS can use it, as long as it is written in the format provided by the official documentation. But there is no need to write a sentence of JS, which is very convenient.

Cons of Bootstrap

- ① Insufficient compatibility BT sets all element box models to border-box, which is a box model in IE promiscuous mode, which makes it incompatible with IE. In addition, a large number of H5 tags and CSS3 grammars are also used. There is also a small problem with the compatibility of these grammar tags.
- ② The style is more fixed Because BT defines a lot of CSS classes in advance, you can directly assign the corresponding class name to the class when you use it, so if you have your own special needs, you need to re-customize the style. If there are a lot of non-bootstrap "styles" in a website Styles exist, then you need to do a lot of css rewriting, so you lose the meaning of using frames.

Pros of Vue.js

- ① Two-way data binding
This is the so-called responsive data binding. It means that vue.js will automatically respond to changes in certain data on the page. In other words, vue.js will automatically respond to changes in data, and modify all data and view content bound together according to the binding relationship pre-written by the user in the code
- ② Component development
Vue.js uses components to split the various modules in a single-page application into a single component. We only need to write the various component labels in the parent application, and then write the implementation of various components, and then the entire application is finished.
- ③ Higher operating efficiency
Vue.js uses the virtual Dom technology. The virtual Dom technology calculates the state that the DOM needs to show in the last step in the JavaScript memory, and then tells the browser to render this state.
- ④ Rich resources and fast learning
The Vue community is very popular, with all kinds of UI components, animation effects, and ready-made Demos, which can be used directly to achieve rapid project development.

Cons of Vue.js

1. Vue does not lack introductory tutorials, but it lacks high-level tutorials and documentation. There are also books.
2. There are N ways to write the same set of requirements with Vue. It is easy to cause maintenance difficulties caused by inconsistent code styles.
3. Less Plugins/Components. Common plugins are useful as they work with various other tools to make development easy. Vue.js does not have most of the common plugins, and that is the drawbacks of Vue.js.

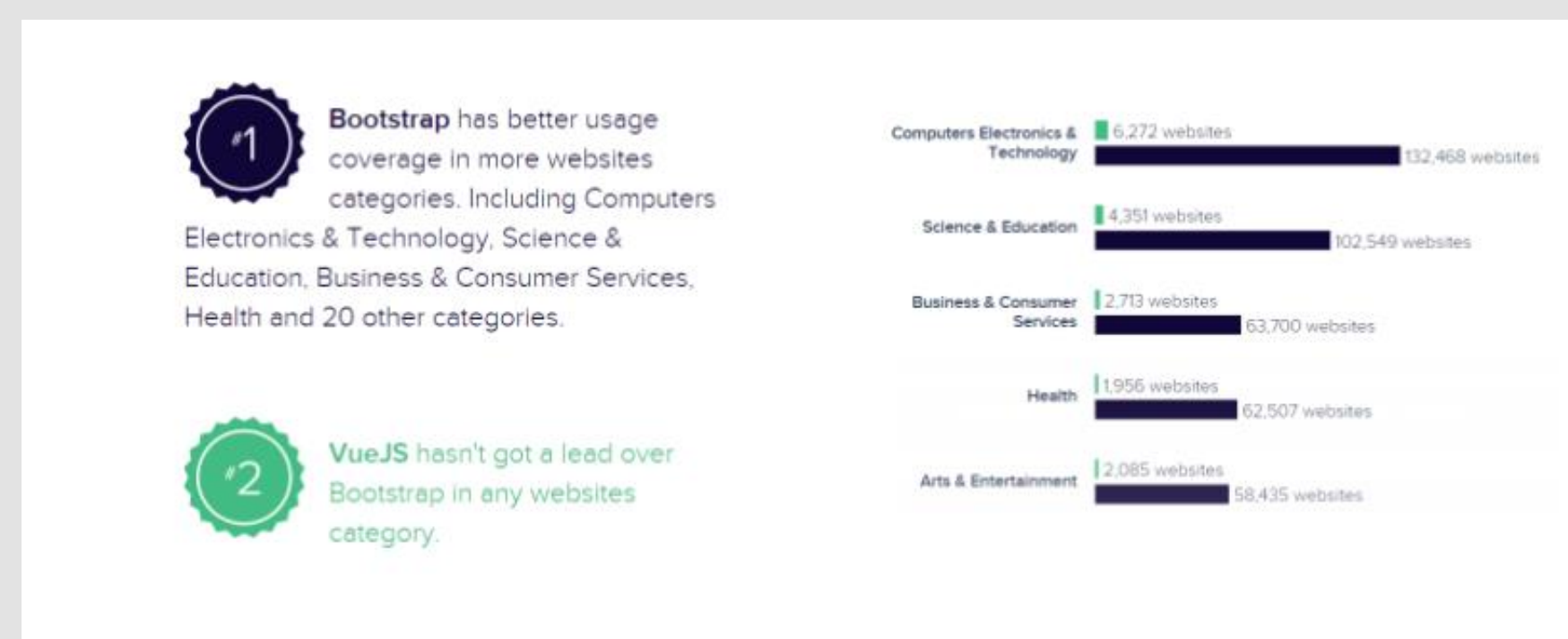
Comparation

About their source tool:

Bootstrap and Vue.js are both open source tools. .

market share and popularity:

Here are some diagrams to see about their popularities: .



Difficulty to study in:

Vue does not lack introductory tutorials, but it lacks high-level tutorials and documentation. Bootstrap is easier to study compared with Vue. Also another reason for vue to study in a hard way is that: what is working in Vue today may be outdated tomorrow. As developers find it is rather complicated, and they have to learn the framework quite frequently.

Plugin:

BT's JavaScript plug-in is very rich, it can be used with existing or self-expanding. BT provides an integrated version of BT.js, which can be used directly or imported into *.js individually. The good thing about the JS plugin is that even developers who don't understand JS can use it, as long as it is written in the format provided by the official documentation, such as the modal box, as long as the class, data-toggle, data-target are set as required But, there is no need to write a sentence of JS, which is very convenient. While Vue.js does not have most of the common plugins.

References

[https://en.wikipedia.org/wiki/Bootstrap_\(front-end_framework\)](https://en.wikipedia.org/wiki/Bootstrap_(front-end_framework))
<https://getbootstrap.com/docs/4.5/getting-started/introduction/>
<https://www.quora.com/What-companies-use-the-Bootstrap-framework>
<https://www.php.cn/bootstrap/425684.html>
<https://github.com/vuejs/vue>
<https://vuejs.org/>

Example

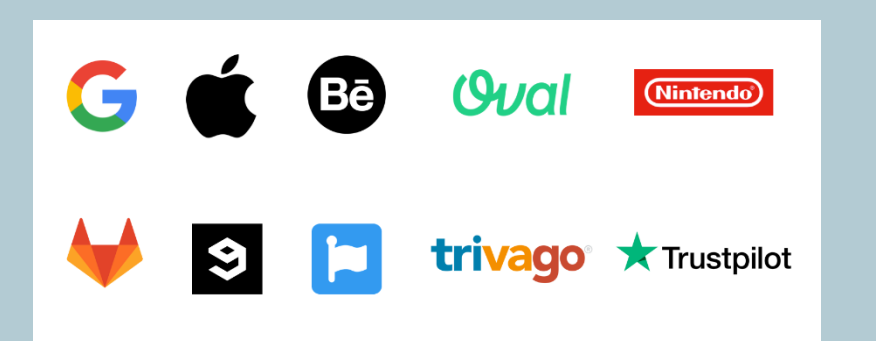
Vue.js



VuePress

A famous Vue-powered Static Site Generator
<https://vuepress.vuejs.org/>

some of the most interesting and famous companies in the world already use Vue.js in some area.



Bootstrap

Thousands of companies and millions of startups use Bootstrap.



index	company
1	Spotify
2	Twitter
3	Intel
4	Walmart
5	Alibaba
6	Udemy
7	Mint
8	Coursera
9	Vine
10	Docker
11	Indeed
12	Bloomberg Business

Conclusion

Bootstrap:

It is characterized by grid system, simple to use and easy to use. It is specially produced for responsive pages. A set of code can adapt to tablet and PC. The disadvantage is that there is a lack of a set of powerful and systematic components. When you actually use it, there may be a problem of scope conflict. If you don't sort out a complete set of components, the development is very tired.

Vue.js:

The characteristic is that standing on the shoulder of react, many aspects are better. The disadvantage is that it is difficult to start, and large-scale development requires systematic development accumulation.

Bootstrap and Vue.js are both open source tools. Both are popular and each has its own advantages. Both have good market prospects. Even through BootstrapVue, the two can be combined. In the long run, Vue is recommended. In the short run, bootstrap is a good choice.

Introduction

Bootstrap is a simple, intuitive, powerful, free and open-source framework based on HTML, CSS and JavaScript developed by Mark Otto and Jacob Thornton, designers of American twitter company, which makes web development faster and directs at responsive, mobile-first front-end web development. It contains CSS- and (optionally) JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components.

Vue is a JavaScript framework for building user interfaces. It is capable of powering sophisticated Single -Page Applications (SPAs). It is one of the three most popular modern JavaScript frameworks, with the other two frameworks being Angular and React. Vue has a reputation of being fairly easy to grasp and as straightforward as it gets when it comes to writing code. It can also be used to target Native when used with a combination of other libraries and tools

