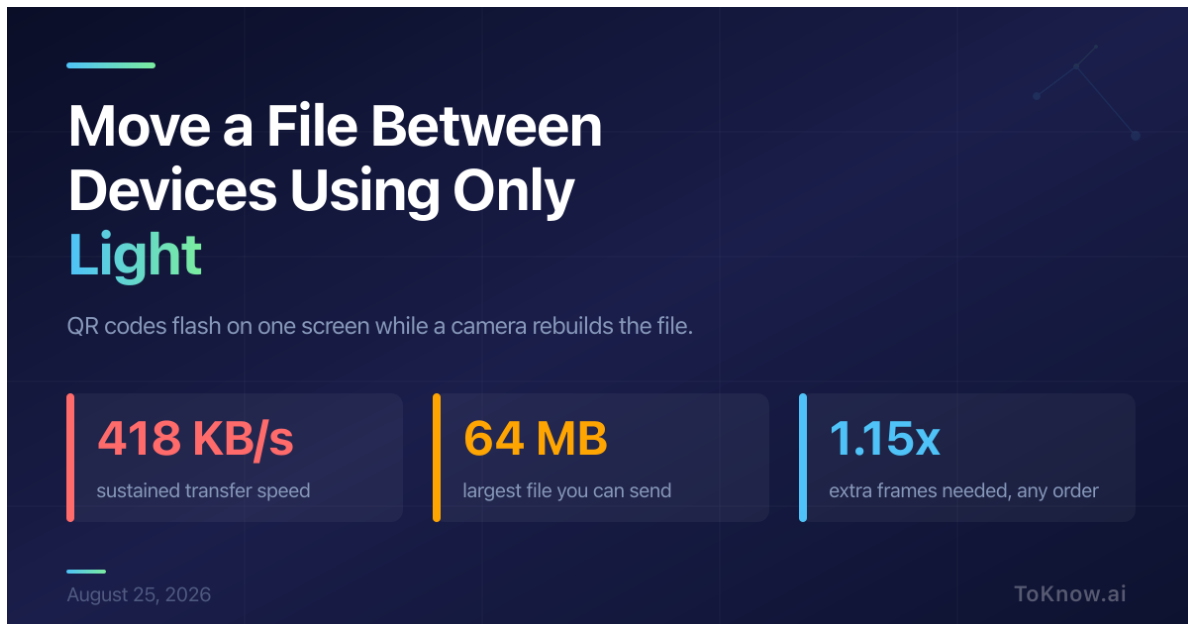


Move a File Between Devices Using Only Light

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2026-08-25

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Decimen Optical Transfer is a free, open-source browser tool that moves files between two devices with no network at all. One screen splits the file into small pieces, renders each piece as a QR code, and flashes the codes in a rapid sequence. A second device points its camera at the screen, reads every frame, and reassembles the file. No app, no pairing, no upload, and it works offline after the first visit. Files up to 64 MB are verified before download. In the developer's measurements, a desktop screen sent a 1 MB file to a phone in about 2.5 seconds, a sustained 418.5 kilobytes per second.

Missed frames never break it. A screen-to-camera link has no back-channel, so the camera cannot tell the screen it missed a frame. Decimen instead uses [fountain codes](#), a 1998 idea where the sender keeps producing coded frames and the receiver needs only about 15% more distinct frames than the file contains, in any order, to rebuild it. Blurred or dropped frames just slow it down, which is why pointing the camera halfway through still delivers the whole file. The honest trade-off: nothing is encrypted, any camera pointed at the screen can read it, and it suits small files, not gigabytes.

The idea is not new. A Go tool animated QR codes with fountain codes in 2018, and simpler browser tools still send codes one at a time, needing every one. What changed is the cost of trying it: a niche research trick is now one developer's open-source project with published benchmark runs, the same spirit as a [video stream that is secretly just colored text](#).

Read More: [Progressive web apps run offline after the first visit, the same trick Decimen relies on](#)

Sources:

- [Decimen Optical Transfer: fountain-coded QR file transfer \(GitHub\)](#)
- [Decimen Optical Transfer, the live browser app](#)
- [Luby transform codes, the fountain-code idea behind it \(Wikipedia\)](#)
- [txqr: animated QR codes with fountain codes, from 2018 \(GitHub\)](#)
- [Airgapped QR Code Transfer: a simpler browser tool using sequential chunks \(GitHub\)](#)

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