

Comparing Student vs. Developer Communication Tool Usage

- RQ₁* What communication and collaboration tools do students use to complete their semester-long software engineering projects?
- RQ₂* What challenges do software engineering students face while working as a remote/hybrid team?
- RQ₃* What are the differences between student and industry team challenges in remote/hybrid communication and collaboration?
- Conducted during Fall 2021
 - Surveyed 164 CS and SE students
 - Found:
 - Most popular tool for communication is Discord
 - Most of the tools students use mirror tools seen in industry
 - Student challenges mirror those found in industry

A Deep Dive into Developer Communication Tools

- RQ₁* How do professional developers use communication and collaboration tools to complete their projects?
- RQ₂* What challenges do professional developers face while using these tools?
- RQ₃* Do professional developers utilize communication/collaboration tool add-ons to complete tasks?
- GOAL:** Identify how developers communicate to one another and if/how they automate tasks.

Capstone Project (6 members)

Today at 1:03PM

Hi all! We're still planning on meeting at 3PM on Zoom today, right?

Today at 1:47PM

I'll be there! Where's the Zoom link again?

Today at 2:45PM

We're meeting today??? I thought we agreed on tomorrow at 5PM?

- Only 2 members responded to the original message
- One member was missing the Zoom link
- One member thought the meeting was tomorrow
- 3 members did not acknowledge whether they are able to attend the meeting

How can we fix this?

- Automate meeting reminders in communication tool
- Generate calendar invites for everyone

Students using Discord for Communication

- RQ₁* How do students use Discord to complete their capstone project?
- RQ₂* Do students use additional tools within Discord to communicate progress?

GOAL: Identify students' pain points in communicating with their group members.

Reducing Dysfunction through Discord Bots

- RQ₁* Can Discord bots provide students with the tools they need to communicate effectively with their teammates?

What kinds of bots are out there?

- **GitHub integration**, see all commits and PRs in real time
- **Calendar integration**, create and send calendar invites directly within Discord
- **Reminder bots**, sends a reminder to one person or many people all at once
- And **many more!**

Why bot integration?

- Bots are able to automate recurring tasks
- Bots are used within industry settings to reduce loads
- Students are using Discord, but are struggling to communicate effectively with their teammates