

# **Program-L: Online Help Seeking Behaviors by Blind and Low Vision Programmers.**

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# Introduction

- Stack Overflow- blind and low vision (BLV) programmers are underrepresented.
- Program: L - BLV programmers that provides connection, meaning and safety for users.
- Program: L - Focused on the day-to-day life experiences and needs of BLV programmers.
- Members who specialized knowledge and implicitly understood context of BLV programming issue.



# How do novices in Program-L seek out help?

- Authors investigated the 173 novices mailing list messages in the community.
- Program-L assist BLV developers.
- Novices learn how to behave and conform to expected social norms.
- Disability self-disclosure is an important aspect of communication.





# Background

- Stack Overflow, GitHub discussions provide help in resolving issues of developers.
- The large community available to answer the questions.
- Uncomfortable and cautions to some developers.
- BLV programmers faced difficulty in getting contextual accessibility specific help.
- 60% BLV participants were reluctant to seek help from colleagues.



# Background and Related Work.

- BLV developers prefer small groups, which address issues that are specific to their experience.
- Popular Q&A environments fall short of creating the essential intimacy.
- Pandey et al. revealed that BLV programmers post queries for other blind and visually impaired programmers.
- When compared to other forums of general audience, Program-L shares personal experiences and offer more useful assistance.
- Program-L is the subject of this study's investigation on the benefits and methods of requesting for technical assistance.





# METHODS

- Taken permission for the study to use a public archive of emails from the Program-L.
- Collected and analyzed data from 6,545 archived posts in the Program-L using a Python web scraper.
- Employed a multi-phase coding approach and deductive methodologies to identify novices and their needs.



# METHODS

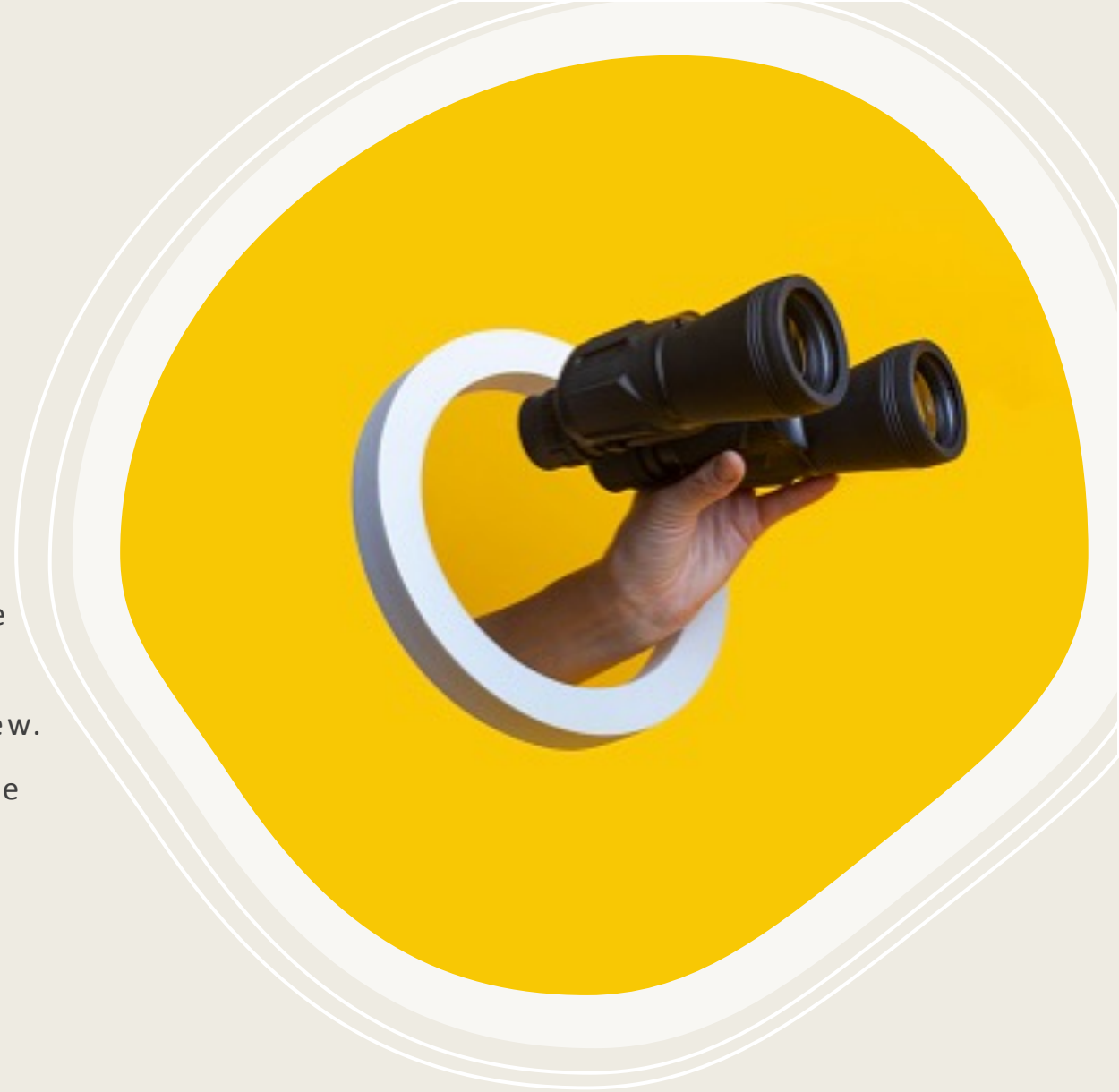
- Study first stage, Used key terms to find novices, categorized into four groups based on context.
- Described 20 profiles of novices based on participation, and number of threads they created and replied to.
- Help-seeking behaviors, Utilized open coding in analyzing 20% sample of communication.
- This classification was afterwards examined, redefined, and used to analyze the remaining data.
- Study limitations, four-year time frame for the analysis and inability to contact participants for follow-up. Study restricted to Program L, though there are additional BLV groups.





# Findings

- Novices disclosed their limitations and the tools they used.
- Detailed the processes taken, IDE and screen reader, to reach a particular point.
- Novices requested and offered both practical assistance and informational support.
- Includes requesting specific support, such as code review.
- Also requested suggestions, recommendations, or advice of “how to” on topics
- The community strongly emphasizes requesting and providing both informational support and practical assistance.
- Novices are likely to seek more information than they provide.





# DISCUSSION OF IMPLICATIONS Self Disclosure:

- Novices openly self-disclose their vision impairments.
- If don't reveal their requirements in mainstream forums, they may get unhelpful responses.
- Information about assistive technologies together with general question speed up the process of receiving replies.
- A central repository of programming accessibility questions for blind or low vision might encourage them into tech industry.



# DISCUSSION OF IMPLICATIONS

## The Value of Program-L:

- Program-L: Secure community programmers can ask and answer technical issues with accessibility.
- It has a wealth of knowledge on accessibility for many different business tools.
- Utilizing existing techniques, mainstream Q&A programming communities like Stack Overflow can provide a similar benefit as Program-L.
- BLV programmers can answer questions by searching for queries on Stack Overflow with the blindness tag.
- The rich multi-dimensional support provided by Program-L is exceptional and worth studying in-depth.



# Conclusion

- Study of online community for blind or low vision programmers
- Insights on novices' types and help-seeking behaviors.
- The small size and isolation of the community offer a safe space for support.





**Thank you!**

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