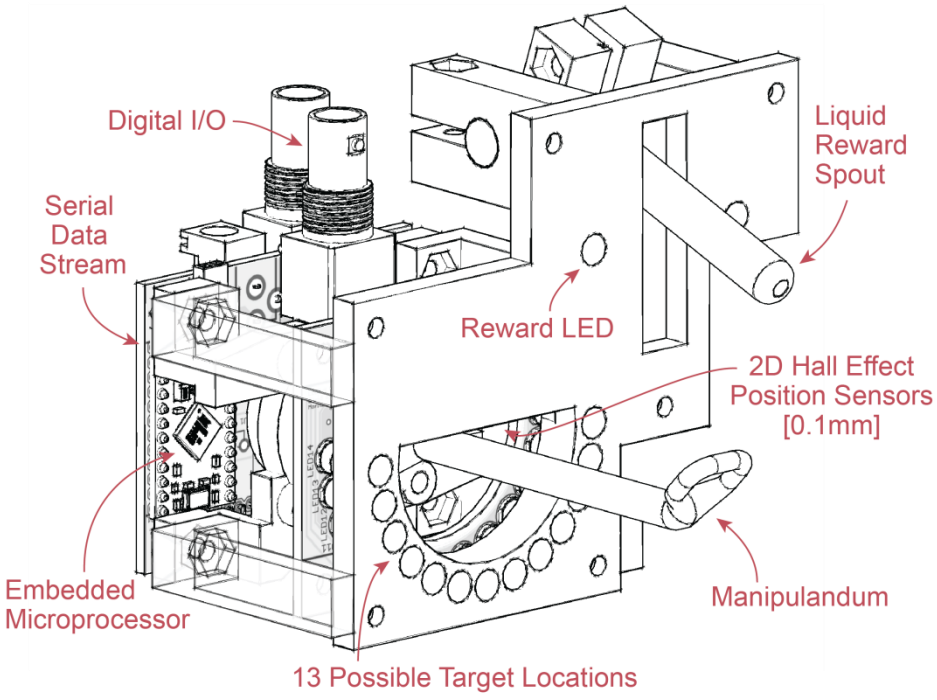
# User Manual for ACRoBaT device

designed by David Bjanes

dbjanes@uw.edu

File List:

Bill of Materials: List of needed materials

Instruction Manual: Steps to assemble device, with listed part numbers from BOM

ACRoBaT: Published paper

Folder List:

code/arduino : c code to download on Arduino Pro Micro

code/logging-program: both source files and *.exe file for launching desktop logging program

build-files/pcb-brd-files: eagle schematic and board files for generating gerber files and/or ordering PCBs

build-files/stl-autocad-files: *.stl files for ordering 3D printed items from shapeways

videos/: several movies for animals during the task and various points throughout protocol

Notes:

If user wants to change LED cue functionality, modifying code below is necessary. Each Trial Type is found in file *ArduinoTrainerMicroPro0d_TrialTypes.ino*.

Change variables:

```
GBL_LED_Cues_Overt    = true;        // Controls whether LED is illuminated at the beginning of trial
GBL_LED_Cues_Hidden = false;        // Controls whether LED is illuminated when target is entered
```

Below is a mapping of step numbers in the paper to actual values on the program (from file *ArduinoTrainerMicroPro0.ino*).

```
// ********************************************
// Trial Types
// ********************************************

// Phase I                                                  // ACRoBaT Protocol Step
const int TRIAL_SIPPER_20                          = 1;     // #1
const int TRIAL_SIPPER_COUNTS_10                   = 2;     // #2
const int TRIAL_TOUCH_JYSTK                        = 3;     // #3

// Phase II
const int TRIAL_MOVE_JYSTK                         = 4;     // #4
const int TRIAL_MOVE_JYSTK_LEFT_NoTimeout          = 5;     // #5
const int TRIAL_MOVE_JYSTK_RIGHT_NoTimeout         = 6;     // #5
const int TRIAL_MOVE_JYSTK_CNTR_NoTimeout          = 7;     // #7
const int TRIAL_MOVE_JYSTK_TOP_L_NoTimeout         = 8;     // (optional #7)
const int TRIAL_MOVE_JYSTK_TOP_R_NoTimeout         = 9;     // (optional #7)

// Phase III
const int TRIAL_FIND_TARGET_OVERT_NoTimeout        = 10;    // #6 #8
const int TRIAL_FIND_TARGET_OVERT_Timeout          = 11;

// Phase IV
const int TRIAL_FIND_TARGET_HIDDEN_NoTimeout       = 12;    // #9
const int TRIAL_FIND_TARGET_HIDDEN_Timeout_Step1   = 13;    // #10
const int TRIAL_FIND_TARGET_HIDDEN_Timeout_Step2   = 14;    // #11
const int TRIAL_FIND_TARGET_HIDDEN_Timeout_Step3   = 15;    // #12
const int TRIAL_FIND_TARGET_HIDDEN_Timeout_Step4   = 16;    // #13
const int TRIAL_FIND_TARGET_HIDDEN_Timeout_Step5   = 17;    // #14
const int TRIAL_FIND_TARGET_HIDDEN_Timeout_Step6   = 18;    // #15
const int TRIAL_FIND_TARGET_HIDDEN_EqualTimeout    = 19;    // #16
```