The Spinning Pixel Display (SPD) uses a quickly rotating screen to give the illusion an entire image is being displayed all at once.

**Purpose:**
- Implements a technology prototype using a small amount of pixels for a high-quality image.
- Provides a positional image selector that is safe to be spun by hand (unlike LED fans).

**Methods**
1. The external computer uses a MATLAB application to scale and split a given image into thin sections.
2. The image files are stored onto an SD card and given ordered index numbers.
3. The onboard microcontroller reads in a pitch angle from the Inertial Measurement Unit from -180° to 180° and converts this into an index number.
4. The selected image section is loaded from the SD card onto the display screen.

**Onboard Electronics:**
- **Microcontroller** | Arduino Uno Rev 3
- **Display Screen** | 2.2" Thin-Film-Transistor Display
- **Inertial Measurement Unit** | Adafruit BNO055 Absolute Orientation Sensor

**Conclusion**

The SPD successfully follows the pitch angle of the screen to display the correct section of the image.

The largest problem faced was that the display screen needed a much faster image draw speed to be able to keep up with fast rotations and wider image sections.

**Further work:**
- Same technology could be used for displaying images on the sides of amusement park rides, such as Ferris wheels.
- SPD could be used to create timed color designs for stage productions.
- Tilt functionality could be added to modify the image by tilting the SPD device.