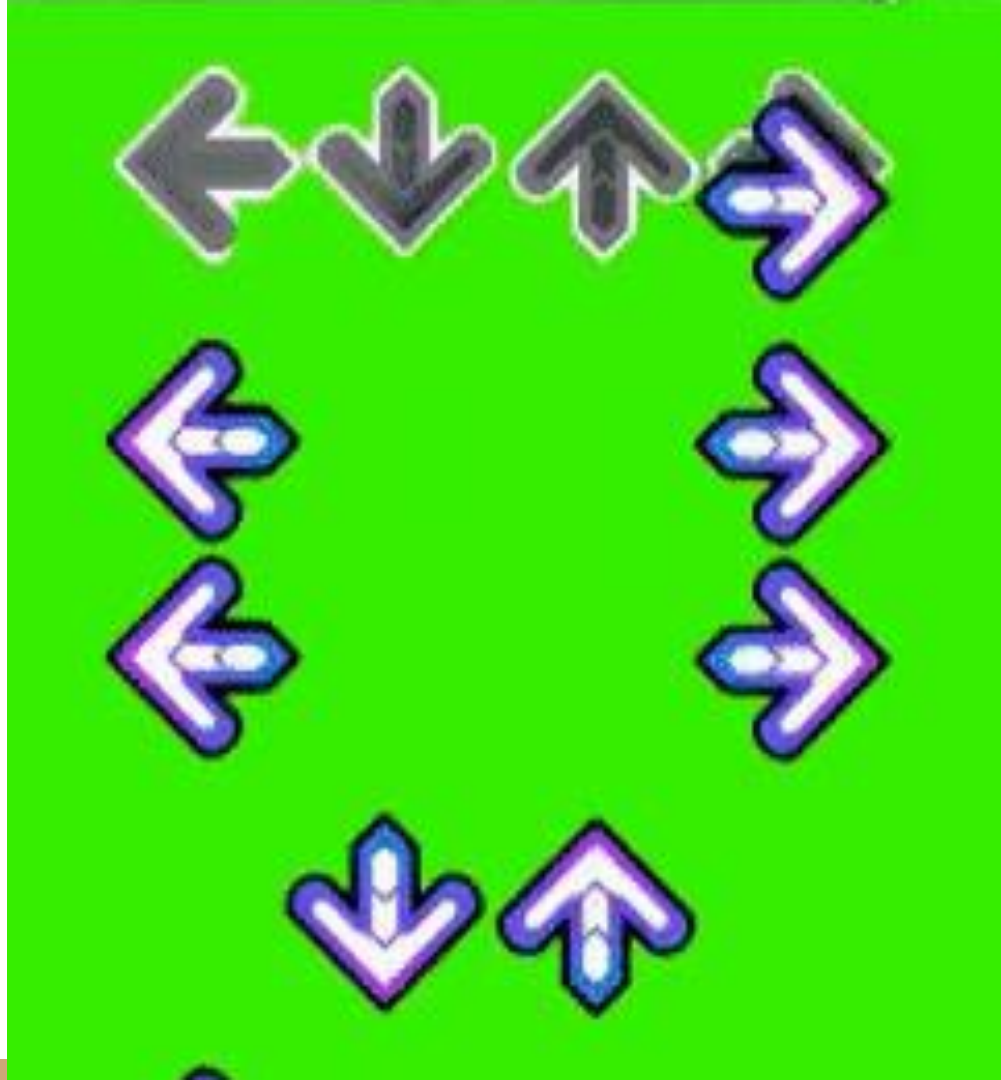
Dance Dance Revolution

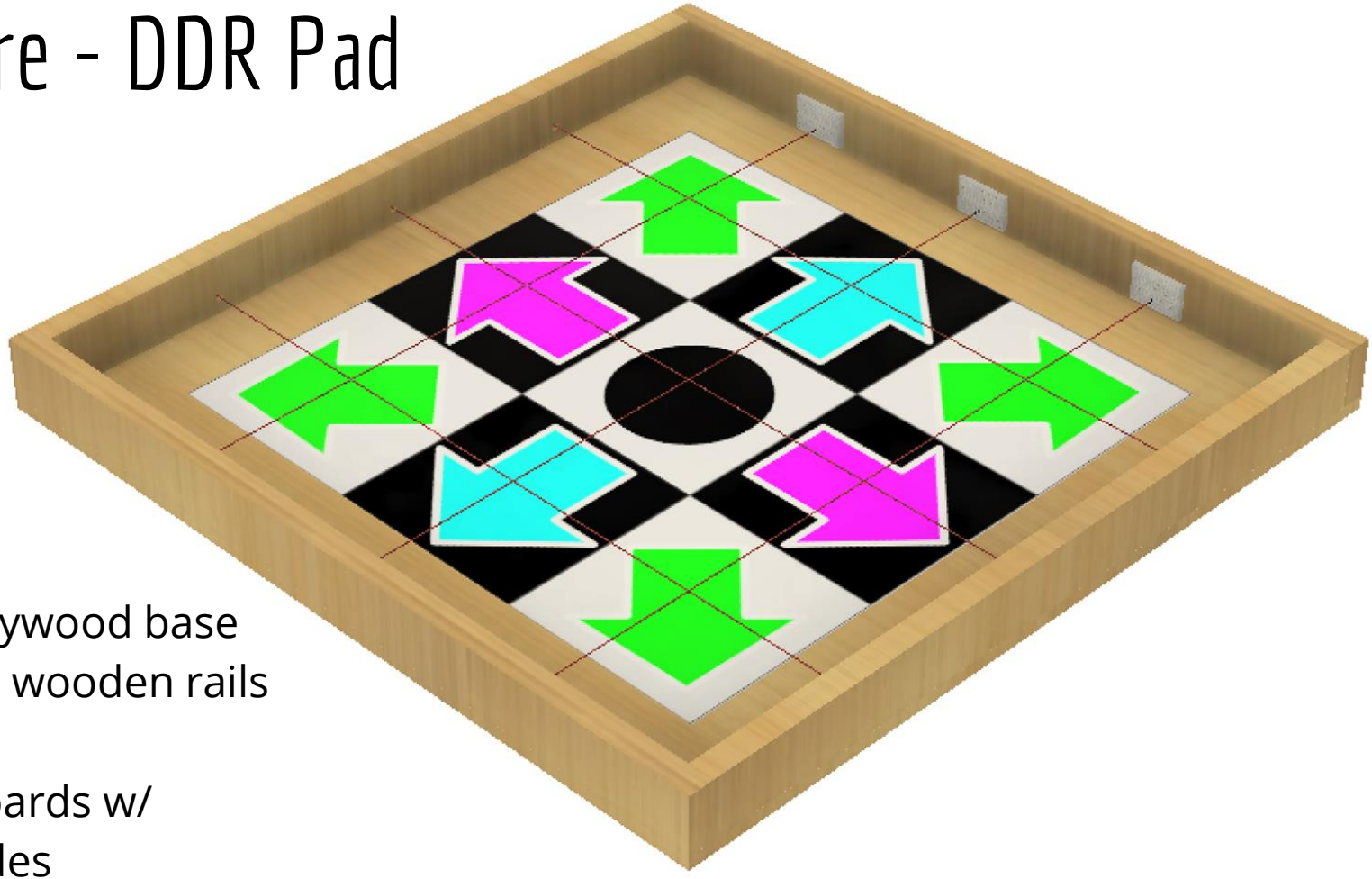
Andrea Bolivar & Grace Quaratiello

Overview

- DDR is an interactive dance game
- Points are received by stepping on arrows in time with choreography displayed on a screen.



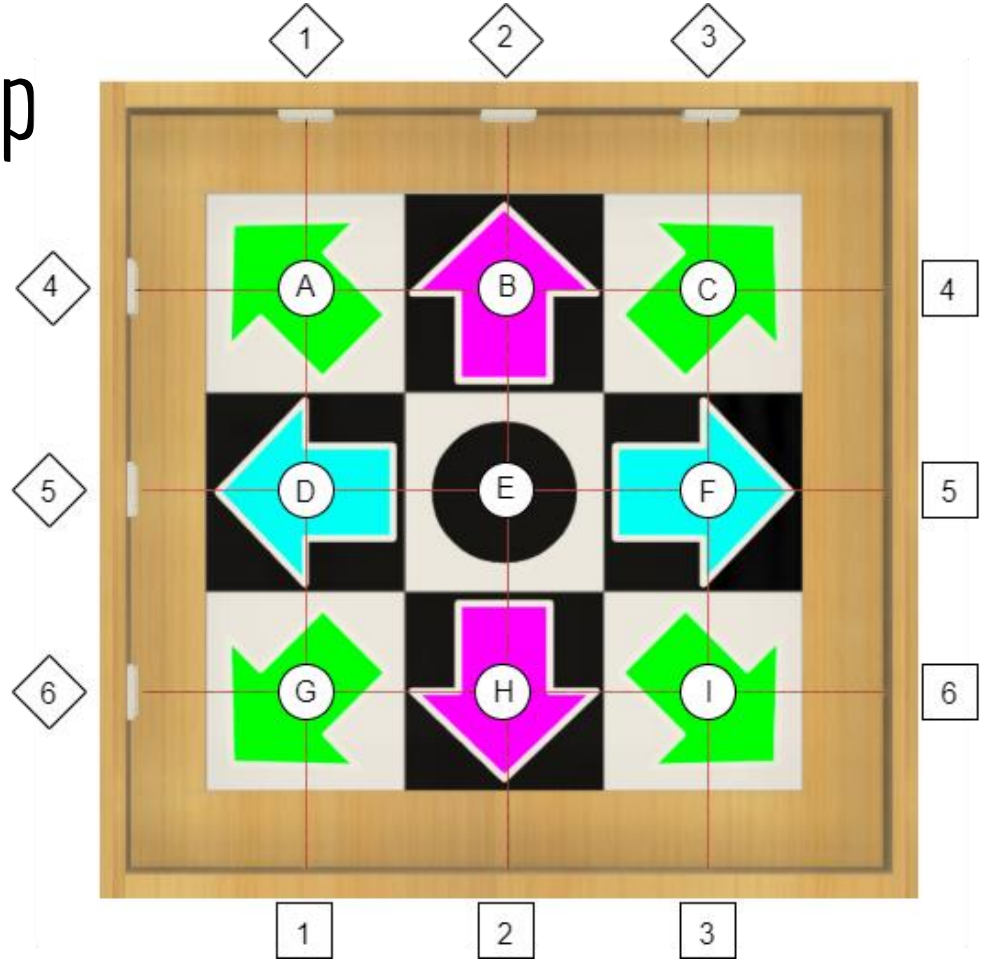
Hardware - DDR Pad



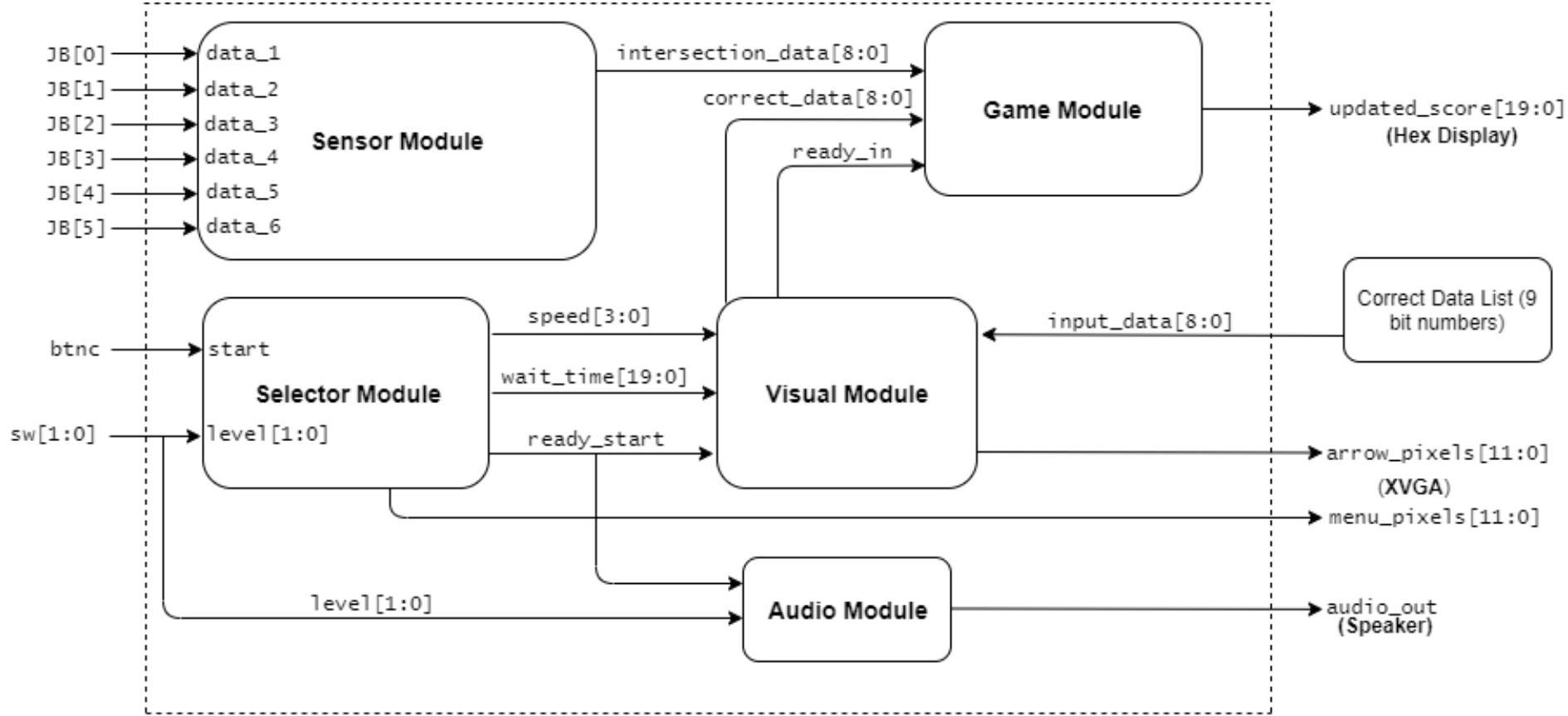
- 4ft x 4ft plywood base
- 4 2in x 4in wooden rails
- 6 lasers
- 6 breadboards w/ photodiodes

Laser/Photodiode Setup

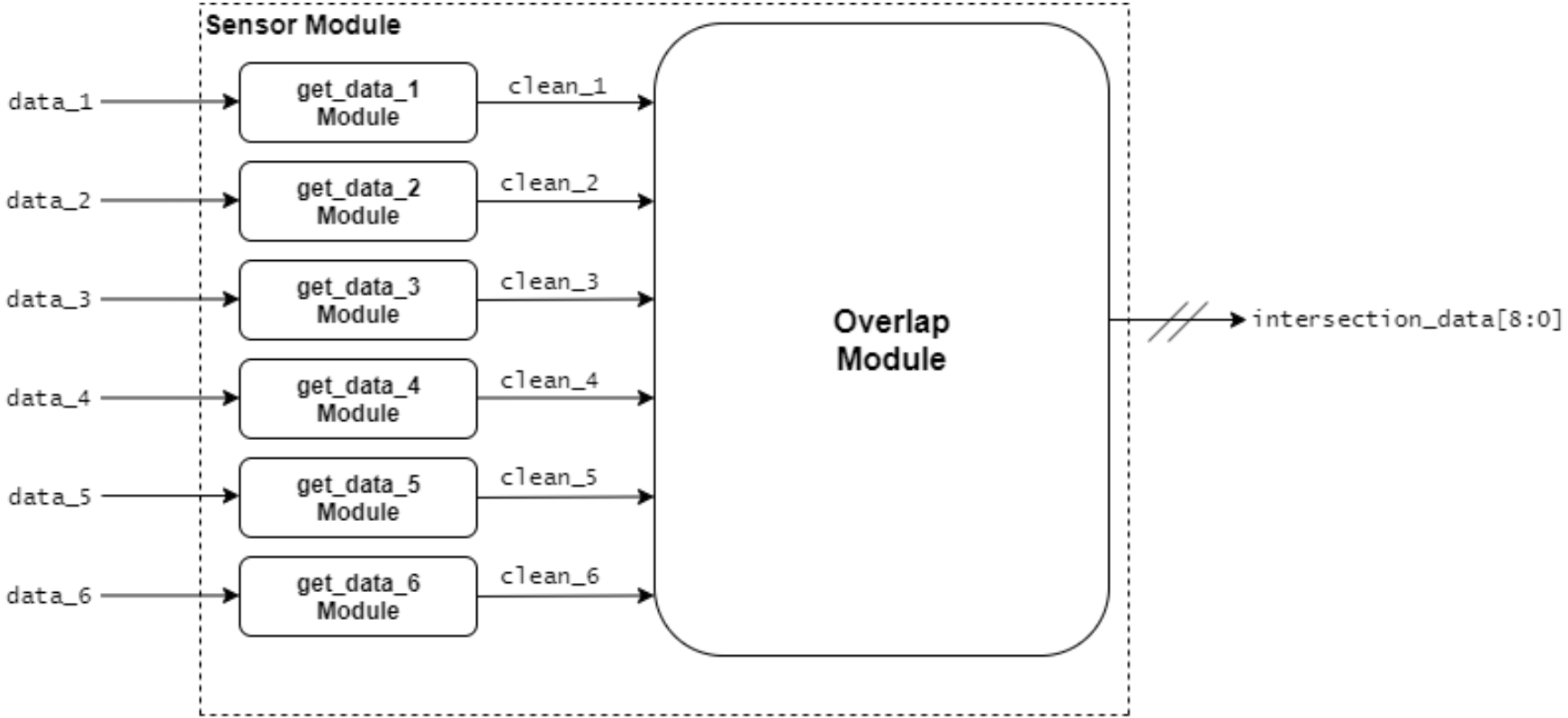
- 6-laser setup → 9 intersections
  - Intersection at center of square
- 6 photodiodes opposite lasers
  - Detect light
- intersection_data → 9 bit wire
  - 1 if foot in square, 0 otherwise for each intersection ABCDEFGHI

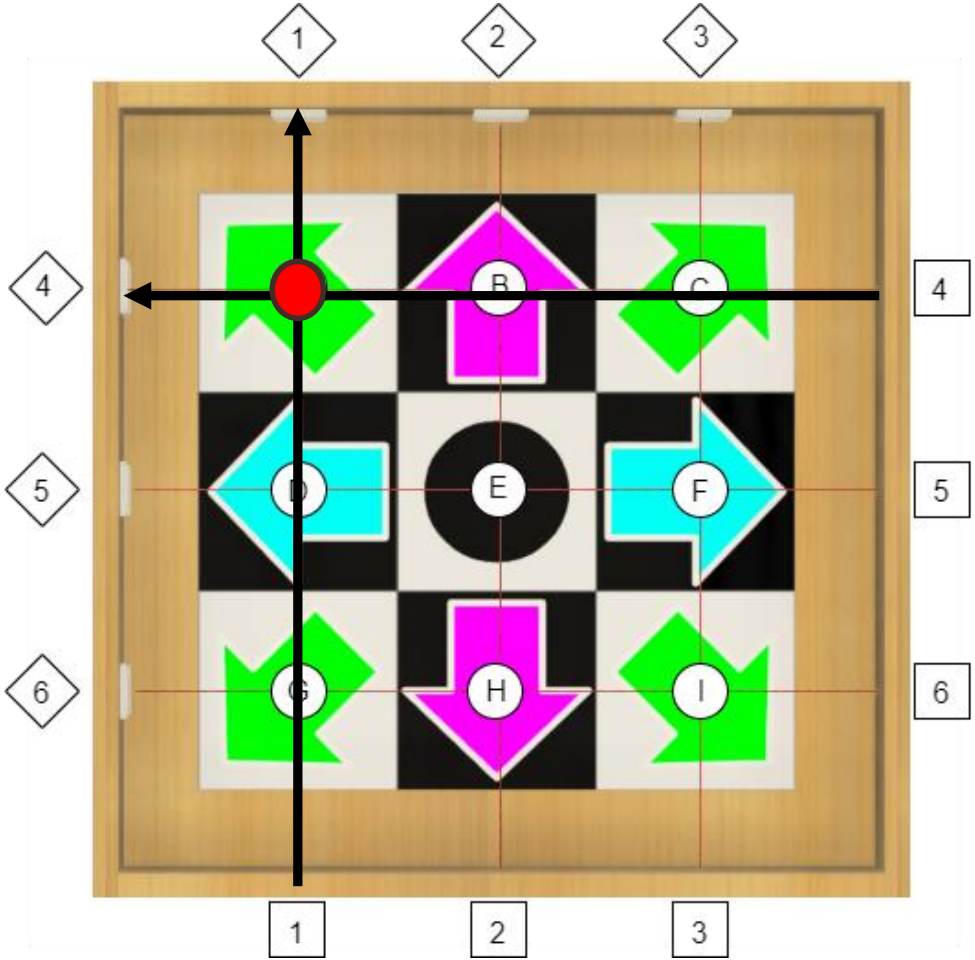


High-Level Overview

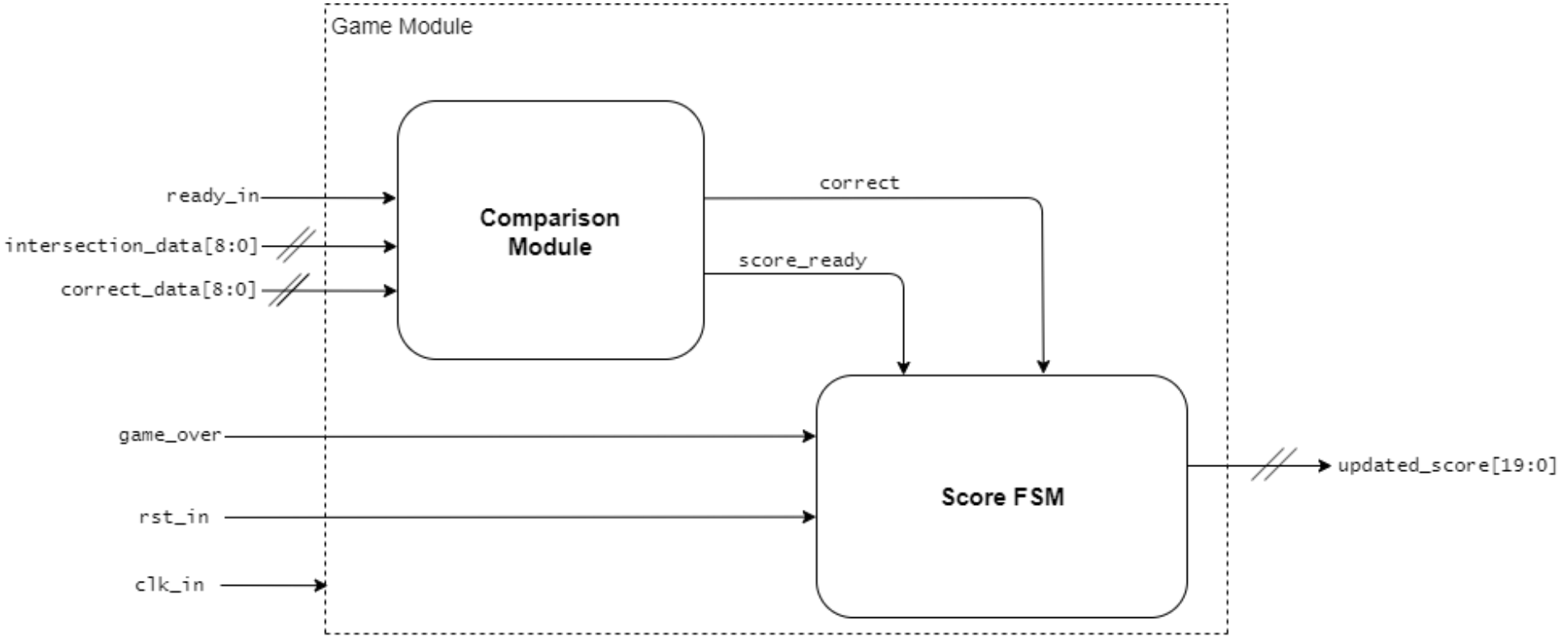


Sensor Module (Andrea)

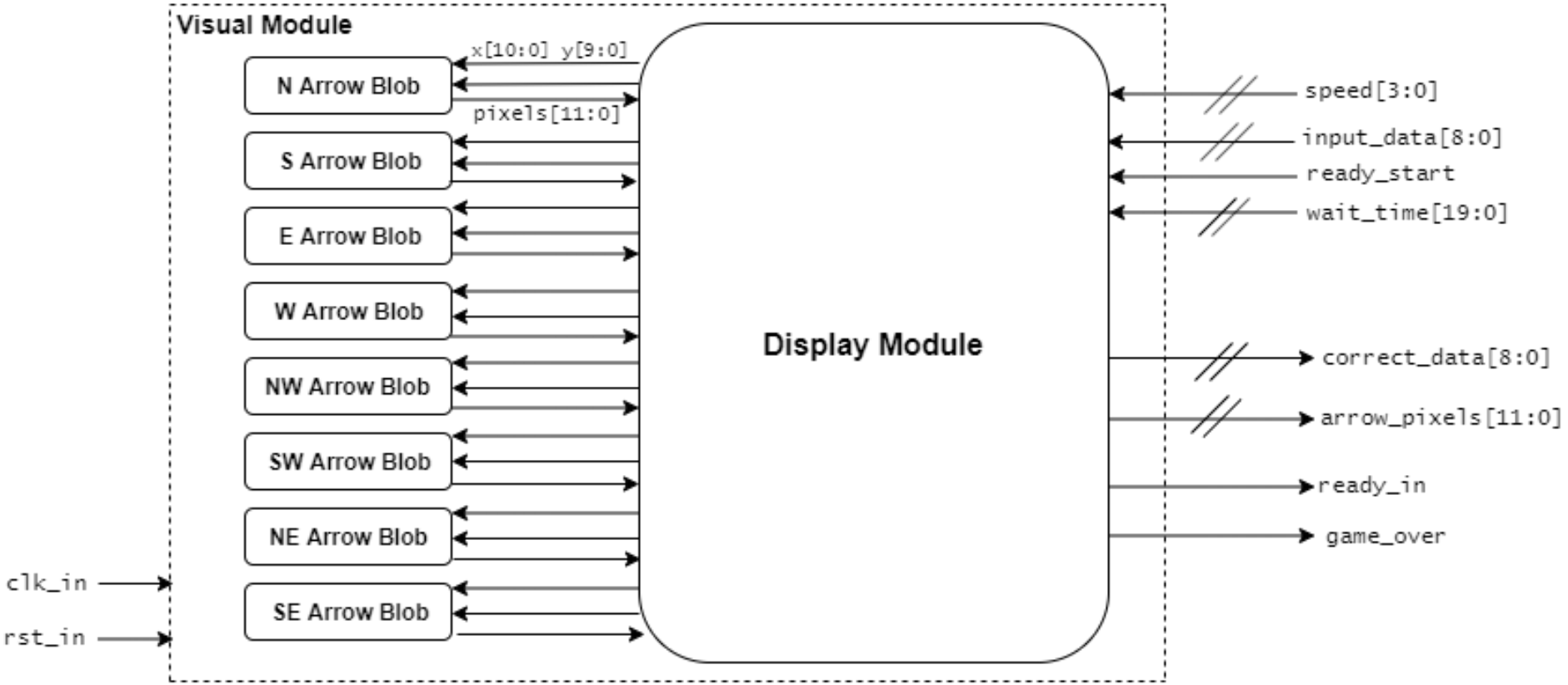



1
2
3
4
5
6
B
C
D
E
F
G
H
I
4
5
6
1
2
3

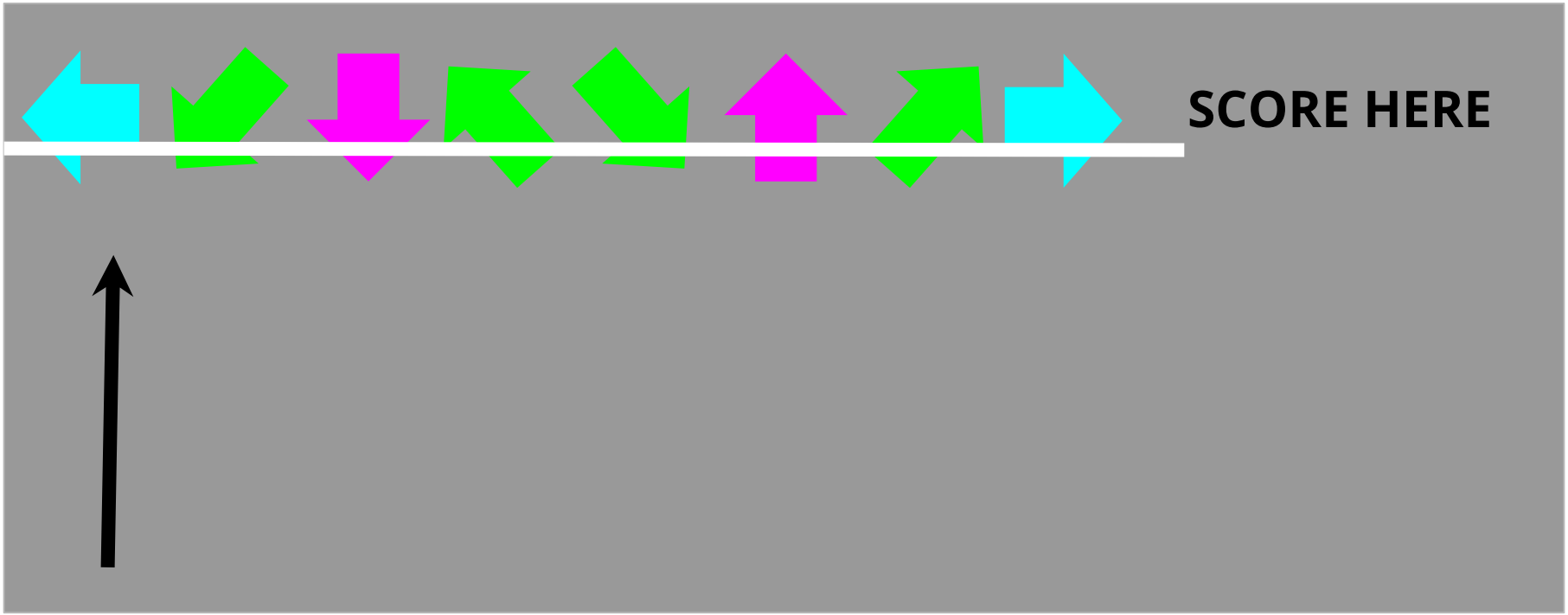
Game Module (Grace)



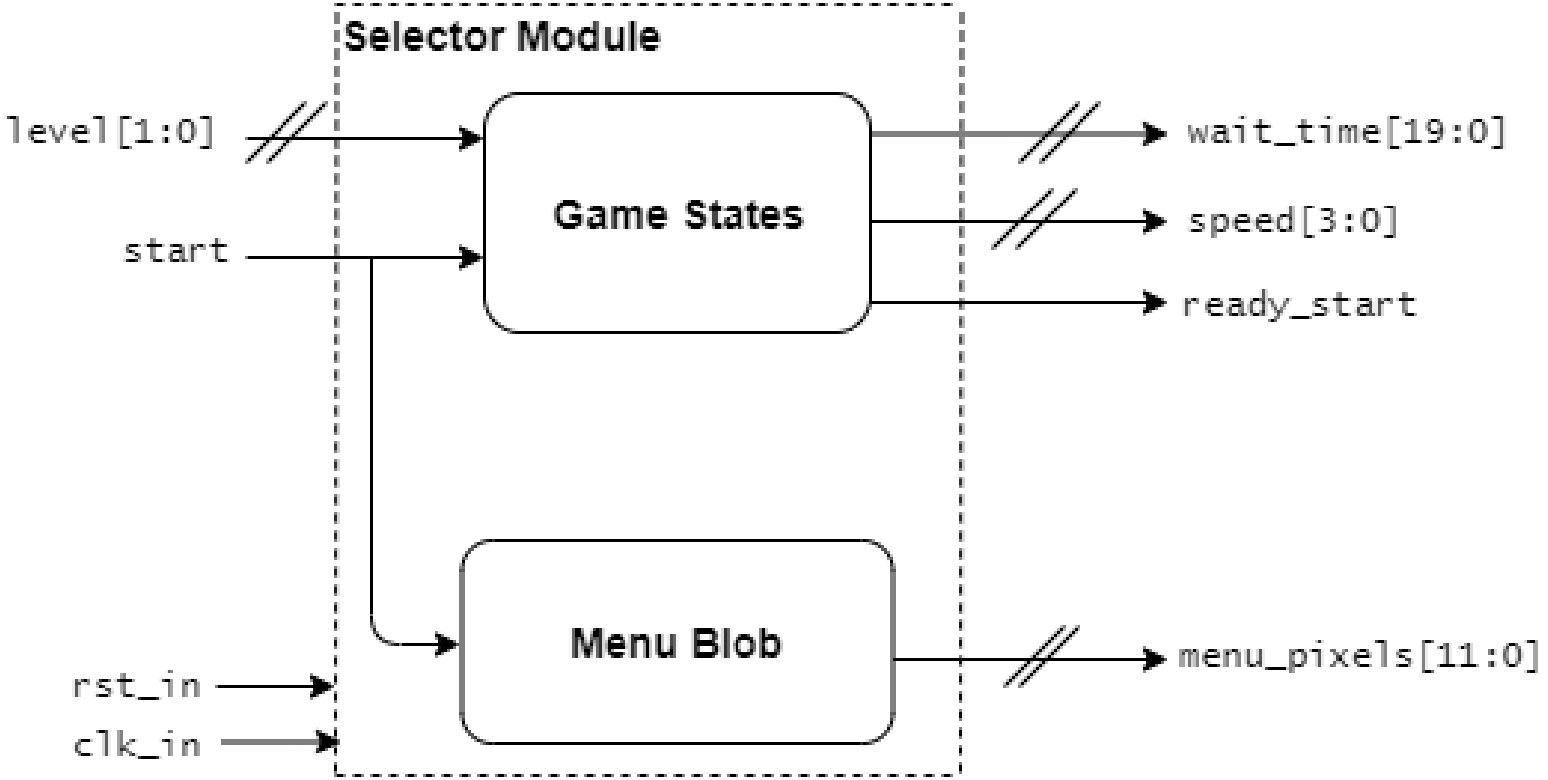
Visual Module (Andrea)



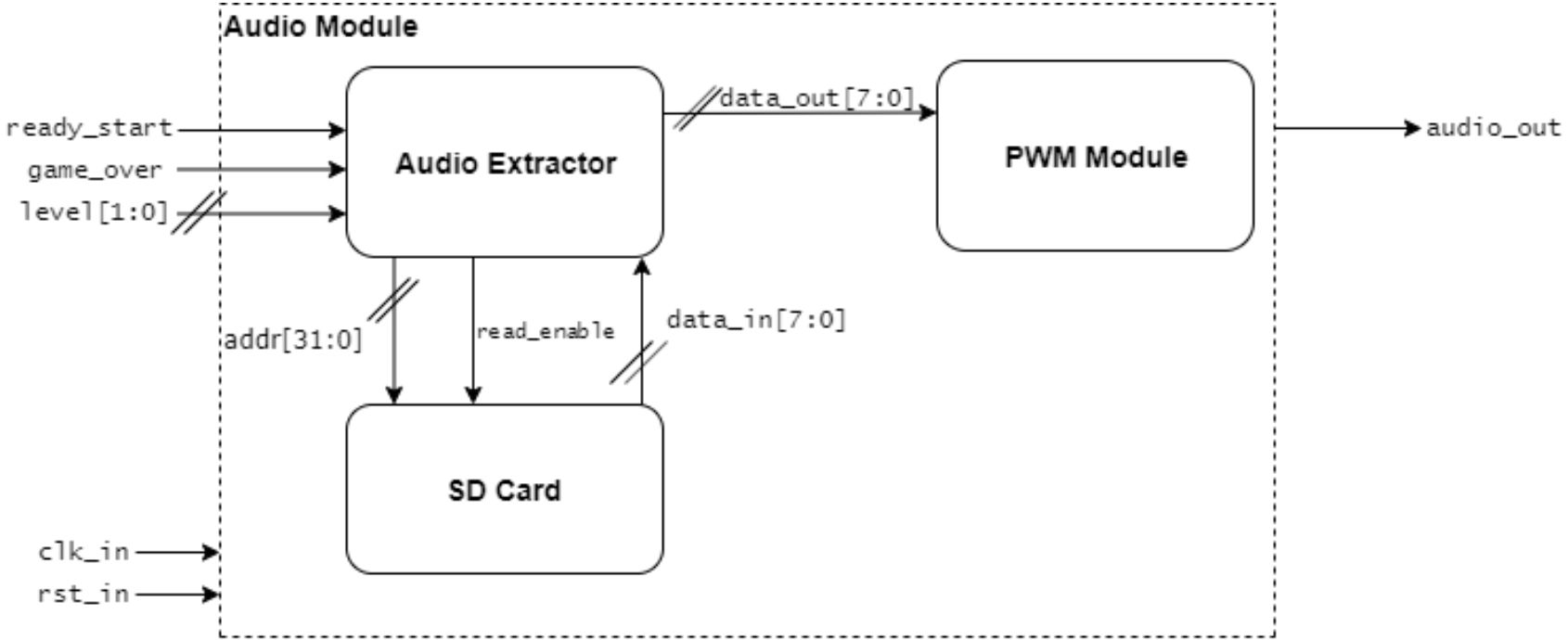
Monitor Setup



Selector Module (Grace)



Audio Module (Grace)



Goals

Commitment	Baseline Goals	Stretch Goals
- Individual working components	- Functional game with a start menu - Score will count up normally without complex logic or states. - 3 game levels determined by speed	- Complex scoring FSM (streaks, bonuses, perfect vs. imperfect success) - More songs available for the player to choose from - Option to pause the game once started - Display the score on the monitor instead of the hex display.

Timeline

Date	Achievement
11/08	Build structure and test hardware
11/15	Complete and test sensor module and audio module
11/22	Complete and test game module, selector module, and visual module
11/26	System integration
12/6	Work toward stretch goals

Questions?