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**Cultivating Community Health and Well-being in Open Source:
Mitigating Burnout and Prioritizing Mental Health**



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Cultivating Community Health and Well-being in Open Source: Mitigating Burnout and Prioritizing Mental Health

 Savitha Raghunathan

Senior Software Engineer, Red Hat

<https://orcid.org/0009-0008-3488-6598>

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Abstract

Purpose: This whitepaper addresses the critical but often overlooked mental health challenges within open-source communities, including stress and burnout. The collaborative spirit of open-source communities has undoubtedly accelerated technological innovation, but the mental well-being of their contributors is frequently neglected. The objective is to uncover the root causes of these mental health issues and evaluate their impact, thereby underscoring the need for supportive and inclusive community practices.

Methodology: This paper uses the ‘Mixed methods’ research approach, analyzing data from industry surveys and extracting insights from personal narratives and experiences documented by contributors in blogs and forums. This comprehensive strategy allows for a detailed exploration of mental health within the open-source environment, facilitating the identification of key stress factors and mental health challenges associated with community participation.

Findings: The investigation reveals a direct link between the operational dynamics of open-source projects and the prevalence of mental health problems among participants. Key stressors include high expectations regarding workload, the predominantly volunteer nature of contributions, social isolation, and a lack of formal support structures. Additionally, the study highlights a significant lack of awareness of these issues and the availability of intervention strategies, further increasing the risk of burnout and stress among community members.

Unique Contribution to Theory, Practice, and Policy: This paper makes a novel contribution to understanding mental health in open-source communities by merging analytical data with qualitative insights from contributor narratives. It offers recommendations for a wide range of stakeholders, from contributors to leaders and policymakers, to cultivate a culture that supports mental well-being, diversity, and sustainability. This paper presents a comprehensive blueprint for nurturing healthier, more resilient open-source communities.

Keywords: *Open-Source Communities, Mental health, Burnout, Data analytics, Diversity, Inclusion, Contributor well-being, Early detection, Intervention, Cultural diversity, Gender diversity, Neurodiversity, Open-Source Leadership.*

1. Introduction

The new age of technological innovation depends on the open source community. The success is built on the collaborative efforts of many selfless, passionate individuals who spend their time developing open-source software. In addition to that, collaboration around the world creates an environment that supports creativity and progress. The distributed nature and the essence of open source projects can cause immense stress, burnout, and anxiety among contributors. The volunteer aspect of the open source community combined with the absence of traditional organizational support can further complicate addressing these issues, which directly correlates with the sustainability of the open source ecosystem.

It is critical to understand and mitigate burnout and mental health challenges in the open-source community to keep innovation moving forward. While working remotely and asynchronously has its perks, it also leads to isolation and separation from the collaborators in the community. Additionally, the deadlines from the community commitment and navigation of the social dynamics can increase the risk of burnout and stress, thus decreasing the contributors' engagement and productivity. This whitepaper explores the occurrences of burnout and mental health challenges and proposes plans to enable a supportive and healthy community. Contributors can thrive in a community that promotes mental health awareness, encourages flexible work policies, and enables a culture of kindness and inclusivity. The sections in this whitepaper will provide insights, recommendations, and a call to action for all stakeholders in the open source ecosystem to work towards avoiding burnout and ensuring project sustainability collectively.

2. Understanding Burnout in Open Source

2.1 Definition of Burnout

World Health Organization [1] has defined burnout as - "A syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed. It is characterized by three dimensions:

- feelings of energy depletion or exhaustion;
- increased mental distance from one's job, or feelings of negativism or cynicism related to one's job; and
- Reduced professional efficacy.

Burn-out refers specifically to phenomena in the occupational context and should not be applied to describe experiences in other areas of life."

Maslach and Leiter [2] have defined *burnout* as "a psychological syndrome emerging as a prolonged response to chronic interpersonal stressors on the job. The three key dimensions of this response are an overwhelming exhaustion, feelings of cynicism and detachment from the job, and a sense of ineffectiveness and lack of accomplishment."

With respect to open-source communities, maintainers, contributors, and community members may experience burnout due to some of these factors - Deadlines associated with community projects and full-time work, conflicts within the community, and expectations from the community.

2.2 Prevalence of Burnout and Stress Issues in Open Source

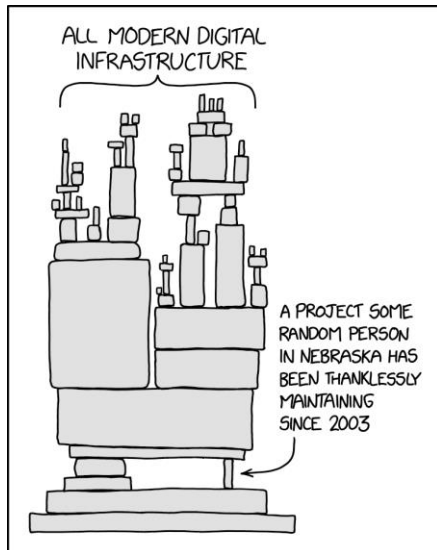


Fig 1. An xkcd comic portraying loss maintainer/project and the project's usage [14]

According to Intel's open source survey [3], "Maintainer burnout" is at the top of the list, which is reported by 45% of the survey respondents, making it the most dominant challenge. Maintainer burnout is followed by "Documentation and onboarding" at 41%, "Maintaining sustainability" at 37%, and "Building community engagement" at 32% as depicted in figure 2.

The above results indicate a significant issue of burnout and stress prevailing in the open-source communities, and it can be interpreted as an immediate call to action. Maintainer burnout is linked to the following factors - Lack of resources, high workload demand, the endless cycle of releases, and the continuous churn in onboarding new contributors and documentation efforts. All these factors indicate that there is a need to come up with strategies to tackle burnout in maintainers and contributors alike.



Fig 2. Intel Survey [4] finds Maintainer Burnout as the Top Open-Source Challenges

3. Root Causes of Burnout

High Workload and Unrealistic Expectations coupled with a lack of boundaries contribute to burnout in open-source volunteers who balance unpaid project commitments with work responsibilities [5]. The flexibility of contributing anytime and anywhere disrupts work-life balance, with online collaboration often encroaching on leisure time [5]. Despite global participation, social isolation and communication challenges, including language barriers, can lead to disengagement and conflict-induced stress within the community [6].

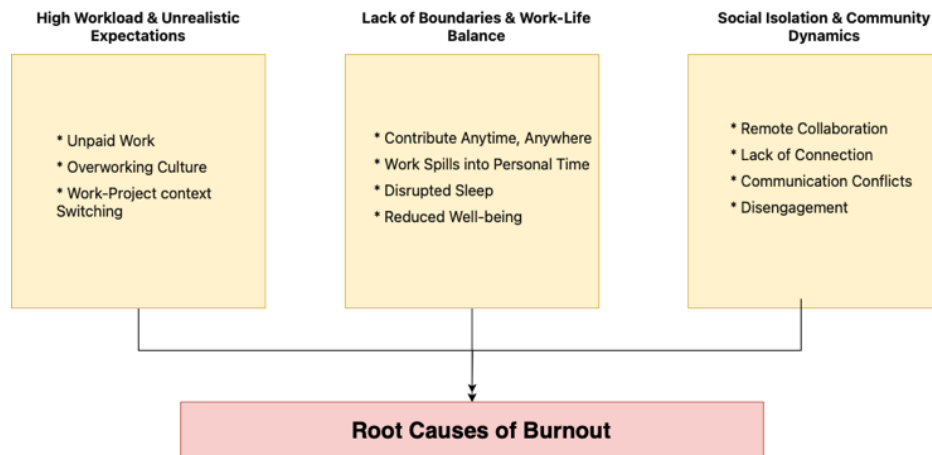


Fig 3. Causes of Burnout and Stress

4. Strategies for Promoting Community Health and Well-being

4.1 Raise Awareness and Reduce Stigma

Burnout often goes unnoticed in the open-source community, as contributors silently drop out and disengage. It is a common occurrence because of the lack of awareness of the symptoms and well-

being. Creating a safe space for community-wide conversations [7], peer support groups, and workshops can address the challenges by promoting the overall health and well-being of the contributors. It is essential to overcome the stigma around burnout and mental health in the communities. One of the effective ways to achieve this would be to have an open-source maintainer/leader share their personal experience regarding burnout, which in turn can be inspiring for those currently affected. Early detection and intervention can help with sustainability and prevent projects from bleeding out maintainers and contributors.

4.2 Implement Flexible Contributing Policies

Having the freedom to adapt and adjust is really important in lowering the chances of experiencing burnout. Open Source projects should be considerate and supportive of contributors' time, enabling them to participate while managing their work and personal commitments. This could involve refraining from expecting work on weekends, appreciating contributions regardless of when they are made, and acknowledging that periods of reduced activity are necessary for maintaining a healthy balance. Underlining the need to take breaks and giving room for recovery through flexible contribution rules can make a difference in dealing with burnout.

4.3 Cultivate a Supportive Community Culture

Ensuring every contributor in the community feels valued and supported can help prevent burnout. It is about making sure every contributor feels valued for their contributions, no matter how big or small, and understanding that every individual has different capacities. When disagreements happen, it is essential to address them positively, offer support on effective communication, and celebrate our community members' unique perspectives and backgrounds. This type of culture makes people feel like they belong and that their efforts matter.

4.4 Provide Resources and Support

Apart from the accessible health and EAP plans, the community can provide support by establishing peer support groups and providing access to tools and resources to help manage stress. These community-run initiatives [7] can help with the project's engagement and sustainability by showing a commitment to the well-being of the contributors' health.

5. The Role of Organizational Structures and Leadership

5.1 Leadership Support and Role Modeling

In open-source projects, leaders are like the captains guiding the ship, setting the tone for the team's well-being, including mental health. When leaders prioritize self-care and take proactive steps to address burnout, they set a positive example for the entire team. This strategy helps the contributors relate better with the leaders and the project.

5.2 Establishing Clear Communication Channels

Open Source project leaders/maintainers should encourage transparent conversations, provide regular updates, and seek input from the contributors. This practice can provide a sense of respect

and appreciation to the contributors. When contributors feel their efforts are recognized, it reduces anxiety and promotes well-being.

5.3 Implementing Mentorship and Peer Support Programs

Mentorship programs and peer support can often assist the contributors in navigating the open source project complexities [8]. These programs help transfer knowledge as well as enhance the feeling of belonging in a community.

6. Impact of Burnout on Project Sustainability

When open-source maintainers and key contributors burnout, it creates a devastating effect on the project's ability to innovate and sustain. For example, burnout challenges in the Rust project threaten the innovation and maintenance of the project [9]. Incidents like this point to the urgent need for open-source communities to act against burnout and mental health challenges.

7. Leveraging Data Analytics for Early Detection

Data analytics can help find patterns to predict if a contributor faces any challenges in their day-to-day activities. For example, a sudden decrease in activity or participation in collaborative activities can signal burnout. With consent from contributors, the data can be used to provide support proactively - such as allowing them to take breaks, connecting the contributors with mentors, and providing access to mental health resources.

8. Intersectionality and Diversity in Mental Health Advocacy

Considering the contributors' diverse backgrounds is critical to creating an inclusive mental health support system in the open source community [10], [11]. The support systems should consider cultural background, gender identity, neurodiversity, and socioeconomic status. All of these factors impact how the individual deals with and copes with burnout. These factors emphasize a need for a multi-faceted approach in designing the support system initiatives [11]. Having a diverse representation of project leaders and maintainers can ensure that the initiatives will be inclusive and can create a supportive environment for all contributors.

9. Nurturing Psychological Safety and Trust

Psychological safety in an open source community can help prevent burnout. Psychological safety in open source communities can create a foundation for contributors to express ideas and thoughts without feeling unsafe. The project can benefit from diverse inputs and leadership by establishing a trust circle. It strengthens the adaptability of the community and creates sustainability.

10. Empowering Contributors Through Self-Care Practices

Self-care is a critical strategy to prevent burnout in general. Open-source communities can encourage contributors to prioritize self-care to foster a sustainable community. Some practices that can help prioritize self-care are encouraging contributors to set clear boundaries between work and personal life, promoting stress management practices, and advocating for a work-life balance [12][13]. These practices can help in creating a vibrant and thriving community.

11. Conclusion

Open-source communities need help with burnout issues among their contributors and maintainers. A few issues have been identified to cause burnout - heavy workloads, expectations, isolation, diversity, and inclusivity challenges. Specific measures such as raising awareness, implementing flexible work policies, fostering supportive cultures, and providing resources are essential in preventing burnout. Organizational leadership, data analytics, diversity, psychological safety, and self-care practices are crucial in addressing these challenges. Ultimately, prioritizing contributors' well-being ensures the sustainability and inclusivity of open-source projects.

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