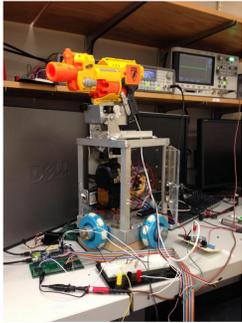


B.R.A.D. Attack Turret

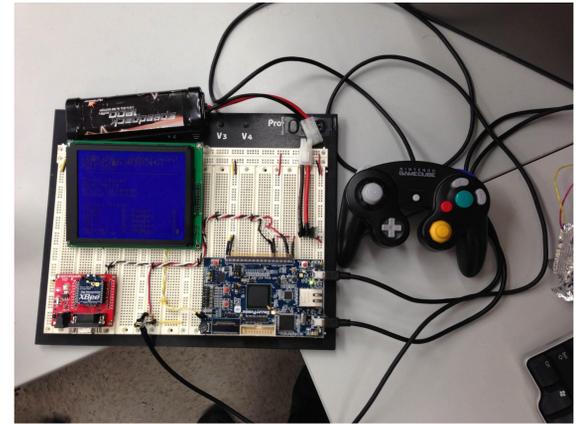
Brian Schlenker, Ryan Heise, Ansgar Strother, David Cesiel

bschlenk@umich.edu, heiserya@umich.edu, astrothe@umich.edu, dcesiel@umich.edu

Introduction



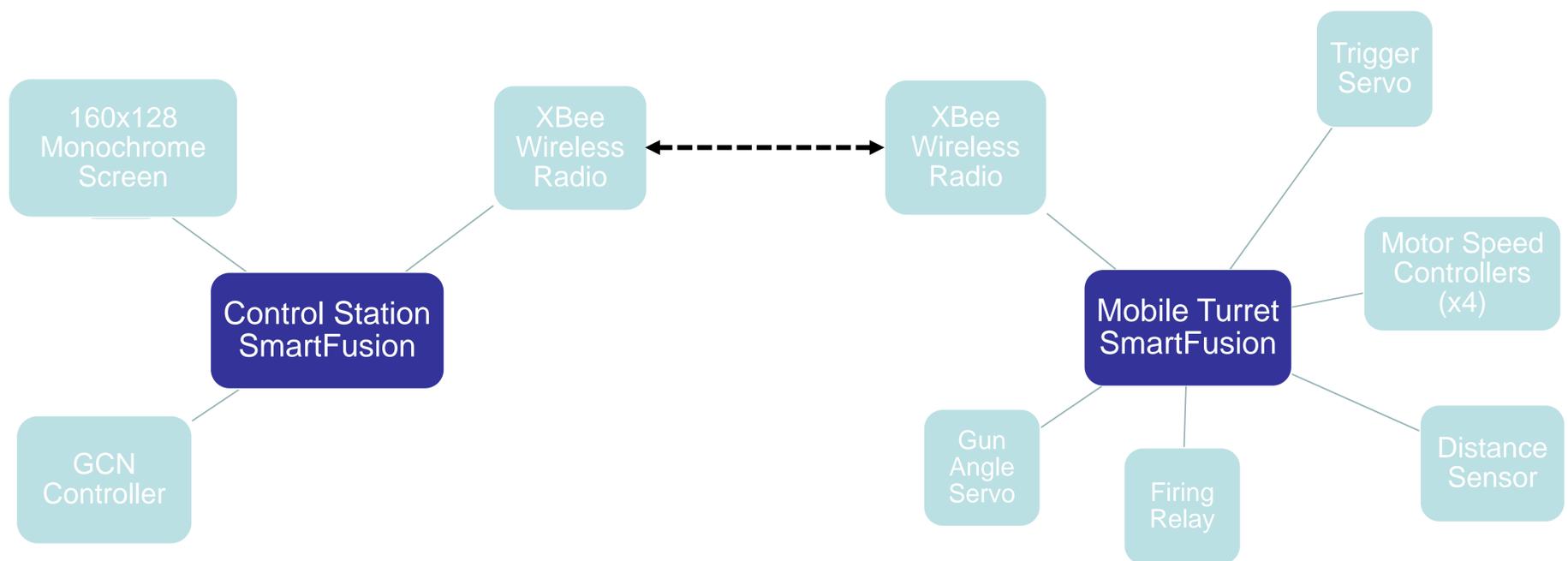
The NERF gun has been a ubiquitous part of childhoods since the early 90's. Unfortunately, NERF guns that take advantage of today's advancements in embedded systems don't exist. We set out to change this by creating the B.R.A.D. Attack Turret.



Problem Description: No automated NERF weapons exist

- Standard NERF guns require the user to exert physical effort
- B.R.A.D. implements a FPS-like control scheme hip with today's youth
- Standard NERF guns require the user's undivided attention to defend oneself.
- B.R.A.D. has an autonomous mode which detects and eliminates any and all targets that get too close

Proposed Solution: Create an automated NERF weapon, obviously



Features

- Holonomic base + dual-stick control scheme allows the user to move and turn in any direction
- Wireless communication between mobile turret and control station allows for remote control
- Distance sensor for more accurate targeting of enemy
- Monochrome screen provides useful enemy distance and mobile turret control information to the user

Future Improvements

- Targeting via laser pointer + camera: Point a laser pointer at a target and B.R.A.D. does the rest
- Color screen + video feed: control the mobile turret from the gun's perspective
- Faster motors + tighter controls for increased maneuverability