Paris Call on Software Source Code
from the 6/11/2018 UNESCO Expert Meeting

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January 31st, 2020

Software Heritage
THE GREAT LIBRARY OF SOURCE CODE

Computer Science professor in Paris, now working at INRIA

- *30 years* of research (Theor. CS, Programming, Software Engineering, Erdos #: 3)
- *20 years* of Free and Open Source Software
- *10 years* building and directing structures for the common good

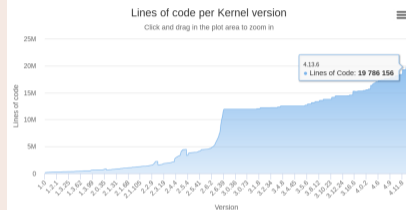|	
1999	*DemoLinux* – first live GNU/Linux distro
2007	*Free Software Thematic Group*
	150 members 40 projects 200Me
2008	*Solving dependency hell* www.mancoosi.org
2015	*Software Heritage* at INRIA
2017	policy work on EU Copyright Reform
2018	*National Committee for Open Science*, France

Apollo 11 (~60.000 lines), 1969

"When I first got into it, nobody knew what it was that we were doing. It was like the Wild West."

Margaret Hamilton

Linux Kernel (in your pockets!)

Lines of code per Kernel version

Click and drag in the plot area to zoom in

4.13.6
• Lines of Code: **19 786 156**

Lines of code

Version

Harold Abelson, Structure and Interpretation of Computer Programs (1985)

"Programs must be written for people to read, and only incidentally for machines to execute."

Len Shustek, Computer History Museum (2006)

"Source code provides a view into the mind of the designer."

We are loosing our memories

- the key people are passing away
- we miss an archive
- we miss a rescue program

Generalised lack of awareness

- policy: EU Copyright, Open Science
- research: reproducibility
- general public: education

Software source code contains our knowledge and cultural heritage

we need to

- protect it
- nurture it
- preserve it
- share it

Let's stop fighting back, and be *more proactive*!

Experts call for greater recognition of software source code as heritage for sustainable development

.6 November 2018

PARIS CALL
SOFTWARE SOURCE CODE
AS HERITAGE FOR SUSTAINABLE DEVELOPMENT

Software Heritage

At UNESCO, Inria, and Software Heritage invitation,
40 international experts meet in Paris …

Their call is published on Feb 2019
it's open for signatures!

Recognize: Software source code, free and open source software

- a key component of *human creativity, sustainable development, society and culture*;
- importance of software source code for a *transparent society*;
- an essential pillar of *education and research*;
- centrality of software to modern commerce and industry especially as a medium for *innovation and economic development*;
- growing importance of *free and open source software*, with humankind constantly creating an *unprecedented software commons*;
- source code of software … defines the *experience of the law by citizens*;

Paris Call: selected recommendations

Software as essential infrastructure

- *legal, policy and institutional environment* where software source code can flourish;
- *open and international research [...] framework* for [...] the *quality, safety and security of the software commons*;
- *effective independent auditing* of software source code [...] that may affect fundamental rights of human beings and where possible ensure it is *made available under an open source license*

Software as and Asset and as Heritage

- necessary *exceptions to copyright* [...] for archival, preservation, accessibility, education and research purposes
- *shared infrastructures* to collect, preserve and make available software source code;
- *gather and preserve* the artifacts and narratives of the *history of computing*, while the earlier creators are still alive;

Paris Call: some concrete answers

Universal archive   www.softwareheritage.org

Software Heritage

- collect, preserve, share *all* software source code
- Apollo-11, Quake III, and Open Science guidelines

Public source code

- index *public* open source, and archive it for the long term!
- see it at `https://code.etalab.gouv.fr`

Rescue and archive landmark legacy software

Software Heritage Acquisition Process (SWHAP),
UNESCO, University of Pisa, Inria, SWH collaboration:

- detailed process, open to all
- see `https://www.softwareheritage.org/swhap`

Your turn to play!

Paris Call on Software Source Code is here

- *recommendations*
- *report*
- from a broad panel of experts

What you can do:

- read it
- sign it
- use it: it's a *policy* tool!

Thank you!

https://en.unesco.org/foss/paris-call-software-source-code