RepoRanger: Streamlining Collaboration for Software

Engineering Teams

The Bit Co.

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ABSTRACT

*In today's world, software development teams are often spread out across different locations, making remote collaboration tools more important than ever. One popular tool for team communication is Discord. However, managing a project's repository and issues often requires switching back and forth between Discord and GitHub, which can be time-consuming and inefficient. To address this issue, we propose the development of RepoRanger, a bot that leverages the Discord and GitHub APIs to allow team members to manage the project repository, its collaborators and the project board all from a Discord server. RepoRanger will enable team members to add new collaborators, review pull requests, create and list issues, and initiate workflows, as well as monitor project builds and deployments. With RepoRanger, software development teams can streamline their workflow and increase efficiency by reducing the time and effort needed to manage repositories and track issues. This project represents an innovative solution to the challenge of remote collaboration, providing teams with a more seamless and integrated communication channel.*

1. **INTRODUCTION**

Remote work induced by the pandemic has increased software engineering teams’ reliance on communication apps like Slack [1], Discord [2] and Teams [3]. Even though these apps provide an excellent collaborative platform, there are many aspects of project management that can be improved. For example, it is particularly difficult for DevOps managers in a team to quickly get info on how long it takes for a new release of the product to be built and deployed on servers, especially if the manager lacks technical knowledge. Similarly, with the lack of a physical Kanban board, project managers find it troublesome to go back and forth with issue-tracking portals while discussing open issues with the team.

We believe that such problems can be solved, not by developing new software, but by integrating existing tools so that the combination can provide more value to engineering teams. Therefore, we propose an intuitive integration of GitHub [4] and Discord, and we call it ‘RepoRanger’. This application will provide an interface for team members, by means of a Discord bot [5], to access their GitHub repositories, projects as well as CI/CD pipelines (workflows) without having to switch between various portals.

This integration, for instance, can help managers get notified about recent issues, pull requests, etc., or fetch a particular issue from the backlog so that it can be discussed with the team in the same Discord channel. The RepoRanger bot will facilitate this communication by providing a set of slash commands [6] that abstract complex API calls and git commands, making it easier to quickly get info and perform operations on the user’s behalf. Hence, we believe RepoRanger will improve efficiency, reduce errors, and ensure that everyone is on the same page.

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