Why Develop With Go? May 15, 2024

If you use the internet, you're using Go. Below are my top ten reasons why I develop with Go:

1. **Creators:** Go was written in 2007 at Google by Robert Griesemer, Rob Pike, and Ken Thompson, who are also well-known for their contributions to the C programming language and Unix operating system. Go was published as open source in 2009 as a statically typed, compiled language designed to address common criticisms of other languages such as C++ and Java, and to make it easier to develop efficient, reliable software at scale.
2. **Write-Once, Run-Anywhere:** Go supports a wide range of platforms, including x86 and ARM architectures on Windows, Linux, Unix, BSD, macOS, Raspberry Pi, and others such as WebAssembly, Android and iOS.
3. **Compiled Language:** Like C, Rust and Zig, Go is a statically typed, compiled language that does not require an interpreter like Python, Ruby, or JavaScript, or a JIT (Just-In-Time compiler) like Java or C#. Compiled languages result in faster execution and more efficient use of system resources vs interpreted languages.
4. **Concurrency:** Go is designed for concurrent programming with lightweight goroutines and channels, making it ideal for high-performance, multi-threaded applications.
5. **Performance Compared to C:** Go typically performs within 10-20% of optimized C code while offering a much simpler syntax and development process.
6. **Memory Safety:** Go ensures memory safety through its strong type system, nil safety, efficient garbage collection, bounds checking, and concurrency safety. These features help prevent common issues like null pointer dereferencing, buffer overflows, race conditions and memory leaks.
7. **Compile-Time Error Checking:** Like Rust, Go enforces compile-time error checking with strict syntax rules and comprehensive checks to find errors during compilation rather than at runtime.
8. **Code Quality:** Go promotes clean and efficient code with its minimalistic design, built-in formatting tool, gofmt, and comprehensive standard library. The language enforces code formatting standards leading to a consistent and readable codebase. This makes Go code both easy to write and read.
9. **Major Companies and Programs Use Go:** Adobe, AT&T, BBC, Canonical, Cloudflare, CockroachDB, Crowdstrike, Dell, DigitalOcean, Disney, Docker, Dropbox, eBay, Etcd, Expedia, Facebook, GitHub, GitLab, Google, Grafana, InfluxDB, Kubernetes, Medium, Netflix, Paypal, Prometheus, SendGrid, Slack, SoundCloud, Tailscale, Terraform, Traefik, Twitch, Uber, and Youtube, and many more.
10. **Developer Friendly:** With an easy-to-learn syntax, built-in concurrency, performance, memory safety, and cross-platform compatibility, Go is an excellent choice for modern software development. Whether writing a simple tool or a large-scale distributed system, Go provides the features, safety, and efficiency needed to succeed.

Sources:
https://go.dev/wiki/GoUsers#united-states
https://go.dev/doc/faq#creating_a_new_language
https://brainhub.eu/library/companies-using-golang
https://www.miquido.com/blog/top-golang-apps-best-apps-made-with-golang
https://www.infoworld.com/article/3442978/10-open-source-projects-proving-the-power-of-google-go.html

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