# Bootstrap

* Creators: [Mark Otto](https://github.com/mdo) and [Jacob Thornton](https://github.com/fat).
* Released: 2011
* Current version: 4.\*.\*
* Popularity: 126,202 stars on GitHub
* Description: “Sleek, intuitive, and powerful front-end framework for faster and easier web development.”
* Core concepts/principles: [RWD](http://en.wikipedia.org/wiki/Responsive_web_design) and mobile first.
* Framework size: 592 KB (precompiled zip folder)
* Preprocessor: [Sass](http://sass-lang.com/)
* Responsive: Yes
* Modular: Yes
* Starting templates/layouts: Yes
* Icon set: Not included
* Extras/Add-ons: None bundled, but many third-party plugins are available.
* Unique components: Jumbotron, Card
* Documentation: Excellent
* Customization: Option for separate files for Grid system and Reboot, easy customization with Sass; no online customizer
* Browser support: Latest releases of Firefox, Chrome, Safari, IE810-11-Microsoft Edge.
* License: [MIT](https://tldrlegal.com/license/mit-license)

## Notes on Bootstrap

De belangrijkste kracht van Bootstrap is de enorme populariteit. Technisch gezien is het niet per se beter dan de andere in de lijst, maar het biedt veel meer bronnen (artikelen en tutorials, externe plug-ins en extensies, thema-bouwers, enzovoort) dan de andere vier front-end frameworks samen. Kortom, Bootstrap is overal. En dit is de belangrijkste reden waarom mensen ervoor blijven kiezen.

# Foundation by ZURB

* Creators: ZURB
* Released: 2011
* Current version:6
* Popularity: 27, 497 stars on GitHub
* Description: “The most advanced responsive front-end framework in the world”
* Core concepts/principles: RWD, mobile first, semantic
* Framework size: 233 KB
* Preprocessors: Sass
* Responsive: Yes
* Modular: Yes
* Starting templates/layouts: Yes
* Icon set: [Foundation Icon Fonts](http://zurb.com/playground/foundation-icon-fonts-3)
* Extras/Add-ons: Yes
* Unique components: Icon Bar, Clearing Lightbox, Flex Video, Keystrokes, Joyride, Pricing Tables
* Documentation: Good, with many additional resources available.
* Customization: Basic [GUI customizer](https://foundation.zurb.com/sites/download.html/#customizeFoundation)
* Browser support: Chrome, Firefox, Safari, IE9+; iOS, Android, Windows Phone 7+
* License: MIT

## Notes on Foundation

Foundation is een echt professioneel front-end framework met bedrijfsondersteuning, training en advies. Het biedt ook veel bronnen om u te helpen het framework sneller en eenvoudiger te leren en te gebruiken.

# Semantic UI

* Creator: [Jack Lukic](https://github.com/jlukic)
* Released: 2013
* Current version: 2.3
* Popularity: 42,162 stars on GitHub
* Description: “A UI component framework based around useful principles from natural language”
* Core concepts/principles: Semantic, tag ambivalence, responsive
* Framework size: 1.8 MB
* Preprocessors: Less
* Responsive: Yes
* Modular: Yes
* Starting templates/layouts: Yes, some basic starter templates are offered
* Icon set: Font Awesome
* Extras/Add-ons: No
* Unique components: Divider, Flag, Rail, Reveal, Step, Advertisement, Card, Feed, Item, Statistic, Dimmer, Rating, Shape
* Documentation: Very good, offering very well-organized documentation, plus [a separate website](http://learnsemantic.com/) that offers guides for getting started, customizing and creating themes
* Customization: No GUI customizer, only manual customization
* Browser support: Firefox, Chrome, Safari, IE10+ (IE9 with browser prefix only), Android 4, Blackberry 10
* License: MIT

## Notes on Semantic UI

Semantic is het meest innovatieve en volledig uitgeruste front-end framework dat hier wordt besproken. De algemene structuur van het raamwerk en de naamgevingsconventies, in termen van duidelijke logica en semantiek van zijn klassen, overtreft ook de andere.

# Pure, by Yahoo!

* Creator: Yahoo
* Released: 2013
* Current version: 1.0.0
* Popularity: 18,825 stars on GitHub
* Description: “A set of small, responsive CSS modules that you can use in every web project”
* Core concepts/principles: [SMACSS](http://smacss.com/), minimalism
* Framework size: 3.8 KB minified and gzipped
* Preprocessors: None
* Responsive: Yes
* Modular: Yes
* Starting templates/layouts: Yes
* Icon set: None; you can use Font Awesome instead
* Extras/Add-ons: None
* Unique components: None
* Documentation: Good
* Customization: Basic [GUI Skin Builder](https://purecss.io/customize/)
* Browser support: Latest versions of Firefox, Chrome, Safari; IE7+; iOS 6.x, 7.x; Android 4.x
* License: [Yahoo! Inc. BSD](https://github.com/yahoo/pure-site/blob/master/LICENSE.md)

## Notes on Pure

Pure biedt alleen kale stijlen voor een schone start van uw project. Het is ideaal voor mensen die geen compleet framework nodig hebben, maar alleen specifieke componenten om mee te nemen in hun werk.

# UIkit by YOOtheme

* Creator: [YOOtheme](http://yootheme.com/)
* Released: 2013
* Current version: 3.0.0
* Popularity: 12,821 stars on GitHub
* Description: “A lightweight and modular front-end framework for developing fast and powerful web interfaces”
* Core concepts/principles: RWD, mobile first
* Framework size: 374 KB (zipped folder)
* Preprocessors: Less, Sass
* Responsive: Yes
* Modular: Yes
* Starting templates/layouts: Yes
* Icon set: UIkit comes with its own SVG icon system and library with a growing number of outline icons
* Extras/Add-ons: Yes
* Unique components: Article, Flex, Cover, HTML Editor
* Documentation: Good
* Customization: Advanced GUI Customizer only available in version 2 (previous version)
* Browser support: Chrome, Firefox, Safari, IE9+
* License: MIT

## Notes on UIkit

UIkit is met succes gebruikt in veel WordPress-thema's. Het biedt een flexibel en krachtig handmatige aanpassingsmechanisme. (Eerdere versie van het framework bood ook een geavanceerde GUI-aanpasser.

# Materialize

[Milligram](https://milligram.github.io/) is another extremely lightweight framework similar to Skeleton. When Gzipped, it comes out to just **2kB in size** and is used to provide developers with a simplistic and convenient starting point.

Milligram’s grid system is different than most because of its use of the CSS Flexible Box Layout Module standard. It also includes a few key components for getting you started including typography, buttons, forms, lists, tables, blockquotes, etc.

**Pros:**

* Very lightweight, only 2kB when Gzipped
* Uses CSS Flexbox as the grid system

**Cons:**

* Few resources available due to relative newness
* Minimal styling components available compared to other larger frameworks

Ideal for: Developers who are creating a small project that doesn’t require many styling components and want to use a CSS Flexbox grid system

# Material UI

If you’re looking for a front-end framework that makes it easy to adhere to Google’s material design guidelines, you can’t go wrong with [Material UI](http://www.material-ui.com/" \l "/" \t "_blank). It is by far the most elaborate framework to implement these guidelines thus far, but there is one caveat: It isn’t meant to be a starting point for a brand-new web design project.

Loaded with ready-to-use CSS and material design-compliant components, Material UI uses a [CSS-in-JS solution](https://material-ui.com/customization/css-in-js/). This unlocks many great features including theme nesting, dynamic styles, self-support, etc.

**Pros:**

* Easiest way to meet Google’s material design guidelines when using a framework
* Highly customizable

**Cons:**

* Not intended to serve as a starting point for from-scratch web design projects
* Need a decent understanding of React to use effectively

Ideal for: Developers who understand and have experience with React and who need an easy way to adhere to material design guidelines

# Skeleton

[Skeleton](http://getskeleton.com/) is a lightweight responsive boilerplate that contains only **400 lines of code**. This framework is meant to include only the minimum requirements to get you started on the development of a web project. It is not meant to be all-inclusive such as other frameworks as mentioned above.

Skeleton is also responsive, based on a 12-column grid system, and includes the bare essentials such as buttons, lists, tables, forms, etc.

**Pros:**

* Extremely lightweight
* Greater simplicity and useful for smaller projects

**Cons:**

* Does not include a wide selection of utility/styling components such as larger frameworks do.

Ideal for: Someone who is creating a smaller project that doesn’t require all of the style components of a larger framework

# Milligram

M[illigram](https://milligram.github.io/) is another extremely lightweight framework similar to Skeleton. When Gzipped, it comes out to just **2kB in size** and is used to provide developers with a simplistic and convenient starting point.

Milligram’s grid system is different than most because of its use of the CSS Flexible Box Layout Module standard. It also includes a few key components for getting you started including typography, buttons, forms, lists, tables, blockquotes, etc.

**Pros:**

* Very lightweight, only 2kB when Gzipped
* Uses CSS Flexbox as the grid system

**Cons:**

* Few resources available due to relative newness
* Minimal styling components available compared to other larger frameworks

Ideal for: Developers who are creating a small project that doesn’t require many styling components and want to use a CSS Flexbox grid system

# Susy

Some would argue that [Susy](http://susy.oddbird.net/" \t "_blank) isn’t a front-end framework in the truest sense of the term because it is focused on solving complex layout needs. In fact, many classify Susy as a grid maker more than anything, but it can be an **indispensable tool for those who have specialized layout needs**.

Susy arms you with mixins that can be used to create grids. The framework does all of the calculations for you, saving a lot of time and effort.

With Susy, you can create any kind of grid layout imaginable. If you have been looking for a way to do this, Susy may be the answer.

**Pros:**

* Superior flexibility, so you can create any kind of grid layout that you need
* Automatically performs all calculations

**Cons:**

* Does not cover all aspects of website design, so you still need another framework solution
* No pre-built grids