

MICHIGAN STATE

UNIVERSITY

Beta Presentation

Robotic Job Coaching

The Capstone Experience

Team Michigan State University CSE

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Fall 2024



*From Students...
...to Professionals*

Project Overview: Problem

- In-person job coaching is inefficient
 - One coach can only manage so many clients
 - May be significant time delay in receiving assistance
 - Limits how much attention each client can receive
- Existing virtual job coaching also has issues
 - The coach has a static view of the work area
 - The coach can't gain a proper understanding of their surroundings or the work

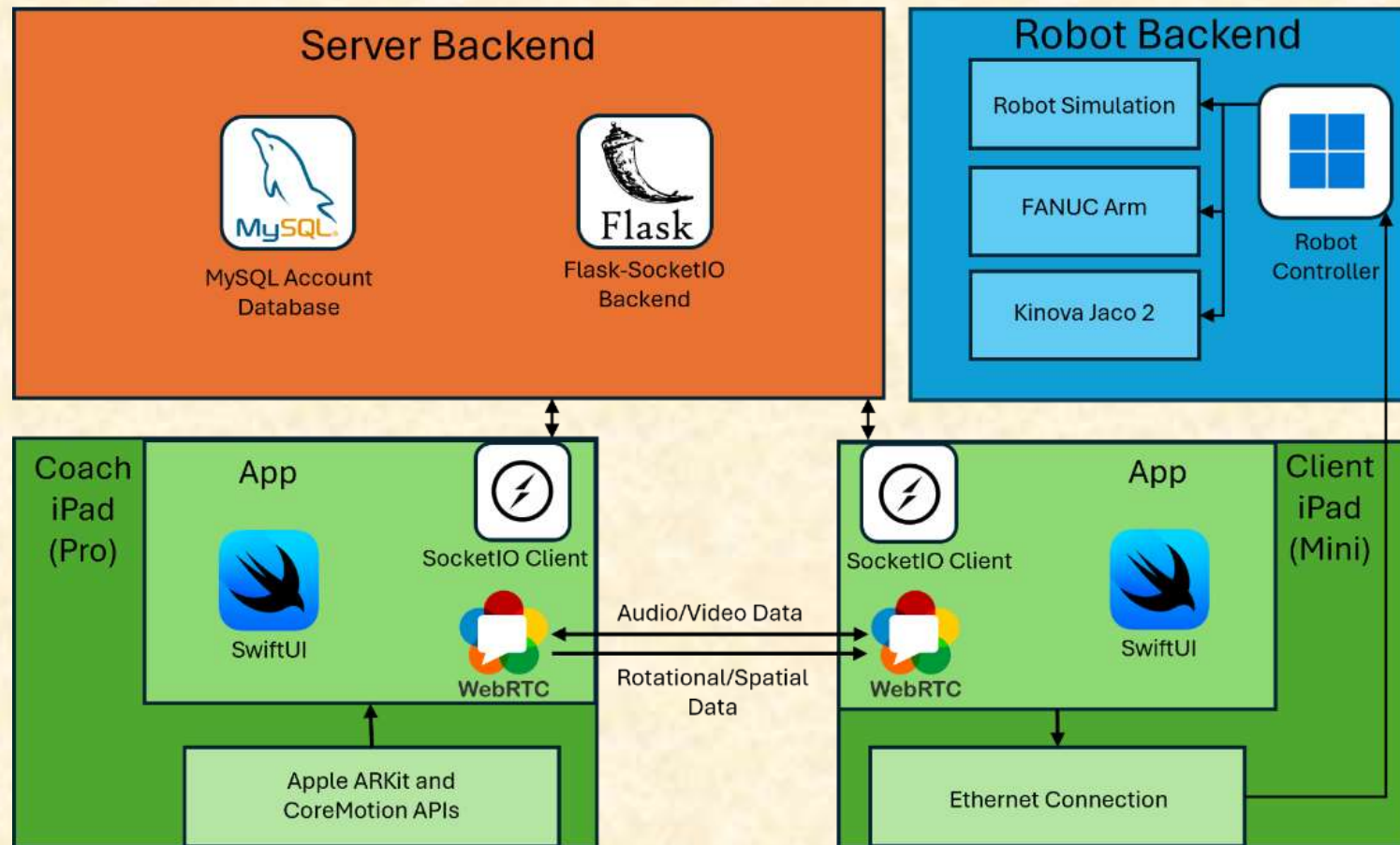


Project Overview: Solution

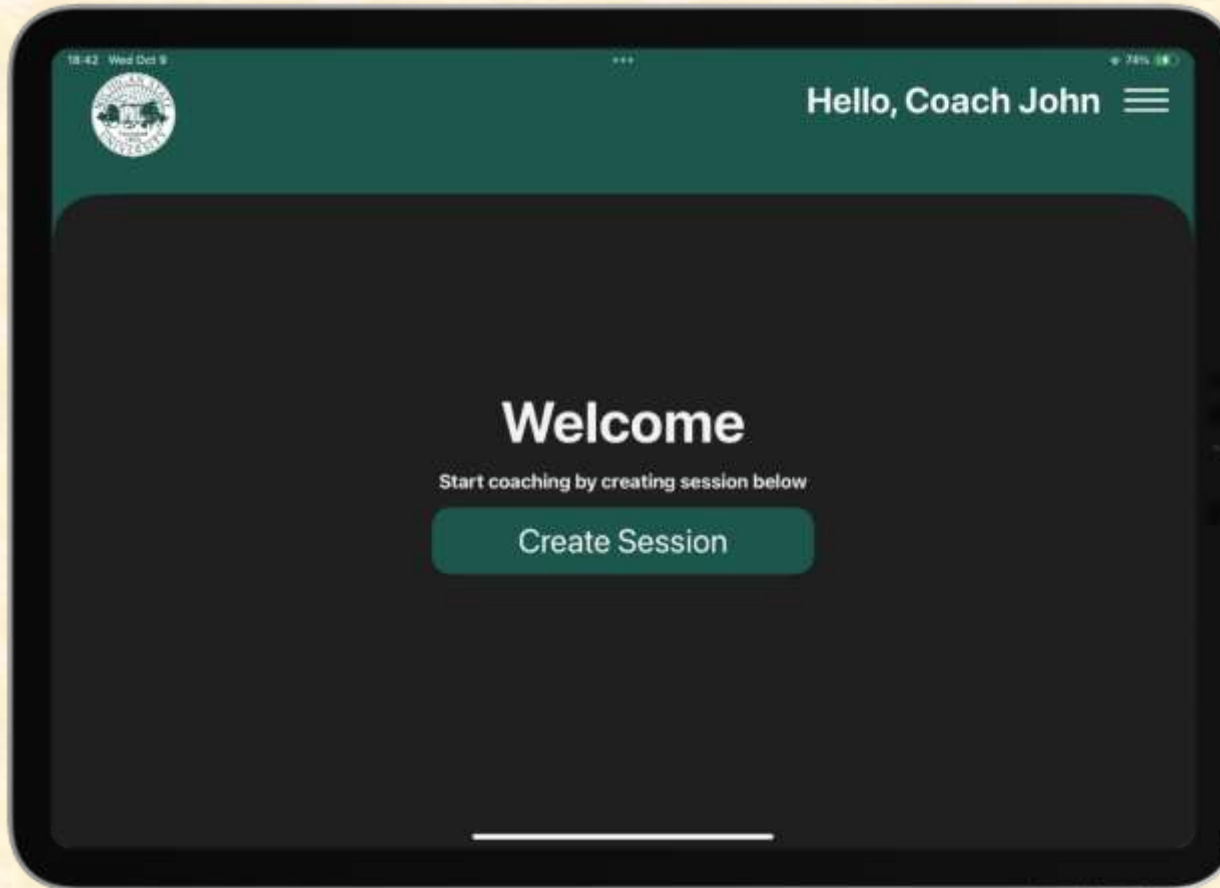
- Streamline connecting job coaches and clients with an iOS application
 - Job coach can assist many people simultaneously
 - Improved availability to assist clients
- Allow coach to remotely control their view using a robotic arm
 - No longer reliant on the client to manage the camera
 - Can freely and intuitively observe the work area without interruption
- Improved experience for both parties, especially for clients with cognitive disabilities



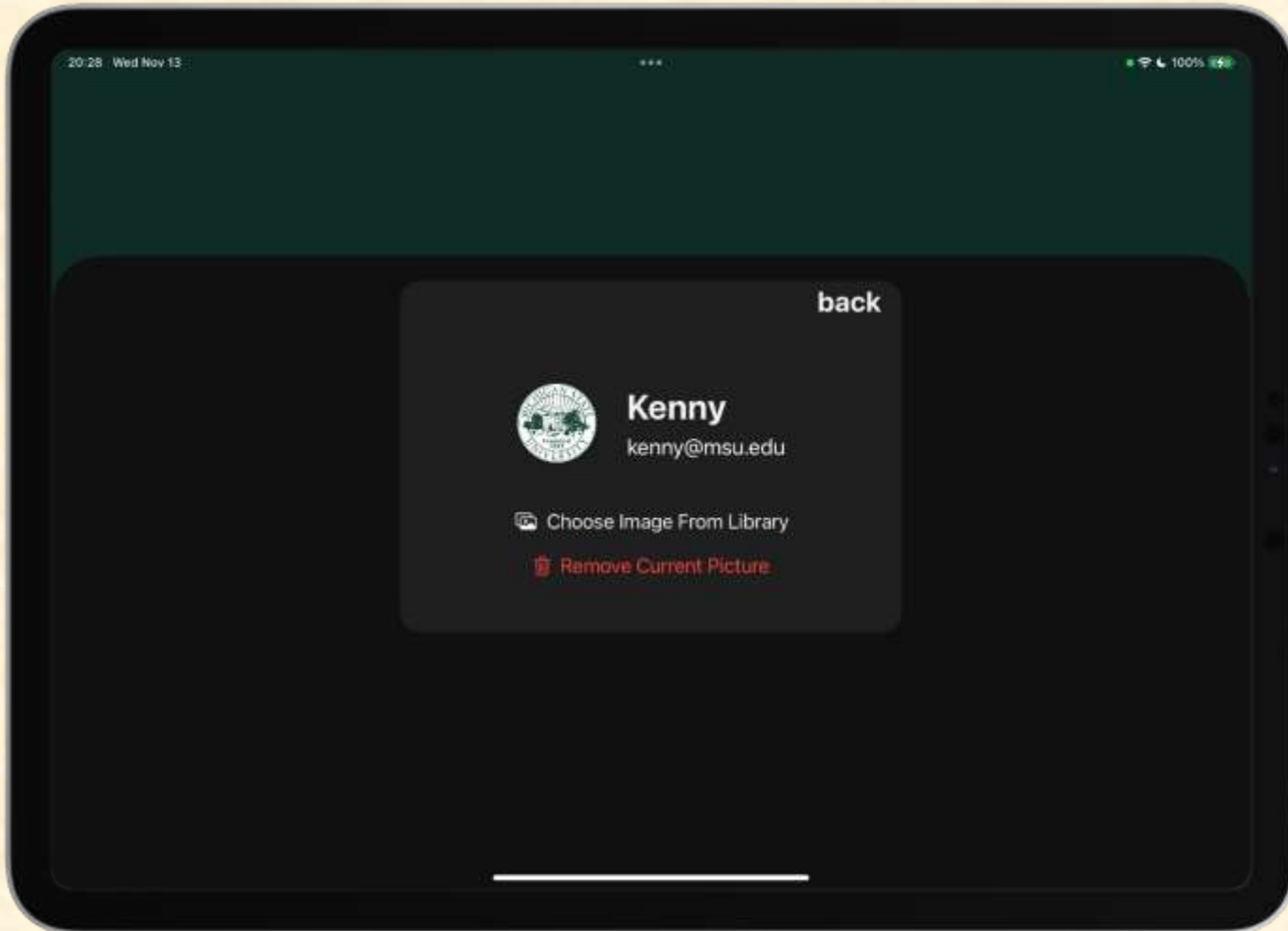
System Architecture



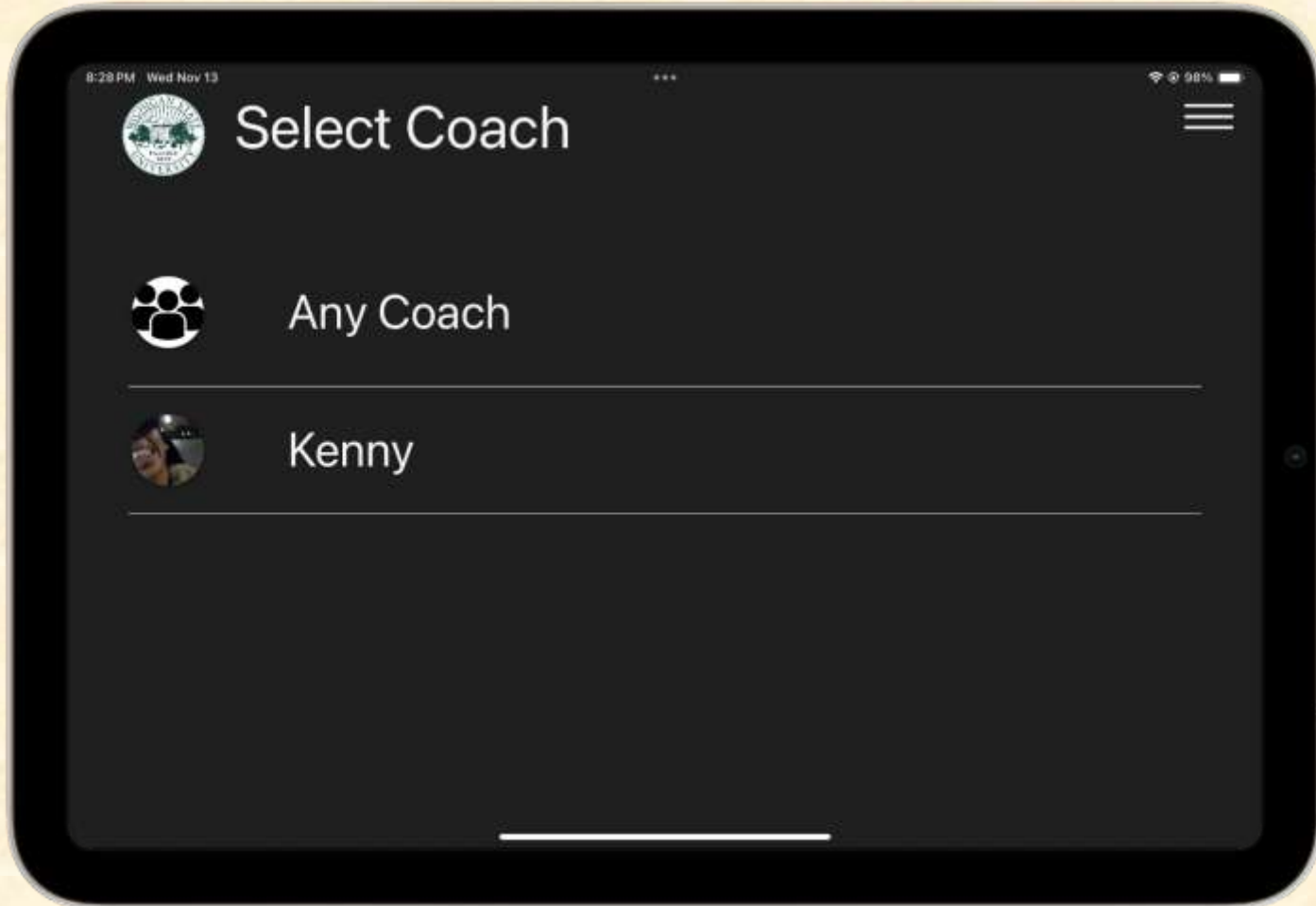
Create Session Screen



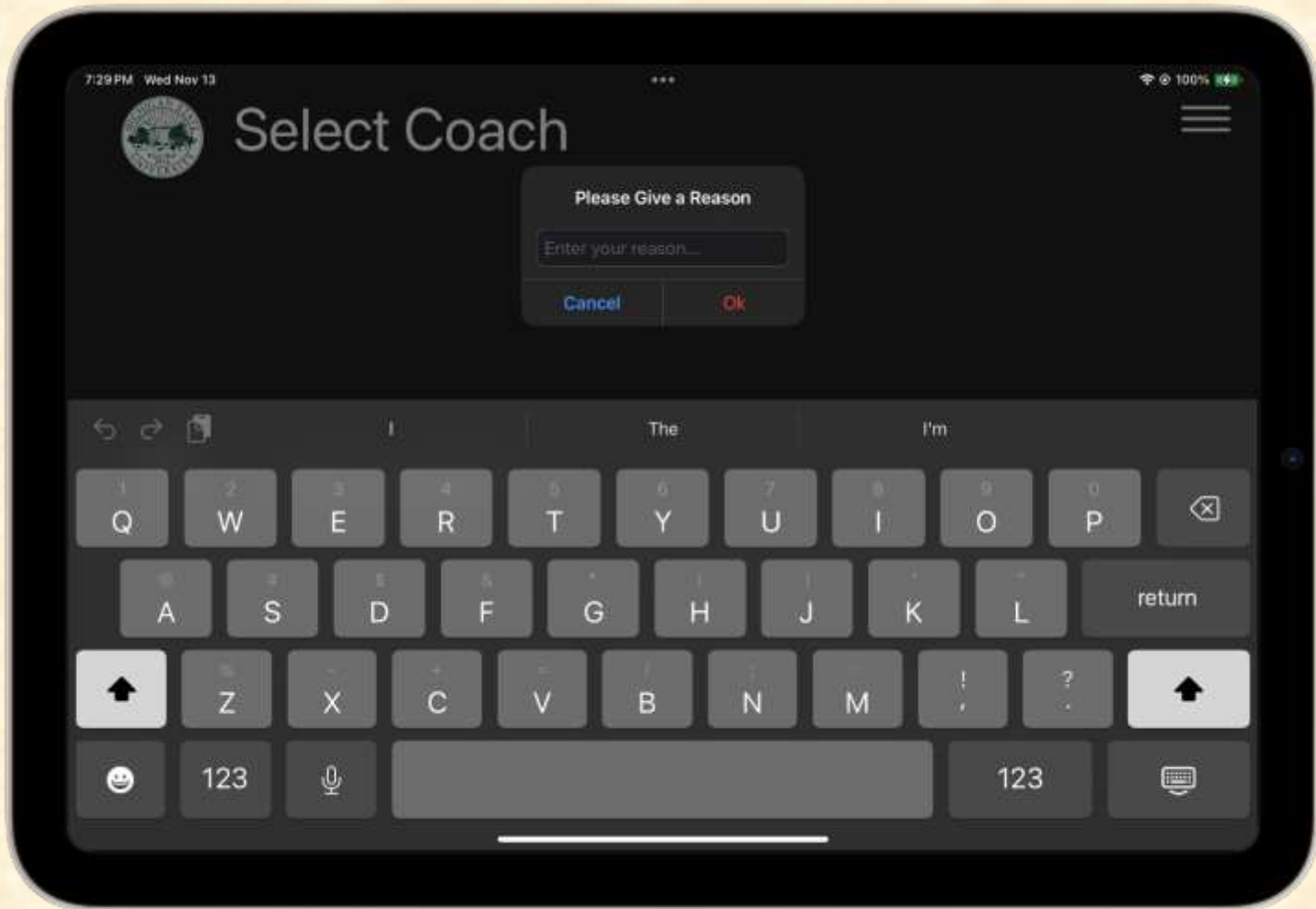
Set Profile Picture



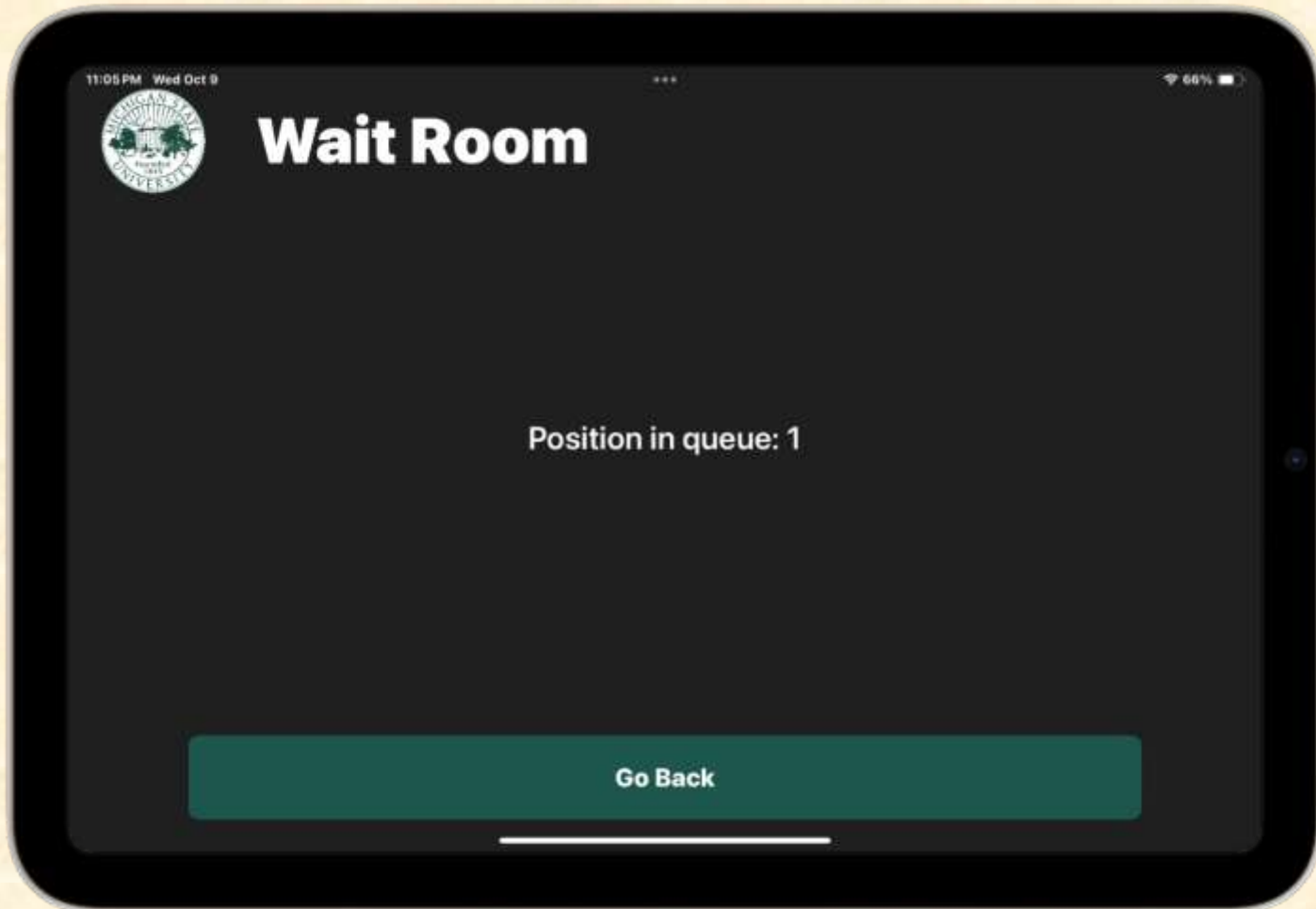
Select Coach Screen



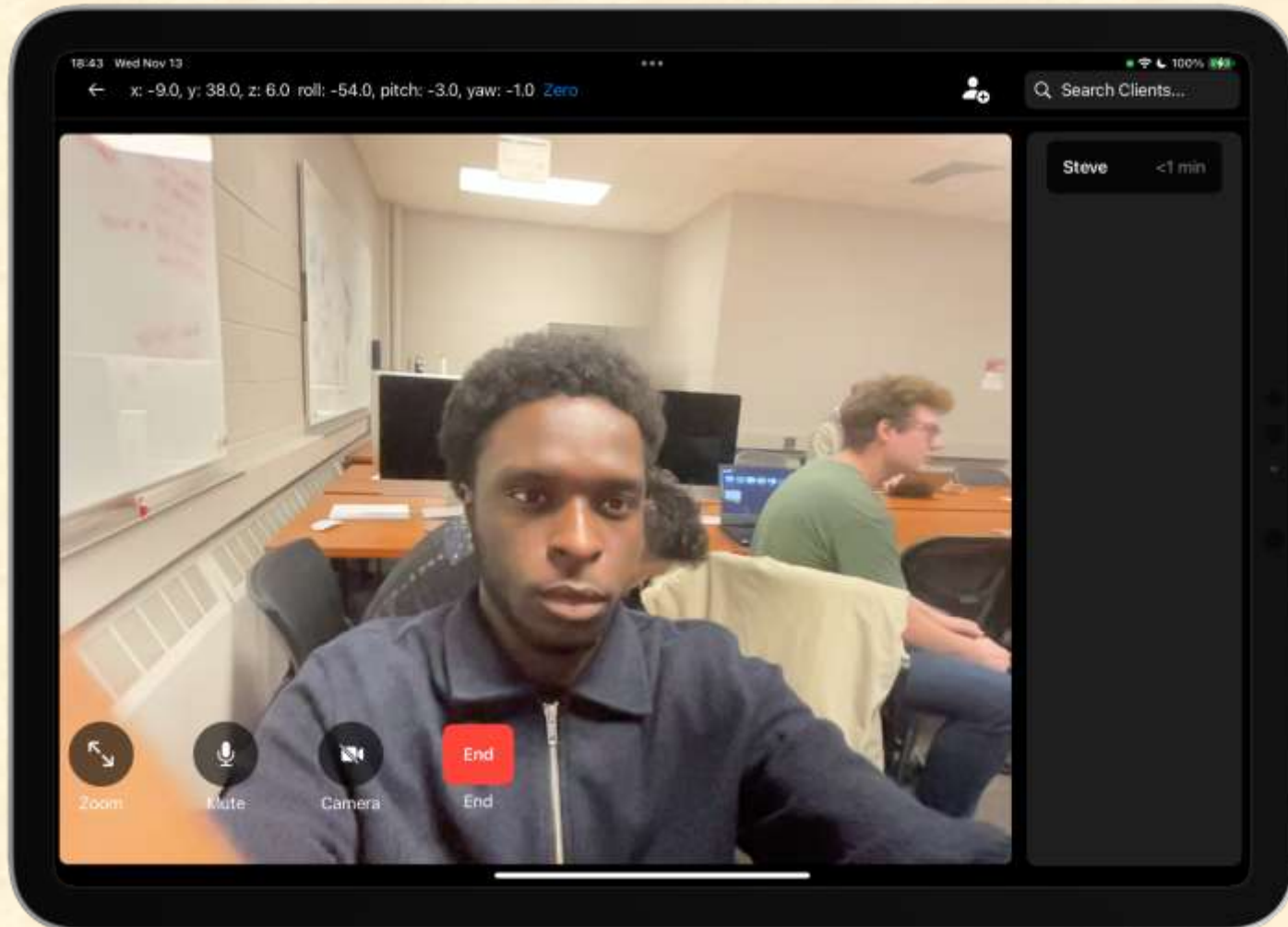
Enter Reason For Help



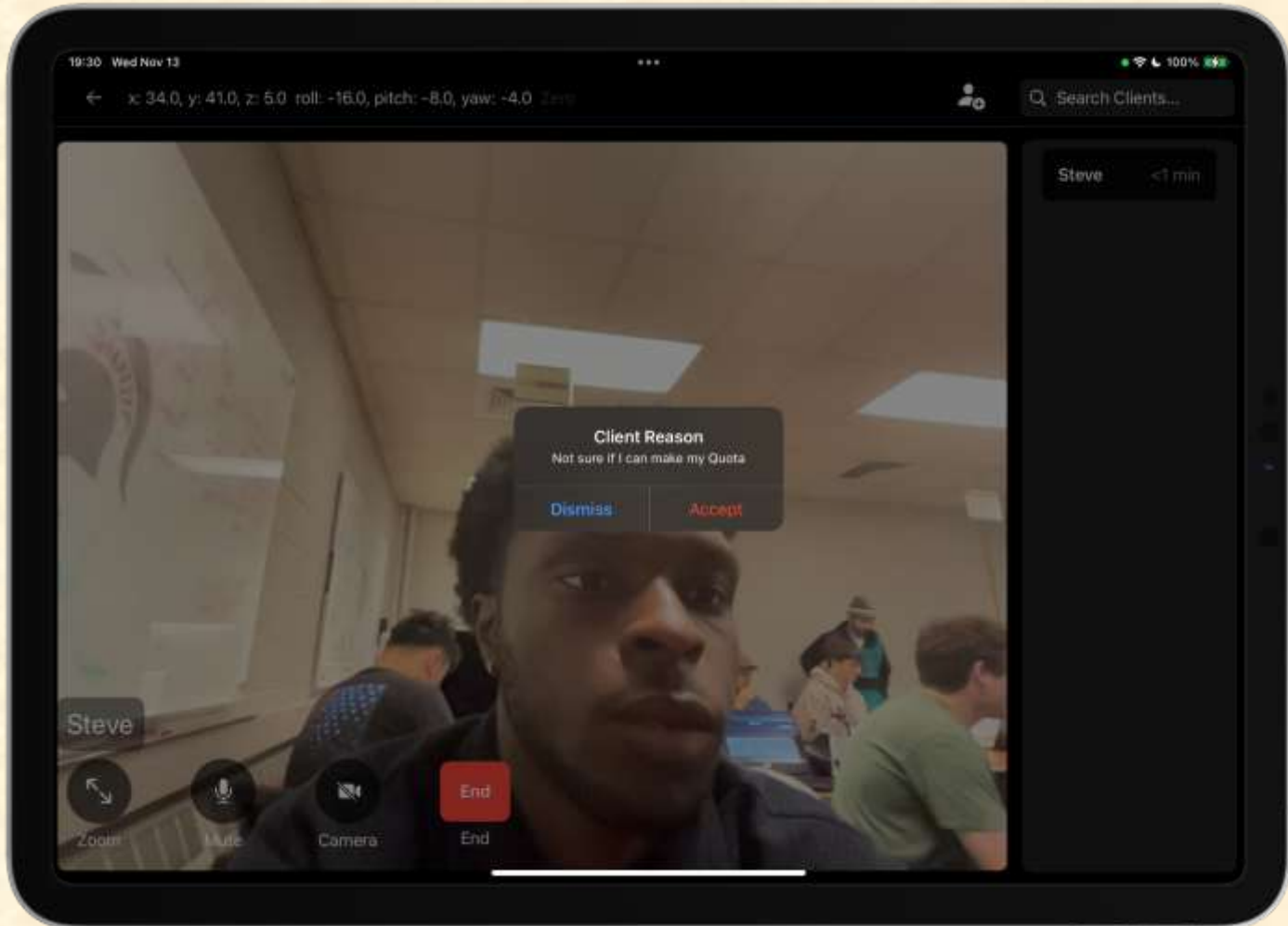
Waiting Room



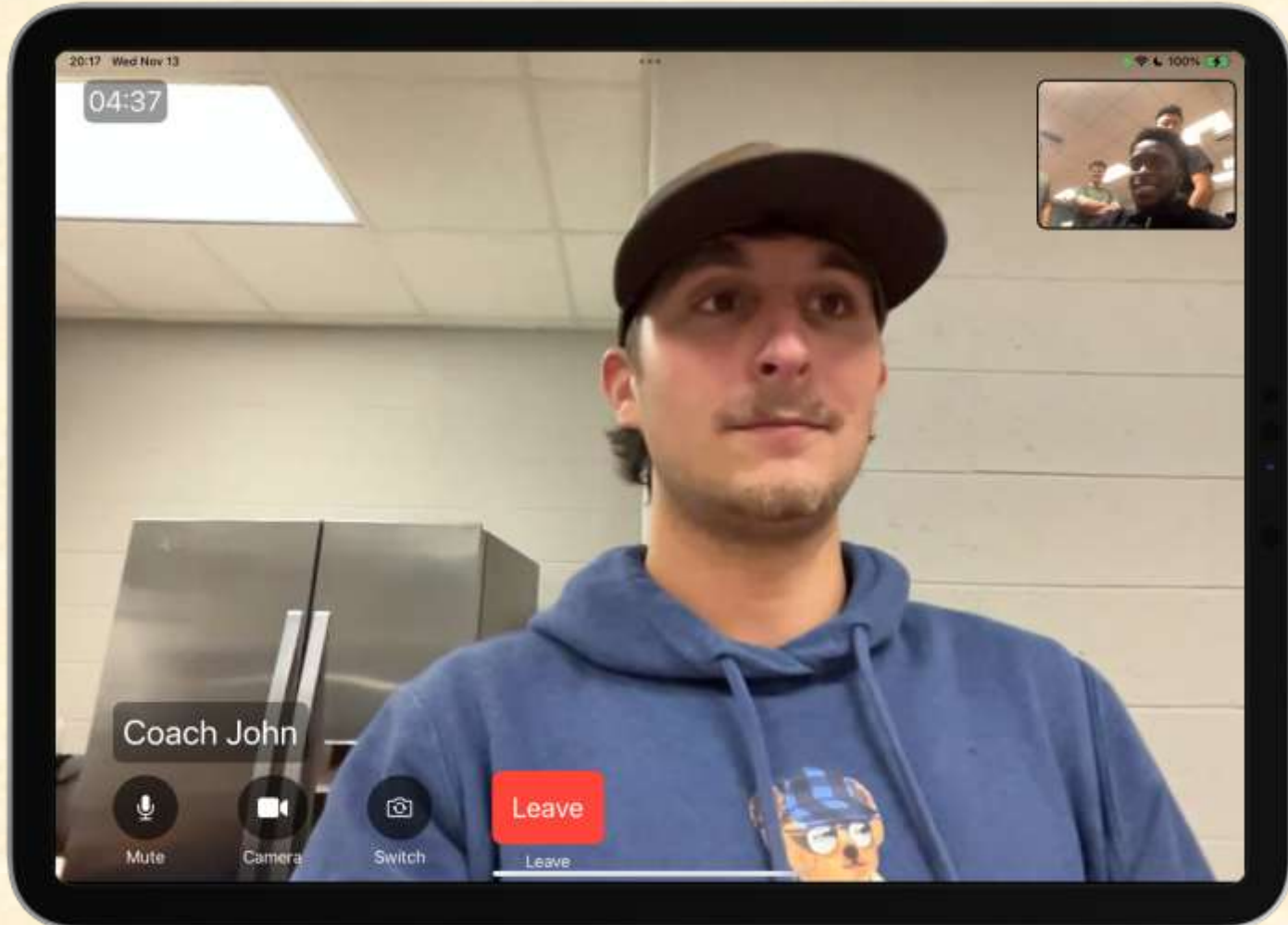
Conference Screen (Coach)



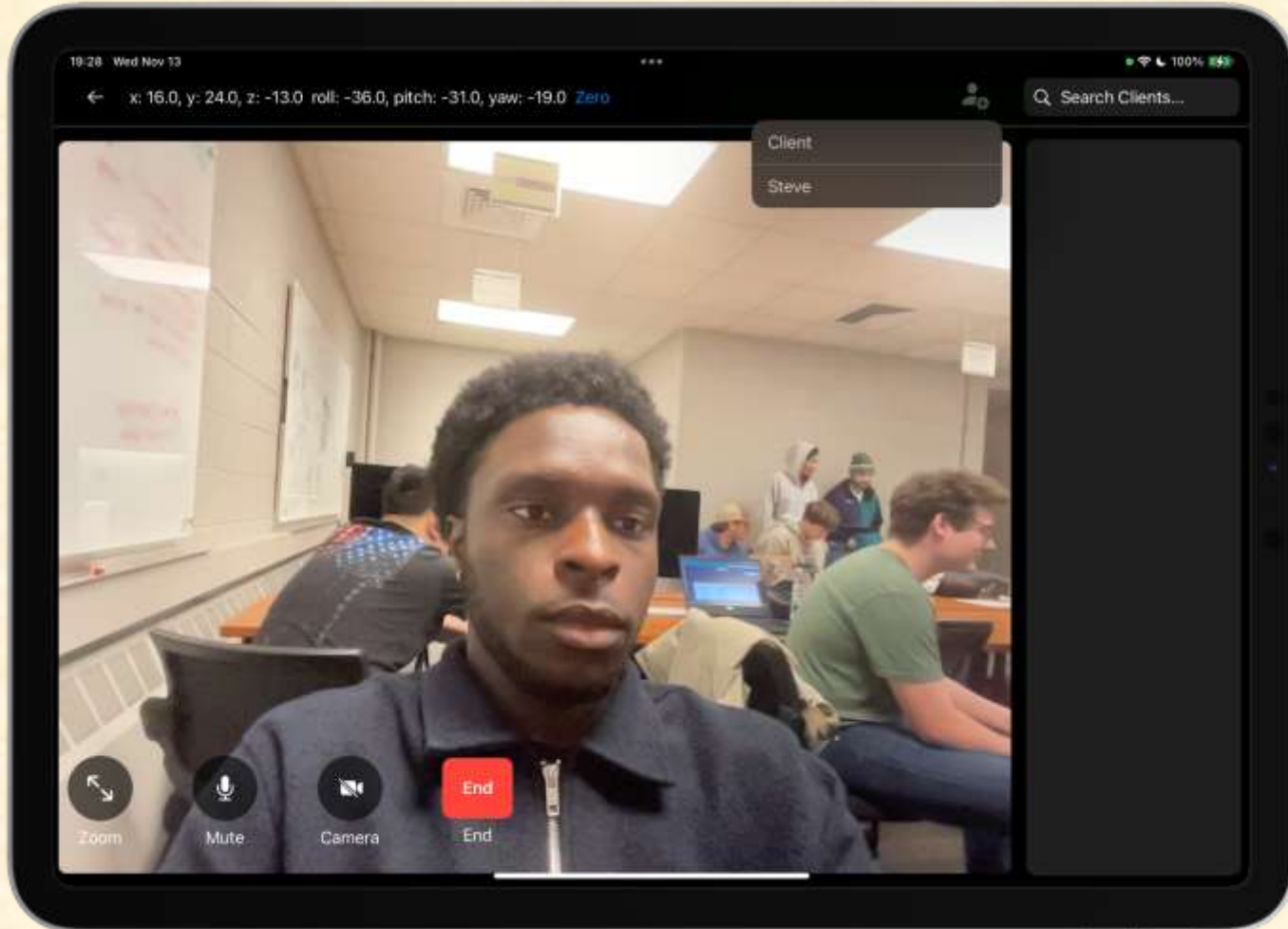
View Client's Reason



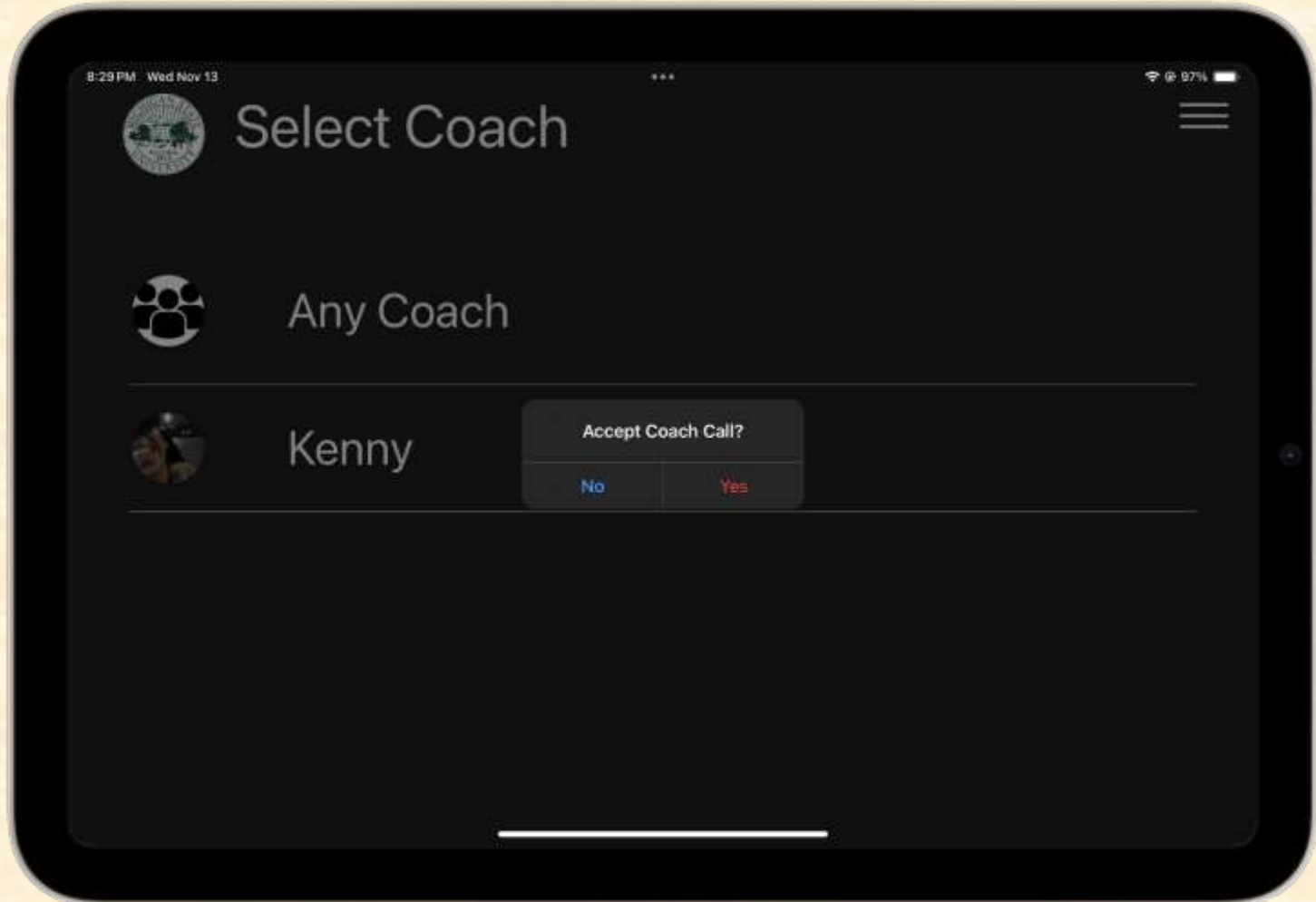
Conference Screen (Client)



Reverse Call Option



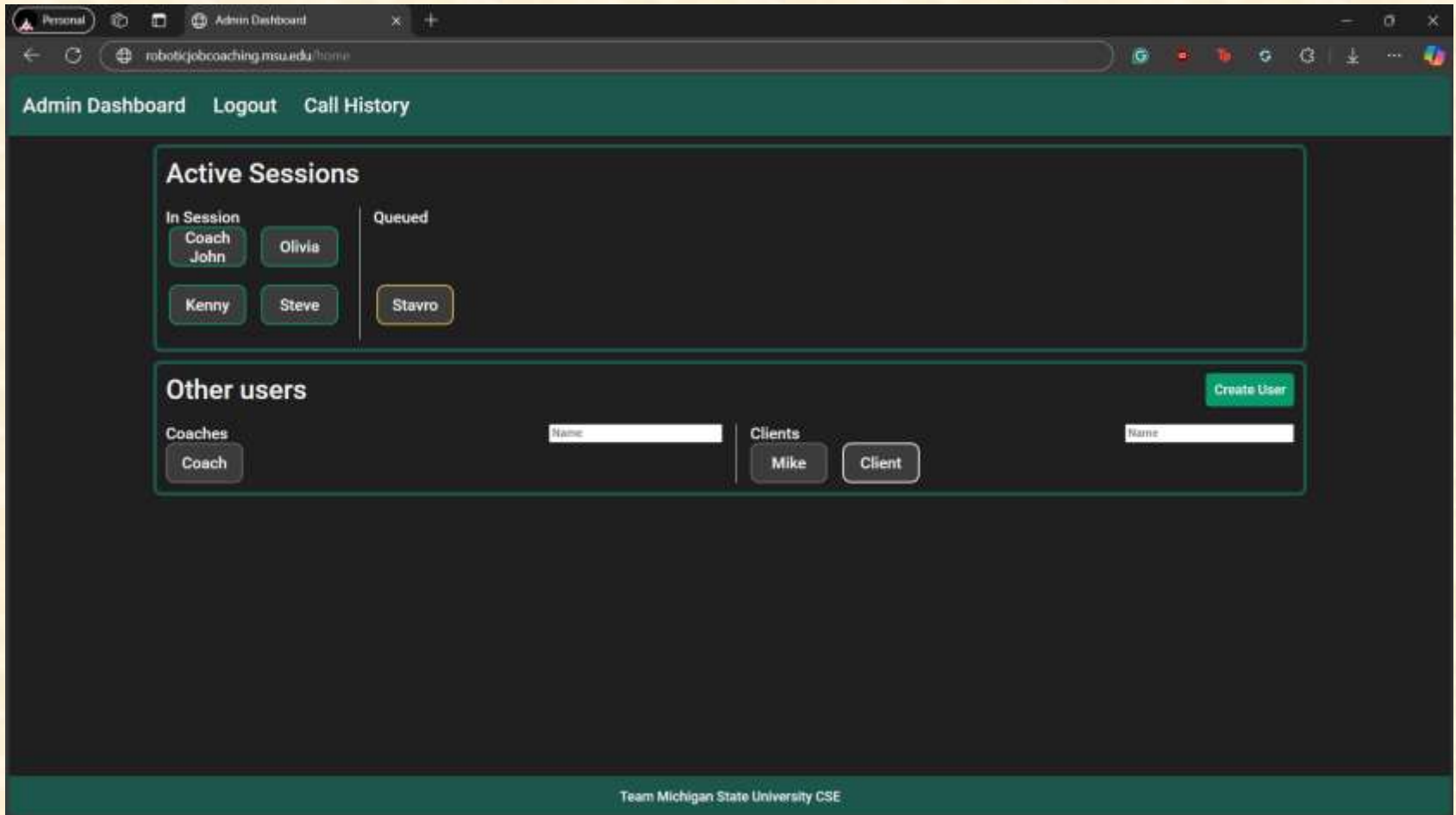
Accept Reverse Call



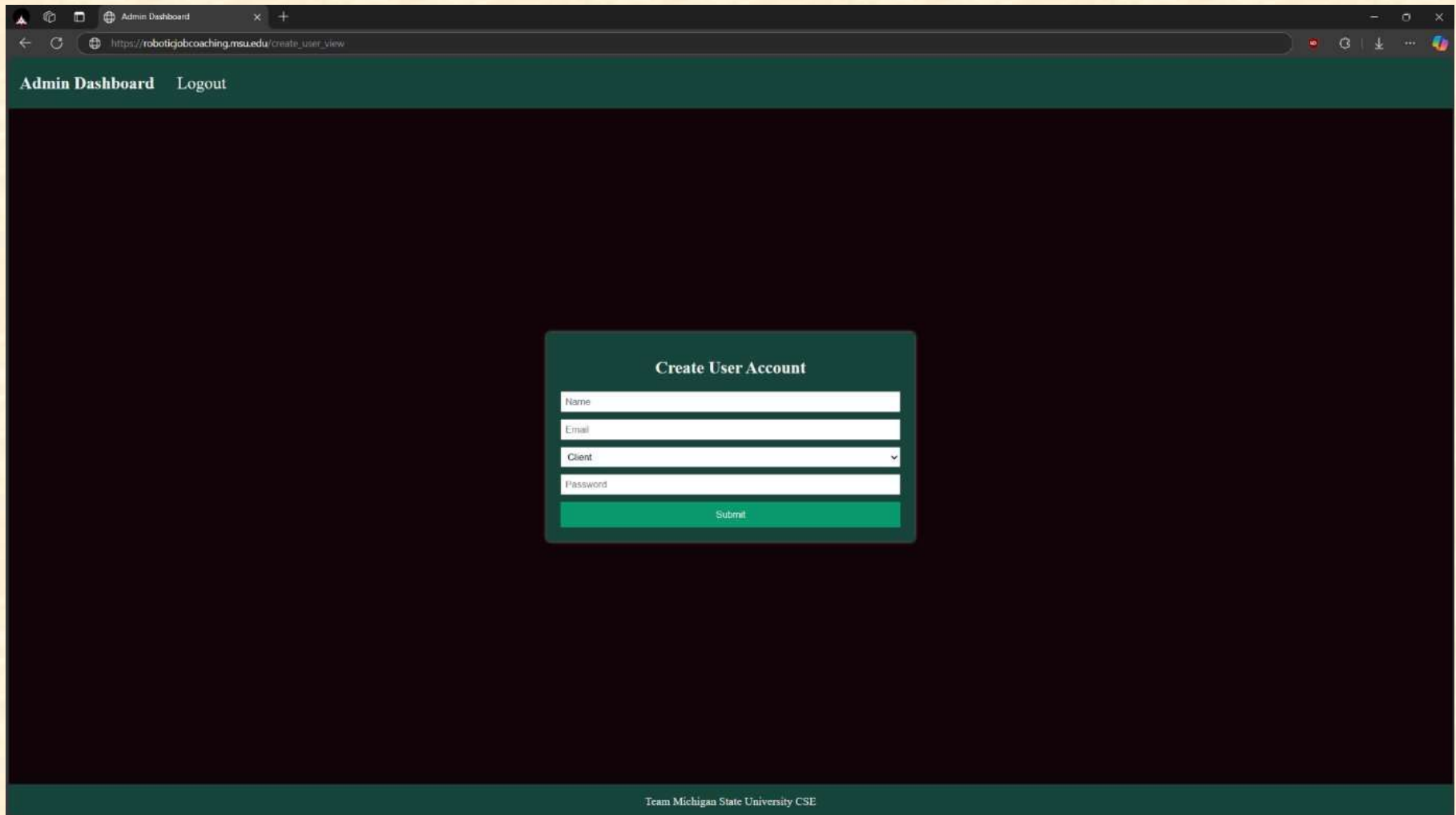
Kinova Jaco 2 Simulator



Admin Home Page



Create User Page



The screenshot displays a web browser window with the following elements:

- Browser Tab:** Admin Dashboard
- Address Bar:** https://roboticjobcoaching.msu.edu/create_user_view
- Page Header:** Admin Dashboard Logout
- Main Content:** A dark-themed page with a central white form titled "Create User Account".

The "Create User Account" form contains the following fields:

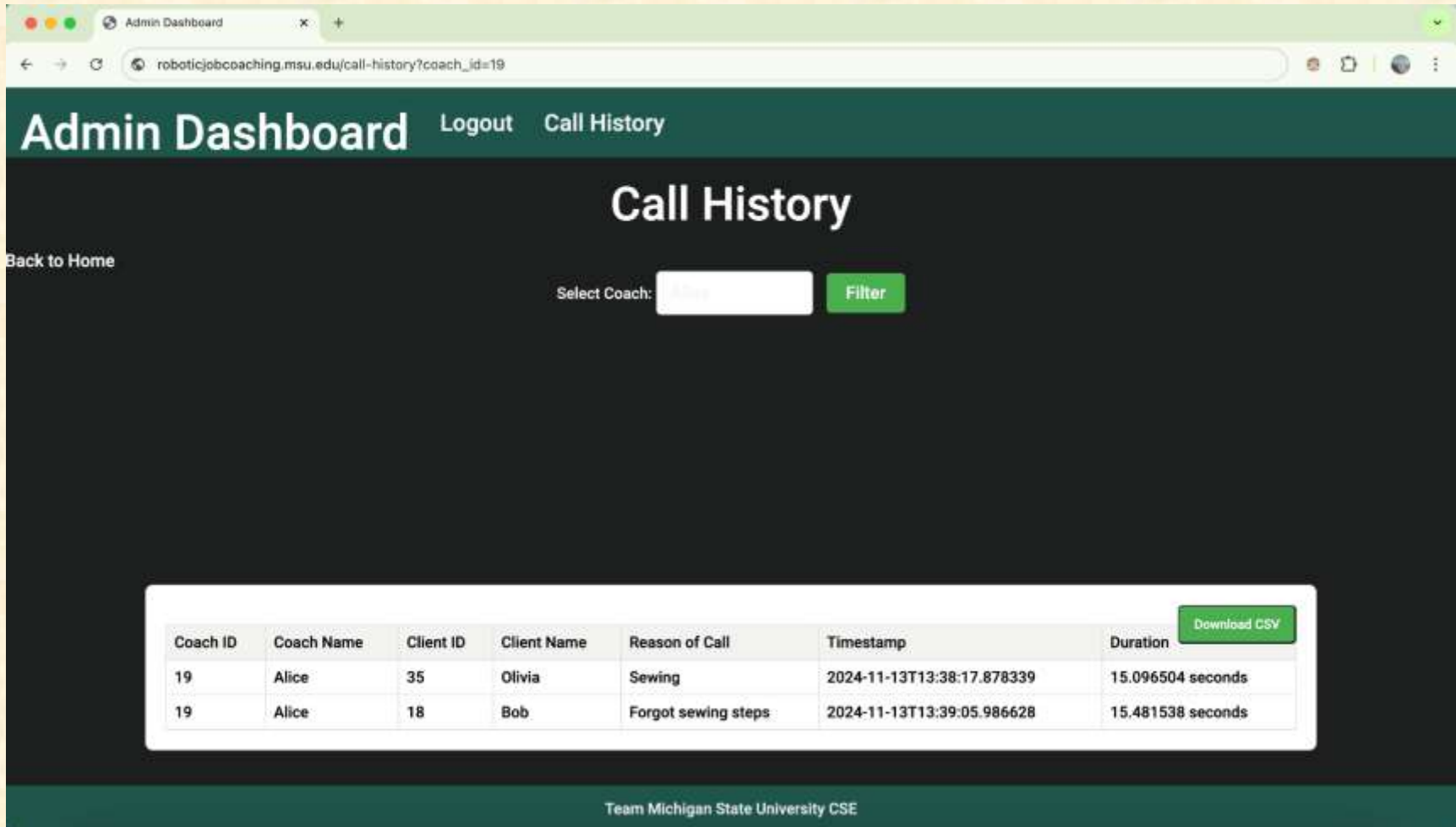
- Name
- Email
- Client (dropdown menu)
- Password
- Submit button

At the bottom of the page, there is a footer that reads: Team Michigan State University CSE

Edit User Page

The screenshot shows a web browser window with the URL `roboticjobcoaching.msu.edu/edit_user/4`. The page features a dark green header with navigation links: [Admin Dashboard](#), [Logout](#), and [Call History](#). The main content area is titled "Edit User Account" and contains several form fields: "Client" (with a dropdown menu), "Email" (containing `client@msu.edu`), "Client" (with a dropdown menu), "Default Config" (with a dropdown menu), and "Set a new password". Below the form are two sections: "Allowed Users" with a "Coach" button, and "Denied Users" with "Kenny" and "Coach John" buttons. At the bottom of the form are "Update" and "Delete" buttons. The footer of the page reads "Team Michigan State University CSE".

Call Logs Page



Admin Dashboard Logout Call History

Call History

Back to Home

Select Coach: [Filter](#)

Coach ID	Coach Name	Client ID	Client Name	Reason of Call	Timestamp	Duration
19	Alice	35	Olivia	Sewing	2024-11-13T13:38:17.878339	15.096504 seconds
19	Alice	18	Bob	Forgot sewing steps	2024-11-13T13:39:05.986628	15.481538 seconds

[Download CSV](#)

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What's left to do?

- Stretch Goals
 - TURN server
 - Recording calls
 - Have way for a client to re-convey urgency
 - Laser indicator
- Other Tasks
 - Fix edge-cases relating to event de-sync on visualization
 - If we get a robot, implement with it



Questions?

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