Pair Programming Matcher Tool

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On of the most important aspects of software development is its team. However there are no efficient ways to form a team or to pair engineers. In a field where collaboration and continuous learning are crucial, an effective team building tool is necessary. The "Pair Programming Matcher" goal is to dynamically find a bridge between these goals. The main objective of this too is to employ a clever algorithm that matches software engineers for code reviews and pair programming sessions. It can also be used to build well-rounded and effective teams for software development projects. The tool will consider individual skillsets, project involvement history, current workload, and even past collaboration history while ensuring that the generated pairings are not only diverse but also beneficial to both parties. This will make sure that members of the teams are learning from each other, there are fewer code silos, and the overall code quality increases. Beyond matching and team building, the tool will serve as a hub for feedback by allowing participants to share their experiences and preferences for future matches. This adaptable and responsive system will be an essential tool in not just companies but also classrooms. Our goal is to refine the way teams collaborate, learn, and ultimately create an asset for building superior software products.

ACM Reference Format:
Tatiana Monteiro, Caroline Joseph, Quinn Anderson, and Mason Gelletly. 2023. Pair Programming Matcher Tool. 1, 1 (September 2023), 2 pages. https://doi.org/10.1145/nnnnnnn.nnnnnnn

1 INTRODUCTION

Software Engineering involves a lot of collaboration in order to develop and maintain efficient and working software. Many aspects go into a successful team, like communication, teamwork, good productivity, and learning. Pair programming is a method for Software Engineers to improve their code while working collaboratively, thus being able to receive direct feedback and tips when it comes to coding. However, it can be difficult for programmers to find the correct person to pair with, someone who uses the same editor, similar coding styles, and can give constructive feedback in a manner you are comfortable with. Our proposed solution would be to create a matching tool that would take in input preferences from the user and generate an ideal and realistic matching for them. Furthermore, this tool can also be used to match teams together. For example, if a team of 3-4 software engineers wanted to pair with another team in order to discuss and compare code, this tool would be able to match them with a team that fits their requirements.

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Manuscript submitted to ACM

2 RELATED WORK

In the software engineering field there have been related projects and processes to the Pair Programming Matcher Project. In regards to new hires and internships, many companies have adapted programs where they pair these new hires or interns with mentors. Furthermore, interns work with teams of experienced professionals. Companies in software engineering utilize teams to solve issues and they match these teams in order to complete the task in the most efficient manner.

One example in the software engineering field of this is formation. Formation is a tool for engineers to get highly customized training, and land a dream role in a specific company [2]. The technology matches people with highly trained engineers, in hopes that these engineers can teach the person how to succeed in the field. The training platform is AI allowing for improvement at skills and better matching with these professionals.

Another similar program and one related to the potential Pair Programming Matcher is Google's CS Research Mentorship Program. This program matches students usually from lower income places with mentors in google to guide them and help them learn more computer science skills [3]. This program is very helpful as it can help these students gain skills through peer to peer networking, career mentorship, and displaying different pathways in the field.

Overall there are related work to the Pair Programming Matcher, which can inspire the project to include certain elements. Furthermore, there are parts both of these programs, and other projects, that are not included, that the Pair Programming Matcher can include to have a better product.

3 PROCESS DESCRIPTION

We have elected to utilize the Waterfall model as the process for our Pair Programming Matcher project. This model represents the best for our project as it allows our relatively small team to gather and come up with a plan upfront, empowering the group to split and have members individually contribute to the project on their own terms. In the event that a conflict arises with the agreed-upon design, then it will be a simple conversation with the other members as to whether we need to shift back to the design stage. However, due to the nature of this process, this potential situation should never become a reality. Overall, this process will grant our team the structure to complete this project in an organized, timely, and complete manner.

4 CITATIONS AND BIBLIOGRAPHIES

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