System Diagram
Redd's Apple Launcher

APPLICATION SERVER
A socket.io-backed node application handling game logic, catching events from the browser, and emitting events from the server. Multiple instances may be running based on load.

APP Instance | APP Instance | APP Instance

LAUNCHER
An arduino connected to two actuators that control the pan/tilt movement of the launcher, and one actuator that triggers the loader to release a shot. One-way communication via TCP.

PRIZE TRIGGERS
An arduino connected to a series of 50 triggers, each of which communicate their state ('on' or 'off') back to the arduino. The arduino communicates this state back to the app server when it changes.

ARDUINO | ARDUINO

WEB SERVER
An Express-backed node application handling http requests, routing, and session logic. Multiple instances may be running based on load.

WWW Instance | WWW | WWW Instance

TCP SIGNALS

SOCKET EVENTS

SOCKET EVENTS

DB READS

BROWSER

HTTP REQS

HTTP RES

LEFT/RIGHT

ACTUATOR 1

ACTUATOR 2

UP/DOWN

DATABASE SERVER
A MongoDB database storing user information. One instance per server, 3 servers minimum. Native Mongo syncing leveraged to keep them consistent.

DB WRITES

MONGODB Instance | MONGODB | MONGODB Instance

LOADER

FIRE

LAUNCHER

SWITCH | SWITCH
SWITCH | SWITCH
SWITCH | SWITCH
SWITCH | SWITCH
SWITCH | SWITCH

x10

REDIS SERVER
A server handling short-term key-value store for syncing state and storing fast, ephemeral data. One instance anticipated.

KEY STORAGE/PUB

REDIS

KEY READ/SUB