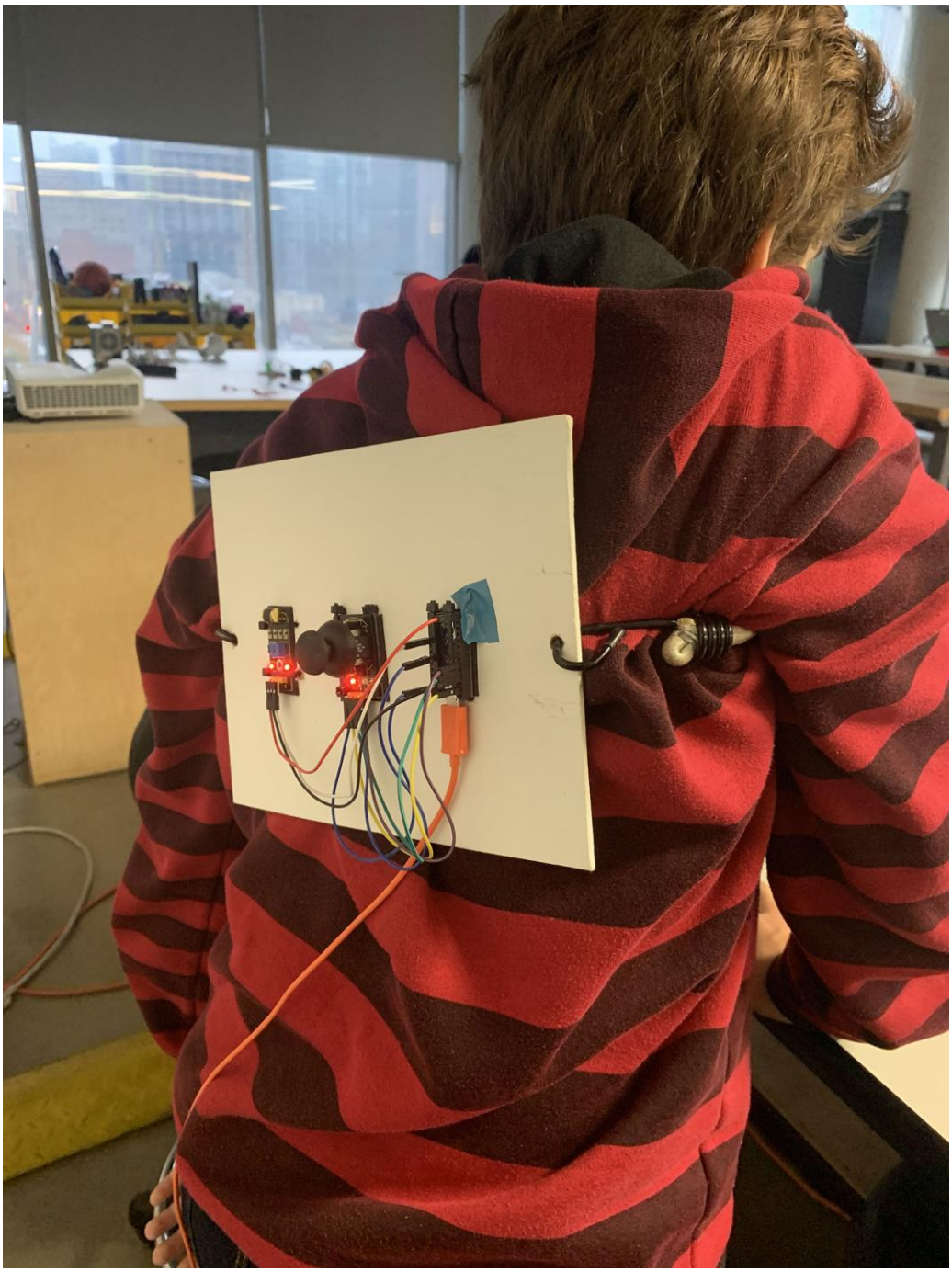
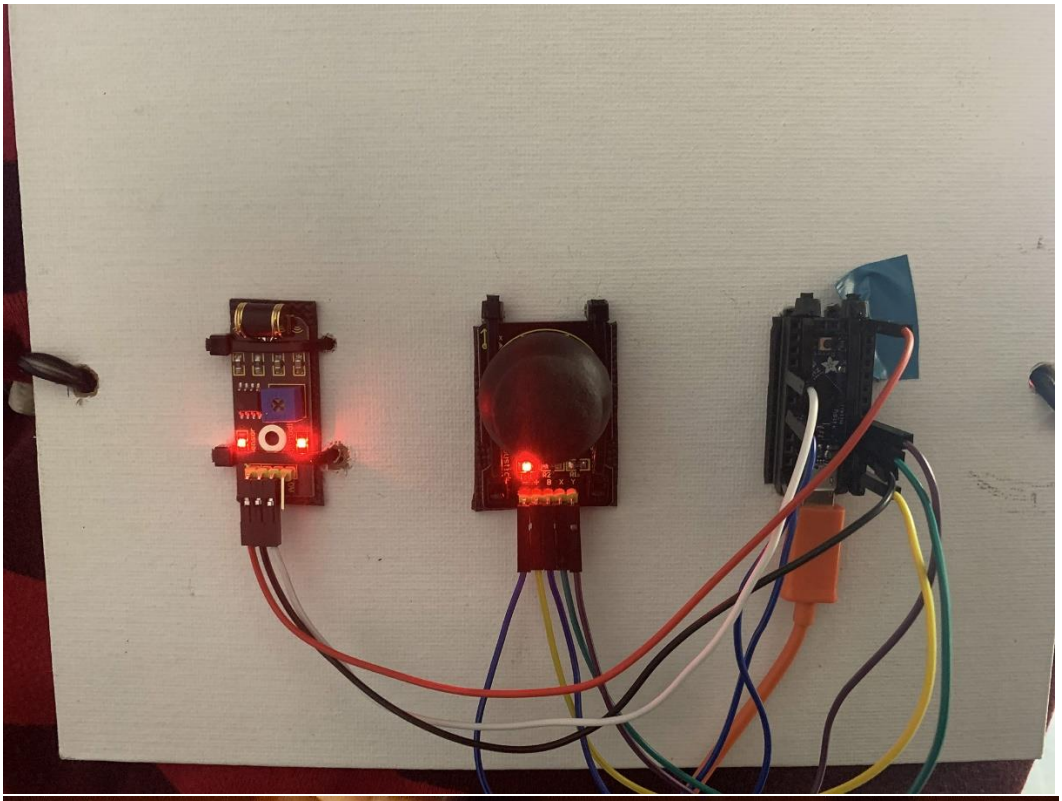
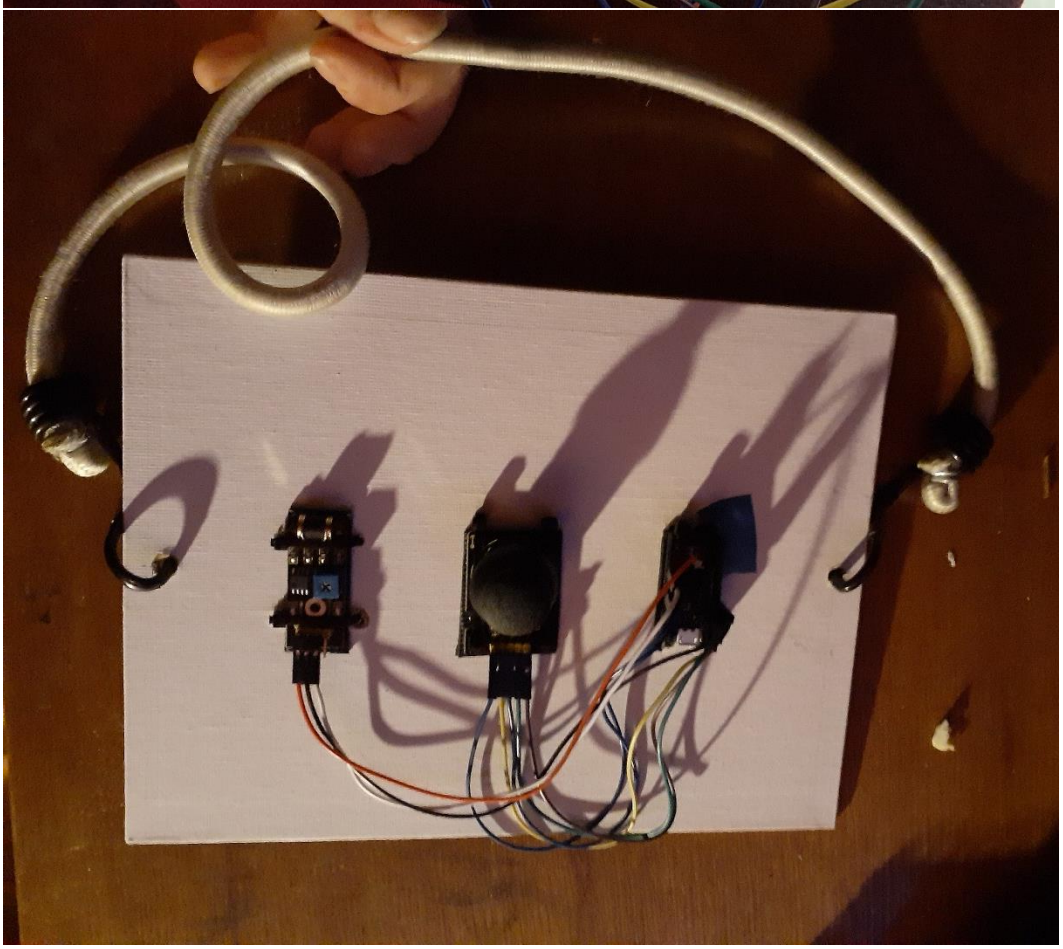
Nat and Martin-John - Friday, October 25th, 2019

We picked the joystick and the vibration sensor and decided to integrate them together to control the game URDL.

To control the game, the player would need to tilt the joystick in the directions indicated by the game, but they can't use their hands; they can only use their back. The joystick, along with the ItsyBitsy board and vibration sensor, are attached to a small surface that is held into place behind them using a bungee cord.







We placed the full circuit onto a small piece of canvas-covered wood and secured all of the components in place with tie-wraps and just a bit of tape. These materials were chosen to minimize the chance of anything coming apart unintentionally during playtesting. The code uses the Keyboard library to map the axes of the joystick to the arrow keys.

This configuration is designed to add a couple of levels of challenge to the original game, which was very simple in comparison. The player may be tempted to move around too quickly in order to exert greater pressure on the joystick, but the vibration sensor would detect if they are being too rough and punish this action by moving them in the wrong direction. On top of this, the player has to get used to the idea that to apply pressure on the joystick so it will move in the direction they want, they need to move in the opposite direction (Ex: To point the joystick up, they need to move downwards while against the wall, and vice-versa). This fits with the reverse-control mechanic implemented in the original game.