Who am I

She/her
Brazilian
Mom

Bachelor and
Masters in
Computer Science

20 years in IT
industry

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About the study
Work-in-progress

Anecdotal evidence to support strategies to increase and retain a diverse set of contributors

- Why do you participate?
- How do you perceive success?
- Do you feel belonging?
- What challenges do they face?
- Would make you leave?

Survey design and data collection aligned with Linux Kernel community managers

Call to action:

- If you are a Linux Kernel contributor, **please help us and answer the survey until Sept 22nd AoE**

The Questionnaire

- Voluntary
- Three parts
  - PART I - Motivations to contribute
  - PART II - Contributions to Linux Kernel
  - PART III - Gender diversity in Linux
  - FINAL PART - Demographics
- Approximately 10 minutes to answer.
- Data from the survey will be aggregated, and responses will be anonymous.
- If you want to share you can share your details for follow-up questions or to being acknowledged via an aggregated list.
- Questions or concerns: linux-survey@lists.sddiproject.org.

We received 289 complete and valid responses so far

Motivations

Previous study - Shifting Sands of Motivation

- The shift since the 2000's
- The shift since joining
- The shift for a diverse set of contributors

Intrinsic motivations play a key role

Reputation and Career can motivate more than payment

Social aspects are now rocking

Shift from extrinsic to intrinsic motivations

Gerosa, M., Wiese, I., Trinkenreich, B., Link, G., Robles, G., Treude, C., ... & Sarma, A. (2021, May). The shifting sands of motivation: Revisiting what drives contributors in open source. In *2021 IEEE/ACM 43rd International Conference on Software Engineering (ICSE)* (pp. 1046-1058). IEEE.

Motivations
In the present survey

How important are these reasons for you to contribute to the Linux Kernel?

Hobby/Enjoyment
- I have fun contributing

Career/Professional Development
- I contribute because I'm paid
- I sell products/services
- I seek career opportunities
- I want to improve my skills
- I want to enhance my reputation
- I was asked to as part of a course work

Philosophy/Ideology
- I feel personal obligation because I use
- I want to improve the quality of the project I'm working on
- I believe source code should be open

Collaboration/Kinship
- I like the collaborative environment
- I deeply enjoy helping others
- I want to share knowledge
- I want to participate in the scene
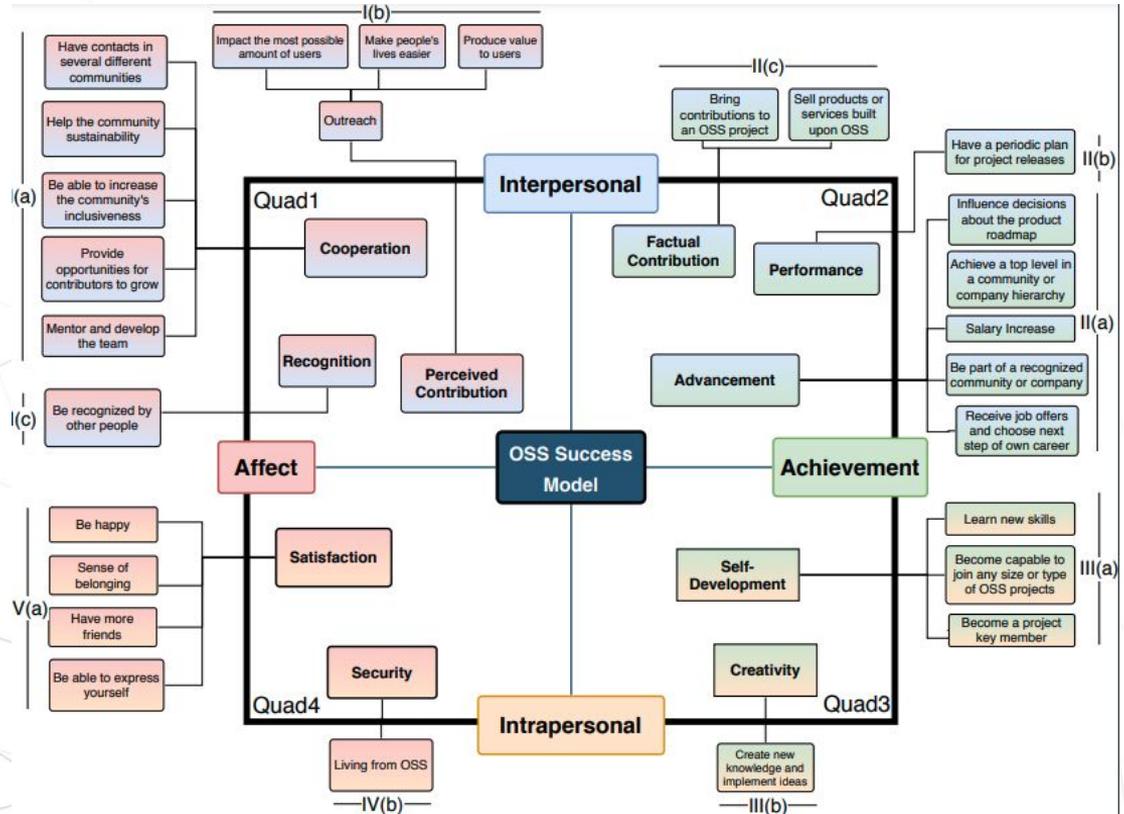- I like to work with this development team

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The next shift - Success

Trinkenreich, B., Guizani, M., Wiese, I., Conte, T., Gerosa, M., Sarma, A., & Steinmacher, I. (2021). The Pot of Gold at the End of the Rainbow: What is Success for Open Source Contributors?. *IEEE Transactions on Software Engineering*

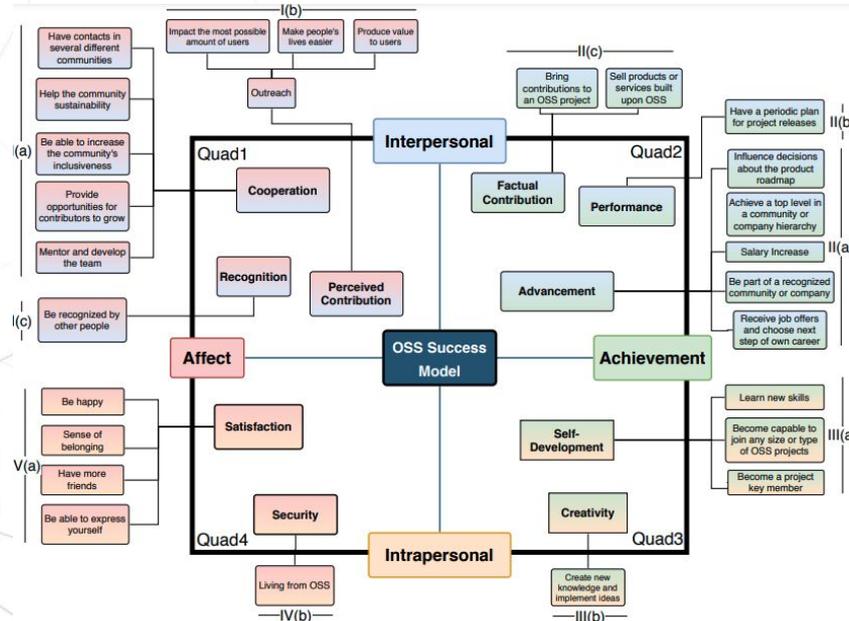**Help to predict what the contributors are seeking for their future**

Supporting future goals

September 20-24, 2021

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Meetups
Hackathons
Summer of Code

Awards for code contributors but also for helping with questions

Inclusivity events to reduce loneliness and alienation, and social support for mental health

Make explicit the criteria and rules for promotion

Use manuals and iterative learning modules, provide skill-specific mentoring

Explicitly state the partnerships with companies, offer "bounties" as payment per issue solved, or join onboarding programs (GSoc)

Badges that highlight different skills or new knowledge for online training of new developers

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Meanings of Success

In the present survey

I am (would be) a successful contributor to Linux Kernel because (if) I... (please mark up to 3 characteristics)

...collaborate or mentor others to grow

...bring valuable contributions

...cause an impact

...am famous or my name is well-known

...achieve measurable results

...am a maintainer or a community manager

... make a living from contributing

...can work on any kind of issue

...bring new ideas

...have fun while contributing

This is a work-in-progress
Please answer the survey
until Sept 22nd AoE

Sense of Belonging

How do you feel about the subsystem(s) of the Linux development community you contribute to:

- The majority of the developers and I want the same thing
- I don't feel at home in the group
- A majority of developers in the group know me
- If I have a problem, I know members in the group who I can ask for help
- I want to contribute more but I do not feel valued
- I feel that I belong to the group

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until Sept 22nd AoE

Incentives and decisions

Have you ever been paid to contribute to the Linux Kernel? Yes/No

Yes:

When have you been paid to contribute to the Linux Kernel?

- I've only been paid to make my first contribution
- I've been paid to make some past contributions but I'm not anymore
- I'm currently being paid to make all (or part of) my contributions

If you were no longer sponsored/paid to contribute to the Linux Kernel what would you do?

- Find another employer to be able to continue contributing to Linux Kernel
- Stop contributing to the Linux Kernel
- Contribute to the Linux Kernel during my own time as a volunteer:
  - To new code
  - To help in community building efforts
  - To maintain own code

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Current Diversity Strategies

Are you aware? Effective to attract? Effective to Retain?

- ○ Informal mentorship programs (e.g. LF Live Mentorship Series)
- ○ Financial support to attend events
- ○ Kernel Newbie Forum
- ○ Training courses
- ○ Paid mentorship programs (e.g. Outreachy, LFX)
- ○ Kernel Code of Conduct

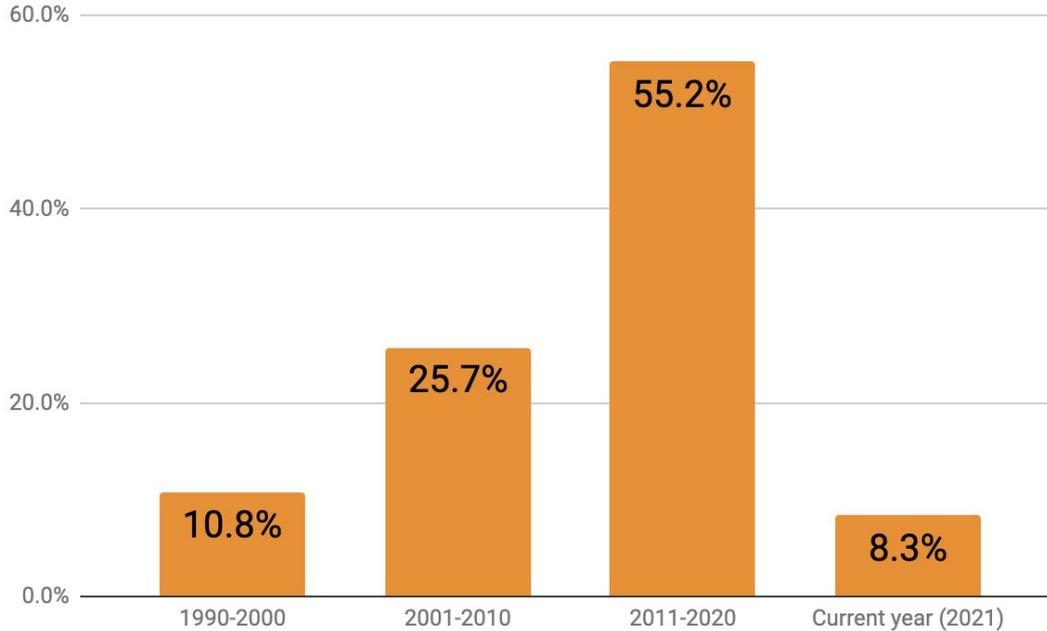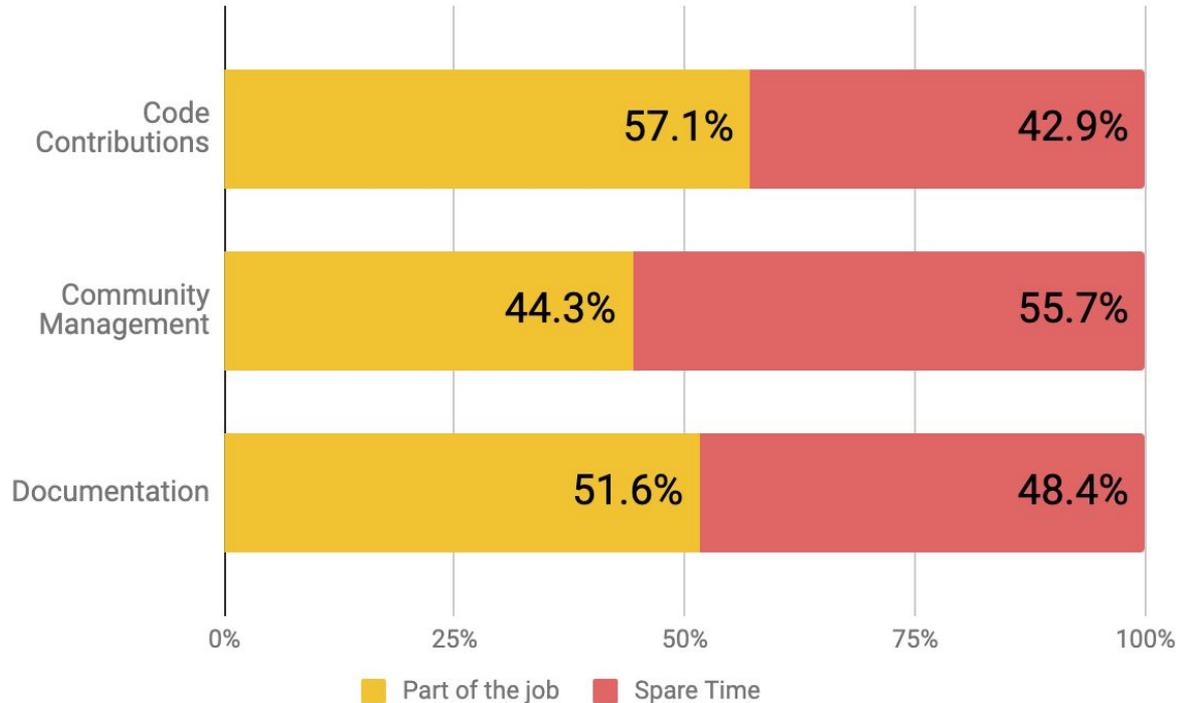This is a work-in-progress
Please answer the survey
until Sept 22nd AoE

Preliminary Data

Demographics - Types of Contribution

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September 20-24, 2021

Code Contributions: 57.1% Part of the job / 42.9% Spare Time

Community Management: 44.3% Part of the job / 55.7% Spare Time

Documentation: 51.6% Part of the job / 48.4% Spare Time

0% 25% 50% 75% 100%

Part of the job   Spare Time

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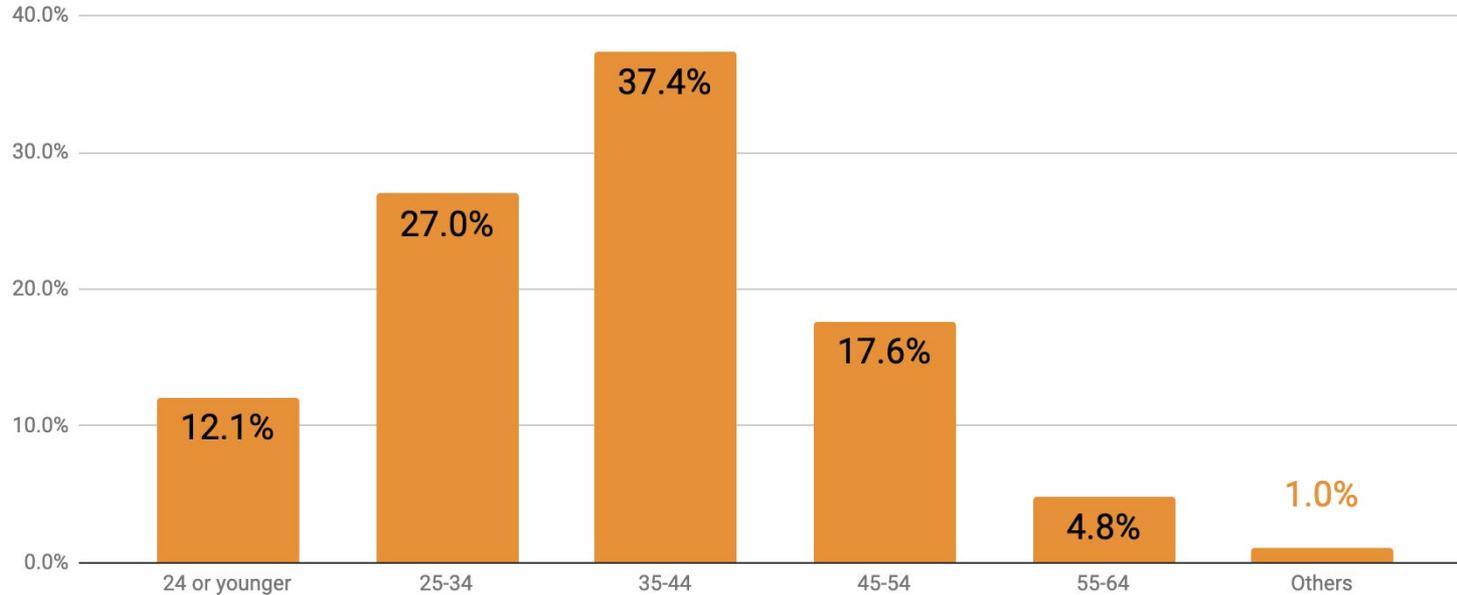# LINUX PLUMBERS CONFERENCE

Preliminary Data
Demographics - Years in Linux Kernel and Age

Others: Over 55 + Prefer not to say

This is a work-in-progress
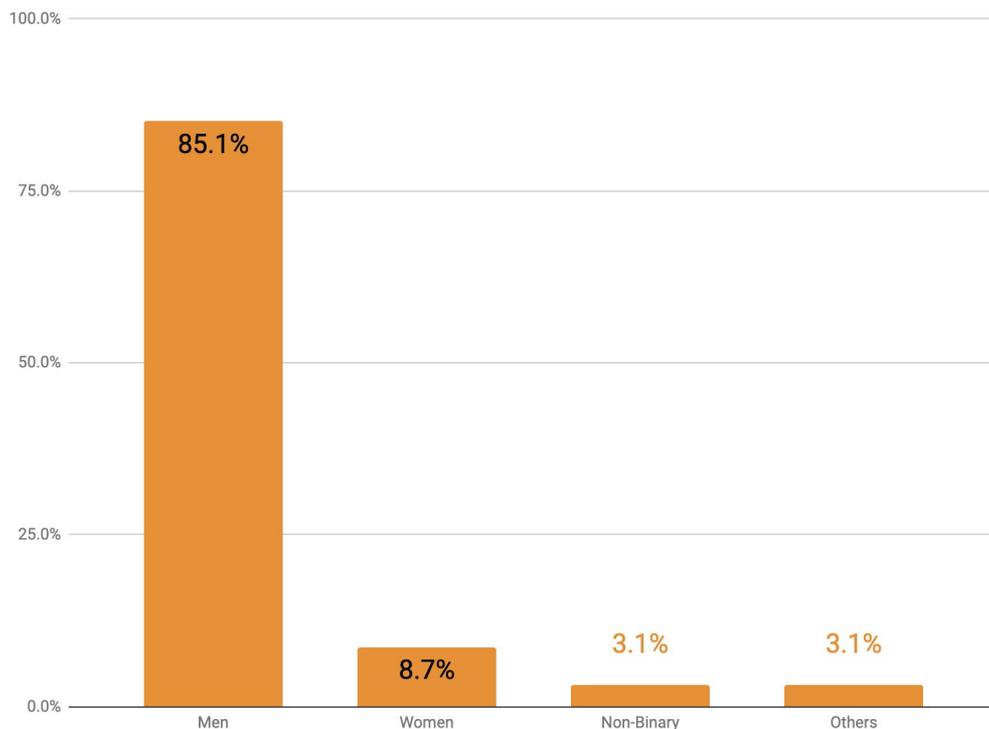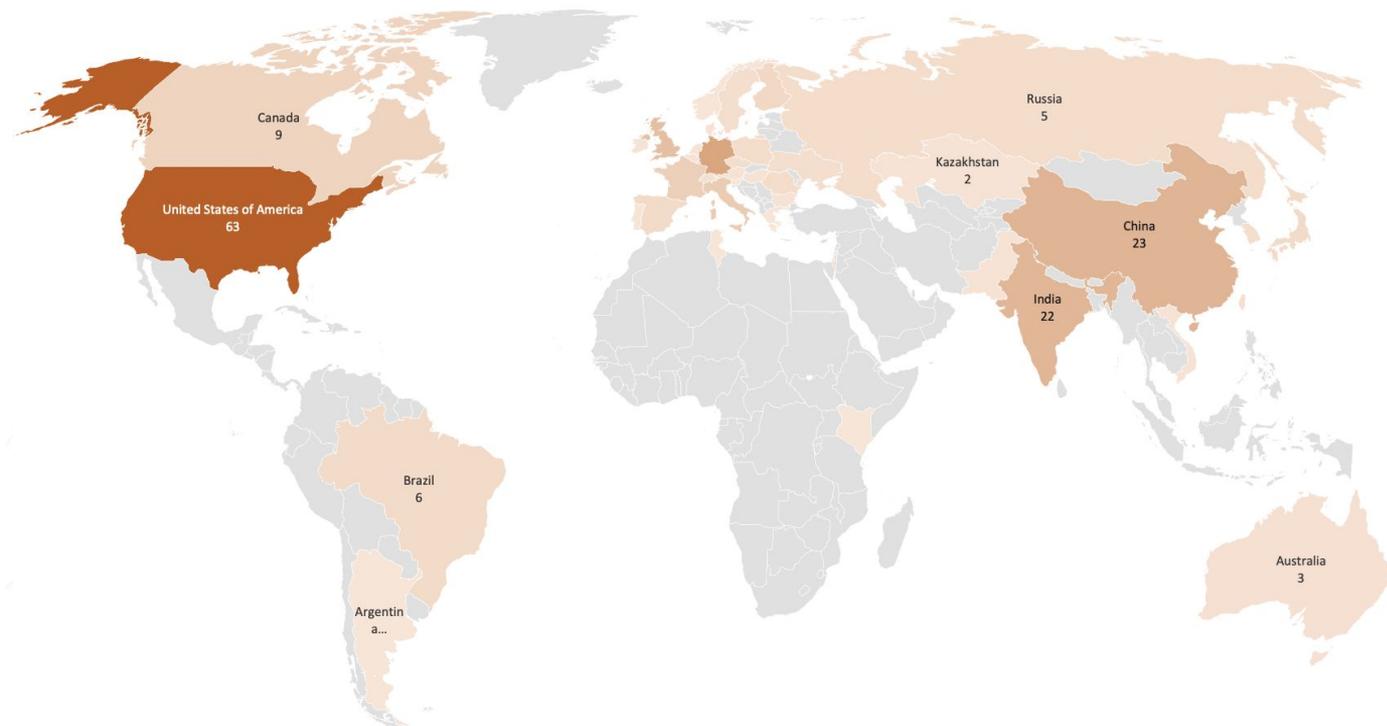Please answer the survey
<u>until Sept 22nd AoE</u>

Preliminary Data
Demographics - Country of residence

Country	#	%
USA	63	22.6%
Germany	30	10.8%
China	23	8.2%
India	22	7.9%
UK	18	6.5%
Italy	12	4.3%
France	11	3.9%
Canada	9	3.2%
Finland	7	2.5%
Japan	6	2.2%
Spain	6	2.2%

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September 20-24, 2021

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- **Which challenges do you face and are more impactful to you?**
- **How can we mitigate those challenges?**
- **What would you recommend the Linux Kernel community do to have more contributors in gender minority?**
- **What advice do you have for other contributors in gender minority who are willing to contribute to the Linux Kernel?**

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Next steps

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- **Continue receiving answers**
- **Interviews for deep analysis**
- **Segmented analysis and intersectionality**
- **Design actions to mitigate the reported challenges and avoid contributors to leave**

Thank you and please answer the survey
until Sept 22nd AoE