Final Report
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User Stories completed in the second iteration

→See report of session after it ends
→Add manual clear button to clear recent question counts
→Show histogram of current questions
→Mute everyone except the Instructor
→User can ask questions from preset list
→Allow instructor to view all questions from participants
→Allow user to ask custom questions by typing

User Stories that were not finished

→Asking either public or private questions
This was a low priority user story in the first place and was deemed unnecessary given the way our help structure is set up for the virtual class. Choosing between public and private would have compromised many of the design choices we already made and their value was more than questionable.

→Instructor can add questions to existing list
Since we allowed for custom input questions on the user side of the app this functionality was superfluous.

→Receive push notification of class beginning at a certain time
Push notifications would have added a lot of time to our project without much additional benefit to the app.   This was already a low priority user story so we chose to invest the time we had into user stories more associated with the core functionality of the application.

Describe any known bugs in the application

One issue we ran into involved returning to the app after making the phone call. It was difficult to launch an activity on top of the call without making our own in-app dialer. The user must manually return to the app to continue to the class after pressing the begin call button.

Describe tests you wrote

Standard Test:

- Open app from phone A
- Log in using user credentials "testuser" and "guest".
- Toast should appear saying "Successfully logged in as Participant." Toast is displaying boolean "Instructor" flag from server.
- Should be taken to welcome page with options to Begin Call or Exit.

- Click begin call, phone should switch to telephone application and initiate call.
- The conference call service should state that the participant has successfully entered the conference and the program is waiting for the host.
- Open app from phone B
- Log into app on phone B using instructor credentials "testInstructor" and "guest".
- Toast should appear saying "Successfully logged in as Instructor." Toast is displaying boolean "Instructor" flag from server.
- Should be taken to welcome page with options to Begin Call or Exit.
- Click begin call and phone should switch to telephone application and initiate call.
- Conference call service should reply asking for host credentials, after pausing for several moments the call service voice should indicate that the instructor successfully logged in as a host to the call.
- The call service voice should then state that the host has invoked "listen only mode" indicating that every participant on the call is mute except for the instructor.
- Talk into phone B and listen into phone A, phone A should play whatever is being said into phone B.
- Now talk into phone A, the holder of phone B should not be able to hear anything through the phone.
- Phone A returns to the app and clicks preset questions.
- Phone B also returns to the app and monitors the questions that phone A clicks, they should accumulate in a histogram on phone B.
- Now phone A will type in a custom question, which should appear on phone B's screen.
- Click refresh on phone B and the histogram should reset but the custom questions should stay on the bottom half of the screen.
- Phone B ends the call, app should switch to final report display after 30 seconds. This report should include user question data for the entire session.
- Phone A should hear the call end and its app should switch to a new end screen that displays that the session has ended.

Corner Case Testing:

1. User enters incorrect login information, should see Toast notifying of incorrect credentials and should be able to re-enter.
2. User exits app from welcome screen, should log them out and close app.
3. User disconnects from call before it ends, should cut to "session ended" screen.
4. Instructor disconnects from call without ending the conference via 78*, users should remain in call and instructor should be able to re-enter call and continue viewing session data.

Multiple Use Case Test:

- User enters correct login information, participates in call
- User hangs up
- User calls again, should rejoin the same class
- User hangs up, logs out. Should go back to login screen
- User logs in again, can rejoin same class.

Describe any additional features that you would add if you had more time.

If we had more time we would have liked to incorporate some kind of calendar or method for the instructor to schedule classes such that the user would be reminded about them through push notifications. This feature was not necessary to the core functionality of the app but it would have been nice to be able to programmatically set the class instead of the instructor having to inform the participants outside of the app.

If you could go back in time and start this project over again, what would you do differently?

The biggest takeaway from this project would be planning out the design of the classes earlier. We found that poor design choices in the early stages of our implementation forced us to refactor the code later on. For example, two of our activity classes ended up being very similar and we wrote a lot of duplicate code. Ultimately we combined the classes but we could have saved some time with a little forethought. Additionally we had to switch around the progression of activities half way through which was a bit more challenging to do later as opposed to earlier.

Would you recommend working with this particular customer in a future offering of CIS 350?

The client's project was uninteresting. He was good to work with, reasonable and easy to communicate with, but the meditation app was slightly mundane and its overall impact in his future research was questionable.

Because you are not employees of the University, your group has copyright ownership of your code. So you are not obligated to release it to the customer. However, if you would like to do so, I am sure they would very much appreciate it. Please indicate in your report if it is okay to release the code to the customer. If not, please discuss this with one of the instructors.

It is absolutely ok for the client to use our code and we hope the customer handoff document is enough to guide anyone through maintenance and use of the app. The source code can be found at https://github.com/alexbrashear/Meditation.