Introduction
The 360 Cam Camera is capable of taking panoramic images without moving any camera lenses. The panoramic image is then used to track an object through a 360-degree field of view.

Components:
8  Pi Zero W
8  SD Card
8  Pi Camera
10  USB Cable
2  5V Power Adapter

Stitcher
The stitcher implements OpenCV’s panorama function to join the images. We then implement threading to consistently read the cameras and stitch multiple frames concurrently. With this we can obtain the following:

- Input 640WX480H 30 fps .25s Latency
- Output 1080WX480H 30 fps .35s Latency

Tracker
For our tracker we utilized an array of functions within the OpenCV library. One of the more important functions is HoughCircles. This function takes in the image along with a few parameters of how you want to filter the circle, and finds the circles in the image that match those parameters.

Final Design
Example of 2 images being stitched together

Possible Applications:
- Sports
- Real Estate
- Exploration
- Surveillance
- Destination Resorts

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