PIXEL
Design Review 3

Feature Demonstration:

1. System Setup - The user can enter their WiFi credentials with the app ESP BLE Prov, which provisions the ESP32 so that it can connect to various available WiFi networks. The user just scans for the ESP32 and types in the WiFi password for whichever network they wish to use.
2. User Interface - When the camera is on and not actively capturing a picture, the LCD screen acts as a viewfinder. When the user switches the lasers on, they form a frame that outlines the field of the camera. The user can also turn a potentiometer to adjust the flash brightness level. The user can view the battery monitoring LED to see if the batteries need to be recharged. Various buttons can be used to capture and delete images. An initial case design that allows the user to actually hold the camera will be shown in Solidworks.
3. Image Capture - When the image capture button or the remote bluetooth button is pressed, the flash goes off based on the potentiometer wiper location, and an image is taken. Then, if the delete button is pressed within five seconds of the image capture, the picture will be deleted. If the delete button is not pressed within five seconds of the image capture, that photo will be saved to the SD card and streamed to the web server.
4. Image Streaming and Sorting - The saved images will be streamed to a web server. Then, a python script will upload these images to Google Drive. A python flask app then downloads the images from the Google Drive, sorts them, and displays the sorted images on a web application.

These features will be demonstrated end to end, from the provisioning of the ESP32 to the sorting of the images.