

# DUCK HUNT '22

Kristen Shaker (kls2243)

Alex Yao (awy2108)

Bryce Natter (bdn2113)

## Vision Statement

We plan to recreate the classic NES game “Duck Hunt.” A VGA will display background terrain and periodically will introduce a duck that will fly across the screen. We will use a Wii remote to control the position of a cross hair icon on the screen displayed by the VGA. If a player can successfully position the crosshairs over the duck before and click the trigger before it has flown off the left hand side of the screen, they will have successfully shot the duck. The player score will be computed from the number of ducks shot in a single game instance, and we will incorporate varying game difficulties.

## Hardware & Software Partition

### Hardware

- Calculate pixel values and send them to VGA
- Trigger and aim of Wii controller as the gun

### Software

- Initial game configs (duck speed, location, etc.)
- Tracking game score, # shots left, % ducks shot to win game
- Calculate position of the ducks

## Milestones

### *Milestone 1:*

Establish interface for the Wii remote and configure FPGA to display crosshair pixel values.

### *Milestone 2:*

Implement game visuals to display backgrounds and move ducks across the screen.

### *Milestone 3:*

Implement game specific logic (score counter, bullets remaining, % ducks shot) and shooting mechanics.

### *Final Presentation:*

Improve overall visuals, audio, and game experience (time permitting).