Research into capabilities of modern web-development tools

# Table of contents

## Introduction

### History of web-development

### Description of the problem

### Technology stack

## General Development Tools

### Version Control

### Virtualization

### Database

## Back-end

### Language and Framework

### Packet manager and build tool

### RESTful and layered structure

### Connection with the database

### Accepting connections from the frontend

### Authentication and Authorization

## Front-end

### Language and Framework

### Packet manager and build tool

### Creating styles

### Getting data from the backend

### Routing between pages

### Managing global variables

# Introduction

## History of web-development

The Internet, as we know it today, was not created all at once. It was a long process of small inventions that fueled a big machine. It is said that date of birth of the Internet is 1983. However, it was not the global network, only several hundred hosts across the United States. This date is chosen due to the switch to TCP/IP protocol. It was a standardized way of establishing communication between networks. Before that, NCP (or Network Control Protocol) was used. It was a good way of connecting two hosts and exchanging files using FTP (File Transfer Protocol), but it lacked scalability. And scalability was needed, since people realized that it was a perfect way of communicating between different institutions.

The first browser was introduced in 1990. Now the familiar shape of the Internet is forming. URLs became available, users got the possibility of accessing websites just by typing them in a convenient program, without having to write commands in a terminal. DNS system, which was created in 1984, also allowed using names instead of IP-addresses.

After the standardized software for accessing web pages, the young network needed a standard for creating them. HTML was introduced in 1993. At first it contained only the simplest of all features. Such as basic formatting, tables, images, hyperlinks and forms.

Back then, the only tools available were text editors and knowledge of developers. Web pages were basically text files optimized for sending them via network. When the user made a request, the server machine sent them, then it was shown by the browser on the local machine. Everything was plain and simple. No complexity nor extra details. The rendering was happening on the side of the server. After the request was received, server would look up the needed page and send it to the user. Nothing like browser-side rendering was not present, and essentially was not needed at that time.

CSS was introduced a little later. In 1994 it was proposed by Håkon Wium Lie, Norwegian technologist. In 1996 it was initially released. The invention of CSS was a milestone in web development, since it allowed us to personalize pages. It allowed us to create a soul for our sites. Of course, the possibility of styling was proposed before Style sheets. However, the proposition lacked one crucial feature, the separation between writing html code and styling.

EsmaScript, or more know as JavaScript,

## Description of the problem

## Technology stack