**EiE Laser Tag**

Source code for this project can be found at: <https://github.com/louisj381/EiELaserTag>.

The goal of this project is to implement a fully functioning and re-playable game of Laser Tag between two precipitants. This specifically involves two *MPGL1‐EHDW‐03 SAM3U2 / NRF51422 RAZOR DEVELOPMENT BOARDS*—one for each player—in which each board is equipped with an IR emitter and receiver. Opponents can shoot each-other from a reasonable range (halfway across a room ideally) and each have three lives. If a player is hit, they have a reboot period of five seconds in which they can’t be shot or get shot. Once one player has shot their opponent three times, there is a buzzer sequence to indicate they have lost. There is also a buzzer that plays briefly during the rebooting sequence. The number of lives is indicated by LED’s on the board, as well as an LED indicator of when a player is shooting (which is done by holding a button). When a player has lost, they can simply play again by pressing reset(button2). The IR emitter used is a TSAL-6100 LED, and the receiver is a TSOP-322. Utilizing the timer driver and modifying PIO registers, not only were we able to achieve the required carrier frequency of 38kHz, but also monitor the pin I/O for the correct signal.