



Introduction

DevConnect is a web application that connects developers around the world. It's a one stop shop for developers where they can chat with each other, post their queries on technology-specific communities, search for jobs and even participate in hackathons through DevConnect.

DevConnect solves the following problems:

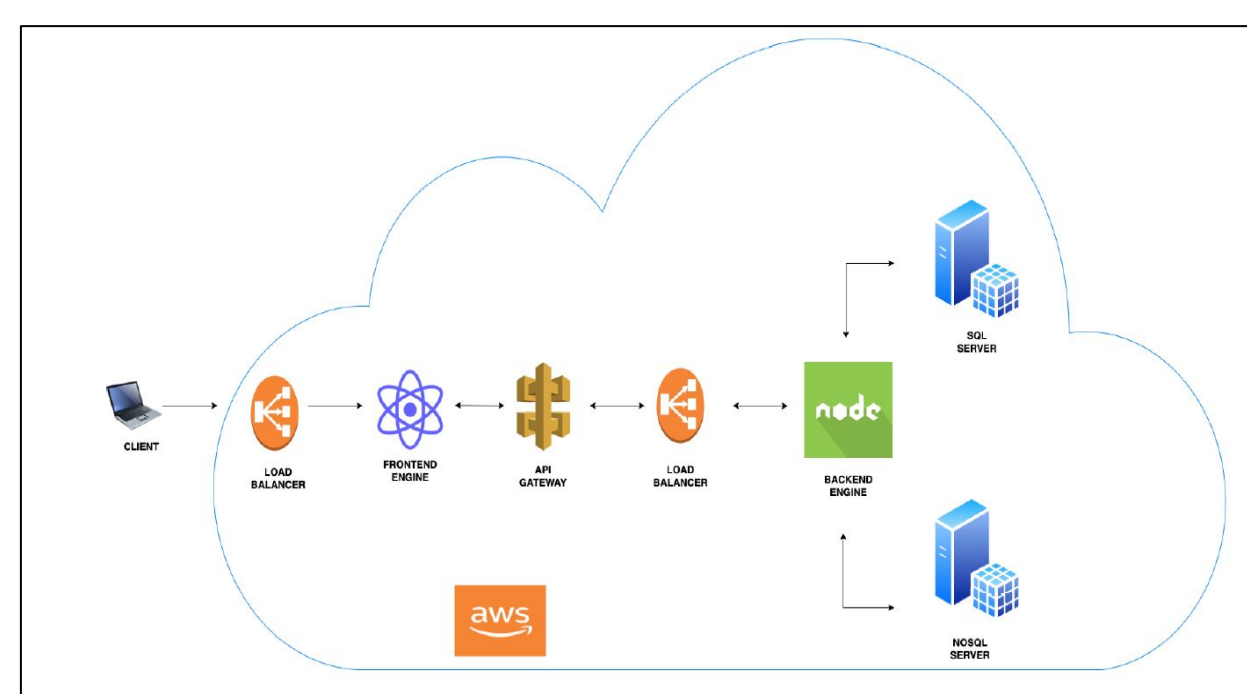
- Many social media platforms have groups or communities where multiple users post random questions with many users commenting on them. We have several Q&A platforms for developers, however, we do not have technology-specific communities, which is solved by DevConnect.
- Many websites lacked real-time chatting which is introduced by DevConnect. Here, verified developers can answer questions from other users on the platform.
- A one stop shop for everything a developer needs is solved by DevConnect.

Architecture of DevConnect

DevConnect was made using the following technologies:

- ReactJS:** The UI was made using the component friendly Javascript framework ReactJS. The entire front-end was coded in React.
- NodeJS:** NodeJS was employed at the back-end.
- MongoDB:** The database language employed was MongoDB. This allowed us to fetch data from document friendly schemas.
- AWS EC2:** AWS Elastic Cloud Compute provides scalable cloud services. We have deployed DevConnect on cloud using AWS EC2.

Following is the architecture diagram of DevConnect:

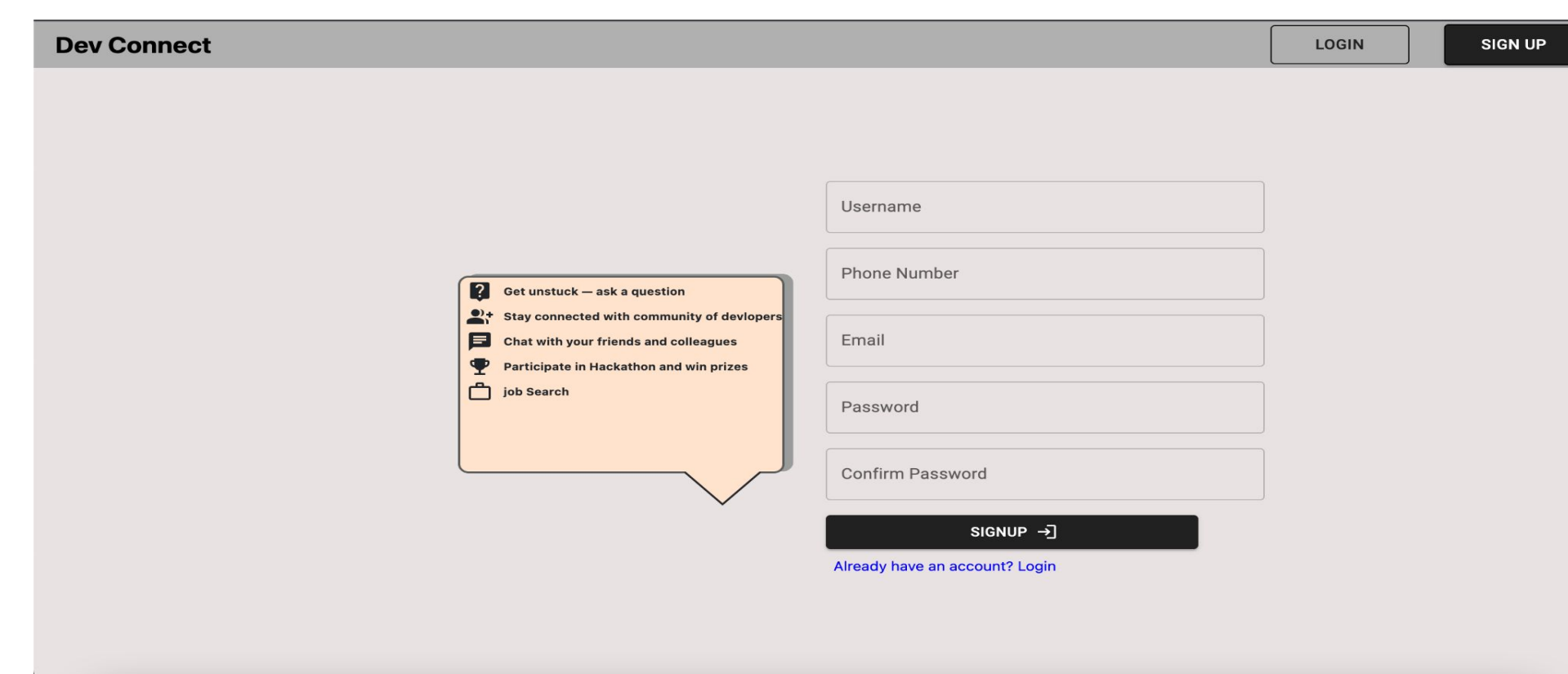


DevConnect - Design and Implementation

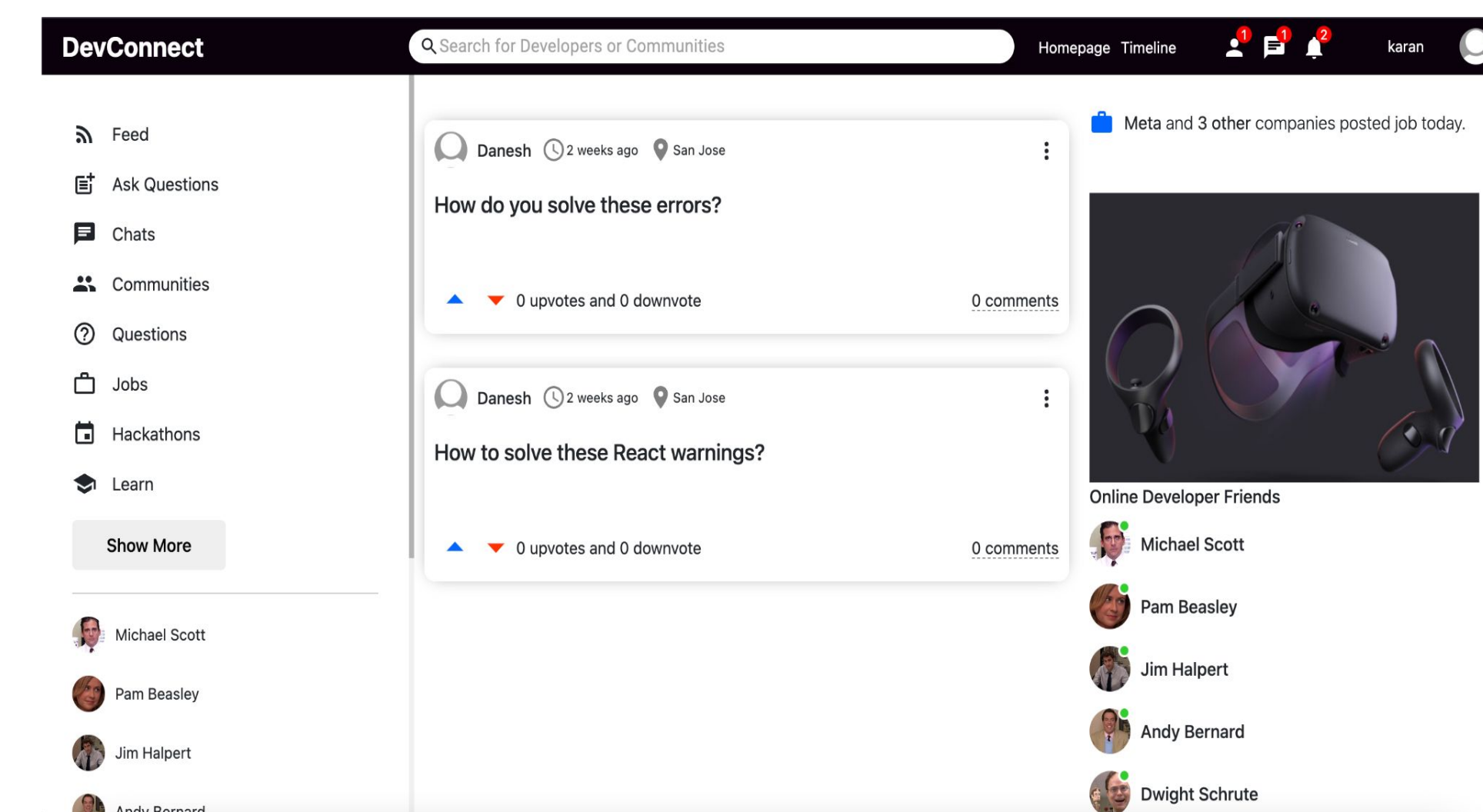
- The backend is developed using node.js, express.js and socket.io to implement the API endpoints and send a response for appropriate actions done.
- Backend is divided in various parts that includes Models for schema, Routes to map API, Services where business logic is stored, Config where information of database and other confidential data are stored and finally the Utils contains the connection and methods for socket.io.

Features

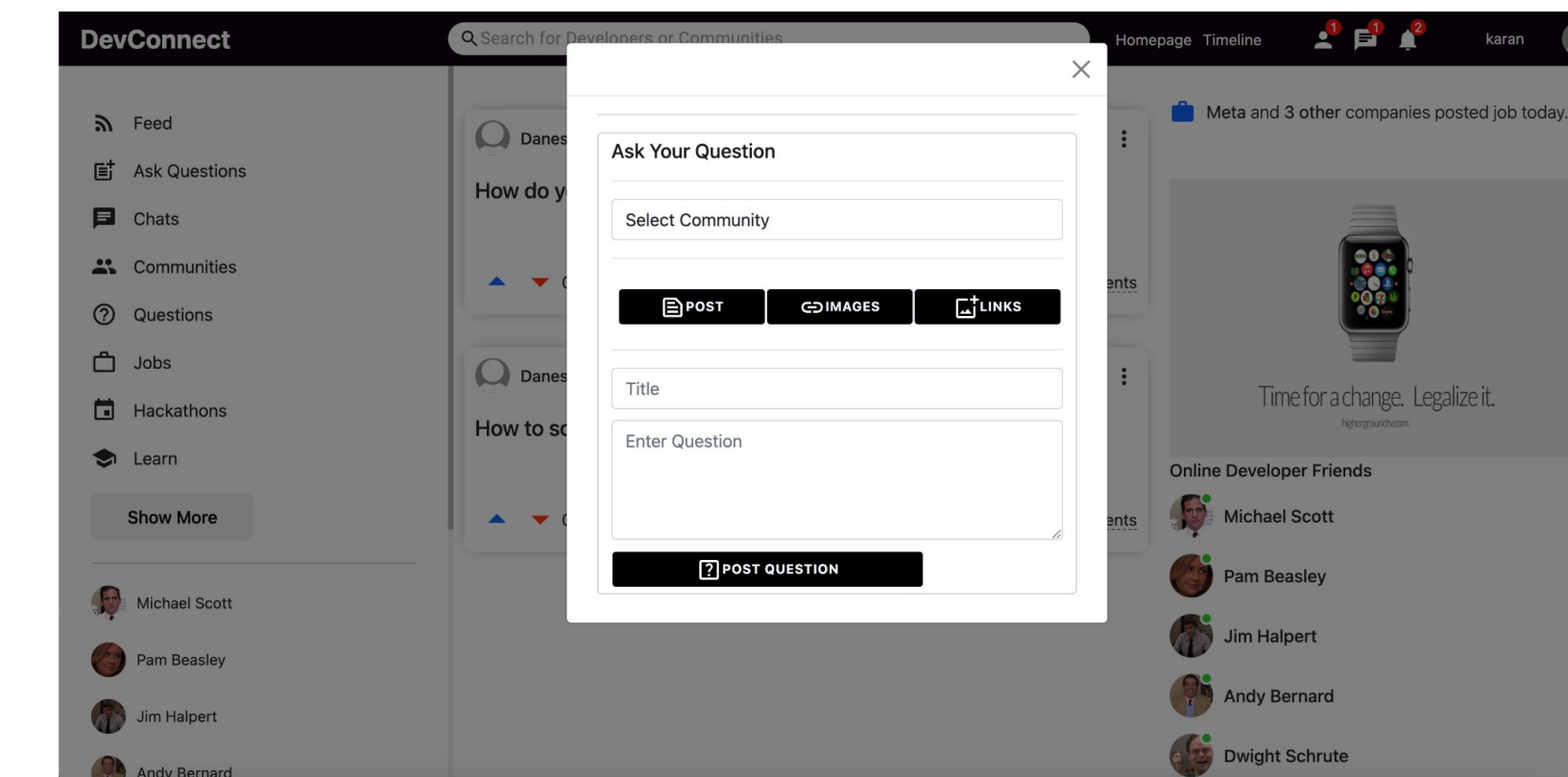
- The image below shows the landing page of the web-app where user can signup if they are new or login if the user is already the part of the web-application.



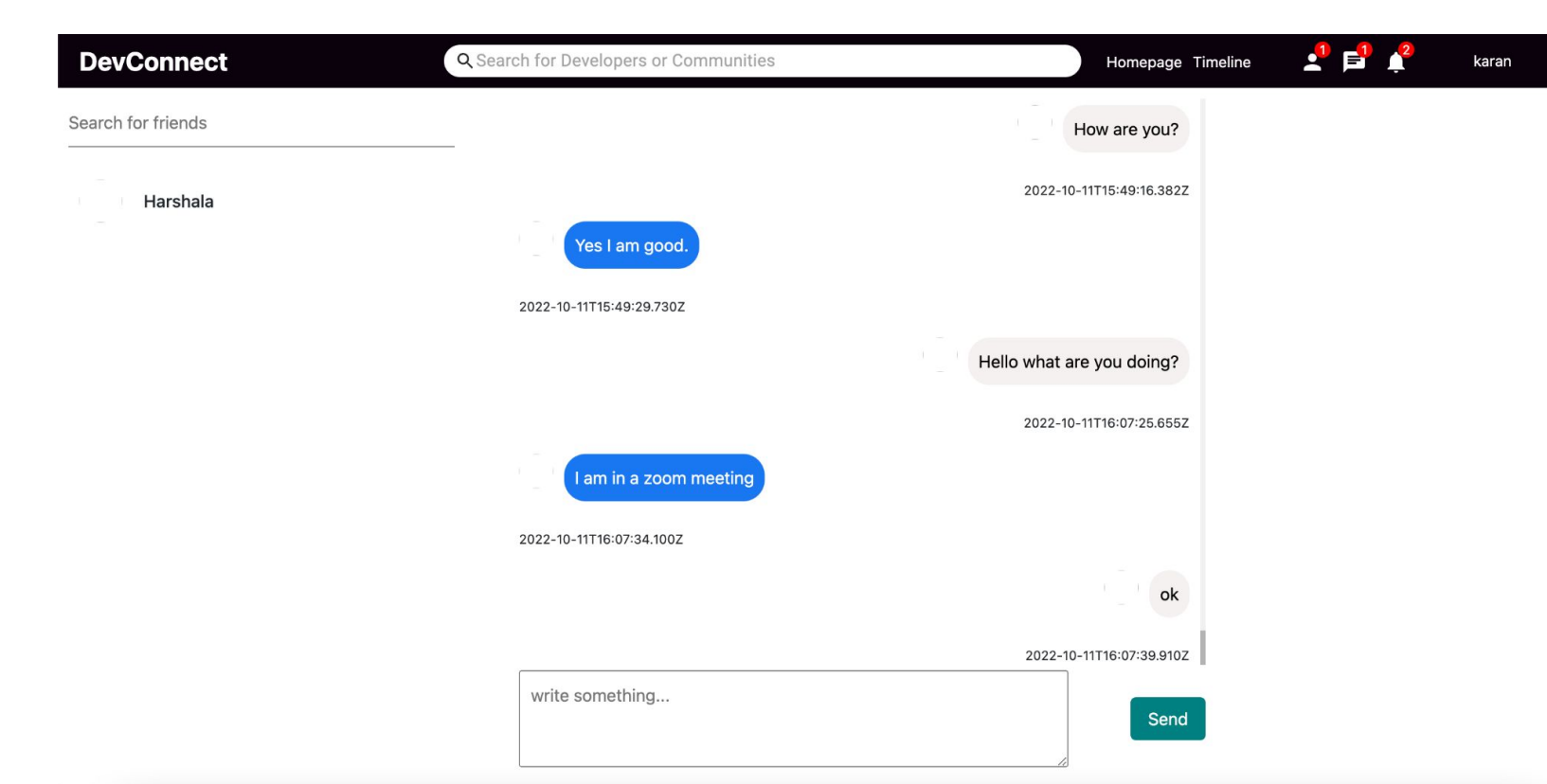
- The image below shows the homepage of the application where user will be able to see different questions posted and leave a like and comment on the post. User will also be able to add their own questions and navigate to other parts of the application.



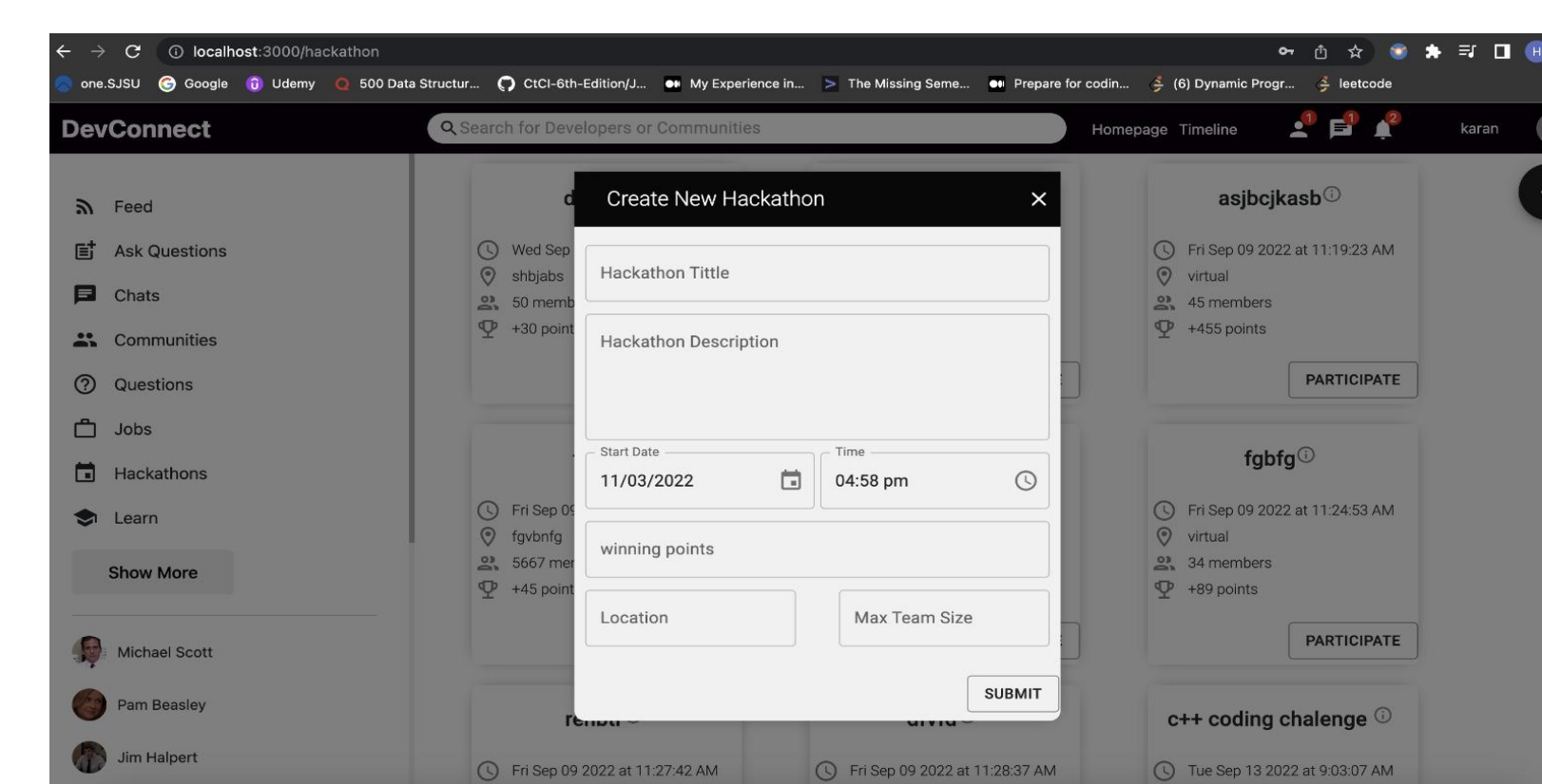
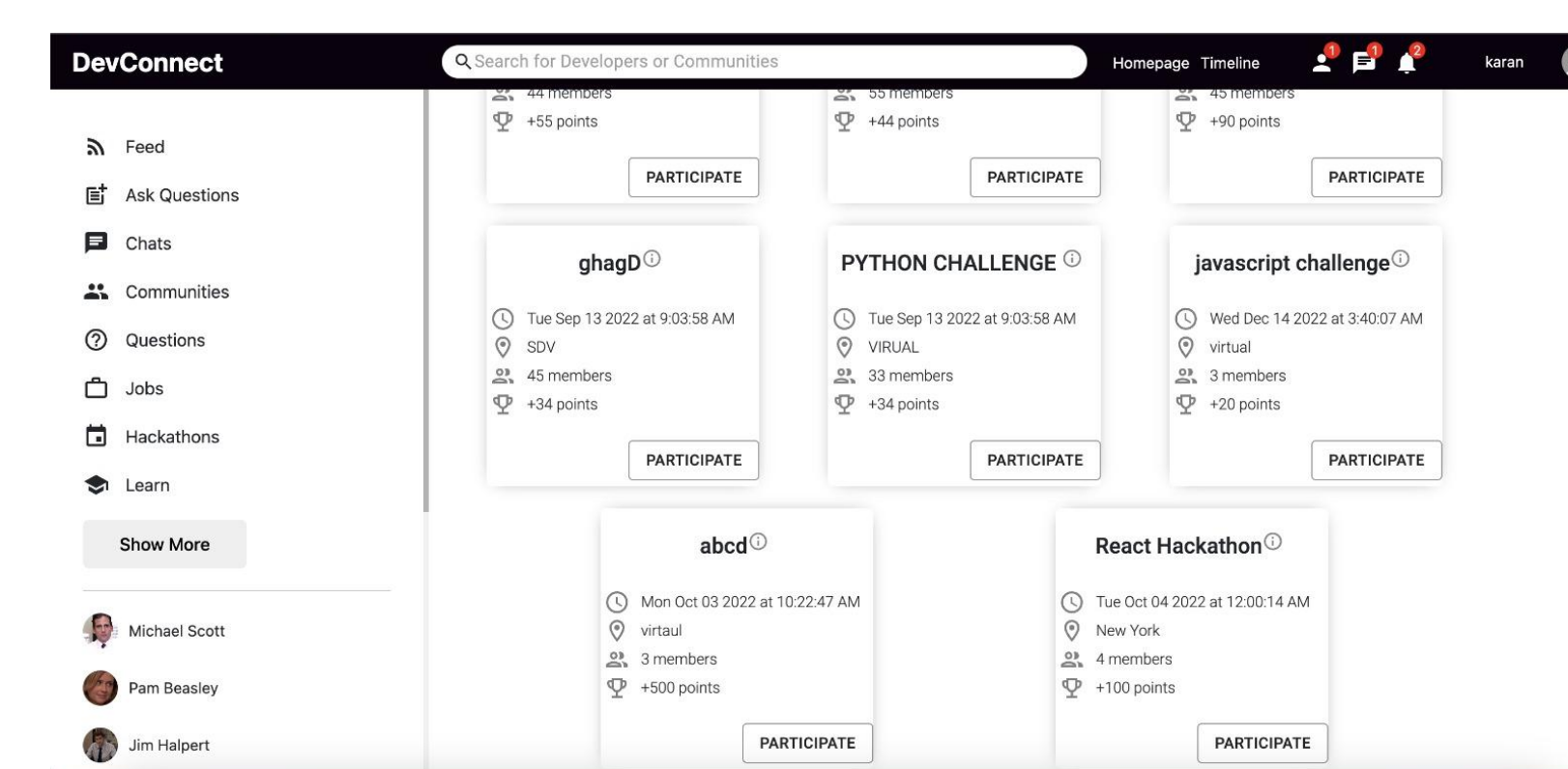
- The image below shows that a user can also add their own questions to the community and get them answered.



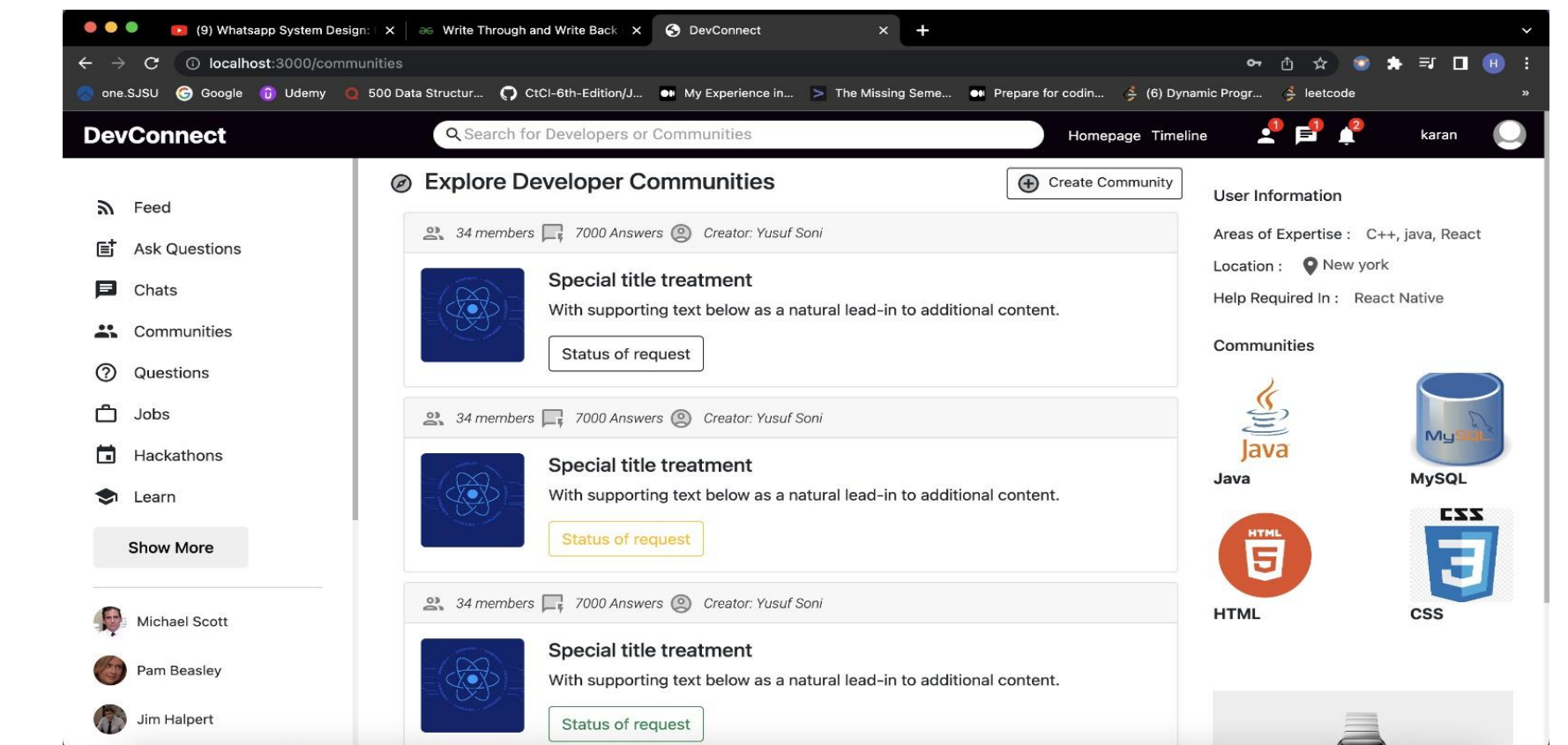
- The image below is the part where users can chat live with their friends who are part of DevConnect and get their queries resolved faster.



- The below image shows where the users can join and create new hackathons.



- In the below image users can see different communities made for a particular coding language. Users can be a part of those groups and get updates for those groups. User can also create their own groups and others can join them.



The community page deals with developer communities that a user can join based on the questions he/she has.

Summary/Conclusions

DevConnect is a lightweight interactive platform based on the MERN stack. The idea of building such a platform stems from the need to provide developers a platform that is user friendly and helps improve developer velocity. We have taken special care to incorporate principles of distributed systems to make sure our application is scalable and robust. Future research can be carried out to incorporate ML driven capabilities, and other useful tools that can be integrated into the platform, like a coding playground etc. which will improve developer productivity.

Key References

- [1] H. Sanchez and J. Whitehead, "Source Code Curation on StackOverflow: The Vesperin System," IEEE/ACM 37th IEEE International Conference on Software Engineering, 2015.
- [2] N. Gantayat, P. Dhoolia, R. Padhye, S. Mani, and V. S. Sinha, "The Synergy between Voting and Acceptance of Answers on StackOverflow - Or the Lack Thereof," IEEE/ACM 12th Working Conference on Mining Software Repositories, 2015.
- [3] C. Lam, and E. Biggerstaff, "Finding Stories in the Threads: Can Technical Communication Students Leverage User-Generated Content to Gain Subject-Matter Familiarity?," IEEE Transactions on Professional Communication, vol. 62, no. 4, December 2019.

Acknowledgements

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