

Being a Mentor in Open Source Projects

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Research

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Abstract

A well-known way to help newcomers overcome initial contribution challenges is mentoring. This strategy has proven effective in offline and online communities, and to some extent has been employed in Open Source Software (OSS) projects. Through mentoring, newcomers are trained to acquire the technical, social, and organizational skills they need. Despite the importance of OSS mentors, they are understudied in the literature. Understanding who mentors in OSS projects are, the challenges they face, and the strategies they use can help OSS projects better understand and support mentors' work. In this paper, we investigate the OSS mentors' perspectives by employing a two-stage study. First, we understand the characteristics of the mentors in a large OSS community through a large-scale online survey in the Apache Software Foundation. We found that contributors who are volunteers and less experienced are less likely to take on the role of mentoring. Second, we identify the challenges that mentors face and how they mitigate these challenges through interviews with OSS mentors (n=18). In total, we identified 25 general mentorship challenges and 7 sub-categories of challenges regarding task recommendation. We also identified 13 strategies to overcome these challenges. Our results provide insights for OSS communities, formal mentorship programs like Outreachy, and tool builders who design automated support for task assignment and internship.

Full Text

This preprint is available for [download as a PDF](#).

Figures

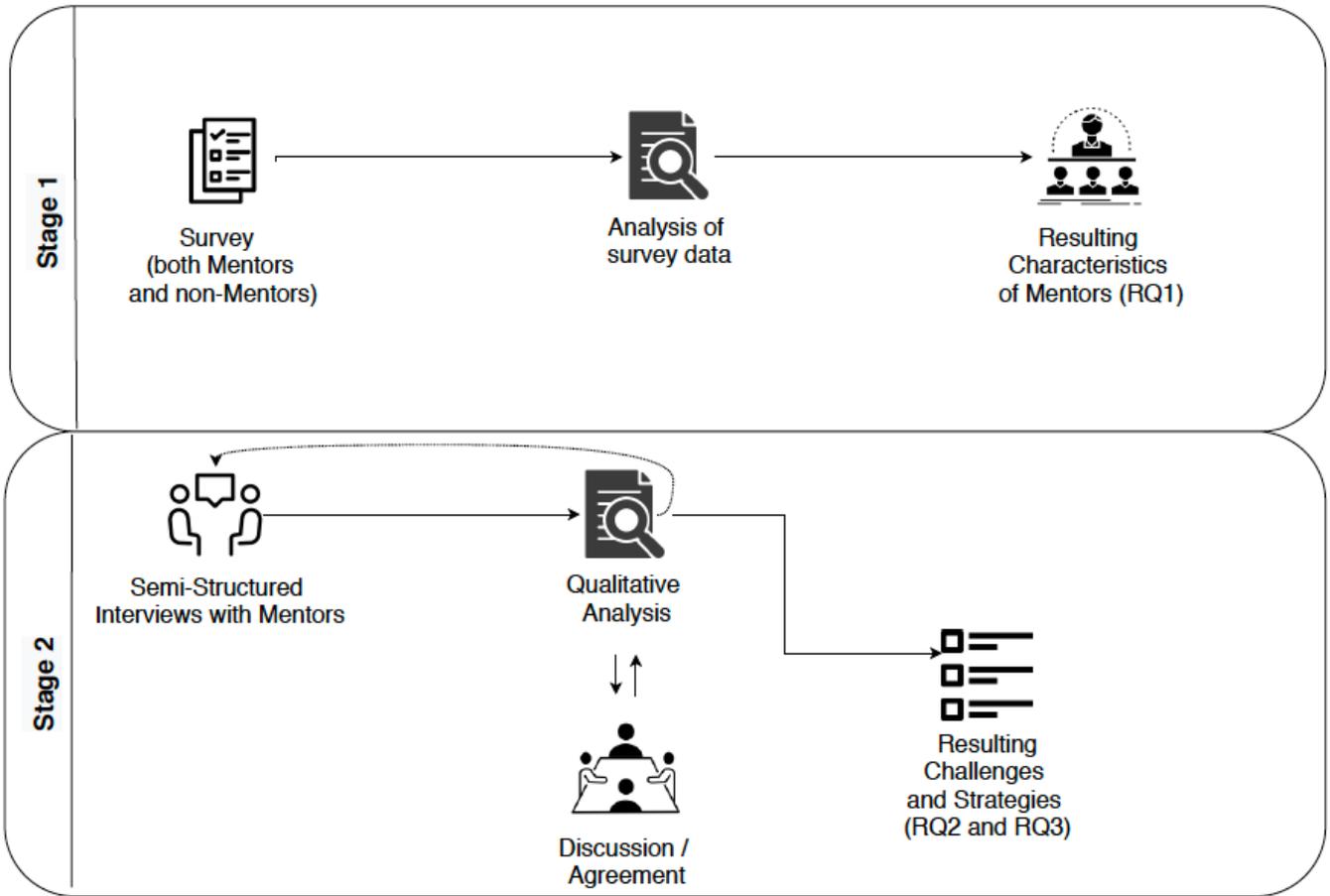


Figure 1

Research Method Overview

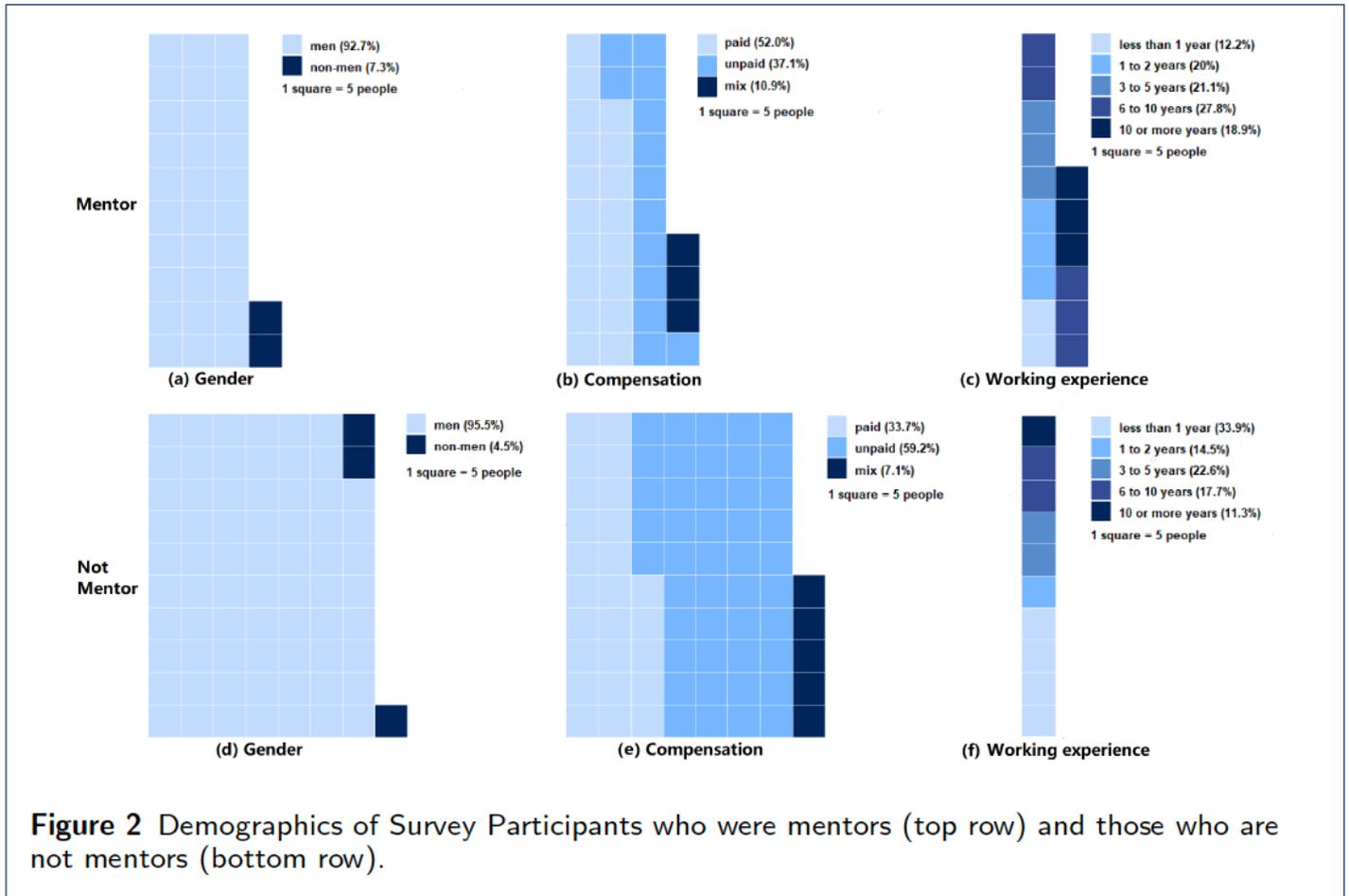


Figure 2

Demographics of Survey Participants who were mentors (top row) and those who are not mentors (bottom row).

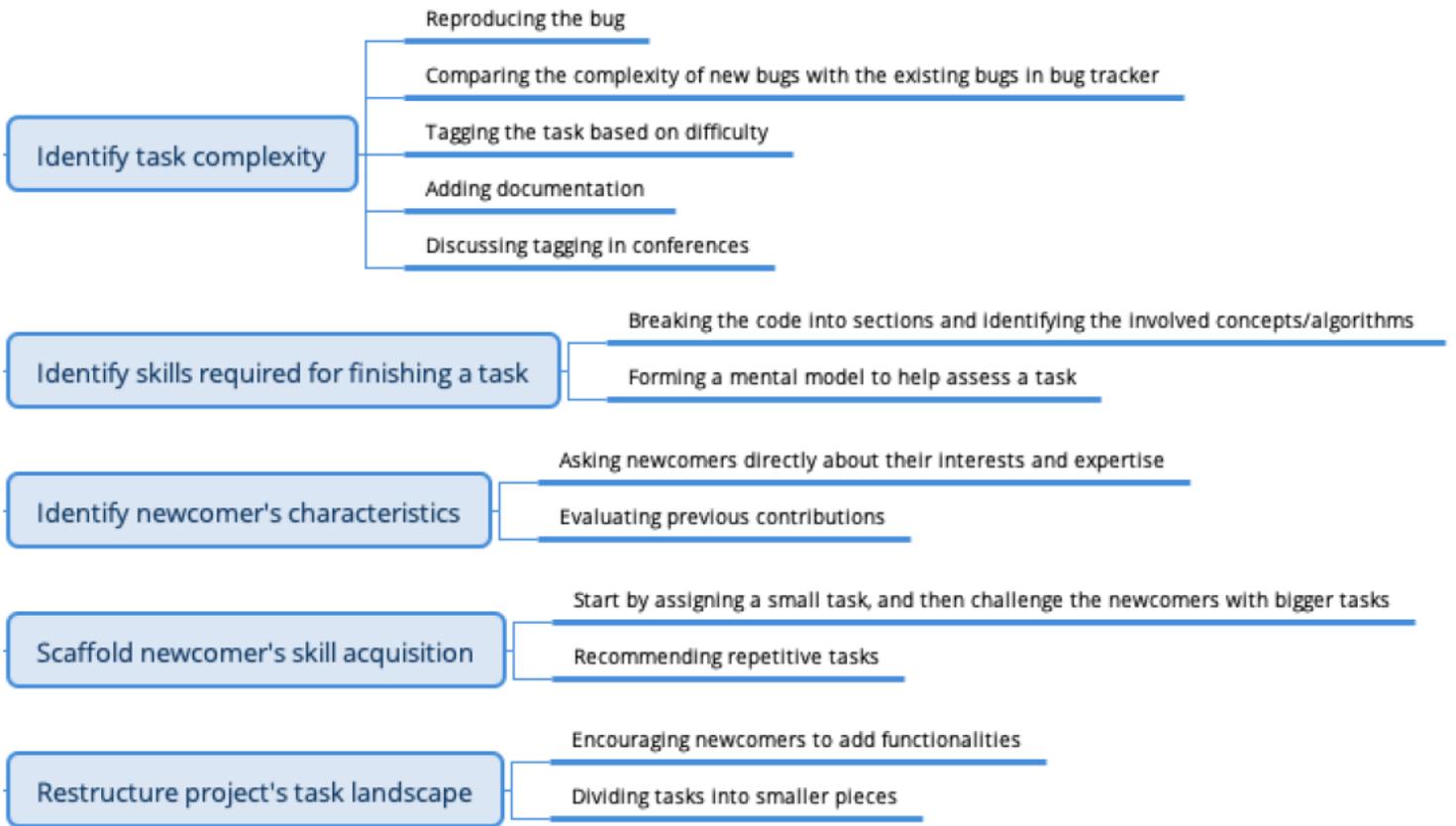


Figure 3

Overall view of the strategies

29 Open ✓ 58 Closed		Author ▾	Projects ▾	Labels ▾	Milestones ▾	Assignee ▾	Sort ▾
🔔	Improve telemetry collection	code-quality	enhancement	good first issue			
	#4629 opened 3 days ago by tobiasdiez						
🔔	Can't save new content selectors	bug	good first issue				
	#4628 opened 4 days ago by Siedlerchr						
🔔	Group window size and font inconsistency	enhancement	good first issue	groups	ui		🗨️ 1
	#4610 opened 14 days ago by DOFactory 1 of 1						
🔔	Add check for books with first edition	enhancement	good first issue	integrity-checker			
	#4591 opened 24 days ago by tobiasdiez						
🔔	Add browse button for aux-based groups	enhancement	good first issue	ui			
	#4586 opened 25 days ago by tobiasdiez						
🔔	Changing column width in JabRef 5.0 prevents opening 4.3.1	bug	good first issue	maintable	ui		🗨️ 8
	#4579 opened 28 days ago by douglasrizzo 1 of 1						

Figure 4

JabRef's issue tracker with labels ("good first issues") to help newcomers identifying appropriate tasks