GLO Tag

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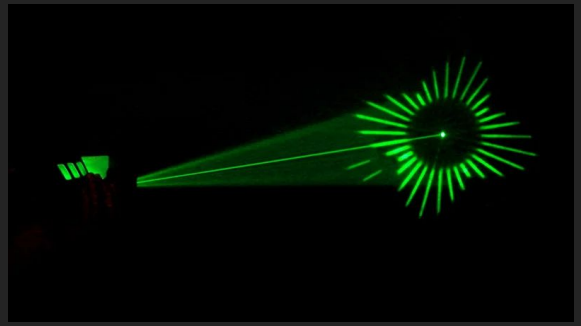
Problem Description

01. Laser tag is super fun!!!

02. But you need to go to a facility to play...

03. And at home sets are very expensive.

PROPOSED SOLUTION



Laser blasters with high power IR emitters

Vests with IR sensors, LEDS, and microcontrollers

Central hub to keep score and set up the game

Microcontrollers to process and communicate player data

DEMONSTRATED FEATURES

Directional Receiving: correctly identify hits

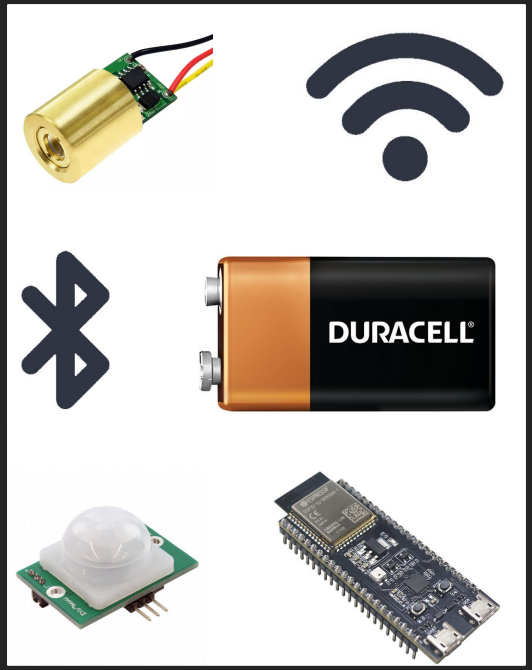
Wireless Communication & Signal Processing: each blaster transmits unique signal

Game Logic: processing information about score, player health, and timer

Responses to Received Signal: haptic feedback and LED flashes after a hit

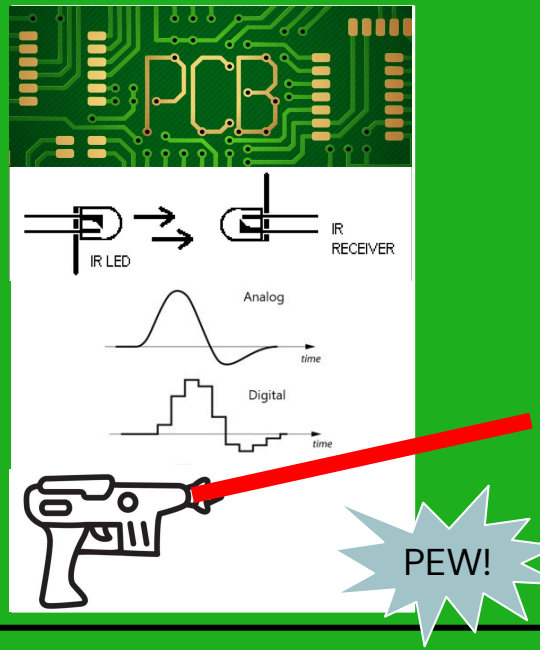
Manufactured Vest and Blaster Pair: CAD and user interface

AVAILABLE TECHNOLOGY



01. ESP32 Microcontroller
02. IR LEDs and receivers
03. WiFi or Bluetooth Low Energy Communication
04. CAD and 3D Printed Housing
05. Rechargeable or Replaceable Batteries

ENGINEERING CONTENT



01. Using microcontrollers for signal processing

02. Using microcontrollers for game logic

03. Design and integration of PCBs

04. IR transmission, reception, and processing of modulated signals

05. CAD housing for electrical components

CONCLUSIONS

1. Traditional laser tag is flawed.
2. We will design an improved system using skills gained through electrical engineering coursework.
3. We will bring laser tag to the masses (via an inexpensive alternative).

THANK YOU!

QUESTIONS?