What went well

User login and authentication was fully integrated with firebase. A user is able to become a tutor on the account screen and select which classes they can tutor in. We were able to get tutor searching functional and working well when searching by class code and number. Scheduling a session from the tutor search screen was implemented, and the app also displays scheduled sessions on the “Scheduled” screen. Tutors can confirm a session by selecting it on their requested sessions screen. Increased functionality through the database allowed us to increase the ease of use for the user. We are able to store, access and manage data so that we can provide more complex functionality and personalization to the application.

What didn’t go well

Initially, we intended to have Tutor and User profiles available for each to see when clicking on a searched Tutor or scheduled session. Unfortunately, we didn’t have the time to fully implement these profiles, so we had to focus on other functionality instead. We also had trouble implementing the payment API, and we were unable to get it finished in time for the demo. Venmo doesn’t directly offer an API for small developers so we had to pivot to a different outsourced system. Finally, we initially wanted to implement a messaging system, but because of challenges we faced implementing that, we decided to allow the user to enter a brief message when making a session request.

What could be improved

The general appearance of the app could be improved to make the user experience more fluid. There are some minor bugs that could be improved having to do with retrieving information from the database. Like most platforms, searching could be improved to allow the user to do more advanced searched. Session cards could be updated to include profile pictures of the user/tutor to make it easier for them to find each other. Having a more complete messaging system would be ideal, but would be difficult to implement appropriately because of the flags system we would need to monitor conversations.

Challenges

Because Firebase works asynchronously, it was difficult at first to figure out how to retrieve and display our user data. We overcame that, but it took some time and learning how to use ValueEventListeners.

It was also difficult to query Firebase at first because our data was structured poorly. A tutor’s list of classes were saved in a List within the Tutor class, but you cannot query a List in the Firebase Realtime Database. We were able to overcome that by restructuring the database and adding a new node for Course objects (that each held their Tutor UID). Restructuring allowed us to first query the Tutor node, and using the Tutor UID’s found, query the Course node.

It was difficult to learn how to use RecyclerViews and implement an Adapter class to store queried data in those Views. We overcame this and were able to implement RecyclerViews on the Main, Requested, and Scheduled Activities.

Going forward:

If we were to continue working on Tutorly, we would add fully functional user profiles that could be seen when clicking on a tutor search result or a scheduled session.

We could also integrate with different types of logins, allowing users to login with Google or Facebook instead of just email authentication.