Website development is truly a fascinating topic. After typing the website address in the browser address bar, you are magically transferred to another universe. You can see advanced animations, a clear layout, great graphics, and readable fonts. And to think, all that is built on text. Yes, you read it correctly! Websites are created with the use of various programming languages. If you were to check a particular website source code, you would see nothing else but text. Letters, numbers, and symbols are all programming languages. Who writes these sequences and how does it happen that the website elements work as well as they do? This is the question I will try to answer in today's article.

Who is responsible for web development?

You would probably say, web developer. This is partly the truth. A web developer is indeed a person who specializes in the development of web applications and services. However, web development is such a broad subject, that the distinction between different areas had to be made. Undeniably, if the subject is as vast as web development, it is divided into smaller (yet still enormous!) areas of expertise. That is why we distinguish three main types of web developers:

- front-end developers
- back-end developers
- full-stack developers

Frontend vs backend? Or perhaps full-stack? What is the difference? Which one should you choose? The answer to this question is the answer to the question: what piece of software do you need to build? Let's see what the differences between these developers are.

What is back-end development?

Back-end development is everything that makes the site or piece of software work, but you cannot see it. If I was to make a comparison to another environment, I think the perfect example would be a concert. A lot is going on behind the scenes, so-called backstage. Starting from the construction of the scene, through lighting, security, sound operation, and more. You do not see it, but it makes the whole event work well.

The back end takes care of all elements the user does not see, yet they make the

website (or a piece of software) functional. It is broadly speaking a server side of a web page and involves working on elements like:

- website frameworks
- servers
- databases and their interactions
- networks
- hosting

What does a back-end developer do?

If front end development focuses on working elements of the website, app, or software, back end developers will make sure that these elements are functional. To build a responsive and quick product, a back-end developer needs to build modern servers and manage databases with the use of appropriate code. The programming languages back-end developers use are, for example, PHP, Python, C#, or Java.

What back-end technologies do we use?

During the years of practice in developing websites, we tested multiple technologies used in back end development. Undoubtedly, technological advancement is still progressing, and new technologies are constantly being created. We also like to stay up to date. However, at the moment in our everyday web pages and product development, we use the below technologies.

Laravel

We use this modern open-source free framework for building websites and web applications. Laravel's language is PHP. It is perfect for developing small as well as large apps. Laravel automates a lot of processes. This helps the developer to focus on the app's logical elements instead of, for example, creating a database, or developing a boilerplate code. A built-in authentication for the web app Laravel gives is the cherry on top.

SQL Databases like MariaDB

SQL Databases consist of tables with data. Such databases are called relational databases. They are operated by the query language called SQL. Once you learn it, any SQL database will be at your disposal. MariaDB is lightweight. It is also very

fast. Over the years, MariaDB gained the status of one of the most reliable fully open-source databases.

NoSQL Databases like Firebase

NoSQL databases are a set of databases that can store data that is unstructured. This can be texts, PDF files, or even photos and videos. Various databases that belong to NoSQL have different optimization objectives. So, for example, Firebase is optimized as a cloud-hosted database, which is an alternative to your own app server. This means you technically do not need it and your apps can directly communicate with the database.

Docker for containerization

Application development is a lot easier when configuration tasks are done automatically. That is exactly what Docker helps with. Speedy development, hassle-free delivery, and deployment in separate containers make Docker one of the most interesting tools for the coming years. The complexity made simple.

Kubernetes: container management

Automation of deployment of containerized apps can also be done through Kubernetes. It is perfect for scaling, updates, self-healing, and overall app management.

What is front-end development?

Frontend development is often referred to as a set of operations done on the side of the client. This side interacts directly with users. It is what the user sees on the page. If we were to come back to our concert metaphor, the front end would be the actual gig. The performer who engages with the audience, all special effects, dancers, and other elements we see or hear.

Front-end development consists of such areas as:

- website content
- web design
- website responsiveness
- SEO strategy

What does a front-end developer do?

Front end developers are responsible for what the website or piece of software looks like. A front-end developer will then focus on translating design ideas into code. What languages do front developers use to do that? Any language that helps them to turn the desired designs and visualizations into code. The most popular are JavaScript, CSS, and HTML (hypertext markup language).

What front-end technologies do we use?

When it comes to user interface creation, you can choose from plenty of options available on the market. However, there are a few that have recently taken the lead. These are:

ReactJS

It is a component-based library built on JavaScript. Its significant advantage is the ability to build websites and apps in a fast and easy way. This Facebook-made product also allows for good product scalability.

VueJS

VueJS is a framework that uses JavaScript to create functional user interfaces.

What does a full-stack developer do?

Since we have already covered the front end and back end of website creation, what is left, you may ask? The middle? Yes and no. The role of a full-stack developer is not an easy task. Firstly, they need to be familiar with both, the front end, and the back end. This means having extensive knowledge of programming and markup languages, such as HTML, CSS, PHP, and many more. But this is only the beginning! Most often, full stack developers take the role of leaders in vast projects. It is simply because they are more versatile, and their area of expertise and experience is wider. A full-stack developer role is often controversial, as many think, it is not possible to be an expert in both, the front end, and the back end. However, I look at it from a broader perspective. Being a full-stack developer gives you the advantage of seeing the bigger picture. Because you know both sides, you can find ways to successfully connect them and create the best product for your client. Apart from

that, even if you have not got in-depth knowledge about all aspects of development, you have sufficient knowledge to quickly learn the ins and outs needed for a particular project or site you work on.

Other scopes of website development

App and web development have many other scopes worth looking at. Below is the list of the most popular ones.

DevOps

DevOps engineer knows web development but focuses on the operational side of website creation. They focus on automating and integrating the processes between software developers and IT teams.

Project Management

Website project management analyzes the requirements of various team members and breaks them into specific tasks and subtasks and enables collaboration. Website projects would be nothing without effective management. Often such management requires special software that automates repetitive tasks.

UI/UX

UX designers' job is to research and find out what makes a client happy about the software use. These ideas are then brought to life by UI designers. They often have skills in various areas, like graphic design, interior design, or visual arts. They use them to make the user interface of a website pleasurable to use.

Sailing Byte – full-stack developers with years of experience

Do you need someone to guide you through the nuances of web development or web programming? Or perhaps you have an application idea but struggle to choose between frontend vs backend development? We will assess your project idea and find a solution tailored to your needs. As full-stack developers we have an in-depth knowledge of all the pieces of the puzzle web development consists of. Book a call and we can help you with all the queries you might have about your site.