

Ben Morehead

Personal Project Portfolio

Up to date as of October 4th, 2019

Two Floor Connect Four



Summary:

I designed and constructed, with the help of my peers, a multi-floor game of Connect Four. With fully functional piece input slide, and piece catching system. Due to the risk involved with this project, designing a foolproof mechanism for both catching and inserting the pieces was essential, as well as ensuring that the proper support system was in place to prevent any chance of the structure failing and hurting someone.

Table Top Arcade Basketball



Summary:

Using a DE1-SOC FPGA Board, I implemented a fully functional, miniature arcade basketball game. The FPGA handled all of the game logic, and output. The input was detected by a combination of two perpendicular lasers in conjunction with Light Dependent Resistors, and a voltage regulating circuit, in a tripwire setup to detect if a ball successfully entered the hoop.

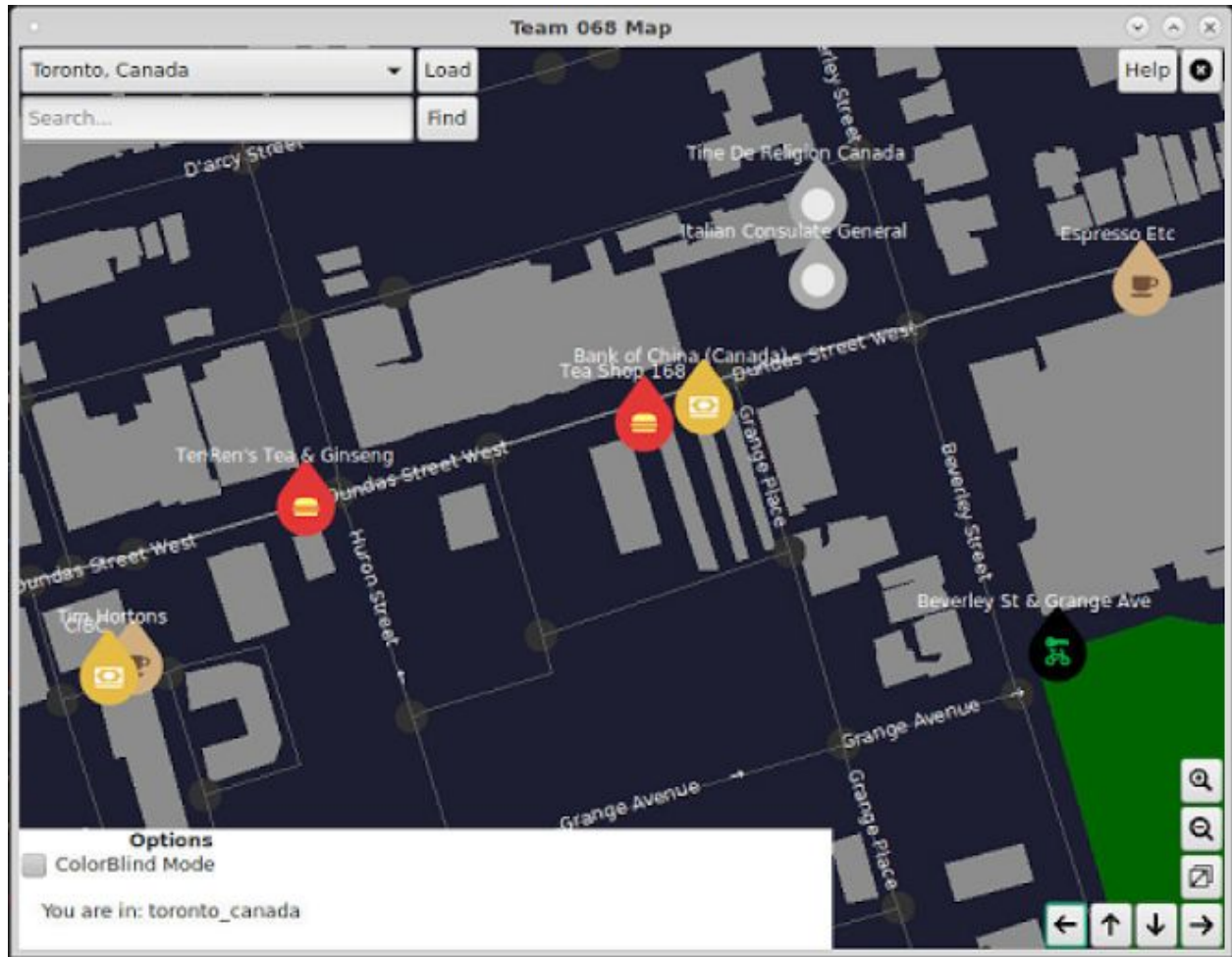
SkeeBall Machine



Summary:

My first personal project was a full sized skeeball machine, where the balls triggered microswitches to detect points, and an arduino managed all of the input logic. A timer and highscore system was also implemented through the arduino.

Custom GIS Software



Summary:

In a group of three, I helped create a custom Geographic Information System software that utilized C++ and the OpenGIS API to implement a custom user interface based on the existing information provided.