

# Final Project Proposal

EECS 443 (University of Kansas)

## Project Name

**Gameboy: FPGA**

## Team Members

Riley Meyerkorth and Nicholas Holmes

## Project Description

Create a system to play games on the Nexys FPGA board with only the components on-board. This will be done by utilizing the LEDs and 7-segment display for game selection/data display, and switches/buttons for player input.

There will be (at minimum) 1 game that will be programmed on the board:

- **Rock Paper Scissors:** simple rock paper scissors. The player will select rock, paper, or scissors using one of the inputs. The board will randomly select one of the options, and then a winner will be decided.

If there is time, other games can be programmed as well and switched to using switches/buttons. These include:

- **Higher or Lower:** the board will randomly generate a number between a specific range of values. The user will then input numbers in binary through the switches and press a button to submit their guess. The board will then either display “HIGHER” or “LOWER”.

## Tentative Work Distribution

Riley Meyerkorth

Gameplay logic, game switching logic

Nicholas Holmes

7-segment display logic, LED logic