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PARTICIPATION WITH OPEN SOURCE

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My Open Source Involvement

- Contributed to several projects: SPDX, FOSSology, Yocto
- Co-director of the Board: CHAOSS
  - https://chaoss.community/
  - 55th project at the LF
- Some Former Students:
  - Brian Warner, Director, Open Source Engineering and Strategy at Samsung Electronics
  - Mike Dolan, Vice President of Strategic Programs, Linux Foundation
- Current Organizational Partners
  - RedHat, Twitter, LF, FreeBSD, Mozilla

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NETFLIX

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NETFLIX

FreeBSD

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AUTOMOTIVE GRADE LINUX

Infotainment – UCB 6.0 currently available, SDK available

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Slide 1:

Innovation Stream → Product

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Slide 2:

Innovation Stream → Product

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Slide 3:

Innovation Stream → Product

An Innovation Stream = Corporate IP + Non-differentiating Technology
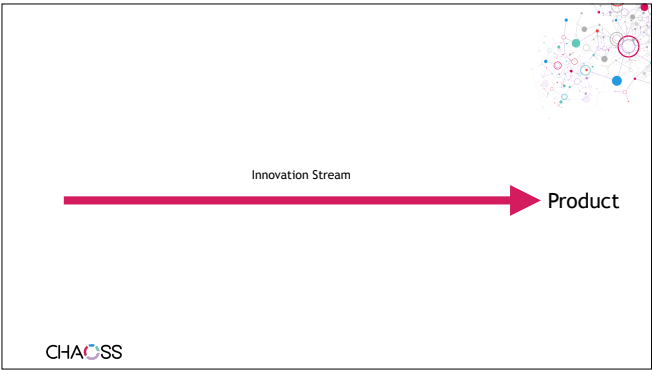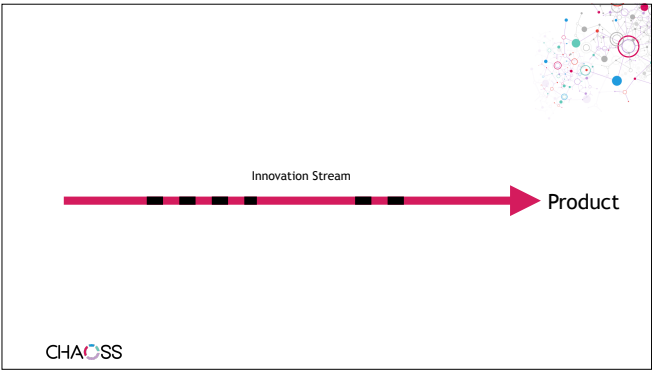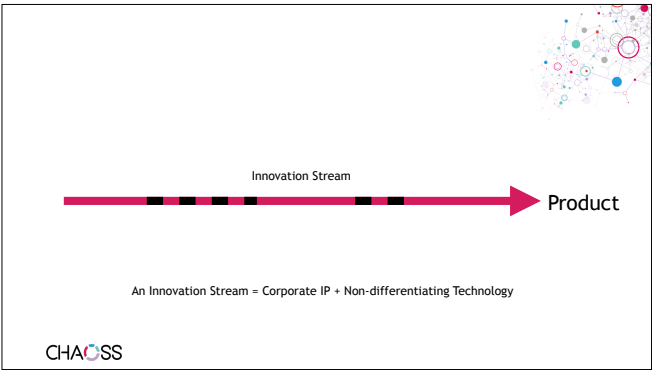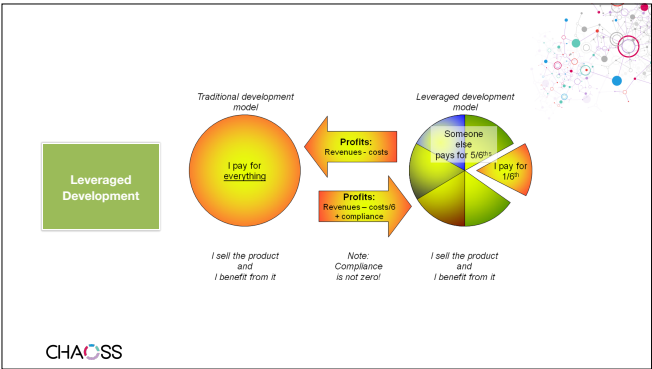
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Instrument Cluster – device profile available with UCB 6.0
Telematics – device profile available with UCB 6.0
Heads-up Display
Advanced Driver Assistance Systems
Functional Safety
Autonomous Driving

https://creativecommons.org/licenses/by-sa/4.0/

Bootstrap

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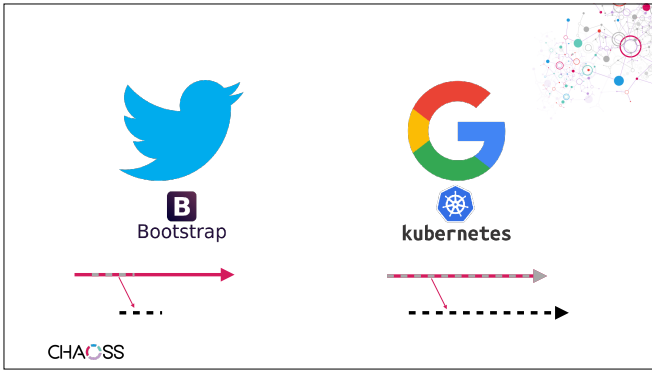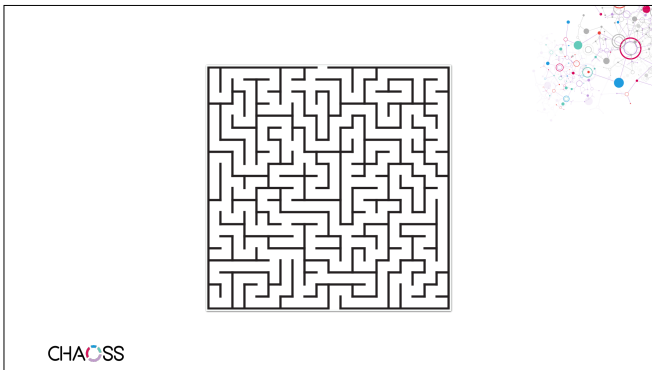
Open Source Software is Three Things

Licenses

Obligations set forth by owners of a particular work – such as software – that govern the use of their work.

Community

An Open Source Community is a collection of developers and users with a common interest in the creation, enhancement, and support of a specific piece of Open Source software.

Methodology

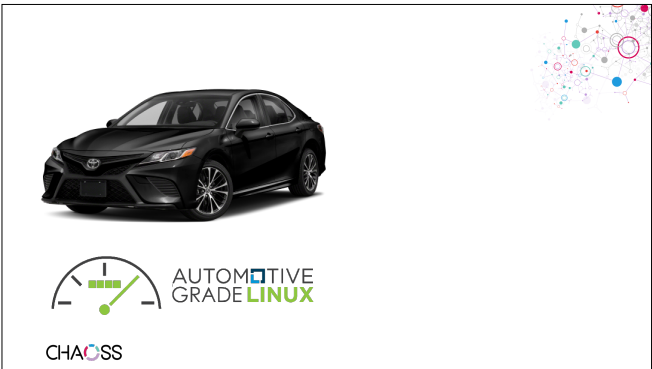Working with Open Source software requires a general methodology that guides Open Source development by the community. Although there is more than one Open Source methodology, most share certain characteristics such as open development.

- You can use all three as a competitive advantage
- The business model shifts to contribution and support
- The more you get involved, the more you can influence/control
- If you don't understand the licensing, you may expose proprietary information unintentionally

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Licenses

Licenses

- More than 100 licenses today as recognized by OSI and SPDX
- Two basic types of licenses
  - ➤ Reciprocal licenses that require code changes to be returned to the community at large. This type of license is also called a Copyleft license.
  - ➤ Licenses that permit modified versions to be retained as proprietary and permit arbitrary integration into proprietary software.

Copyrights are still a core foundational element of all Open Source licenses

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Community

Community

- Any collection of developers with a common interest
- Historically made up of free agents
- Increasingly funded by large companies sharing development costs
- Governments and academia also contributing at an increasing pace
- Membership & "rank" within community based on individual's reputation
- Corporate reputation plays a significant, yet secondary role

Open Source Communities are a meritocracy in the sense that reputation and influence are measured by sustained individual contributions rather than corporate directives.

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Methodology

Methodology

- Communal, shared development
- Various projects each with their own subculture
- Very few roadmaps, but some projects are starting to publish them
- Influence and control is achieved by being involved
- Individuals are largely in control, not companies

Governance models vary widely,
some autocratic, others consensus based

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Open Source

- Historically, open source has strong egalitarian roots, with a clear intention of upholding the 'free' in free software.
- Such an environment is extremely valuable but also presents challenges for organizations

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Open Source Risks

- There is risk to the community if participants do not meet expectations as open source maintainers, implementing critical features in ways negatively impacting release quality or release timeline.
- There is risk to participants if the community cannot sustain a leveraged development model, requiring abnormal stabilizing resources from participants.
- There is risk to participants, stemming from accidental or intentional non-compliance with open source licenses as expressed by the community.

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Domestication of Open Source

- As open source evolves to be part organizational business models, structures can foster clarity, approachability, and stability in the risk-laden environment of product and service development in such ecosystems.

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FOSS is Like a Natural Resource

Organizations exist for the sole purpose of protecting the commons (such as the Linux Foundation and the Software Freedom Conservancy)

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Programming Frameworks

Application Platforms

Messaging Middleware

Containers

Operating Systems

Virtual Machines

Network Management and Orchestration

Carrier Networking

Network Controller

Data Plane Services

Hardware

CLOUD FOUNDRY

OPEN CONTAINER INITIATIVE

Xen Project

OPNFV

node

OpenMAMA

OPEN-O

OPEN DAYLIGHT

OPEN

THE LINUX FOUNDATION
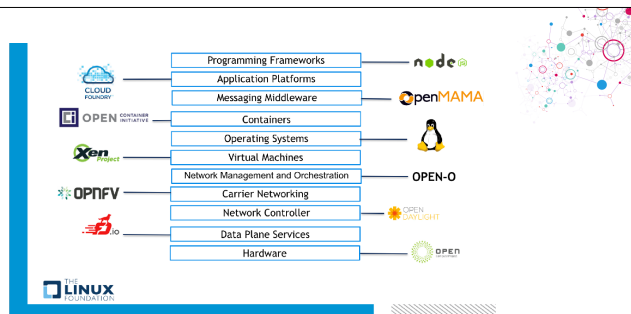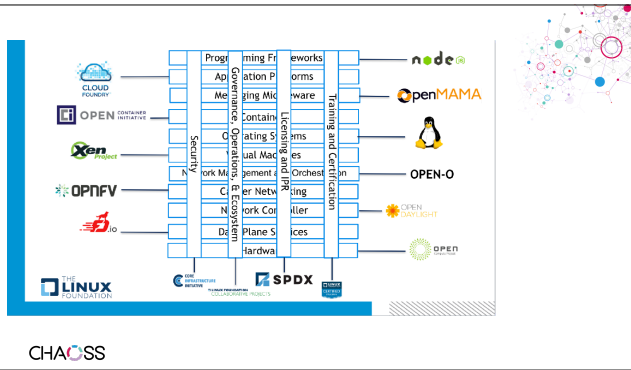
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Interactive FOSS Trivia

Filing a Grievance

How many Linux (kernel or subsystem) developers does it take to file a grievance against an infringer to cause legal action?

a. One – Any Linux maintainer
b. All copyright holders of Linux acting together
c. One – Any copyright holder of Linux
d. One – Linus Torvalds
e. None of the above

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It only takes one copyright holder to enforce a license for any given piece of Open Source. Replace "Linux" with any copyrighted work and the same applies (e.g. BusyBox)

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How Can We Better Understand This?

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TODO

OPENCHAIN

fossology

SPDX

CORE INFRASTRUCTURE INITIATIVE

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How Can We Better Understand This?

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TODO

OPENCHAIN

fossology

SPDX

CORE INFRASTRUCTURE INITIATIVE

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Open Source Project Health Metrics

https://chaoss.community/metrics/

CHAOSS Metrics (Release 201908)

Released metrics are only a subset of metric ideas that are being developed. If you would like to learn more and discuss different metrics please visit the working group repositories. The metrics are sorted into Focus Areas. CHAOSS uses a Goal-Question-Metric format to present metrics. Individual metrics are released based on identified goals and questions. The metrics include a detail page with definitions, objectives, and examples.

Focus Areas by Working Group

Common Metrics WG
- Organizational Affiliation

Diversity and Inclusion WG
- Event Diversity
- Governance
- Leadership

Evolution WG
- Code Development

Risk WG
- Business Risk
- Code Quality
- Licensing
- Transparency

Value WG
- Labor Investment
- Living Wage

Metrics / GQM

Diversity and Inclusion

D&I Repository: https://github.com/chaoss/wg-diversity-inclusion

Focus Area - Event Diversity

Goal:
Identify the diversity and inclusion at events.

Metric	Question
Diversity Access Tickets	How are Diversity Access Tickets used to support diversity and inclusion for an event?
Code of Conduct at Event	How does the Code of Conduct for events support diversity and inclusion?
Family Friendliness	How does enabling families to attend together support diversity and inclusion of the event?

Focus Area - Governance

Goal:
Identify how diverse and inclusive our governance is.

Metric	Question
Code of Conduct for Project	How does the Code of Conduct for the project support diversity and inclusion?

Focus Area - Leadership

Goal:
Identify how healthy our community leadership is.

Metric	Question
Mentorship	How effective are our mentorship programs at supporting diversity and inclusion in our project?

https://chaoss.community/metrics/

Diversity Access Tickets

Question: How are Diversity Access Tickets used to support diversity and inclusion for an event?

Description

Inviting diverse groups of people may be made explicit by offering specific tickets for them. These tickets may be discounted to add further incentive for members of the invited groups to attend. A popular example are reduced tickets for students.

Diversity access tickets can enable community members to attend events and encourage new members to join. Especially unemployed, underemployed, or otherwise economically disadvantaged people may otherwise be excluded from attending an event. Furthermore, diversity access tickets can encourage additional contributions and ongoing contributions.

Objectives

- Demonstrate effectiveness of increasing diversity at events.
- Enable attendees to attend who could not without a discount due to their economic situation.
- Encourage members from underrepresented groups to attend.
- Track effectiveness of outreach efforts.

Strategies

- Observe website for availability and pricing of diversity access tickets.
- Interview organizers to understand where and how the diversity access tickets were allocated (some organizers offer tickets directly to individuals or local groups focused on underrepresented segments, which cannot always be found by looking at the website).
- Survey participants about perception of diversity access tickets.
- Track attendance numbers based on diversity access tickets.

Success Metrics

Qualitative

- Interview organizers

https://chaoss.community/metrics/

Deployments

https://twitter.github.io/year-in-review

How Can You Get Involved?

Google Summer of Code

OUTREACHY

THE LINUX FOUNDATION

THE APACHE SOFTWARE FOUNDATION

Thanks! — Stickers Available!