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POPULAR BACKEND PROGRAMMING LANGUAGES FOR APP DEVELOPMENT

Xoldarboev Rakhimjon

Theacher of the Andijan Machine-Building Institute,

Uzbekistan, Andijan

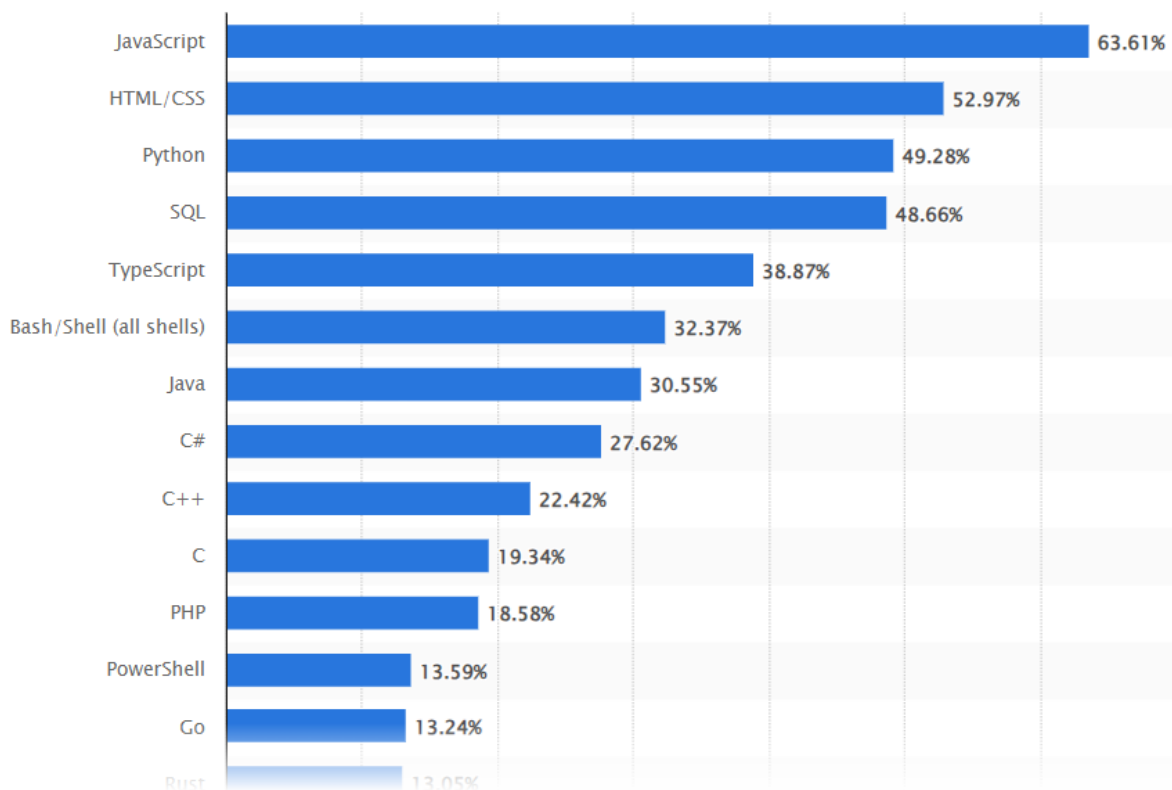| Abstract:	Keywords:
If you are planning to develop an Android application, then knowing about programming languages or tools used in android app development is very important as these applications are developed on top of specific platforms and these platforms need to be handled by special programming languages or tools. A few years ago, when it comes to developing a mobile app, there was one code for iOS apps and one code for Android apps. But with the increasing advancement in technology and emerging backend programming languages, developing a native app has become much easier, faster and simpler.	Programming languages, JavaScript, Python, Java, C#, PHP, Node.Js, Ruby, Ruby on Rails.

Introduction

In the world of mobile app development, one question keeps coming up again and again— what programming language should I use to create my app?

The possibilities are endless, from Android-specific Java programming to more general backend frameworks like Python or Ruby on Rails.

It will give you some options when deciding on your backend programming languages for your Android apps.

From where we should start and what are the best backend programming languages we should have covered?

According to Statista, Javascript is the most used programming language for software development whereas Python, Java, C#, C++, and more are the near competitors of the JavaScript language.

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1. JavaScript: Most Popular Backend Programming Language

JavaScript is an extremely one of the best backend programming languages and is excellent for developing a backend for software applications. A majority of developers like to use it for a backend because it is open-source, light, and dynamic. It is also more powerful than some other languages, like Python for example.

JavaScript can be paired with many frameworks, like AngularJS, ReactJS, EmberJS, KnockoutJS, and so forth. It is usable in any type of web or mobile app development project and would be ideal for all sorts of software projects.

What are the benefits of using JavaScript as a Backend programing language?

▪   You'll never have to worry about it not working across platforms, as its cross-platform capabilities mean that all your documents will remain compatible with all platforms.

▪   It offers you a variety of ways to make changes according to your preferences with the vast ecosystem of frameworks, libraries, modules, and plugins it includes.

▪   This language requires only a small level of programming skills, and it can be mastered relatively quickly.

▪   It has an asynchronous control flow, which is more efficient and so makes programming much easier.

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- Because of its one-threaded nature, performance is much improved on multi-core processors.

However, JavaScript also has drawbacks, such as scalability issues, and it's not fast for use in situations requiring an increased speed of execution. Even though its syntax is off-putting, it becomes more expressive and concise once you adjust.

2. Java: Top Backend Programming Language

The Java programming language is one of the most used backend programming languages in the world. This robust and versatile language was originally developed by James Gosling and released in 1995.

Java has a broad range of applications, spanning from gaming to enterprise software development. It can run on any operating system that supports an interpreter for this language, such as Windows or MacOSX.

Java is object-oriented programming (OOP) language, meaning that programs are built around objects with data fields, methods that are called upon by other objects, and behaviors that define how they interact with each other.

What are the significant advantages of using Java in Backend development?

- Java has a number of advantages, including
- It is object-oriented programming (OOP) language, which helps developers create more efficient and easy-to-read code.
- Java also provides automatic memory management, which lets the programmer focus on writing code instead of worrying about memory issues.
- Finally, Java is an open-source language that is available free of charge, making it accessible to everyone.

Unfortunately, Java does have some downsides as well. It's considered slower than other backend languages like Python or Ruby. Java also doesn't work on Windows computers. For these reasons and more, many developers look for other alternatives as well.

3. Python: Best Backend Programming Language For App Development

Python is another outstanding backend programming language that was first introduced in 1991. This object-oriented, functional, and dynamically-typed server-side language is popular among developers due to its easy-to-read syntax. Indeed, you can read this language the same way you read English.

With major companies like Shopify, Spotify, Google, Uber, and Instacart trusting Python, this language has demonstrated that it has what it takes.

What are the key features of this language? Is it the right backend programing language for Android app development?

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What Features Make Python a Winner Over Other Languages?

- Here are the key highlights of Python that make it special over others.
- Scaling is well-taken care of, thanks to its concurrent programming model that ensures graceful degradation when the program becomes flooded with simultaneous requests.
- It's faster than Java, and it requires less time to build an app.
- It's easier to debug because many specialized IDEs have been designed for this specific task.
- It has the ability to store large amounts of data without the need for extra software or programs.

The one downside of Python is that it doesn't offer any protection against SQL injections, which could compromise your database, potentially leading to costly fines and problems with major implications. You can pay developers in the Python field to use the language's backend.

4. C#: The Most Popular Backend Programming Language for Android Development

C# (pronounced see-sharp) is one of the general-purpose, backend programming languages designed by Microsoft as part of their .NET initiative.

It is used to create both console and GUI applications and usually runs on the Microsoft .NET Framework. C# was developed because many developers were dissatisfied with the dominant languages in use at the time, C++ and Java. It offers significant improvements over older languages such as C++ without compromising programmer productivity.

C# has two major releases available: an open-source release under the permissive MIT License and a closed-source one under a commercial license that can be purchased from Microsoft or other vendors.

What are the significant advantages of using C# for app development?

- You need to know these features which make C# a prime choice for developers.
- The code runs very quickly. You can also use it to create CLI applications and games.
- There is also cross-platform compatibility, garbage data management, and object-oriented programming in C#.
- For backend development, ASP.NET Core and .NET MVC are some popular C# frameworks.

C# is a great programming language, but it has some drawbacks. One drawback of C# is that the programs written in this language are not cross-platform compatible. This means that C# programs can only be used on Windows-based operating systems. Another downside of C# is that the code must be compiled before running it, which means you have to wait while your computer generates an executable file before you can actually use your program.

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5. PHP: Counted as a Most Trusted Backend Programming Languages

PHP is one of the most mature backend programming languages which has been around for a while and, as a result, has strong connections with databases like SQL. For people looking for that option, it is a fine option. While its syntax is not as elegant or swift as that of some newer languages, that does not make it a bad option for applications where it meets requirements.

It is likely that PHP would be the best backend language for Android app development because it is easy to understand, and it allows scripts to run directly in browsers – allowing one to easily access data from different sources.

Dynamic Features of PHP as a Backend Programming Language are:

- Supports many databases including MySQL, Microsoft SQL Server, Oracle, PostgreSQL, Sybase, etc.
- Easily interface with Web technologies like AJAX and JavaScript
- Support for all major operating systems including Windows, Mac OS X and Linux/Unix variants * Allows dynamic generation of web pages on the fly without reloading the page
- Designed to be embedded in HTML code or Apache server configuration files (i.e., phpinfo(), which shows the php version)

Before you come to any conclusion, you should know that despite being the oldest backend programming language, it also has some limitations, One of the drawbacks of PHP is that it has a poor memory management system. This can make PHP run slowly and cause crashes. It also doesn't offer support for functions such as 'strings.'

6. Node.Js: Empowering Seamless Backend Solutions

According to the W3Tech survey report, more than 30 million websites have used Node.js, almost 1.4% to 2.2% of all websites worldwide.

Node.js is a cutting-edge, event-driven, and lightweight backend programming language that has revolutionized web development. With its powerful capabilities, it enables developers to build scalable and high-performance applications that can handle a massive number of concurrent connections.

By leveraging JavaScript on both the client and server sides, Node.js streamlines the development process, promoting code reusability and a unified development ecosystem. Its vast collection of modules and an active open-source community make it an ideal choice for building modern, real-time web applications with ease and efficiency.

Top Reasons For Using Node.Js For Backend Development

- Non-blocking, event-driven architecture for high scalability and performance.
- Extensive package ecosystem with NPM, facilitating rapid development and code reusability.

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- Seamless integration of JavaScript for full-stack development, reducing context switching for developers.
- Ideal for real-time applications, web servers, and APIs with its asynchronous capabilities.
- Large and active community support, ensuring continuous updates and improvements.

These features and qualities have made Node.js the best backend programming language for various businesses. Industry tech giants like Netflix, Uber, LinkedIn, PayPal, Walmart, and more have put their trust in Node.js and built a powerful app.

7. Ruby: Elevate your Backend with Elegance and Productivity

In 2023, Ruby continues to shine as one of the best programming languages for its elegant syntax and developer-friendly design. With a strong emphasis on productivity, Ruby empowers programmers to build robust and scalable backend solutions efficiently.

Its vast community-driven ecosystem, led by the Ruby on Rails framework, fosters rapid application development, making it an excellent choice for creating web applications, APIs, and other sophisticated software projects.

Embracing Ruby in 2023 means embracing a language that remains steadfast in its commitment to simplicity, readability, and creativity.

Why Businesses Should Rely on Ruby For Backend Development?

If you are doubting whether Ruby is a reliable backend programming language for your business project, then you should go through these points:

- Ruby's elegant syntax and developer-friendly design enhance productivity and code maintainability.
- The Ruby on Rails framework provides rapid application development, reducing time-to-market for businesses.
- Ruby's vast community support ensures continuous updates, security patches, and access to numerous libraries and gems.
- Its scalability and performance make it suitable for handling growing business demands and heavy traffic loads.
- Ruby's focus on readability and simplicity reduces development time and minimizes potential errors, ensuring a robust backend.

Conclusion

Since the Google app store captured a significant market share of 70%, therefore, Android app development can bring an exciting field that provides many opportunities to grow and learn. However, whether you're looking to get into the industry or are a seasoned professional, using a backend programming language can help you build more robust apps that take advantage of all of the features in the latest versions of Android.

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Literature

1. Rakhimjon, H. (2022). 6 new programming languages to learn.

2. Axmatdjanovich, X. R. (2023). Elektron darsliklar yaratish texnologiyalari. Qo 'qon universiteti xabarnomasi, 89-91.

3. Yuldashev, M. (2023). FOODAPP.

4. Yuldashev, M. (2023). Nachalo raboti s Kotlin