# net2o — Reinventing the Internet

I've a dream: A peer–to–peer network, where services like search engines or social networks aren't offered by big companies, who in turn need to make money by selling the privacy of their users. Where all data is encrypted, so that access is only possible for people who have the key and really are authorized. Which layman can use without cryptic user interfaces. Where the browser is a platform for running useful applications without the mess of Flash and JavaScript. Without the lag of "buffer bloat" and without the speed problems of a protocol not designed to be assisted by hardware.

## What's broken?

▶ The internet bases on assumptions 20–30 years old
▶ These assumptions are wrong today
▶ Much of it followed the "good enough" principle
▶ There's a huge pile of accumulated cruft
▶ Fixing this mess one–by–one is the wrong attempt

## Objectives

net2o's design objectives are

▶ lightweight, fast, scalable
▶ easy to implement
▶ secure
▶ media capable
▶ works as overlay on current networks (UDP/IP), but can replace the entire stack

## Layers

1. Physical layer — this is not part of net2o itself.
2. Topology: path switching
3. Encryption: ed25519+Keccak in duplex mode
4. Flow Control: time based delay–minimizing
5. Commands: structured data and multi–command RPC
6. Distributed Data: DHT+shared files
7. Applications: chat, vault, DVCS, GUI with browser (to be implemented)

## GUI Framework

▶ libsoil for images (PNG+JPEG loading into a texture)
▶ freetype-gl for fonts (TrueType/OpenType into a texture)
▶ OpenMAX on Android, gstreamer on Linux: videos into a texture
▶ MINOΣ2: Lightweight OpenGL–based widget library in Forth (still a lot of work in progress)

## Application availability

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| Linux | Debian package soon |
| Android | Gforth in the Play Store contains net2o |
| Windows | setup.exe soon |
| Mac OS X | fink package soon |