

Project Checkoff Checklist

Commitment

- Overview: Pan through an image displayed on the screen via SPI using the arrow keys on the FPGA as scroll wheels.
- Modules and components
 - Screen_interfacer: Either takes in x, y, and a value and writes the surrounding image from the COE to the SPI RAM.
 - Screen_interfacer passes values to two SPI modules, which are both connected to a screen (screens display the same thing)
 - Image COE: a 512 by 1024 8 bit grayscale panoramic image
 - IMU module: produces an x and y that starts at the center of the image and can be moved using the arrow keys

The Goal

- Overview: Use IMU to pan around an image, which is re-projected to look more natural.
- Modules and components
 - Screen_interfacer: Either takes in x, y, and a value and writes the surrounding image from the COE to the SPI RAM, mapping the x and y from RAM to different x and y values on the screen based on the projection.
 - Image retrieval
 - Screen_interfacer passes values to two SPI modules, which are both connected to a screen (screens display the same thing)
 - Image COE: a 512 by 1024 8 bit grayscale panoramic image
 - IMU module: produces an x and y that is controlled via and IMU

The Stretch Goal

- Overview: Use IMU to pan around an image, which is re-projected to look more natural.
- Modules and components
 - Screen_interfacer: Either takes in x, y, and a value and writes the surrounding image from the COE to the SPI RAM, mapping the x and y from RAM to different x and y values on the screen based on the projection. Contains a MUX that can flip between sourcing from the COE to a generation module that generates a 3d landscape. Screens display different things.
 - Screen_interfacer passes values to two SPI modules, which are both connected to a screen (screens display slightly offset, different things)
 - Image COE: a 512 by 1024 8 bit grayscale panoramic image
 - IMU module: produces a y that is provided by IMU, x that is provided by camera