Web Technologies

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# Definition

It is basically a technology dedicated to the world wide web. However, it tends to specify towards technology which helps in the creation, support and development of web-based applications.

According to the point of view of a developer, such things like programming languages and frameworks, data storage process, services and products to grant others to develop platforms and applications for the web.

Dan Jackson. (2017). What is meant by web technology?. Retrieved from https://www.quora.com/What-is-meant-by-web-technology

# Web Development Frameworks

Developers have an important duty, stay updated on coding languages and new technologies. Since each month or each year anew technology is released, this duty must be taken seriously for companies to always have one step ahead of the others. Nowadays, the main frameworks used are:

* Angular
* Ruby on Rails
* YII
* Meteor JS
* Express.js

## About these frameworks

### AngularJS

This framework is structured for dynamic web applications. It uses HTML as a template language and allows to extend HTML's syntax to indicate the components of the application distinctly as well as briefly. The data binding and dependency injection gets rid of the major code parts the developer must type.

All these processes are performed in the background of the browser, it turns out to be a fitting component for any server technology (TutorialsPoint).

According to AltexSoft (2019), AngularJS has the following points:

#### Applicability

AngularJS is built with Model-View-Controller architecture, which means developers can use SPA (Single Page Application) which handle: Model View Controller (MVC) and Model-View-View Model (MVVM). The framework also synchronizes the Model as well as the View.

By using this framework, developers can use injectors which defines dependencies as external features which separates components from their dependencies.

#### Ease of Use

The two-way data binding feature allows engineers to cut the development time as it does not require any additional code to provide constant View and Model synchronization. The directives enable the HTML extensions cited above and allows coders to define specific actions to the Document Object Model (DOM), granting engineers to develop dynamic and rich content in HTML.

The dependency injection feature provided by AngularJS ease the management and testing actions for the application components.

### Ruby on Rails

Ruby on Rails (RoR) is part of the most recognized Web development frameworks also the one which lifted the Ruby language. It was originally made and released by David Heinemeier Hansson. Nowadays, a core team as well as many members around the globe are part of it. Daily, numerous amounts of projects are posted on the Internet using Ruby on Rails. The principal goal being to aid developers from handling technology issues also regards and concentrate on fixing business difficulties.

RoR follows the Model-View-Controller (MVC) architectural pattern. It also acts in accordance with the rule of convention over configuration (as known as coding by convention) which means, it has previously taken some decisions for the developer which will not be considered as long as the developer adopts the RoR conventions (TutorialsPoint).

The applicability, ease of use and reliability points are defined below according to Rory MacDonald. (2015):

#### Applicability

This framework provides a great accessory which aids developers to hand more functionalities quicker. The framework community is widely into testing and test automation. Ruby is a powerful and consise language, which combined with the profusion of mediator libraries, grants developers to develop functionalities in an uncommonly quicker way.

It appears that RoR is the require coding language for most online code schools.

#### Ease of Use

RoR provides a common architecture for Web Application, all the popular standards have already been carried for developers.

#### Reliability

The RoR third-party’s code quality is without a doubt, superior to equivalents in PHP or NodeJS. This quality is beneficial in supporting the distribution of cutting-edge software, as well as, part of the arguments why the Ruby libraries are so trending.

By associating developers to the rules of reliable development. This in fact means a rise in skilled programmers enlisting the RoR community through the forthcoming years.

### Yes It Is (YII)

According to TutorialsPoint, this framework is an open-source PHP framework to develop in a much faster way, up-to-date Web Applications. YII is built around the Model-View-Controller complex model.

The framework hands over safe and efficient elements to make sturdy projects quicker. It contains a component-based structure and a strong hideout aid.

Thus, YII is convenient for developing several genres of Web Applications such as: Forums, Portals, Content managements systems, RESTful services, e-commerce websites, etc. Besides, the YII code generation tool (GII) contains the complete interface maker for CRUD (Create Read Update Delete) operations.

Here are the main points about YII explained by Agriya (2017):

#### Applicability

YII advanced framework which provides users with a wide range of possibilities for designs and themes for a one of a kind website form. The unique controller feature aids in joining several libraries and packages which finally lowers the overburden coding for developers.

Besides this aspect, developers guarantee that implemented modifications in a line of code are echoed over the application.

The CRUD generator utilizes GII which suggests ActiveRecord for different SQL databases as well as the sharp caching functionality helping systems like: XCache and Memcache.

#### Ease of User

The YII database servers are hidden from any users and supports developers to develop efficient and clearer Web Applications. The company designed it in a certain manner so that it discharges developers from monotonous coding.

The additional security functionalities maintain and secures delicate data against external menaces and thus ease sustaining user credentials and data.

YII also includes functionalities like: Role-Based and Built-In User Authentication process. These grants an easier and quicker developing.

#### Reliability

This framework also contains a wide community aid. As said previously, YII is an open-source platform which allows developers around the world to join and distribute their approach and explanations towards issues. The well-planned structure supports developers to conceive and develop a cutting-edge site.

### Meteor JS

It is a full-stack JavaScript platform for developing contemporary web and mobile applications. This framework contains a set of technologies for creating connected-client responsive applications, a build tool and a range of packages from the Node.js and JavaScript community (TutorialsPoint).

Binariks (2017) described the following aspect of Meteor JS:

#### Applicability

Meteor JS’s extended functionality is performed due to its groundwork defined by the JQuery JS library in consolidation of Underscore.js, libraries such as Tracker and Blaze also build their offering to frontend elaboration. A full set of Meteor’s packages is defined by Atmosphere.js.

Having a tool to debug applications made using Meteor JS, also to run functions such as: Collection Deletion, Client-Side Documents Exhibition, Update Documents as well as Contributions Management.

Such tool exists and is provided by Meteor JS, it is named WebStorm. In addition of this tool, a Server-Side debugging feature is also supported.

#### Ease of User

The motivation to adopt the Meteor JS framework is, the full-stack aspect. Meteor JS provides a understandable documentation besides the effective coding rules.

#### Reliability

All of them are reliable, up-to-date and highly-sought among numerous engineers working with the framework.

### Express.js

TutorialsPoint expressed that this framework is a Web Application framework which serves developers a straight-forward API to develop Websites, Web Applications as well as Back Ends. By using this framework, developers do not have to worry about low level protocols, processes, etc.

The main characteristics of Express.js below are expressed by Tymets Volodymyr (2017):

#### Applicability

Express.js allows developers to use the identical coding language, JavaScript, either for the Back-End and Front-End. This framework is the best option for applications that carries a wide range of requests and notifications from users.

Node.js ease the developing process for mobile application and improves the efficiency.

#### Ease of Use

With this framework, the development process is quicker and straight-forward since there is only one person who manages: Presentation and Data Access Layer. By integrating the states, the systems reply quicker to requests by getting rid of the reading/writing and the serialization of state within a database.

In addition, Express.js contains a clear documentation and is helped by a wide community. Besides, developers who are familiar with JavaScript and Backed Architecture will effortlessly handle it.

#### Reliability

With Express.js, the systems are further ready to use. As said above, this framework includes an Open-Source community, therefore, the code is continuously inspected and upgraded. The framework development team developed middleware packages in order to fix specific development issues.

These include: URL Parameters, Sessions, POST Data, Security Headers, Libraries etc.

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