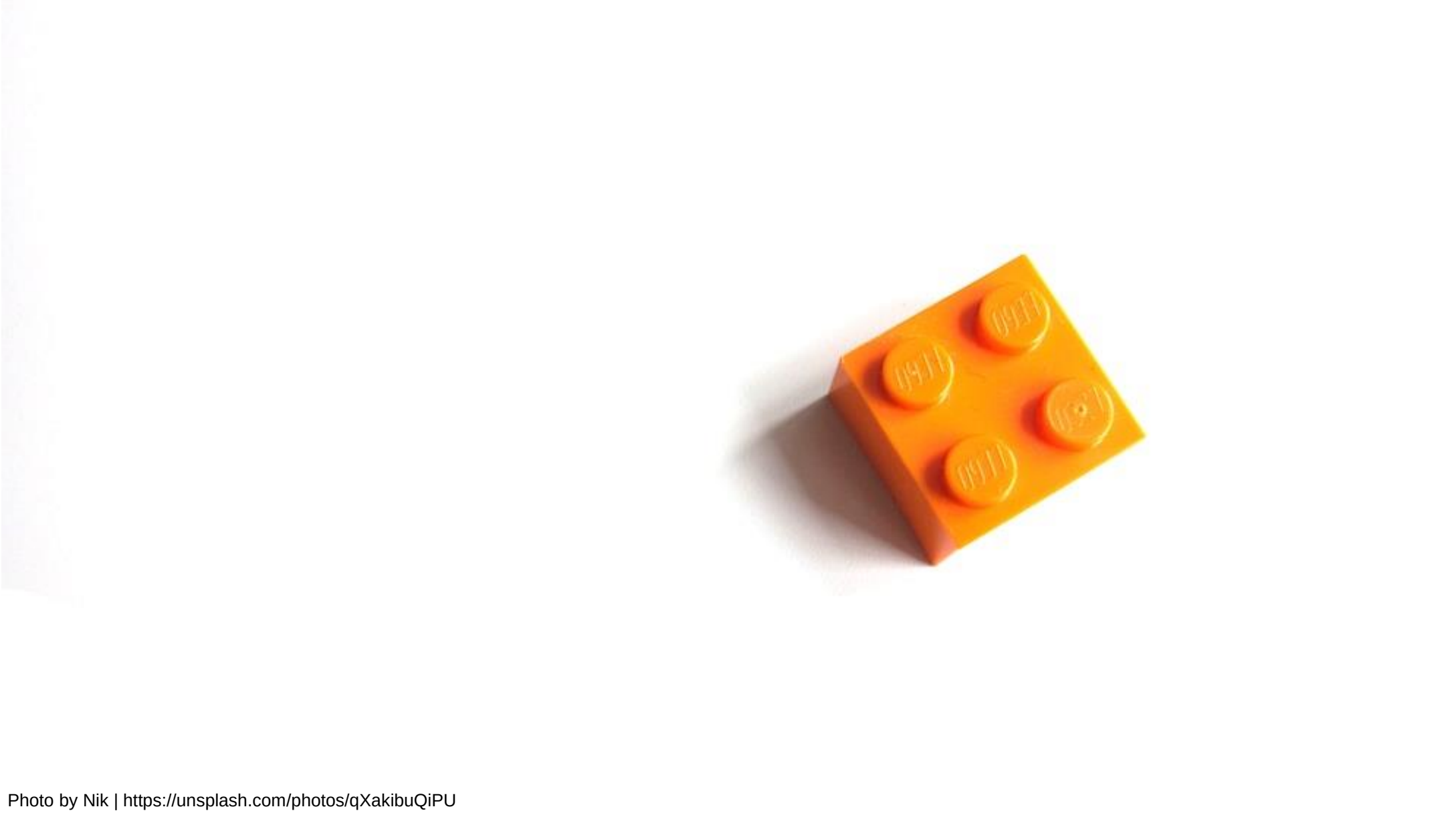
JOHAN LINÅKER

HASMOSS - Health and Security Management for Open Source Software

Open Source is a building block

- A means to create, share, and distribute reusable and modifiable bricks
- Present in > 90 % of todays software
- But who guarantees their quality and that they are safe to use?



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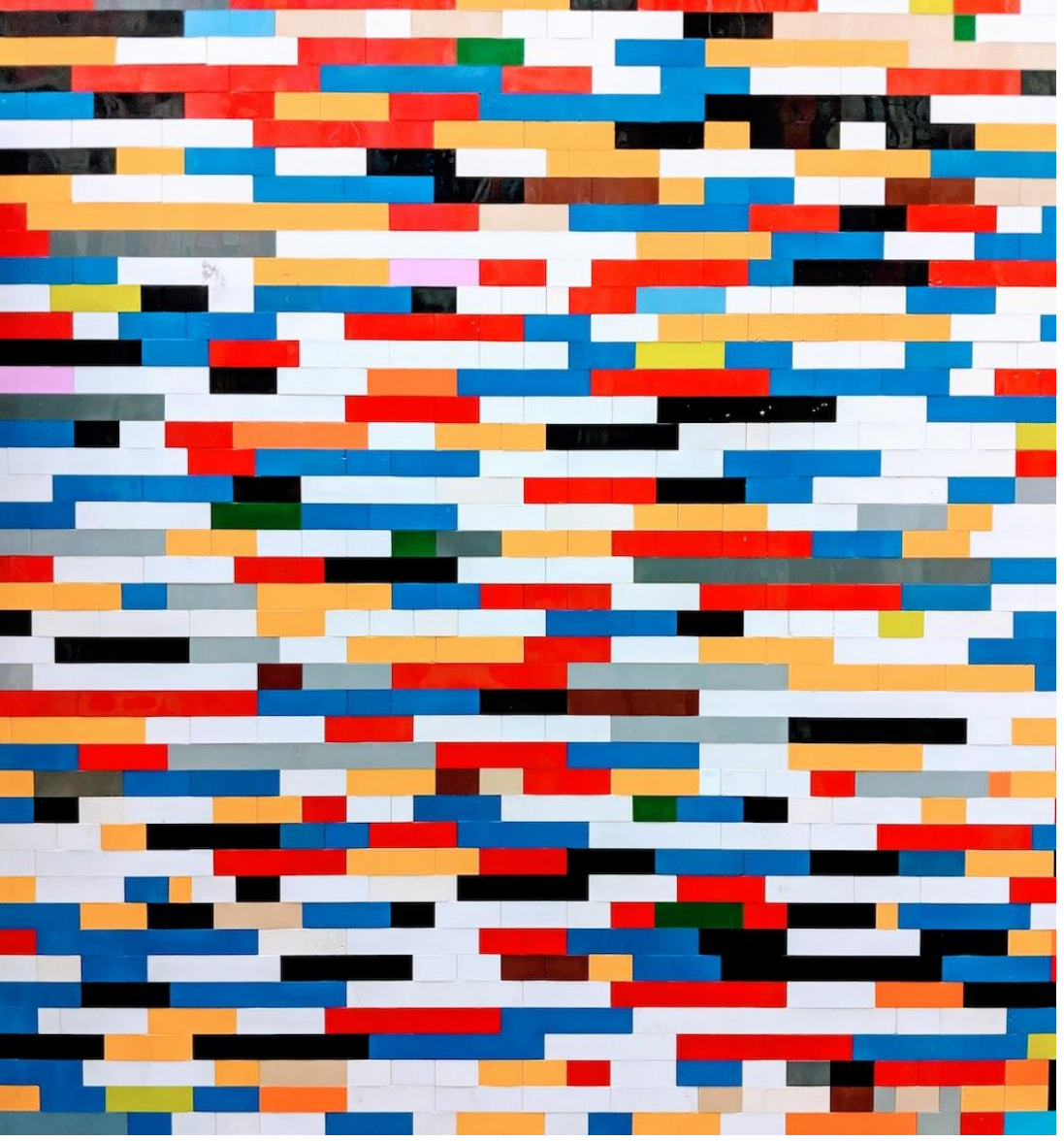

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Open Source Software and our Digital Infrastructure

- Open Source Software makes up a vitale building block in our digital infrastructure
- Needs maintenance as with physical infrastructure to stay secure and robust

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Open Source Software Health

- An Open Source Software project's capability to stay viable and maintained over time without interruption or weakening

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Open Source Software Health

- Productivity: There is an active development of the project
- Robustness: The development is open and spread out on several (independent) individuals
- Openness: Users of the project can influence and contribute to the development of the project

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How can we find the cracks and bumps before they appear?

How can we avoid them?

How can we mitigate them?

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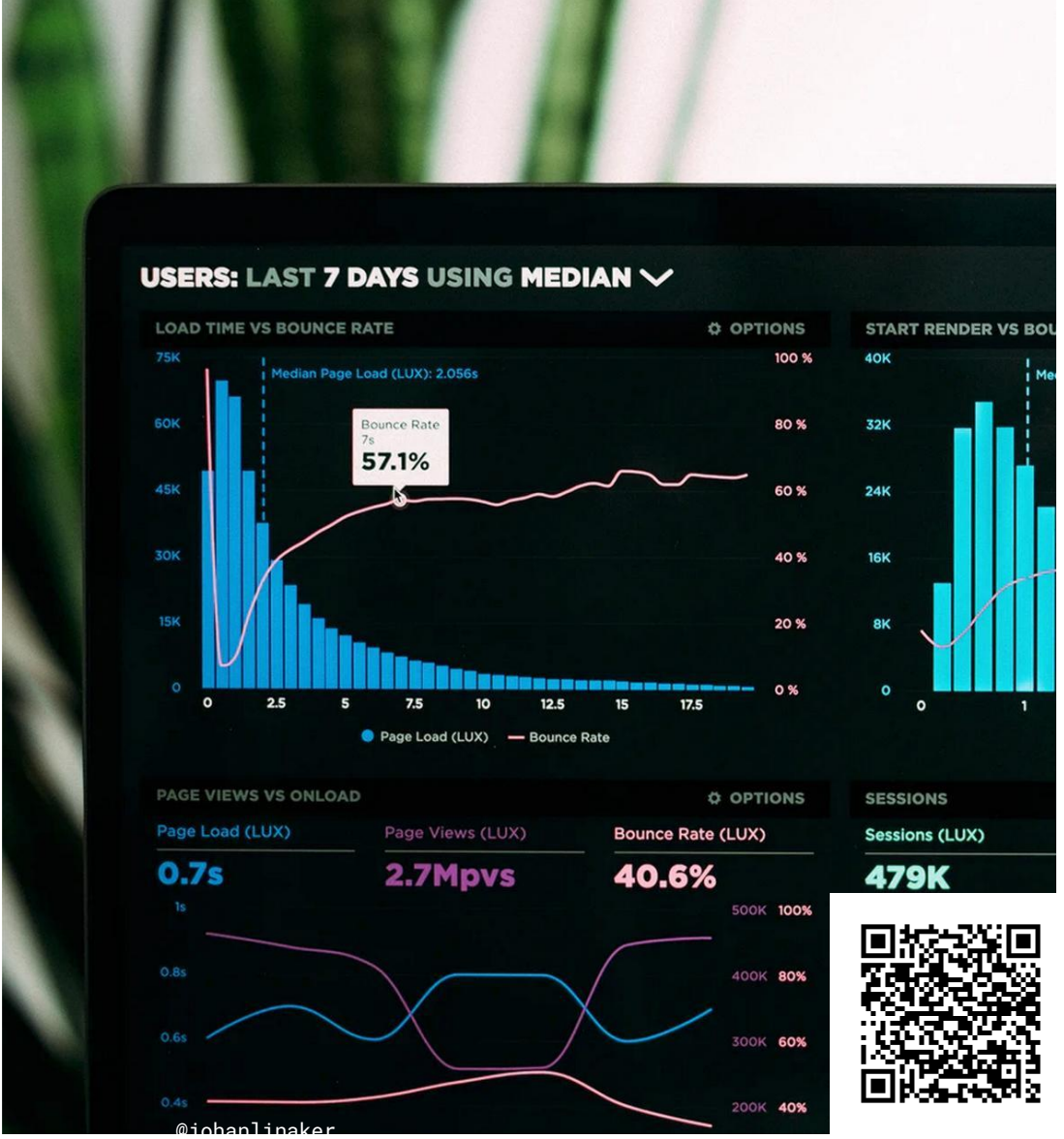

By Considering the Health of Open Source in your Intake Process

- Goals:
  - Enable health analysis at intake and acquisition of OSS, and ongoing consumption
  - Enable sourcing decisions and proactive health improving measures

* https://bit.ly/3AM5NR8

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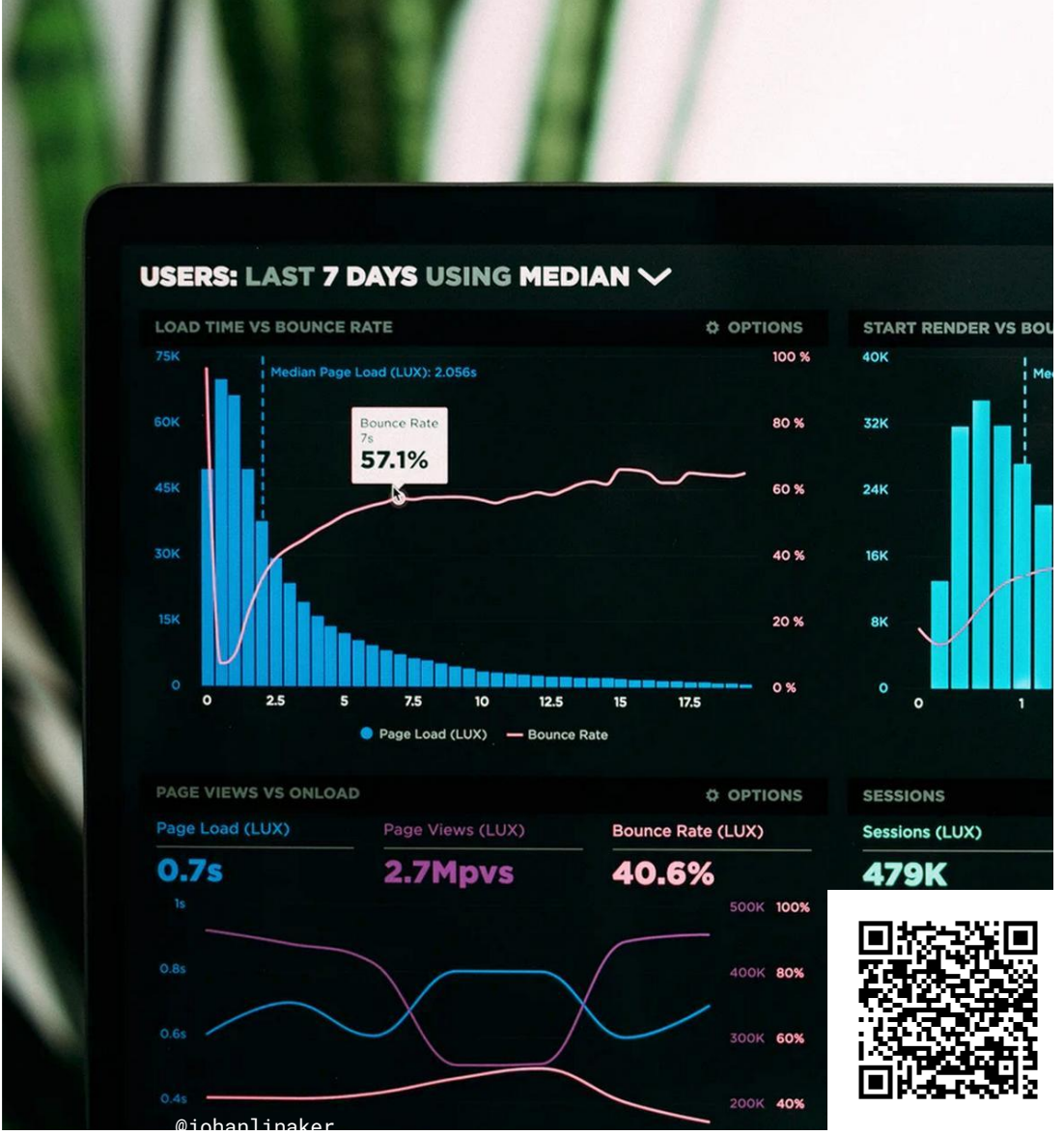

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Partners

Observers

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What can we find in literature?

- 146 studies
- 107 characteristics (+associated metrics
- Divided over 15 themes
- Supplementary material: https://doi.org/10.6084/m9.figshare.20137175
- Paper: https://www.ri.se/sites/default/files/2022-09/opensym2022-6%20%281%29.pdf

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What does practice say?

- Interview survey + case study at Scania
- Validates but narrows down characteristics to smaller groups
- Need for automation
- Need to consider
  - Size & complexity
  - Strategic importance
  - Life-cycle stage
  - Governance and ownership
- Study ongoing

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Framework structure

- Level of abstraction
  - Network-level
    Characteristics related to the Overarching software ecosystem or network that the OSS project is part
  - Project-level
- Socio-technical dimension
  - Actors
    Human and Community-related characteristics
  - Software
    Technical and project-related characteristics
  - Orchestration
    Governance-related characteristics

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Future work

- Gather metrics and data sources from practitioners through observations, and contrast to what we've found in literature
- Investigate applicability and possibility to automate and quantify characteristics with industry partner (ongoing)

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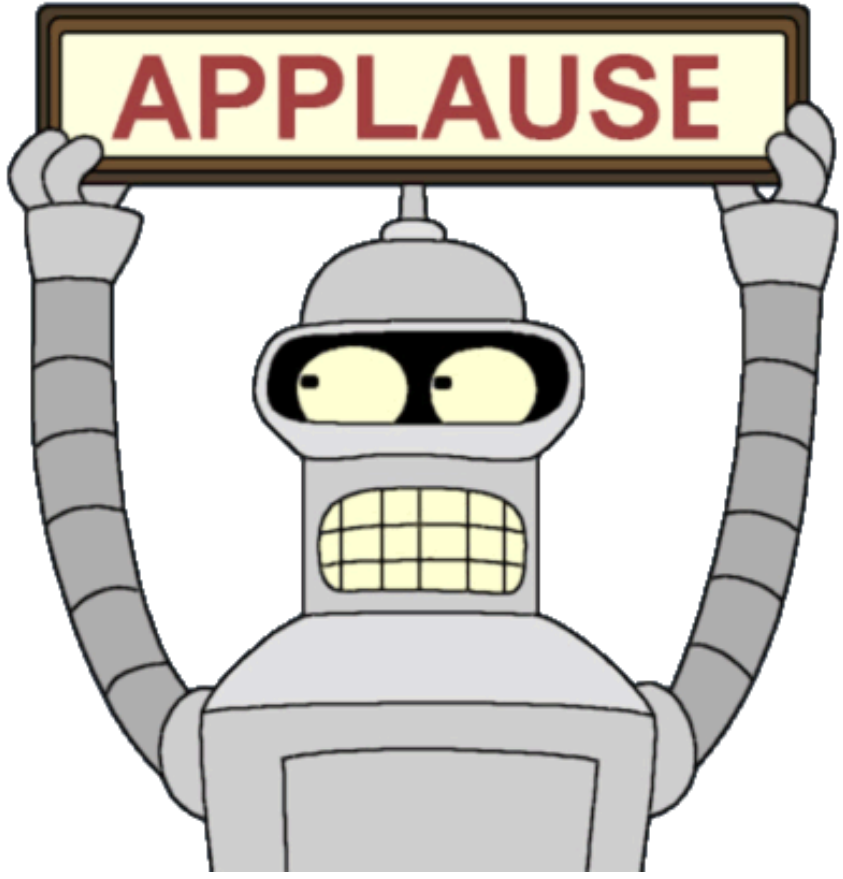

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