# Othello Board Game

Group 4

Original Board Game

- Two player game, with white/black tiles
- Players place down one tile per turn, make a sandwich to capture the color of opponent
- Goal is to get as many of your color before the board is filled

Room for Improvement

- Slow pace of game, need to switch many tiles after each turn
- Not always clear which tiles should be switched
- Could be made more interactive and interesting!
  - Virtual editions of the game are available, but we still want a physical board game to play

Where dark may play
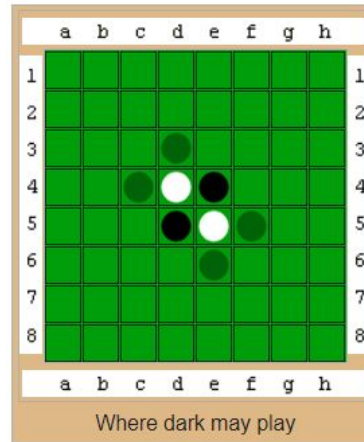
Design Goals

- Intended to make the game:
  - more interactive
  - visually appealing
  - provide better visual feedback
  - automatic reactions to gameplay
- Balance feasibility of fabrication, authenticity to original game, and experience of players
- Compare different ways of creating board
  - Physical pieces to place down with sensors + lights
  - Use controller to select spaces on board
  - Make board all pressable buttons

# Design Principles

Affordances in final design:

- 2 players against each other to play game
- Use controller to input choices
  - 2 potentiometers: columns and rows
  - Button to finalize choice

Feedback:

- Dimmer lights while selecting
- Full brightness once choice input and cells switch
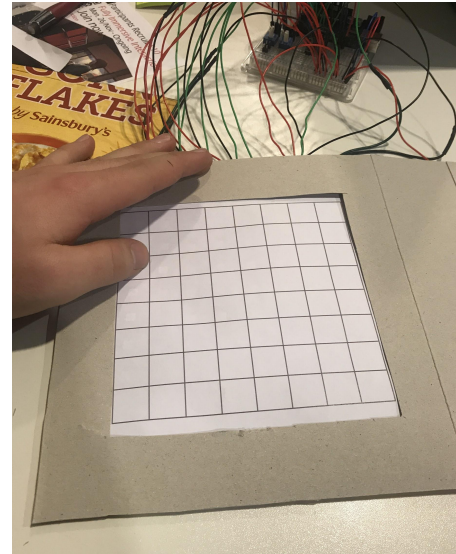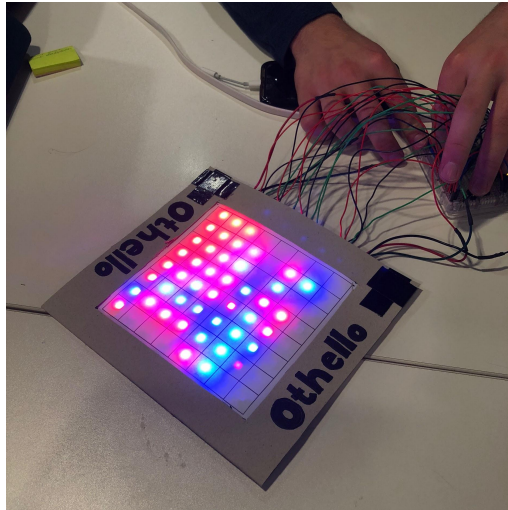- When game ends, board lights to show color of winner

Design Process

- Brainstorming and planning

- Ordering components

- Board assembly

- Mechanical testing
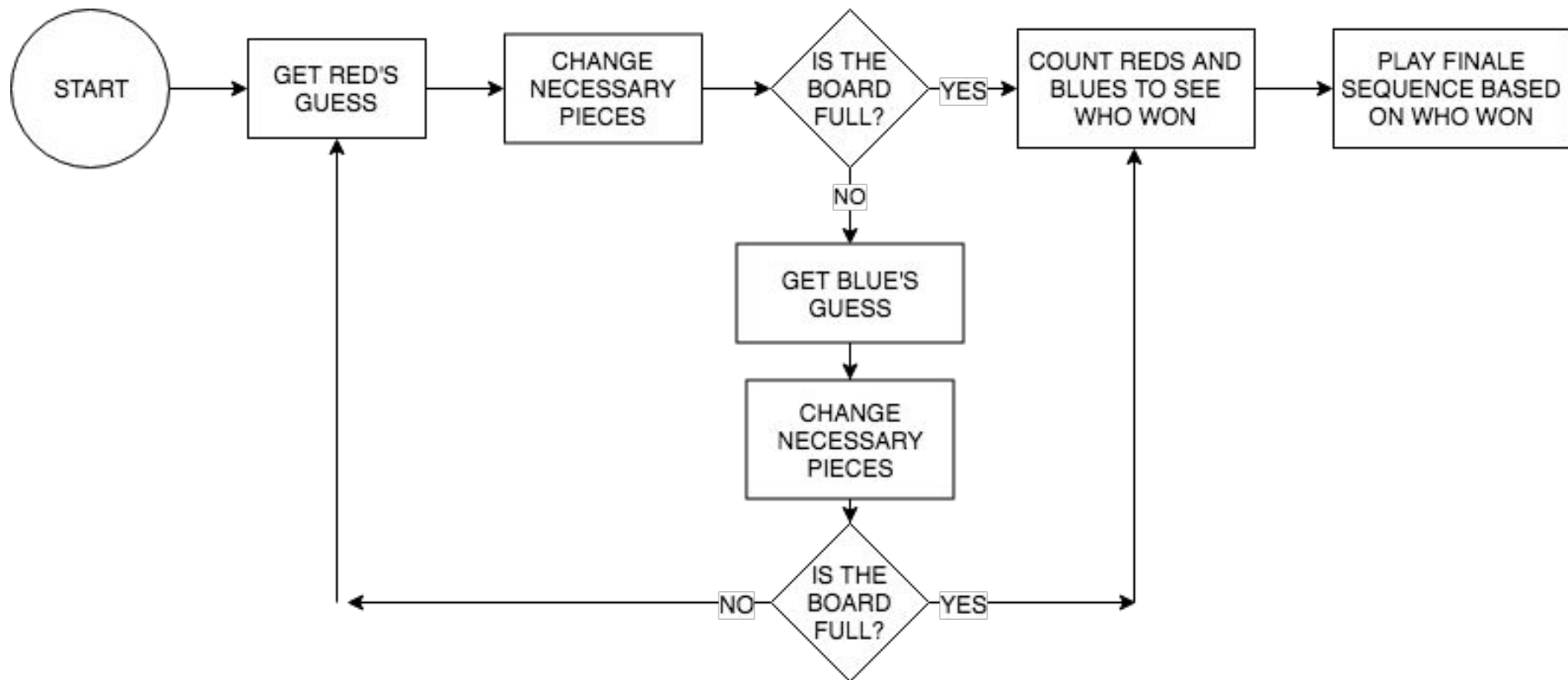
- Coding

- Testing & Improvements
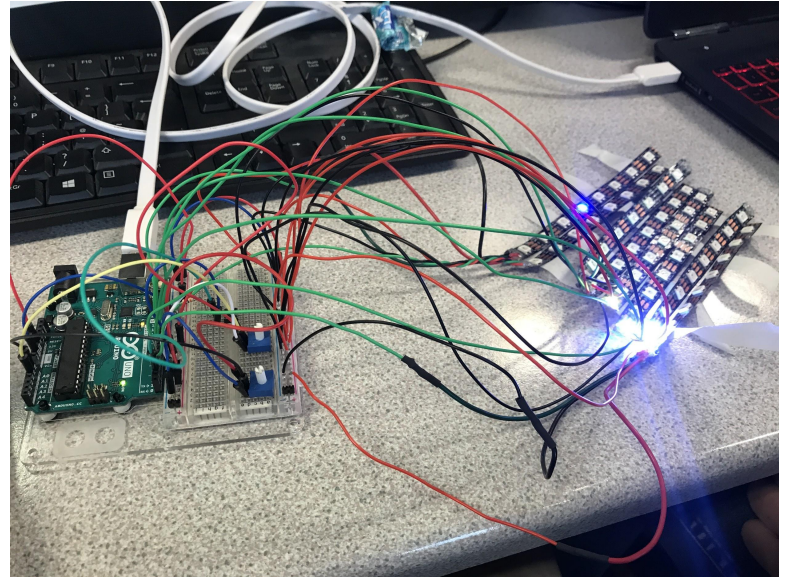
Challenges

- Soldering Neopixels
- Getting lights to change correctly especially in diagonals
- Mapping the Neopixels

Code sequence

Future Improvements

- Making the remote & board wireless

- Having a more polished looking board

- Making board and remote out of a more durable material

- Could be made with remote connection for 2 boards (over wifi)

- More ergonomic potentiometers