Dance Dance
Revolution

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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 $\rightarrow$ 9 intersections
  - Intersection at center of square
- 6 photodiodes opposite lasers
  - Detect light
- `intersection_data` $\rightarrow$ 9 bit wire
  - 1 if foot in square, 0 otherwise for each intersection ABCDEFGHI
High-Level Overview

Sensor Module
- JB[0]
- JB[1]
- JB[2]
- JB[3]
- JB[4]
- JB[5]
- data_1
- data_2
- data_3
- data_4
- data_5
- data_6

Game Module
- intersection_data[8:0]
- correct_data[8:0]
- ready_in
- updated_score[19:0]
  (Hex Display)

Selector Module
- start
- wait_time[19:0]
- ready_start

Visual Module
- speed[3:0]
- input_data[8:0]
- arrow_pixels[11:0]
  (XVGA)
- menu_pixels[11:0]

Audio Module
- level[1:0]
- level[1:0]
- audio_out
  (Speaker)
Sensor Module (Andrea)
Game Module (Grace)
Visual Module (Andrea)
Monitor Setup

SCORE HERE
Selector Module (Grace)
Audio Module (Grace)
# Goals

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<tr>
<th>Commitment</th>
<th>Baseline Goals</th>
<th>Stretch Goals</th>
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| - 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

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<tr>
<th>Date</th>
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<tbody>
<tr>
<td>11/08</td>
<td>Build structure and test hardware</td>
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<tr>
<td>11/15</td>
<td>Complete and test sensor module and audio module</td>
</tr>
<tr>
<td>11/22</td>
<td>Complete and test game module, selector module, and visual module</td>
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<tr>
<td>11/26</td>
<td>System integration</td>
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<tr>
<td>12/6</td>
<td>Work toward stretch goals</td>
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Questions?