

What is the Value of Open Source

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9 October 2008

Open Source and Values

- The Open Source Community is often characterised by their values
 - although they might not always agree on what these are
- The Free Software movement definitely knows what its values are
 - The Four Freedoms
- For all our various communities, the concept of value is an important one.

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- Not really
- Commercial programming began when someone realised that the value of a piece of code to end users was much greater than the cost of creating it.
- So the inaugural value associated with code was economic.
- This is important because economic drivers have influenced code most strongly ever since.

What's wrong with pure economic value?

- By “pure” this means that the only value is economic
- It means that Code only has as much value as the users pay for it (less the cost of producing it).
- It also means that the value placed on the code by its creator is completely irrelevant.
- Leads to pay-cheque coding.
- Leads companies to try to minimise the cost of creation.
- Dulls creativity and worse completely kills the desire to innovate.

Changes Started in 1986

- Richard Stallman began the GNU project to create a free clone of UNIX
- Motivated by being shut out of computer systems at Stanford.
- Analysed what he didn't like about the closure.
- Synthesised the four freedoms as principles to adhere to to combat it.
- Also came up with the GNU Public Licence—the first licence requiring the sharing of enhancements.
- Eventually became full system *except* for the kernel and graphical interface.

However, also the BSDs

- Began as free software
- At least until AT&T took their toys away
- Took years to emerge from the resulting lawsuit
- However, eventually did (in 1990 or so) and brought with them their own concept of freedom
- The freedom to do anything you like with the code.
 - Provided you give us credit (advertising clause)

Closed Source Dominates

- Lead by Microsoft (and Apple) the windows revolution sweeps the desktops.
- However, this is only made possible by the emergence of the cheap commodity PC platform (or the slightly more expensive Apple platform).
- Users vote with their pocketbooks for what they see as a cheap solution.
- The operating system becomes accepted as closed source.

Enter the Linux Kernel in 1991

- Completes the GNU tools and X to provide a fully open source windowed UNIX like clone.
- Eagerly embraced by non-US universities anxious for a cheaper alternative to their sparc stations.
- began seeping into the data centre and the network's edge.
- Arguably today the most vibrant and widely embraced open source platform.
- Runs on everything from mobile phones and embedded devices through desktops and servers to power 8 out of the world's top ten most powerful computers.

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- “FreeBSD is the most popular open source desktop system” — Jordan Hubbard.
- He means Mac OS-X
- However, OS-X isn't fully free
 - Apple has numerous closed source drivers and other additions
 - All permitted by the BSD licence
- iPhone also has BSD in its core
 - So BSD now plays in the mobile space as well
 - Although with far more proprietary pieces

The Jail Analogy

- Courtesy of Jim Zemlin (Executive Director of the Linux Foundation)

Why is Linux Different?

- It's Open Source, but with a give back licence (the GPL).
- Apple deliberately chose BSD over Linux because it wanted to avoid the give back requirements.
- Many other companies would like to avoid the give back requirements as well
- But most of them use Linux anyway.
- Why is this?

What are the Linux Values?

- Linux values technical merit over all other considerations.
 - Over commercial interests
 - Over users
 - Over everything ...
- In Linux, the values and passion of the person creating the code rule
 - Provided their values and passion lead them to write good code
- What doesn't tend to get a look in is "freedom" (unlike GNU and BSD).

But what Are the Values?

- Provided you write good code, we don't really care
- Don't have to sign up to a philosophy (like GNU)
- Don't have to agree to a definition of freedom (like BSD)
- Just have to obey the quid pro quo usage rules (give back)
- And, of course, write good code.
- Thus any values can play
 - Commercial (deriving value from the platform)
 - GNU (seeking to further the four freedoms)
 - ...

How does this Define the Community

- Community defined by Contribution. Not by values
- Standards for Contribution:
 - Technical Excellence
 - Quid pro Quo (give back)
- Makes the community diversity very high
- Leads to a broad base of excellence for contributions and reviews
- Also builds a shared interest in the Linux code base
- This is a “disparate value” community.

But Values Seep across this Community

- Commercial interests forced to recognise the values of engineers to influence Linux
 - actually a wonderful retention and motivation tool
 - no need to give free meals, dry cleaning and sweets to inspire work on proprietary code
 - can offer open source work instead.
- Developers get access to corporate resources
 - and some of their equipment and interesting problems
- Users get high quality code from engineers who care deeply about what they do and want to hear about problems.

Corporate Culture and Economic Values

- Open Source isn't just useful as a motivator for engineers
- Also allows corporations to reduce overheads by tossing older code out into open source commodity.
- Frees them to generate value on the edge of the stack
- Allows them to co-operatively develop (with their competitors) code which is no longer a differentiator.
- Spurs innovation and collaboration in Industry.

Historical Analogy

- There's a famous document
- Written on a single sheet of Paper
- That lays the foundations for a free society
- It begins:

“We the people, in order to form a more perfect union
...”

Emergent Values

- Like emergent properties in Physics (Mass in the Standard Model)
- Or freedom in the US constitution
- code freedom arises from the Linux community
 - not in spite of the disparate value model
 - but because of it

Conclusions

- Only thing that really matters in Linux and Open Source is that the person submitting code care about it (i.e. that you value it).
- Code Freedom (GNU definition) arises naturally, it doesn't have to be forced a priori.
- Code Freedom also seeps into all participants in the ecosystem.