How to choose a Technology Stack for Web Application Development ?

Choosing the most appropriate technology stack can leverage your application's market reach and loop towards success. Likewise, using a poor technology stack might doom the entire project to failure. So, you see how important it is to have an in-depth review of the web development stack you are about to use for your project.

Though I might have till now convinced you of the importance of a web development stack and to adhere to the market standards while making a choice, you might still be boggling around what exactly is this technology stack?

Web Development Stack

When it comes to developing a web application, it's not just about integrating an idea and giving it a visual appearance. It is far more than a non-technical individual could ever imagine.

Web Development has two faces, one being the front-end development and the other being the back end. Or in simple words, the client-side and the server-side. The client-side is viewed by the user and is the front end whereas the server-side has a database application, an application that connects the client request to the database and the server itself.

So, when an application needs to be developed, developers need to have considerable knowledge on both the ends along with the technologies to be used when deploying each.

For Client-Side: The commonly used client-side technologies consist of

- **HTML & CSS:** HTML stands for Hypertext Markup Language. It is used to design the front-end portion of web pages using markup language. HTML is the combination of Hypertext and Markup language. Hypertext defines the link between the web pages. The markup language is used to define the text documentation within tag which defines the structure of web pages.
  Cascading Style Sheets, fondly referred to as CSS, is a simply designed language intended to simplify the process of making web pages presentable. CSS allows you to apply styles to web pages. More importantly, CSS enables you to do this independent of the HTML that makes up each web page.
- **JavaScript & Frameworks:** JavaScript is a famous scripting language used to create the magic on the sites to make the site interactive for the user. It is used to

enhancing the functionality of a website for running cool games and web-based software. There are so many frameworks for JavaScript like AngularJS, ReactJS, jQuery, etc.

For Server-Side: The commonly used server-side technologies consist of

- **Programming languages:**
  - **Ruby:** Ruby is a dynamic, reflective, object-oriented, general-purpose programming language. Ruby is a pure Object-Oriented language developed by Yukihiro Matsumoto. Everything in Ruby is an object except the blocks but there are replacements too for it i.e. procs and lambda.
  - **Python:** Python is a programming language that lets you work quickly and integrate systems more efficiently. There so many python frameworks like Django, Flask. Pylons etc.
  - **C++:** It is a general-purpose programming language and widely used nowadays for competitive programming. It is also used as a backend language.
  - **PHP**: PHP is a server-side scripting language designed specifically for web development. Since, PHP code executed on server side so it is called server-side scripting language. Laravel framework is the best in my opinion for PHP.
  - **Java:** Java is one of the most popular and widely used programming language and platform. It is highly scalable. Java components are easily available.
  - **Scala:** Scala is a general-purpose, high-level, multi-paradigm programming language. It is a pure object-oriented programming language which also provides support to the functional programming approach.
- **Database:**
  - **Oracle:** Oracle database is the collection of data that is treated as a unit. The purpose of this database is to store and retrieve information related to the query. It is a database server and used to manages information.
  - **SQL:** Structured Query Language is a standard Database language which is used to create, maintain and retrieve the relational database.
  - **PostgreSQL:** It is a powerful, open-source object-relational database system with over 30 years of active development that has earned it a strong reputation for reliability, feature robustness, and performance.
  - **MongoDB:** MongoDB, the most popular NoSQL database, is an open-source document-oriented database. The term 'NoSQL' means 'non-relational'. It means that MongoDB isn't based on the table-like relational database structure but provides an altogether different mechanism for storage and retrieval of data.
- **Server:**

- o **Nginx:** It's an HTTP and reverse proxy server, a mail proxy server, and a generic TCP/UDP proxy server.
- o **Apache:** It provides a high-level of abstraction for processing over the MapReduce. It provides a high-level scripting language, known as Pig Latin which is used to develop the data analysis codes. First, to process the data which is stored in the HDFS, the programmers will write the scripts using the Pig Latin Language.

Tips to choose a web tech stack
So, now you know what web development is, why do you need it and what are the available web development stack. What's next!? Knowing is not enough, you need to have a clear image on how to choose the right web development stack for your web application.

- **Define Your Project Requirements:** The project size and corresponding complexity are some of the most important aspects while choosing a tech stack. For smaller projects, you can go with Node.js Or python. Mid-sized projects have greater requirements and so you need to expand your stack, picking up technologies that map project needs. And similarly, for larger projects, it is necessary that you analyze each aspect and then deploy the right technology.
- **Development Time:** In case you want the project to be developed in the minimal possible time, choosing ready-made solutions or frameworks that enable easy integration would cut down the fleet to market. A combination of technologies that form the MEAN stack is one of the most ideal stacks as it reduces the overall development time by third party integrations and this speeds up the entire process.
- **Scalability:** For projects that necessitate upscaling, it becomes imperative to add technologies that have a future scope. Whether it is scaling upward or sideways, the choice of technology determines the potential of scalability.
- **Development Cost:** While developing a project, you also need to consider your team, their skills, and your area of expertise. Choosing a stack that your developers aren't experienced in, would doom the need to hire third-party developers. This might cost high in your pocket. Hence, before you make a decision on the web development stack, sit with your team, know what they consider appropriate and then end up on a sound decision.

Tech stack of famous projects:

Social Media Network – Facebook or Instagram:

Programming Language	Database	Frameworks	JavaScript UI Libraries

PHP	MongoDB	PHPFox	Yoga
	Cassandra	Ruby on Rails	Relay
	MySQL	Tornado	React
	PostgreSQL	Diaspora	Flux
	MariaDB		
	HBase		

Collaboration Tools – Hive or Slack:

Programming Language	Database	Frameworks	Web Servers
Objective-C	MySQL	CakePHP	Apache HTTP Server
JavaScript	MongoDB	Laravel	Amazon AWS
PHP		MacGap	
		Electron	

Conclusion: According to a survey, Ruby on rails is one of the best technologies to invest in for web development and also the highest-paid job.