CodeCollab Project Proposal

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ABSTRACT

Many times during the development process, software engineers require expertise on areas they are unfamiliar with. Within a company there exist a variety of experts in different fields who can assist with these issues. However, there exists an issue where the user doesn't know who can help.

Our proposed solution is to create an application which helps connect these experts and provide their assistance to users. Our applications would have experts and users within the same organization entered within a database according to their expertise. Our platform would use an algorithm to match the expert to the user they would be best suited to help and provide meeting times for one-on-ones.

INTRODUCTION

As software engineers, we seemingly run into roadblocks every couple lines of code. While solutions to this like StackOverflow and, more recently, ChatGPT can work to some extent, the best way to gain a better understanding of the problems you encounter is to talk to someone more knowledgeable on the subject. So, naturally, the best way to solve this problem is to schedule a meeting with an expert on the subject. However, scheduling meetings can be a tedious process. Having to email back and forth can take days to actually be confident a meeting was scheduled. Most people also have incoming emails from many sources, which makes the likelihood fairly high that one of the parties trying to schedule a meeting simply does not see an email. Our proposed solution to this problem, CodeCollab, aims to remove all the time, effort, and stress that comes with scheduling a meeting. CodeCollab is a meeting scheduling application that can be used within software departments at companies. Before any meetings are scheduled, every member of the software department using CodeCollab will specify which skills they feel confident answering questions on, what their weekly schedule is, and what their preferred meeting times are. All of this information will be stored in a database and be used to optimally schedule meetings.

RELATED WORK

The most relevant existing tools that are related to our project are mentor matchers. These tools are primarily used for educational purposes. The tool would match a mentee to a mentor based on certain criteria. The mentor would then help their mentee with any questions they have related to programming or learning about software engineering. We were unable to find any existing software which is used by employers to match employees within their company. Therefore, we will discuss how we can transfer mentor matching tools to the context of companies. One existing tool is CodePath. CodePath matches aspiring software engineers with people in the

industry so that they can discuss technical and career goals (2). CodePath's matching algorithm uses interests to pair their users. CodeCollab will work slightly differently from this. Our product will keep a database of the skills for each employee. Every time a request for a meeting is made, the key words from the description of the request will be used to match an employee with those skills. Another related tool is Fiverr. Fiverr is a website which is used to connect businesses with freelancers (who can possibly do software engineering work) (3). In contrast to CodePath, Fiverr is based on matching people with respect to technical skills. This is similar to how CodeCollab will function. The difference, however, is that CodeCollab will match you to someone within your company who can assist you with an issue rather than just complete the work for you.

SOFTWARE ENGINEERING PROCESS

The software engineering process that our group will be carrying out to complete this project is the agile method scrum. In scrum, there is typically a group leader known as the scrum master as well a team to go along with them. Scrum is an iterative process, where there are "sprints" of work. During these sprints, the team will have meetings where each person outlines what they did since the last meeting, what obstacles they encountered if any, and what they plan on having done for the next meeting (1). This software engineering process is a good fit for this project as there will be milestones that need to be delivered that can act as sprints for the team, and the team meetings will allow group members to get on the same page about what needs to be done. Not only this but the meetings will also be a venue for delegating out equal amounts of work to each member of the team to ensure fairness and maximum productivity and progress.

REFERENCES

(1) https://www.scrum.org/resources/what-scrum-module
(2) https://www.codepath.org/career-services/mentorship
(3) https://www.fiverr.com/