**What is Open Data?**

In simple terms, [Open Data](https://en.wikipedia.org/wiki/Open_data) means the kind of data which is open for anyone and everyone for access, modification, reuse, and sharing.

Open Data derives its base from various “open movements” such as open source, open hardware, open government, open science etc.

Governments, independent organizations, and agencies have come forward to open the floodgates of data to create more and more open data for free and easy access.

**Why Is Open Data Important?**

[Open data is important](http://www.prowebscraper.com/blog/6-major-benefits-of-open-data/) because the world has grown increasingly data-driven. But if there are restrictions on the access and use of data, the idea of data-driven business and governance will not be materialized.

Therefore, open data has its own unique place. It can allow a fuller understanding of the global problems and universal issues. It can give a big boost to businesses. It can be a great impetus for machine learning. It can help fight global problems such as disease or crime or famine. Open data can empower citizens and hence can strengthen democracy. It can streamline the processes and systems that the society and governments have built. It can help transform the way we understand and engage with the world.

# Open-Source Programming Languages Explained

Open-source programming languages have been one of the most underrated elements that have helped propel technology. Most of the time, the credit is given to devices and apps, but it is programming languages that allow developers to build great source code and the amazing digital products we as users love. When it comes to [app development,](http://www.koombea.com/services/app-development) there are numerous examples that portray how open-source software can change the world.

If you are looking to build an app, you are probably wondering what popular programming language best fits your idea’s requirements. Whether you are looking for an object-oriented programming language, a high-level language, or a general-purpose programming language, open-source alternatives are always a great choice.

In this post, we explain what open-source programming languages are, how your app can benefit from using them, and some tips to choose the right one.

**What Are Open-Source Programming Languages**

[Open-source programming languages](https://www.techopedia.com/definition/25149/open-source-language) are not owned by anyone. They are easily available, they are usually maintained by a community, and on many occasions, they are also freely distributed under different open-source licenses. This means that open-source languages are mostly open so that anyone can modify them, and they are usually not proprietary. Up to a certain extent, and depending on the open-source protocol used, they can be more or less open to the public.

**Some of the world’s most popular programming languages are open source**. The reason for this is that, when computers started gaining popularity in the second half of the past century, many developers saw the benefits of developing open-source projects around programming languages. This has remained up to this day. Some of the early languages, like C, started as open-source projects, and they are still used in many software projects, including apps.

**Open-source Communities**

Most open-source projects are **maintained by a community of developers**, and open-source programming languages are no exception. For developers, this is very helpful, as it helps solve technical issues in a fast and reliable way. When a developer encounters a problem in a given language, they can easily look for solutions on the Internet. Someone in the community might have already had the same issue and solved it.

**Open-source Libraries**

Aside from creating a vast open-source project database of knowledge that is easily accessible, some developers also build code libraries that can be reused by other developers. This is very useful at the moment of building an app, as **code libraries save a lot of time when writing the source code of an app**, avoiding that a project starts from scratch.

Take, for example, the case of [Ruby on Rails](https://www.koombea.com/blog/3-reasons-why-the-worlds-greatest-apps-are-developed-on-ruby-on-rails/), an open-source web development framework that uses the Ruby programming language. It is one of the most popular programming languages to build [web applications](https://www.koombea.com/services/web-development/), and because of its many libraries and resources for developers, it is a preferred choice for building some of the world’s best apps.

**Open-Source and App Development**

There are many benefits of using an open-source programming language for an app development project:

* Licensing and distribution
* Knowledgeable developers
* Collaborative communities
* Libraries and tools
* Save time and resources

**Popular Open-Source Projects**

The open-source philosophy present in many programming languages also covers a wide array of projects. **Although they are probably not as famous as proprietary alternatives, open-source software projects have changed the world**. If it weren’t for them, we wouldn’t have many of the popular operating systems on which computers run, and consequently, we wouldn’t also have many of the apps we use on a daily basis.

One of the best-known open-source software projects is [Linux](https://www.linux.com/what-is-linux/). This is an open-source operating system that is present on many different platforms. As a matter of fact, it is the basis for the Android operating system. Not surprisingly, it is maintained by a worldwide community of developers that address computing challenges to deliver a product that can be used freely by anyone.

Some popular open-source software projects include:

* **Mozilla Firefox**: a secure browser that prioritizes user privacy and has other interesting features.
* **WordPress**: one of the most popular content management systems found across a large number of websites.
* **TensorFlow**: a [Machine Learning](http://www.koombea.com/services/machine-learning) library that is widely used as an industry standard for many automation projects.

**Top Open-Source Programming Languages**

There are many different types of open-source programming languages based on the type of project being built. When it comes to app development, there are some alternatives that have established themselves as the de facto standard.

These are some of the best open-source programming languages:

**Ruby on Rails (RoR)**

This is actually a [web development framework](https://www.koombea.com/blog/a-guide-to-web-development-frameworks-in-2021/) and a very popular one, to say the least. It is used for a number of different projects, and it is a favorite for developers thanks to its easy-to-use syntax based on the open-source and object-oriented Ruby language. It serves both back-end and front-end purposes. Thanks to its code structure, RoR can be used in projects that require scaling.

**Python**

Developed in the late 1980s, [Python](https://www.koombea.com/blog/pros-and-cons-of-using-python-for-web-development/) is an object-oriented and high-level programming language. Its syntax is very friendly, making it a great choice for projects that need to be done in a short amount of time. Because of this, it is ideal for building powerful [Minimum Viable Products](https://www.koombea.com/services/mvp/). It is a very popular alternative among data scientists, but it can also be used for other purposes like web development and Machine Learning, thanks to its numerous libraries.

**Swift**

This programming language is replacing Objective-C, the once-famous Apple language. [Swift](https://swift.org/about/#swiftorg-and-open-source) has become the standard for [iOS app development](http://www.koombea.com/services/ios-app-development), as it can help developers build powerful User Experiences in an easy way. This language is constantly evolving, bringing new innovations for developers with each iteration. It is a very stable language with a great performance.

**JavaScript**

This is another high-level language that has gained a lot of attention and popularity in recent years, especially because of its web-friendly capabilities. It is becoming an industry standard for many projects in different industries. Mozilla Firefox and Thunderbird are just some of the better-known software projects developed with JavaScript.

**Java**

This is another object-oriented programming language. It is the language on which Android is built, although it is being replaced by other languages like Rust and Kotlin. Java’s virtual machine is one of its main features, as it allows different languages to be interpreted across any device, making it an ideal [cross-platform app development](https://www.koombea.com/services/cross-platform/) alternative.

**Kotlin**

Like Java, Kotlin is an open-source language that runs on the Java virtual machine. It has become a popular alternative for [Android app development](http://www.koombea.com/services/android-app-development). Unlike Java, Kotlin’s syntax helps developers save valuable time writing code. It is also object-oriented.

**Final Thoughts on Open-Source Programming Languages**

When it comes to open-source programming languages for app development, there are many different alternatives that developers can use. There isn’t a single most powerful programming language that best fits a project. Finding the right one requires understanding what requirements are in place and what resources are available.

To understand a project, it is best to partner with an experienced [app development company](http://www.koombea.com/). By doing so, you will be able to find the right technology stack that best suits your project.