

free / libre open source software eine Entwicklungsgeschichte

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8. Juli 2014

source?

aus Quelltext wird Software!

```
__global__
void applyScaleFactorsKernel( uint8_T * const out,
    uint8_T const * const in, const double *factor,
    size_t const numRows, size_t const numCols )
{
    // Work out which pixel we are working on.
    const int rowIdx = blockIdx.x * blockDim.x + threadIdx.x;
    const int colIdx = blockIdx.y;
    const int sliceIdx = threadIdx.z;

    // Check this thread isn't off the image
    if( rowIdx >= numRows ) return;

    // Compute the index of my element
    size_t linearIdx = rowIdx + colIdx*numRows +
        sliceIdx*numRows*numCols;

    // Scale the value with the appropriate factor
    double result = (double)in[linearIdx]*factor[sliceIdx];

    // Cap our values to the interval [0,255]
    result = min(255.0,result);

    // Write the value to global memory.
    out[linearIdx] = (uint8_T)rint(result);
}
```

free/libre?

gratis Software ist nicht immer freie Software!

- 50er Jahre: Entstehung einer Hackerszene an amerikanischen Universitäten (insbesondere MIT, Berkeley, Stanford)
- bis 1970 lieferte IBM jegliche Software mit Sourcecode
- Entstehung von UNIX (MIT) und BSD-artigen Systemen (Berkeley) in den späten 70ern
- Richard Stallman verlässt 1984 Stelle an MIT, veröffentlicht das GNU Manifesto, 1989 die GNU General Public License
- 1991 erstes freies BSD Unix (386BSD), Bill Jolitz
- parallel dazu beginnt Linus Torvalds (Student, Finland) mit der Arbeit an Linux, nutzt dafür bereits vorhandene GNU Software
- 1993 wurden sowohl GNU/Linux und 386BSD stabile Plattformen

February 3, 1976

An Open Letter to Hobbyists

To me, the most critical thing in the hobby market right now is the lack of good software courses, books and software itself. Without good software and an owner who understands programming, a hobby computer is wasted. Will quality software be written for the hobby market?

Almost a year ago, Paul Allen and myself, expecting the hobby market to expand, hired Monte Davidoff and developed Altair BASIC. Though the initial work took only two months, the three of us have spent most of the last year documenting, improving and adding features to BASIC. Now we have 4K, 8K, EXTENDED, ROM and DISK BASIC. The value of the computer time we have used exceeds \$40,000.

The feedback we have gotten from the hundreds of people who say they are using BASIC has all been positive. Two surprising things are apparent, however. 1) Most of these "users" never bought BASIC (less than 10% of all Altair owners have bought BASIC), and 2) The amount of royalties we have received from sales to hobbyists makes the time spent of Altair BASIC worth less than \$2 an hour.

Why is this? As the majority of hobbyists must be aware, most of you steal your software. Hardware must be paid for, but software is something to share. Who cares if the people who worked on it get paid?

Is this fair? One thing you don't do by stealing software is get back at MITS for some problem you may have had. MITS doesn't make money selling software. The royalty paid to us, the manual, the tape and the overhead make it a break-even operation. One thing you do is prevent good software from being written. Who can afford to do professional work for nothing? What hobbyist can put 3-man years into programming, finding all bugs, documenting his product and distribute for free? The fact is, no one besides us has invested a lot of money in hobby software. We have written 6800 BASIC, and are writing 8080 APL and 6800 APL, but there is very little incentive to make this software available to hobbyists. Most directly, the thing you do is theft.

What about the guys who re-sell Altair BASIC, aren't they making money on hobby software? Yes, but those who have been reported to us may lose in the end. They are the ones who give hobbyists a bad name, and should be kicked out of any club meeting they show up at.

I would appreciate letters from any one who wants to pay up, or has a suggestion or comment. Just write me at 1180 Alvarado SE, #114, Albuquerque, New Mexico, 87108. Nothing would please me more than being able to hire ten programmers and deluge the hobby market with good software.

Bill Gates

- Ende der 90er gab es bereits eine große Menge an frei verfügbarer Software, allerdings auch einen Markt für proprietäre Endkundensoftware (Windows, Office)
- der Browser Netscape Communicator wurde aus steigender Angst vor einer Monopolisierung Microsofts als freie Software veröffentlicht
- daraus entstand das Mozilla Projekt (Firefox)
- neue ökonomische Modelle entwickeln sich, Firmen werden auf open source aufmerksam
- 1997 Eric Raymond veröffentlicht "Die Kathedrale und der Basar"
- es folgen große Projekte wie KDE, GNOME
- 2000 beginnt das OpenOffice.org Projekt

- 2014: freie Betriebssysteme beherrschen den Markt im Server und Smartphone Bereich (und an Forschungseinrichtungen, Supercomputer: 96,4 Prozent Linux)
- Google, Intel, Cisco, HP, IBM, Panasonic, Samsung, Adobe, Dell, [...] finanzieren die Linux Foundation, stellen festangestellte Linux-Entwickler
- freie Dateiformate zur Interoperabilität zwischen Betriebssystemen werden akzeptiert
- Canonical (Ubuntu) wird zum 'major player', erfolgreiche Geschäftsmodelle
- öffentliche Einrichtungen fördern Open Source (2009 bekommt Matthias Ettrich, Gründer des KDE Projekts das Bundesverdienstkreuz verliehen)
- LiMux, Stadt Leipzig 2012: 3900 Arbeitsplätze auf OpenOffice umgestellt

aus open source wird open culture

- Hacker-/Makerspaces entstehen überall in Europa (z.B. C-Base, sublab)
- FreiFunk Bewegungen / eigene Infrastruktur bauen
- Reaktion der Community auf Cloud Lösungen: eigene Clouds hosten (z.B. owncloud)
- next big thing: open hardware
- security through obscurity als Konzept kaum noch tragbar
- andererseits: aktuelle IT-Sicherheitsproblematik löst umfassende Debatten über open source software aus (Beispiel Heartbleed)

- ① proprietäre Software machte den Weg erst möglich für Überwachungsszenarien, welche nun Realität geworden sind. Open Source Software als einzige Antwort darauf?
- ② Doppelmoral bei Unternehmen wie Google: Tauschen wir unsere Privatsphäre gegen vermeintlich freie Software?