Katamari Seigyo

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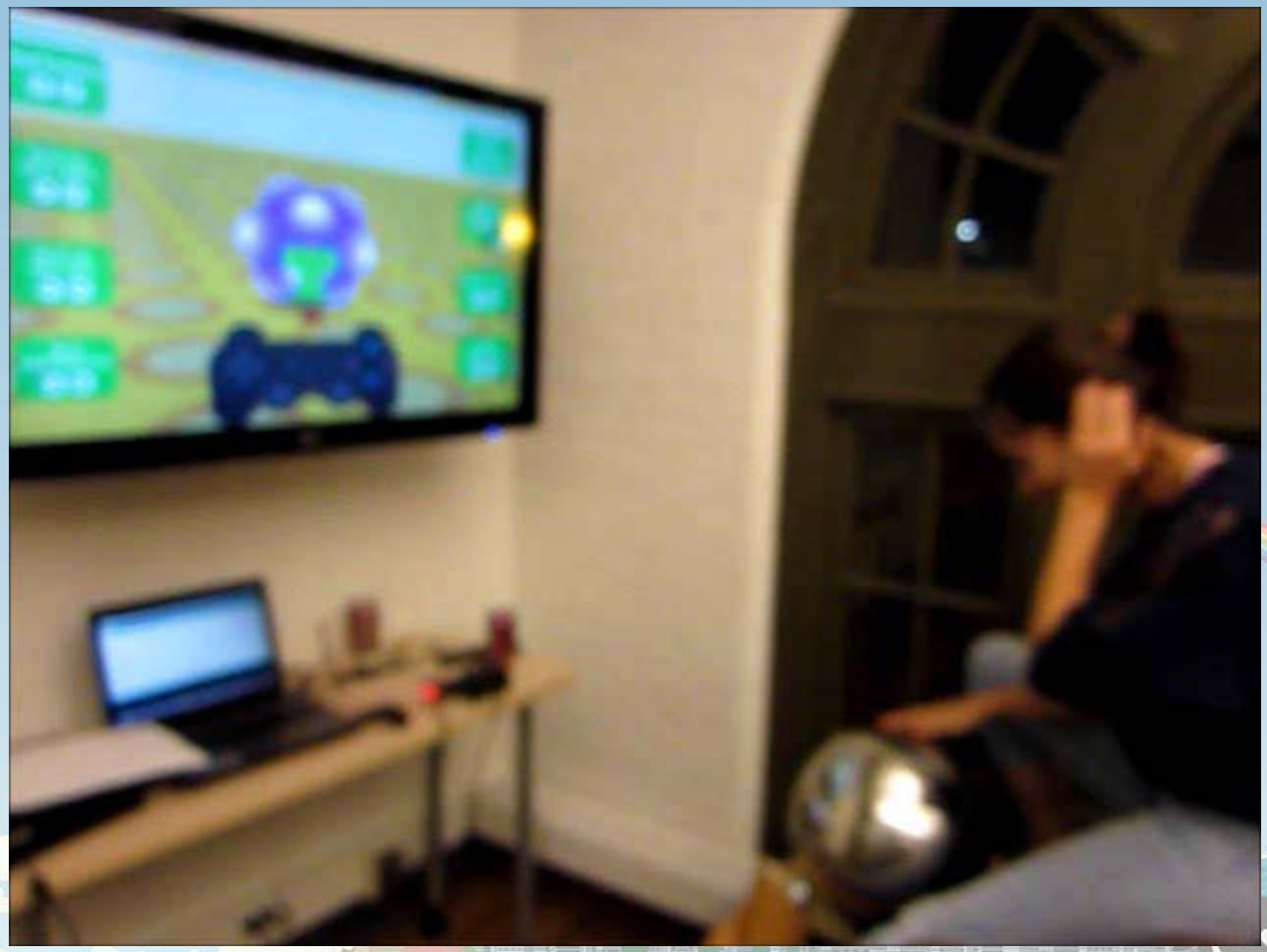
Alex Liu*

Samantha Skinger

Paul Kennedy

*Presenting

Video!



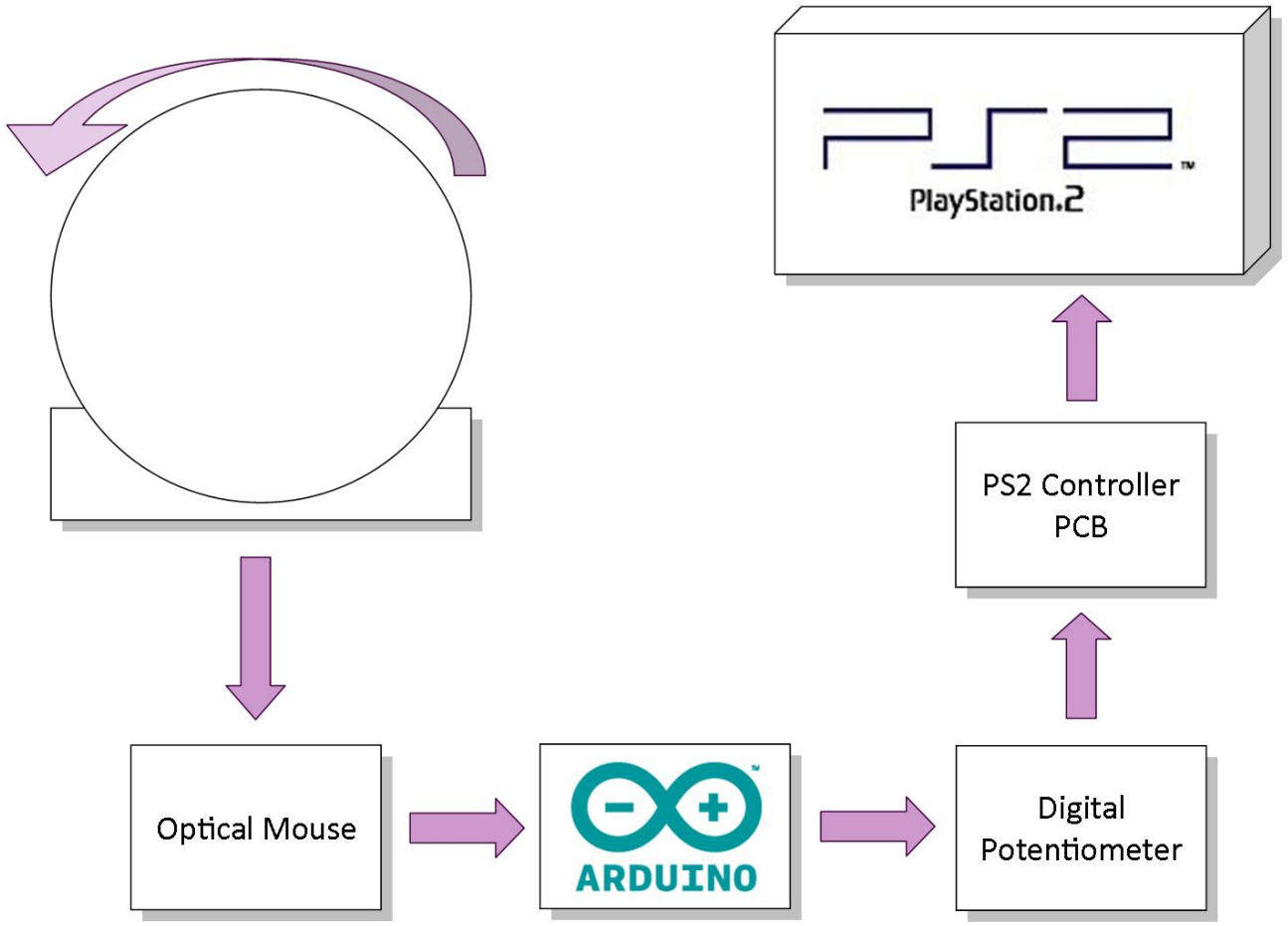
Progress

- **Resolved ball issue**
- 12” Stainless Steel Gazing Ball
- A heavy enough ball to stay inside the cradle
- Smooth surface that allows force to be easily applied
- Needed to create a new cradle for the ball to sit in

Progress

- **PS2 mimics mouse movements**
- PS/2 mouse correctly hooked up to an Arduino Uno
- Arduino Uno correctly hooked up to a digital potentiometer
- Digital Potentiometer sends resistance and varying voltage to PS2 joysticks

Updated Architecture



Test Cases

- **Throughput/Latency Test**
- Standard bps of 38400.
- Latency is due to wire length.
- **Direction Test**
- Number of volts supplied by direction
- **Fidelity Test**
- Rotations of ball related to rotations in game

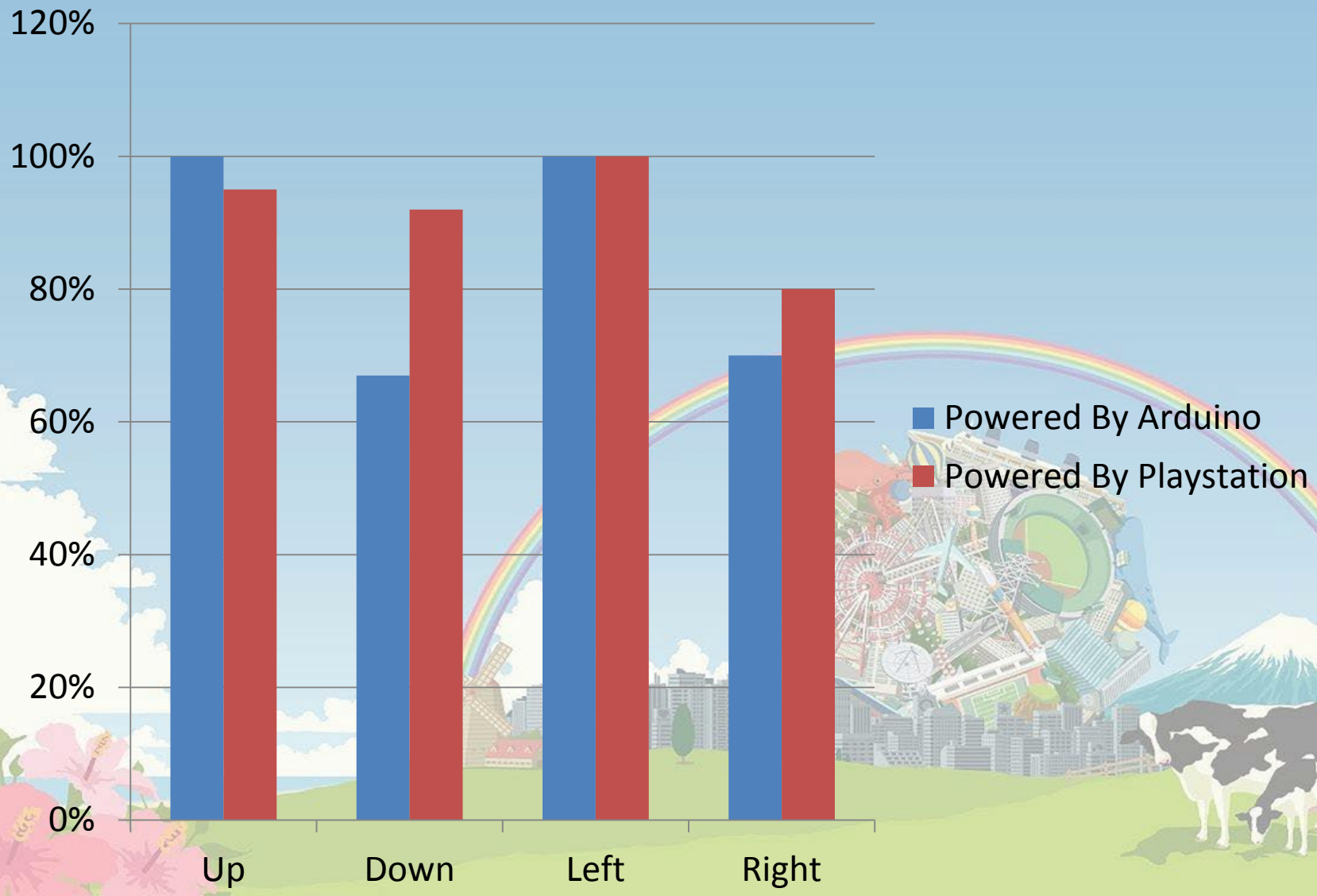
Direction Test

- **Hypothesis**
- Volts supplied to a PS2 controller is correctly outputted by digital potentiometer
- **Conditions**
- Standard room conditions, mouse connected to Arduino connected to digital potentiometer connected to PS2

Direction Test

- **Metrics/Workload**
- Ranging from 0-3.3 V. Left and Up directions are 0 V. Down and Right need voltage of 3.3 V.
- Supplying 5V to overall system.
- **Parameters**
- Standard 5V, played inside, standard room temperature, different directions.
- Environment kept constant, used different amount of power and used the same device for every test

Direction Test



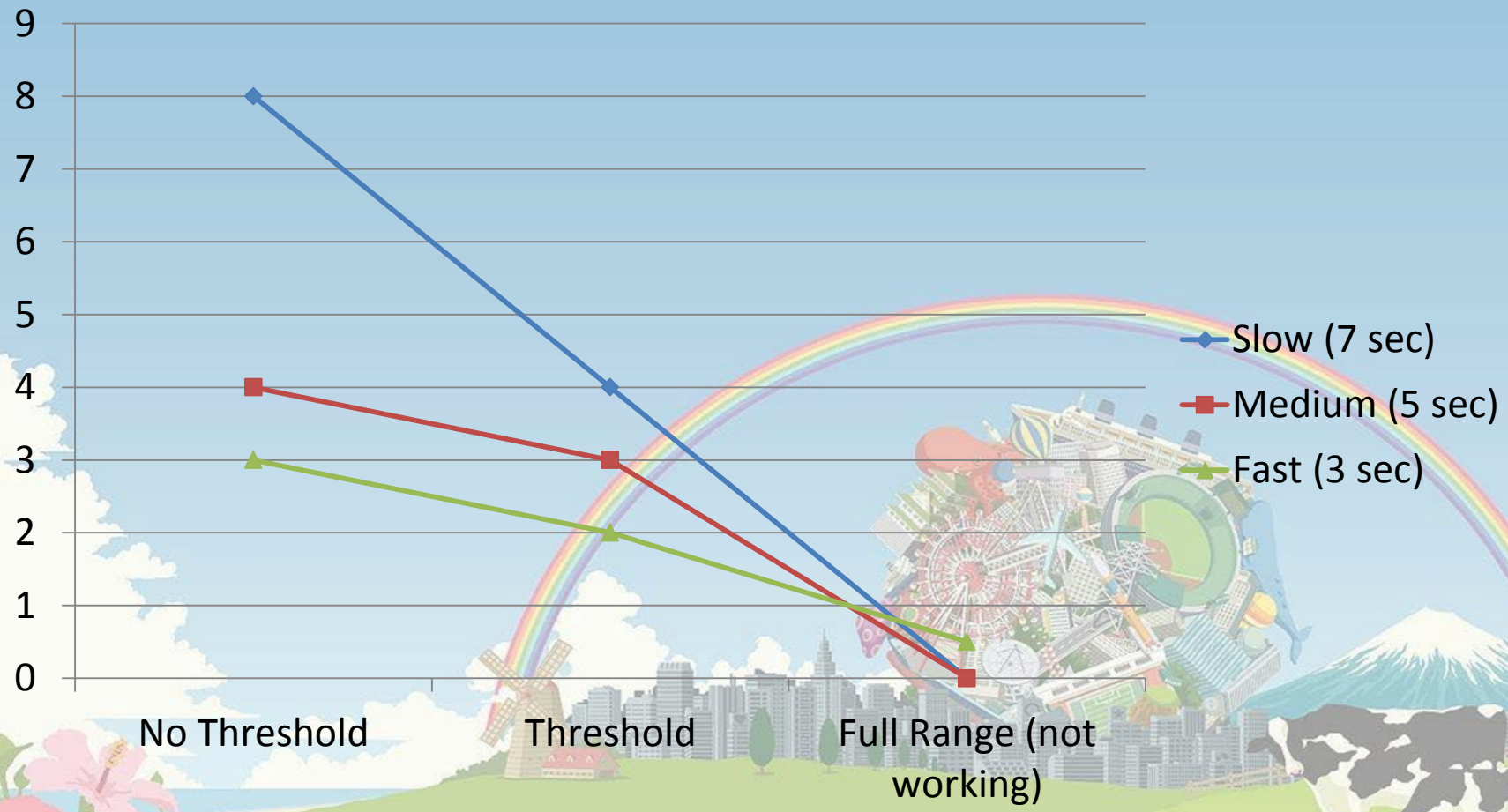
Fidelity Test

- **Hypothesis**
- One rotation of the ball controller in one direction results in one rotation of ball in game
- **Conditions**
- Standard room conditions, mouse connected to Arduino connected to digital potentiometer connected to PS2

Fidelity Test

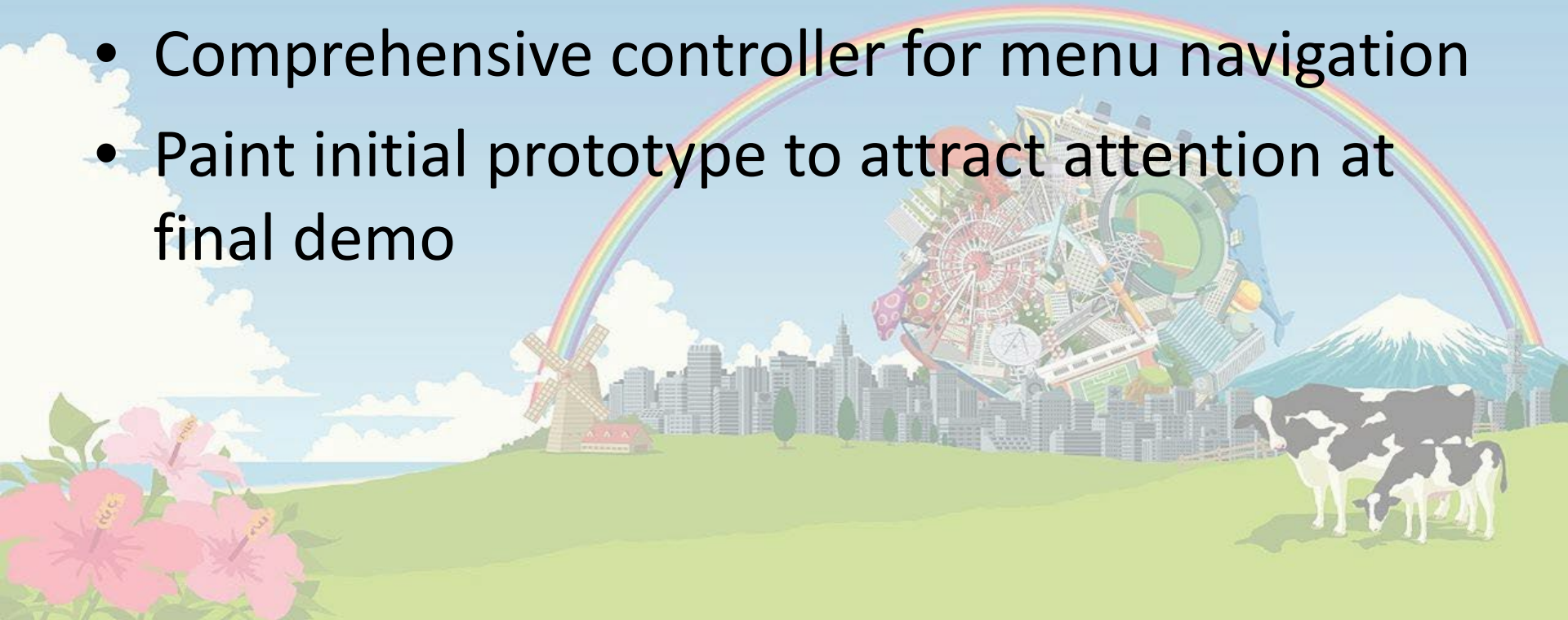
- **Metrics/Workload**
- Mouse position data ranges from -256 to 256
- Setting a higher threshold at which resistance is applied decreases the sensitivity of the controller
- **Parameters**
- Standard 5V, played inside, standard room temperature, different sensitivities
- Environment kept constant, changed code so that resistance is applied at different thresholds

Fidelity Test



Future Plans

- Implement PS2 button functionality through our controller
- Full range of speeds for ball rotation
- Comprehensive controller for menu navigation
- Paint initial prototype to attract attention at final demo



Questions?