

Next Steps

Recommended Features

- IOS development

Feature Improvements

- Ball Tracking
 - As of now, the application is very dependent on lighting conditions. This wouldn't be the best for this application if it went to production because of the changing light conditions throughout a game. It would take a lot of color calibrations throughout the game, which takes time. An implementation that is less reliant on color seems like it would be the best way forward.
- Split up the calibration process
 - Right now, if you close the app or end the game, you would have to recalibrate it in order for another game to be started. If you were to split it up or even save the previous calibration and allow for updates of only certain points, that would benefit the user a lot
 - Streamlining the "advanced" calibration to make it more user-friendly is also recommended, it is a bit complex now and requires user knowledge of what HSV values are.
 - The "simple" calibration mode is currently too simplistic to be useful, as it only accounts for the hue of the ball. It is also tough for a user to use it by themselves while the phone is mounted to a fence. It could use improvements or be completely overhauled.
- More Statistics
 - Right now, the only things that are stored are total pitches thrown for a game, low balls, and high balls. There could be some more information that may be valuable, like average height, speed, trajectory, etc.

Current Issues / Bugs

- Application crash
 - There will be random times when running the application, where the app just crashes, you will have to restart the calibration process, and it will not save the game for statistics
- 1 Person Calibration
 - Sometimes, there will be a crash when going through the one-person calibration mode when the image is held constant
- Errors in Tracking
 - Due to the nature of our tracking being very color dependent, other softball colored objects in frame can be mistaken for the ball. Our pitch tracking algorithm attempts to determine where the ball is against background noise from the color mask, but it is not perfect and could also be improved