

The Cathedral, the Bazaar, and the Coffeehouse



<https://github.com/Claudenw/Cathedral-Bazaar-Coffeehouse>

Claude N. Warren, Jr.

- Member of Apache Software Foundation (ASF)
- Contributor to: Jena, Commons, and Cassandra Projects
- Effectuator
- Not the one in Wikipedia

 Senior Software Engineer / Technical Effectuator

 claudio.warren@aiven.io

 <https://www.linkedin.com/in/claudewarren>

 <https://github.com/Claudenw>

 https://www.researchgate.net/profile/Claude_Warren_Jr

1688



- Edward Lloyd founded a coffeehouse on Tower Street in London.

1688



- Edward Lloyd founded a coffeehouse on Tower Street in London.
- Lloyds coffeehouse featured discussions about shipping.

1688



- Edward Lloyd founded a coffeehouse on Tower Street in London.
- Lloyd's coffeehouse featured discussions about shipping.
- Shipping high tech industry of the time.

1688 Risk



- Sinking

1688 Risk



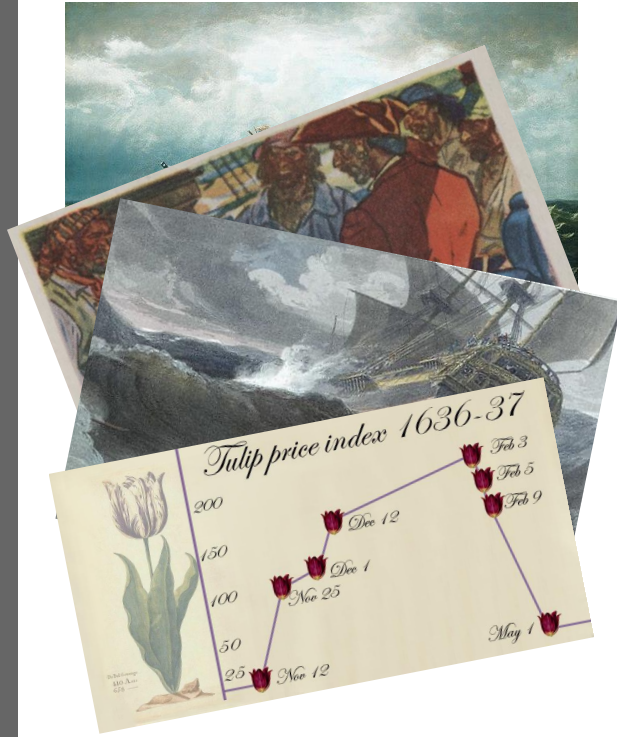
- Sinking;
- Pirates

1688 Risk



- Sinking;
- Pirates;
- Cargo overboard in storm

1688 Risk



- Sinking;
- Pirates;
- Cargo overboard in storm;
- Prices crash before shipments arrive.

Lloyd's Risk Reduction Strategy

Investors invest in multiple ships and cargo.



Lloyd's Risk Reduction Strategy

Investors invest in multiple ships and cargo.

Share in the profit if the ship made a profit, or the loss if the ship made a loss.



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Effectively making Lloyd's one of the earliest insurance syndicates.

More History

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99% of codebases audited contained open source software.



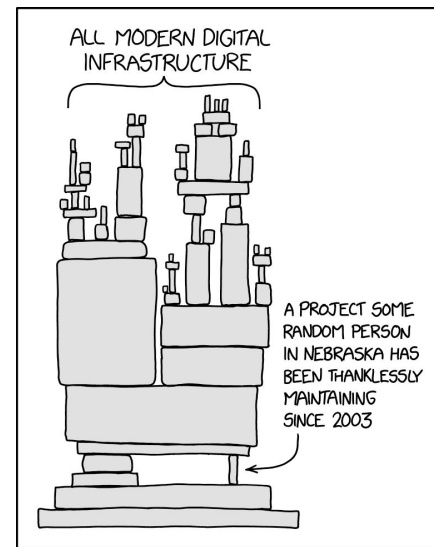
Synopsys, 2019 survey of codebases

More History

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82% contained outdated or abandoned open source components.

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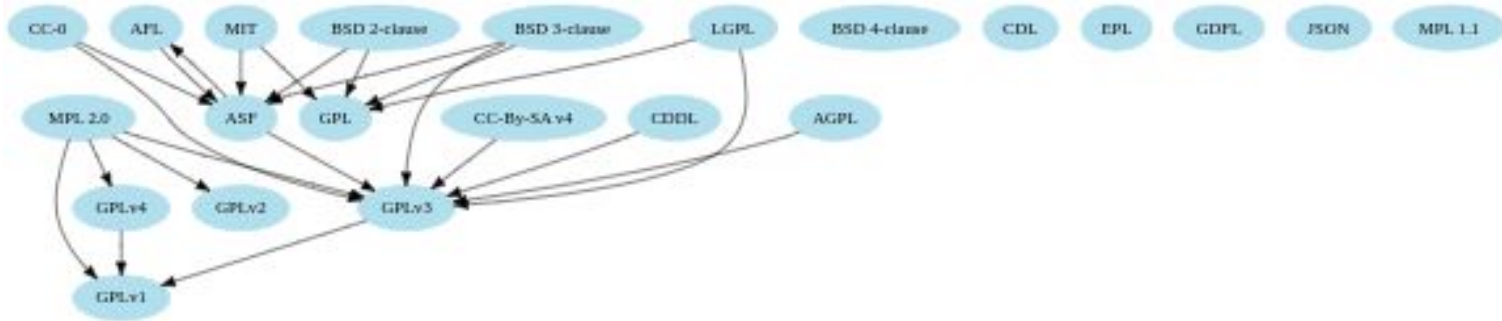
82% contained outdated or abandoned open source components.

73% had at least one licence issue.



Synopsys, 2019 survey of codebases

License Mess



This graph does not show

- Debian FSG compatibility
- FSF approval
- OSI approval
- Copyleft acceptance
- Allows linking from code with different license.

I am not a lawyer.

**Seek proper legal
guidance before using.**



Why do we care?

Why do we care?

- Outdated or abandoned open source components are not upgraded when vulnerabilities are discovered.

Approx 54 million active projects

Approx 14 million active developer accounts

Almost 4 active project per developer

X-Lab, Github 2020 Insight Report

Why do we care?

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Almost half of respondents listed lack of financial compensation as their top reason for disliking being a maintainer.

Tidelift, 2021 Open Source Maintainers Survey

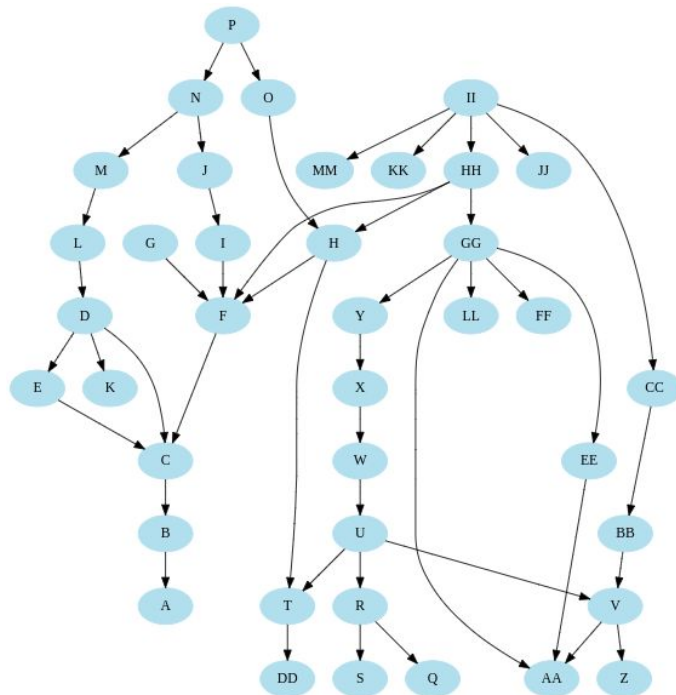
Why do we care?

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Why do we care?

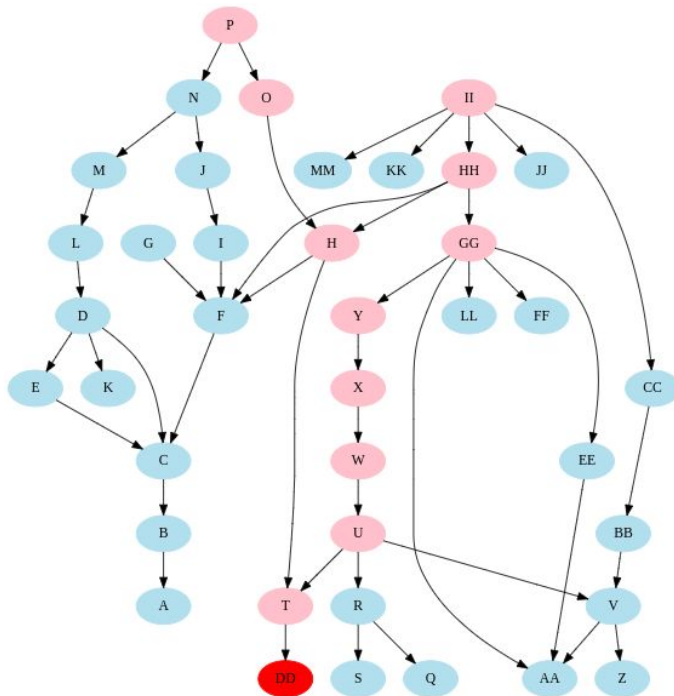
- Outdated or abandoned open source components are not upgraded when vulnerabilities are discovered.
- Licensing issues are expensive to mitigate.
- Transitive dependencies make any upstream issue your issue.

A Nice Dependency Graph

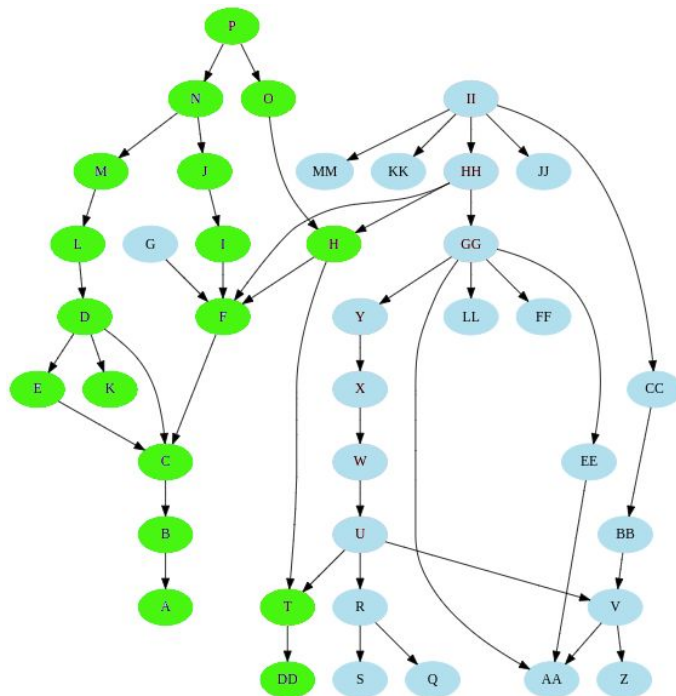


A Hostile Dependency Graph

95% of vulnerable dependencies are transitive
– Endor Labs, The State of Dependency Management, 2022



A Worrisome Dependency Graph



So What is This Cathedral vs Bazaar Thing?



1997 Erick S. Raymond speaking at LinuxKongress introduced the concept of the Cathedral and the Bazaar.

Cathedral, top down, a few developers have control over the project.
Tight control can make contributing difficult



Bazaar, bottom up, more developers, distributed knowledge.
Lack of tight control can lead to difficult to detect errors.

Are you overwhelmed yet?

- Find all the upstream dependencies
- Analyze the issues
 - License conflict
 - Wrong development strategy for module
- Analyzing the risks
 - Developer community crash
 - License change
- Analyze the mitigation
 - Ability to contribute to upstream project
 - Ability to fork project if necessary
- The unknown unknowns
- The things you know that ain't so



Have a Cup of Coffee

- Enhanced energy levels
- Less likely to suffer heart failure
- Not as likely to suffer a stroke



Open a Coffeehouse

- Meet like minded people
- Meet people with different opinions
- Have open discussion on high tech topics



The Organizational Solution

Change organizational perception of open source software

- Stop thinking of open source as a cost avoidance strategy.

The Organizational Solution - Perception

Change organizational perception of open source software

- Stop thinking of open source as a cost avoidance strategy.
- Start supporting open source development as an insurance policy.



(Open Source Program Office)

The Organizational Solution - OSPO



Use the OSPO:

- as a firewall between organizational secret sauce and the open source community.

The Organizational Solution - OSPO



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Use the OSPO:

- as a firewall between organizational secret sauce and the open source community.
 - Don't show them the internal code
 - Keep valuable IP from leaking.
- Provide technical support to internal developers

The Organizational Solution - OSPO



Use the OSPO to analyze all upstream projects for:

- Community viability

The Organizational Solution - OSPO



Use the OSPO to analyze all upstream projects for:

- Community viability
- Openness to contribution

The Organizational Solution - OSPO



Use the OSPO to analyze all upstream projects for:

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- Existing license issues



Use the OSPO to analyze all upstream projects for:

- Community viability
- Openness to contribution
- Existing license issues
- Process fit for purpose

The Organizational Solution - OSPO



Use the OSPO to support upstream projects by:

- Hiring developers to work on the projects

The Organizational Solution - OSPO



Use the OSPO to support upstream projects by:

- Hiring developers to work on the projects
- Donating money or resources to projects

The Organizational Solution - OSPO



Use the OSPO to support upstream projects by:

- Hiring developers to work on the projects
- Donating money or resources to projects
- Supporting existing development foundations

The Community Solution - Coffeehouse



DISCUSSING THE WAR IN A PARIS CAFE.
NEW YORK 1870.

In association with other OSPOs and interested parties create a coffeehouse like environment

- Share data about open source projects

The Community Solution - Coffeehouse



DISCUSSING THE WAR IN A PARIS CAFE.
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In association with other OSPOs and interested parties create a coffeehouse like environment

- Share data about open source projects
- Select metrics

The Community Solution - Coffeehouse



DISCUSSING THE WAR IN A PARIS CAFE.
NEW YORK, 1870.

In association with other OSPOs and interested parties create a coffeehouse like environment

- Share data about open source projects
- Select metrics
- Publish reports on common projects

In Closing



In Closing



In Closing



SECURING THE WAR IN A PARIS CAFE.
MR. PAUL DE.

Thank You

Image Credits

- Lloyd: Lloyds Corporation, <https://www.lloyds.com/about-lloyds/history/coffee-and-commerce>
- Coffeehouse: Stevens, William, James Macaulay, and William Haig Miller. The Leisure Hour: an Illustrated Magazine for Home Reading. London: [W. Stevens, printer, etc.],
- Sinking: Shipwreck off Nantucket (Wreck off Nantucket after a Storm) - painting by William Bradford (MET, 1971.192)
- Pirates: "Signing the Articles" from the 1936 Pac-Kups "Jolly Roger Pirates" trading card set
- Cargo Overboard: Hand-coloured aquatint engraving of the "A picturesque voyage to India, by the way of China" / by Thomas Daniell, R.A., and William Daniell, A.R.A.
- Tulip Price: Adam Smith Institute, 23 Great Adam St, London.
- Risk Reduction: "The Rescue", Maurice Poirson
- OSS: By Colin Viebrock - Simon Phipps, former president of OSI, official SVG, Public Domain, <https://commons.wikimedia.org/w/index.php?curid=1853734>
- XKCD: <https://xkcd.com/2347>
- Prohibition sign, GravisZro - Own work, Public Domain, <https://commons.wikimedia.org/w/index.php?curid=9547672>
- Cathedral: Interior of Antwerp Cathedral, Peeter Neeffs the elder
- Bazaar: A Turkish Bazaar, 186, Amadeo Preziosi
- Overwhelmed: Peter Welleman, Public domain, via Wikimedia Commons
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- Graphs by Claude N. Warren, Jr.

Slides: <https://github.com/Claudenw/Cathedral-Bazaar-Coffeehouse>

References

- Apache Software Foundation, <https://www.apache.org>
- Community Health Analytics in Open Source Software (CHAOSS), <https://chaoss.community/>
- Copyleft, <https://www.gnu.org/licenses/copyleft.en.html#:~:text=Copyleft%20is%20a%20general%20method,in%20the%20public%20domain%2C%20uncopyrighted.>
- Debian Free Software Guidelines, https://www.debian.org/social_contract#guidelines
- Endor Labs, The State of Dependency Management, <https://www.endorlabs.com/state-of-dependency-management>
- Free Software Foundation, <https://www.fsf.org/>
- InnerSource Commons, <https://innersourcecommons.org/>
- Linux Foundation, <https://www.linuxfoundation.org/>
- Open Source Initiative, <https://opensource.com/about>
- Raymond, Eric S., The Cathedral and the Bazaar, <http://www.catb.org/~esr/writings/cathedral-bazaar/>
- Tidelift, 2021 Tidelift Open Source Maintainer Survey, <https://tidelift.com/subscription/the-tidelift-maintainer-survey>
- X-Lab, Github 2020 Insight Report, <https://oss.x-lab.info/github-insight-report-2020-en.pdf>