



Beta Presentation

Robotic Job Coaching

The Capstone Experience

Team Michigan State University CSE RJC

Cole Lanzinger

Gera Berhanu

Ha-il Lim

John Nowinski

Nicolas Clark

Sean Finkel

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Spring 2025



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

Project Overview

- Video conferencing app between Peckham clients and job coaches
 - IOS and Android apps
 - Remote control of robotic arm
- Flask Server for user management
- Admin webpage for server management and robotic arm geofencing



Team Member's Technical Tasks

Technical Tasks Assigned

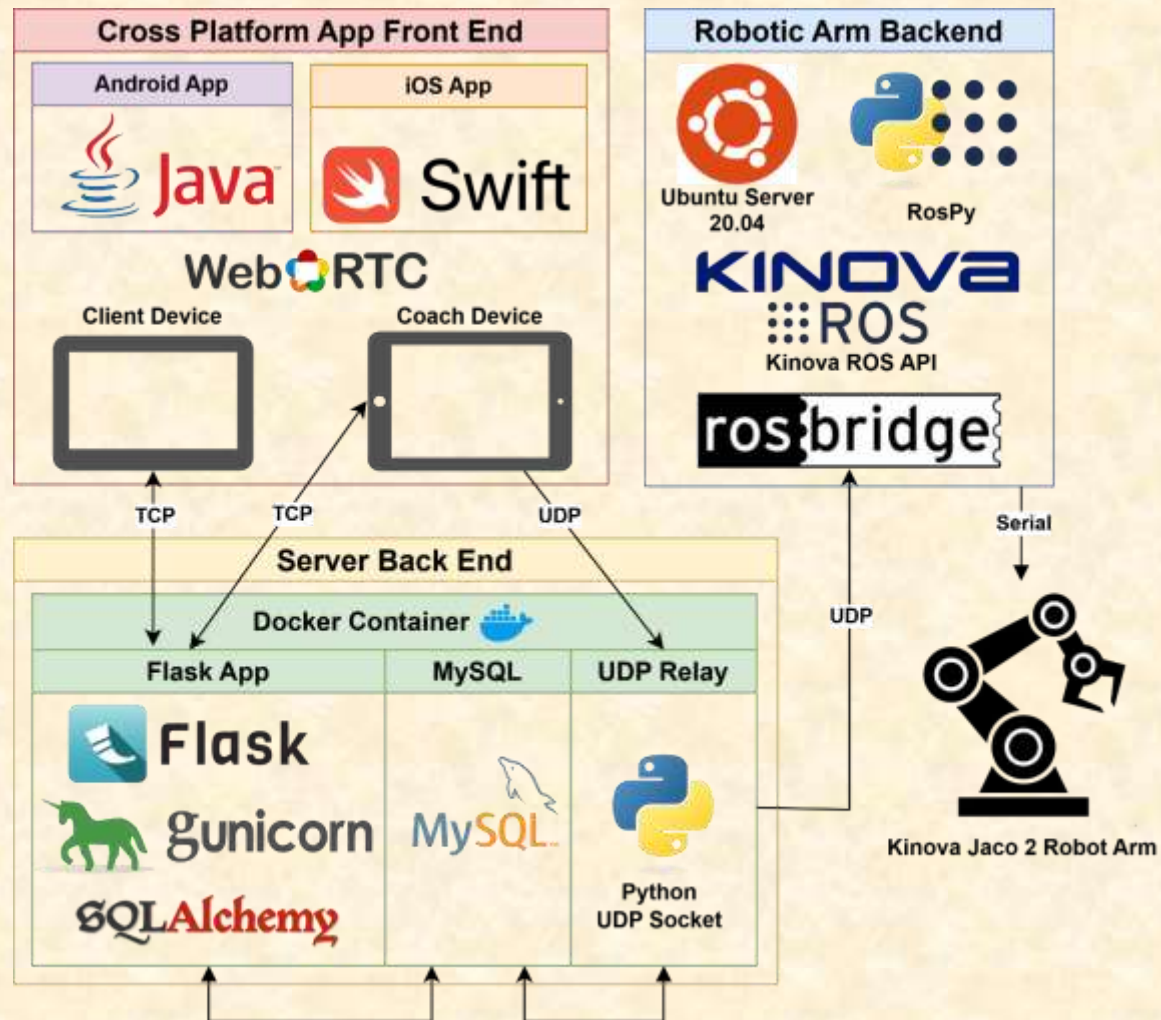
- Cole Lanzinger
 - Admin webpage design
 - Building Android app
 - Geofencing implementation
- Gera Berhanu
 - Redesigning iOS front end
 - Geofencing implementation
 - Establishing TCP connection
- Ha-il Lim
 - Android app design
 - Implementing WebRTC
 - Cross platform capabilities
- John Nowinski
 - Robot state machine supporting velocity control, homing, geofencing and socket communication with server
 - Geofencing backend integration with admin page
 - ROS Environment Setup
- Nicolas Clark
 - Android WebRTC
 - Sending Android and iOS position data to server
 - Backend geofencing and robot control
- Sean Finkel
 - Implementing coach features
 - Coach and Client screen functionality
 - Queue implementation

Technical Tasks Completed

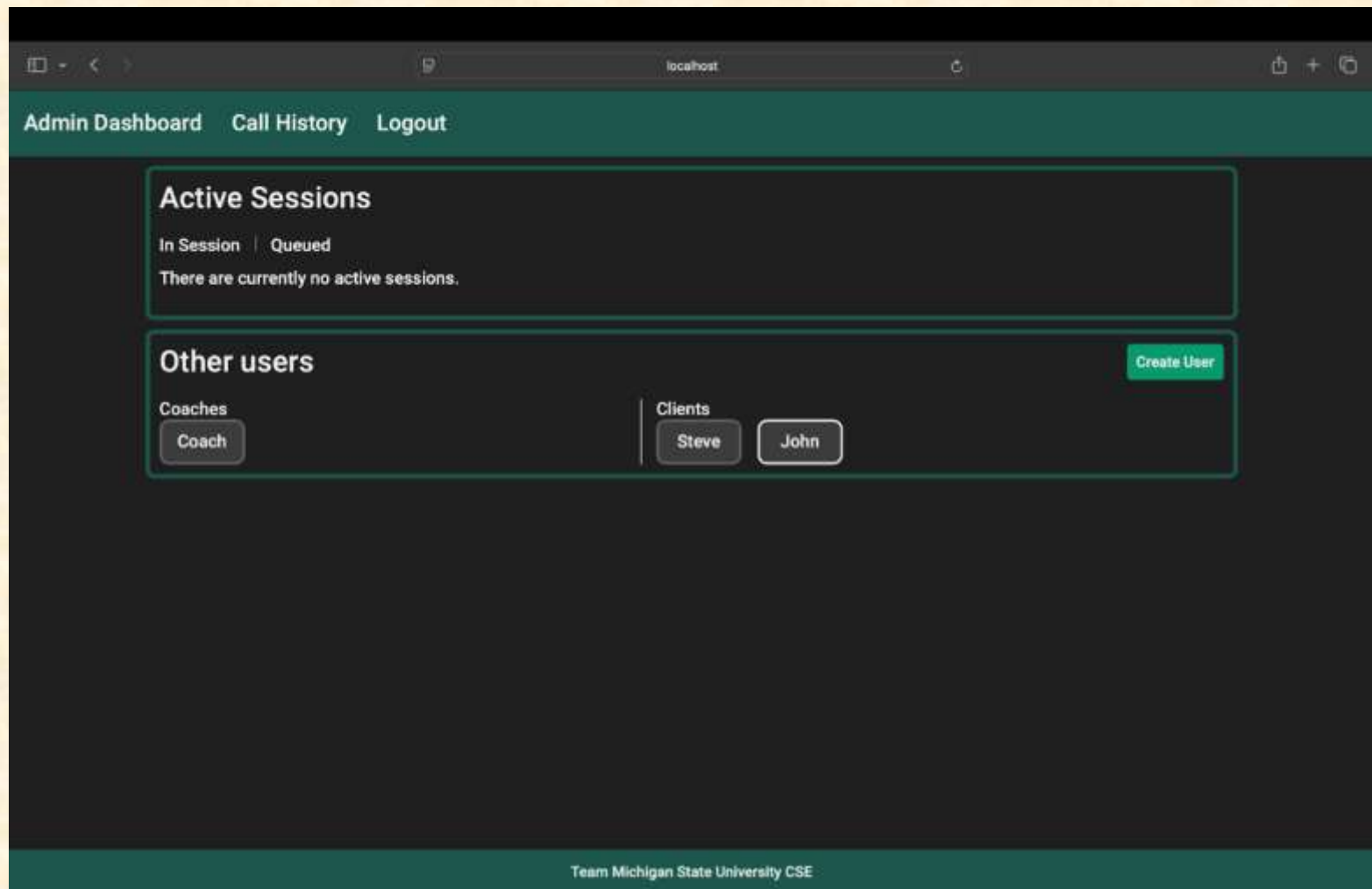
- Cole Lanzinger
 - Admin webpage layout, designing frontend geofencing elements.
 - Android app views and user navigation buttons/functionality
 - Coach call functionality on Android and iOS
- Gera Berhanu
 - All iOS views adaptive for all screen sizes
 - Admin webpage configured to support geofencing including graphical displays and back-end functionality
 - TCP connection to robot arm for subscribing to ROS topics
- Ha-il Lim
 - Front-end Android design
 - WebRTC connecting coach and client on Android and iOS apps
 - Android bug fixes
- John Nowinski
 - Robot state machine
 - Geofencing backend integration with admin page
 - ROS Environment Setup
- Nicolas Clark
 - Android WebRTC
 - Sending Android and iOS position data to server
 - Backend geofencing and robot control
- Sean Finkel
 - Coach and client features implemented
 - Android coach and client screen functionality
 - Queue implementation



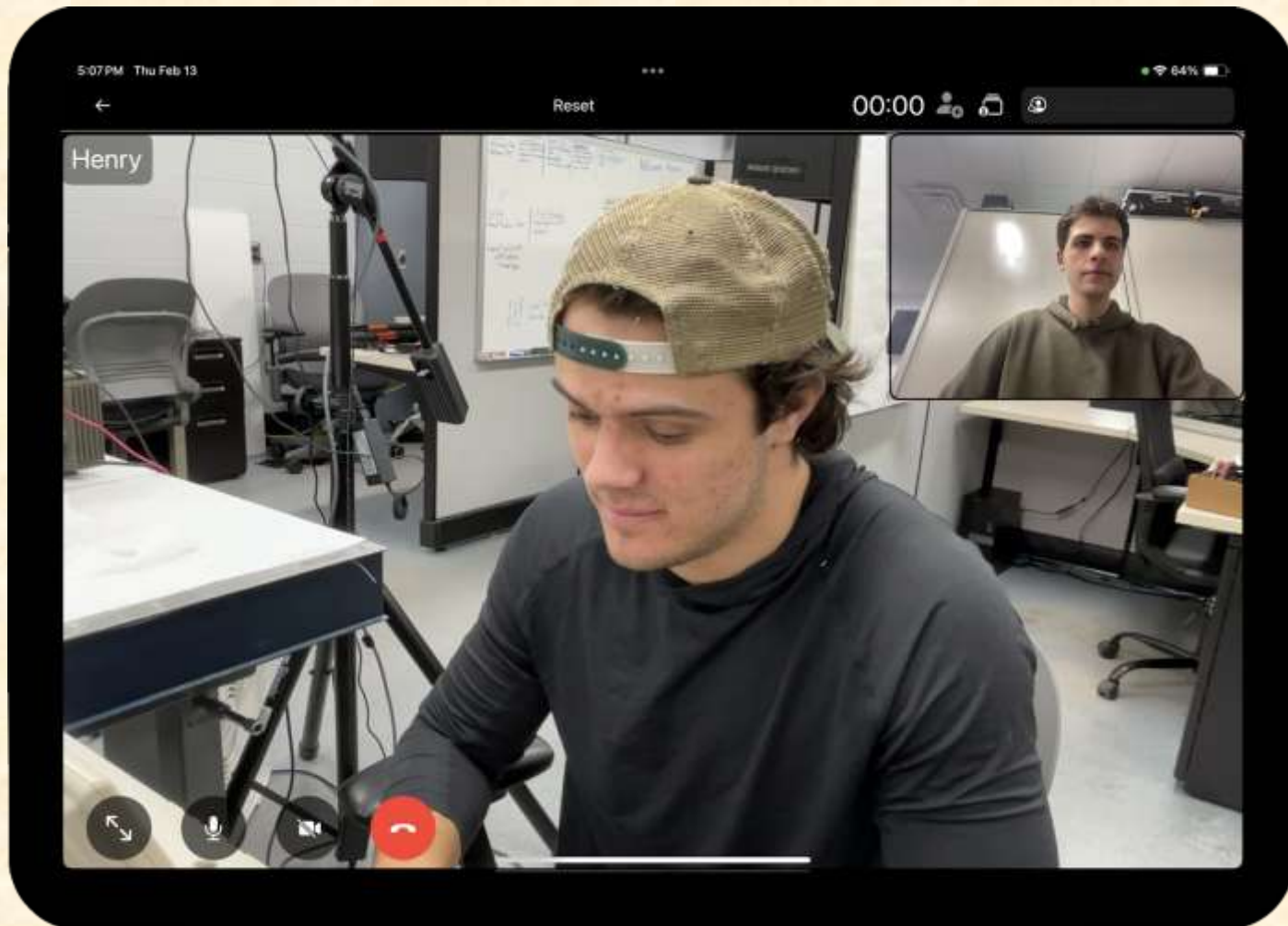
System Architecture



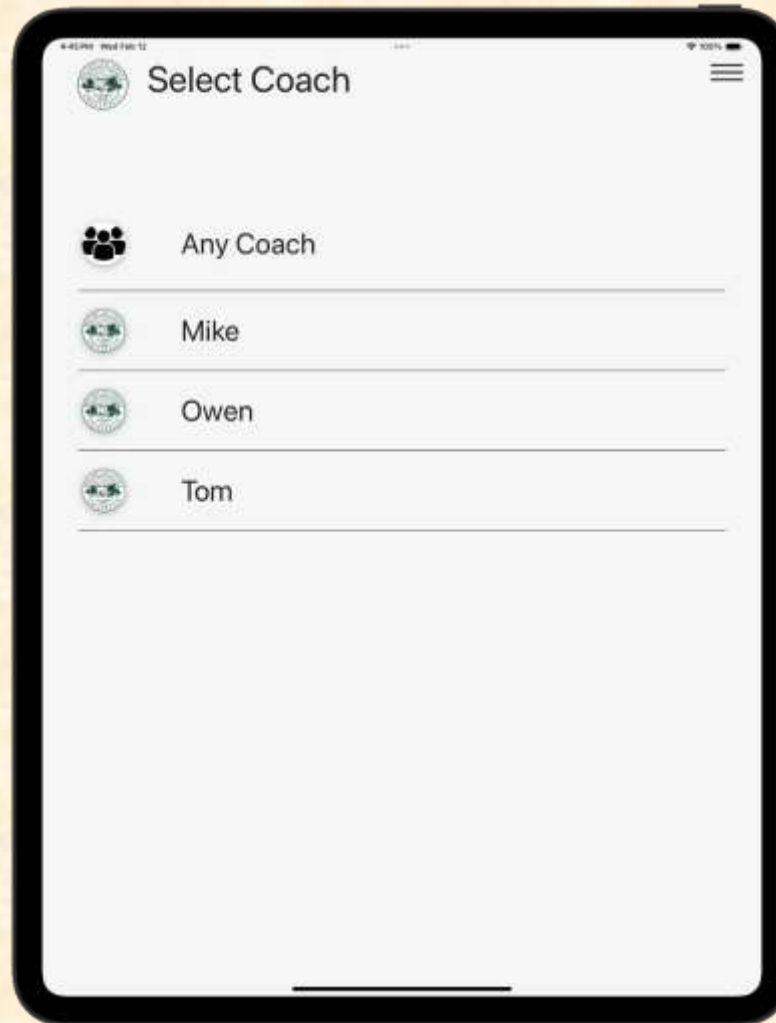
Admin Webpage



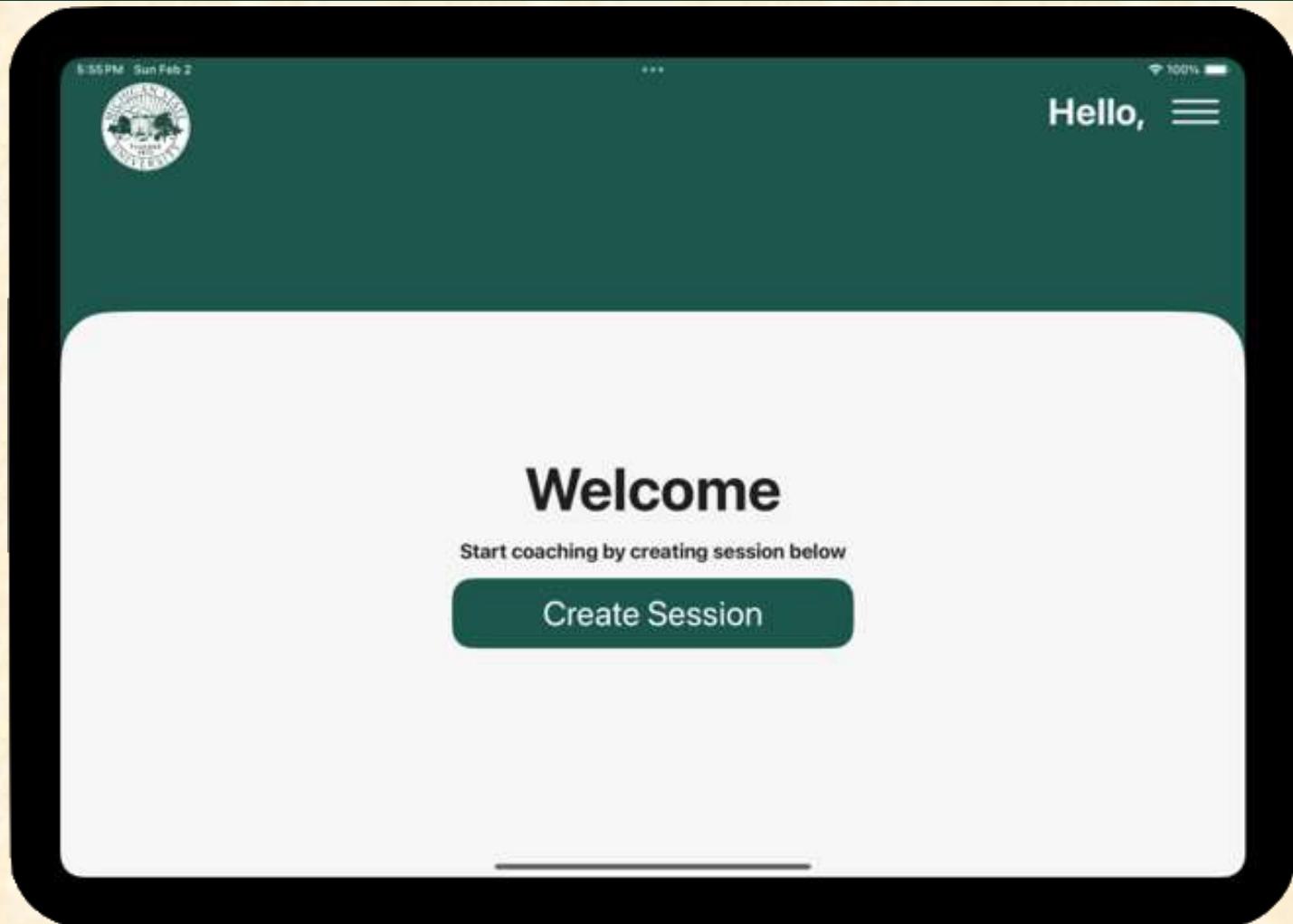
Client Coach Connection



Client View



Coach View



What's left to do?

- Features
- Stretch Goals
 - Adding features to the client queue
- Other Tasks
 - General bug fixes
 - Improve robot arm consistency
 - Feature synchronization between iOS and Android



Questions?

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