



Laser Arcade Machine

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Tyler, Zack, Jonah

Design Context

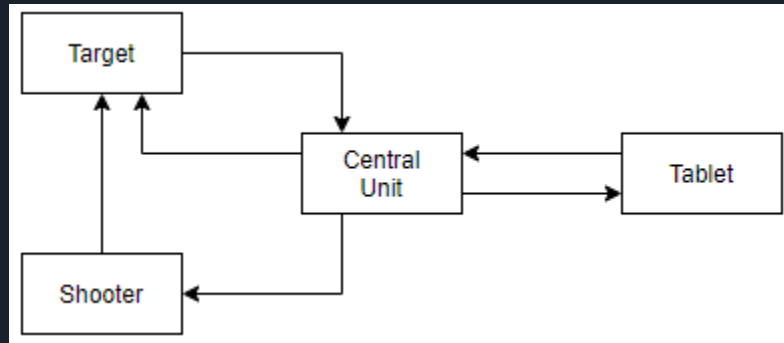
Context

- College students and households would find an easy to set up decently priced entertainment device capable of curing boredom and entertaining medium sized groups of people.

Prior Work / Solutions

- Bass Pro shops
 - Our project will be more mobile
- Quick draw game
 - Our project will be physically based

Technical Complexity





Design Exploration

- Design Decisions
 - IR emitters and receivers
 - Raspberry Pi
 - React Native
- Ideation - Brainstorming
 - Lasers
 - IR light
 - Airsoft
 - BBs/toy bullets
- IR light - Pros
 - No risk of blinding people
 - Easily decipher between players shooting
- IR light - Cons
 - Not visible
 - Wide beamwidth
 - Not as interactive

Proposed Design - Blaster and Target

Blaster

- Clearly a toy rather than a real gun
- One handed operation
- Crafted from a torn apart toy or 3d printed

Target

- 3d printing the target portion
- Casing can be shaped as desired
 - Needs to contain the circuitry and batteries
- Clear marking of bullseye
- LEDs attached to target
 - Easy identification and ameplay purposes





Proposed Design - Functionality

Shooter:

- Easily held and aimed
- Can be used by almost all ages
- Lightweight and portable
- Accurate
- Should shoot up to 15 feet away

Target:

- Easily Identifiable as the target
- Shows when hit
- Identifies player that hit target