DevMatch

Team 17 Product Backlog

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Problem Statement

Currently, when starting new projects, either academic or personal, it can be difficult to find teammates with matching skills and interests. Additionally, deciding how to manage that project afterward can be a hassle. Our project matches users with the right people for their project and provides a platform to help manage the project after a team has been formed. We aim to provide an all-in-one project service that not only helps with forming teams but also includes document editing, messaging, calling, and task management features that simplify the project creation and organization process by eliminating the need to connect on several different platforms to achieve different tasks.

Background information

Audience

Our project's target audience is Purdue university students that are looking for a team to work on a computer science project with. This could either be for students needing a team for a class project or students looking to make their own project on the side. However, the audience could be expanded to any programmer or computer science student looking to be matched up with a project/team if we expand who has access.

Similar Platforms

There are several existing platforms that have some functionality that our platform covers. We match users based on preferences much like the dating app Tinder does. Users can connect with each other and view the qualifications that a user displays similar to LinkedIn. Once matched in a project, members and project owners can create and write in a text editor much like Google docs. Our messaging and calling platform performs like Discord, and we have task management tools that function like Trello.

Limitations

The limitation of using all of these platforms is that there is no convenient way to switch between them all. Those who are looking to start and work on projects lack a reliable way to find teammates to do so and furthermore require the use of a number of services to facilitate project development, scheduling, and the overall process of teamwork. Connecting on several different platforms and switching between applications can be a hassle.

We will address this problem by making an all-in-one platform, where the user can match with other coders, post their project, find and apply to join a project, collaborate with their teammates and manage their project on our webpage, so the user can find people to work with faster, and avoid the need to switch between different services while doing a project.

Functional Requirements:

1. As a user, I want to create an account (so that I can use the application).
2. As a user, I want to add details such as skills and interests to my account.
3. As a user, I want to create a project (so that I can find other teammates).
4. As a project owner, I want to edit the project (so that I can add details such as what it is and what I am looking for).
5. As a project owner, get recommended people who would fit in for the project.
6. As a project owner and user, I want to be able to message other users.
7. As a project owner and user, I want to be able to invite other users to join my project.
8. As a user, I want to have projects recommended to me.
9. As a user, I want to be able to search for other users.
10. As a user, I want to be able to join projects.
11. As a user in a project, I want to have a text editor that I can use to drop down notes.
12. As a user, I want to be able to connect to other users.
13. As a user, I want to be able to see the projects I'm in.
14. As a user, I want to be able to be in a chat room with all the members within the same project (so that I can discuss the project with my teammates as a group).
15. As a user, I want to be able to look for a specific type of project: a project for a school module, a project for research or a project for fun.
16. As a user, I want to be able to specify the type of project I'm posting. Either it is for my research, one of my modules, or just for fun.
17. As a user, I want to be able to see the past project I've completed.
18. As a user, I want the completed project to be in a different section than my ongoing project on the dashboard (Like be in two different drop down lists, similar to those on Wikipedia).
19. As a user, I want to be able to adjust the order of the projects shown on my dashboard. (Like on Discord u can tap and drag on the server icon to change the order your servers display on the side bar).
20. As a project owner, I want to be able to review the resumes/ skill of the applicants, so I can reject or accept the application.

21. As a project owner, I want to be able to see who is in my project.
22. As a user, I want to be able to go between different chats with potential teammates or project owners
23. As a project owner and user, I want to be able to log in and log out of my account
24. As a user in a project, I want to be able to create tasks that can be marked as completed (like Trello)
25. As a project owner, I want to be able to remove users from my project if things don't work out
26. As a project owner, I want to be able to see what projects the user has worked on through this application
27. As a user and project owner, I want to be able to adjust my preferences for what kind of users/projects are recommended to me. (Preferences such as languages, frameworks, distance from me, time willing to spend, etc.)
28. As a user, I want to be able to set a profile picture
29. As a user, I want to be able to deactivate my account
30. As a user, I want to be able to submit ratings for other users I have worked with
31. As a project owner, I want to be able to create collaborative text documents to share with users who I have added to my project
32. As a project owner, I want to be able to set a limit to the number of members I am looking for.
33. As a project owner, I want my project to be hidden from other users other than the ones in my team once it has gathered the number of members that I have specified
34. As a user, I want to be able to update the information on my profile whenever I want
35. As a user, I want to be able to decline projects that I am not interested in being apart of
36. As a user, I want to be able to sort/filter projects by most recently posted, most relevant to me, project owner rating, etc.
37. As a user, I want to be able to customize the UI (dark mode, light mode)
38. As a user, I want to be able to report other suspicious/malicious users
39. As a project owner, I want to be able to leave ratings on team members that I've worked with in the past
40. As a project owner, I want to be able to customize my project's dashboard (Project profile photo, project banner)
41. As a project owner, I want to be able to promote members in my project to have the capabilities of a project owner (transfer ownership, or have co-owners)
42. As a project owner, I want to be able to demote members and take away certain capabilities
43. As a project owner and user, I want to be able to see a list of users that I have worked with in the past
44. As a project owner and user, I want to be able to set up voice calls with my team (if time allows)
45. As a user in a project, I want to be able to set & remove team reminders.
46. As a user in a project, I want to be able to keep track of the project's milestones.
47. As a user in a project, I want to be able to mark off project milestones, and the owner of the project must approve it, so that it'll be mark as accomplished on the tracker)

48. As a user, I want to be able to pin & unpin messages in a chat room.
49. As a project owner, I want to be able to change the project name that'll be display on the dashboard of all members
50. As a project owner, I want to be able to create different channels for different tasks.
51. As a project owner, I want to be able to set the project's milestones
52. As a project owner, I want to be able to mark off project's milestones, and approve other members' requests for marking off any of the milestones.
53. As a user, I want to be able to write on a blackboard/ whiteboard while in a call. (If time allows)
54. As a user, I want to be able to set a recurring call. (If time allows)
55. As a user, I want to be able to cancel a recurring call. (If time allows)
56. As a user in a project, I want to be able to share my screen while in a call with my teammates. (If time allows)

Non-functional Requirements

Security

Since user profiles, projects, and messages, may contain sensitive information, we plan on maintaining a high level of security. We will increase security on the platform by using secure database practices like encoding and encryption. Additionally, we plan to use supported processes like authorization with Purdue email, Google, Microsoft, etc. Based on user roles such as developer or project owner, users would also only be able to access functions, features, and information based on their role. For example, project owners would be able to edit project details and constraints, while developers would not have access to this functionality.

Usability

We want our interface to be easily understood, eliminating user confusion. Our project motive is to provide a platform that combines several different commonly used project management materials along with a user matching system, which can get very convoluted if the UI isn't well organized. We want users to be able to seamlessly switch between different features without hassle. We will have entirely different dashboards for each unique feature, making it clear which area of the platform a user is viewing.

Scalability

Our initial audience will be Purdue computer science students. However, after we have completed the project, scaling to a larger audience would be a matter of allowing more users to join the website. We can move to more universities by using their authentication methods or even just make the website available to anyone.

Our back end will be separate from the front end, so we could also move to different platforms. For example, we could create an iOS app with the same functionality as our website.

Initially, we plan to be able to accommodate at least 2,200 users at once, which is the estimated number of Purdue CS undergraduate students. We would expand this as we scale up to multiple different majors or even to the graduate CS department.

Architecture and Performance

We plan to develop the frontend and backend separately, that way we can divide our teams into self-sustaining components. The plan right now is to use a backend model of RESTful APIs, with different testing for each API. Having that model will allow us to have different testing and backlog items for each API call. The backend will be written using Java and/or NodeJS.

The backend will need to have connections without a database. Right now, we plan on using a combination of SQL and NoSQL for the different types of data we need. There are going to be many types and schemas for our data, including users, projects, messages, and more.

The frontend will be developed using NextJS, along with React and Tailwindcss. The frontend frameworks will allow us to create a modern app with full interactivity for different devices.