**Scratch Programming Practicum Instruction**

[Click here for instructional video](https://watch.screencastify.com/v/1yUhwZAkYqRf4FMaBYfe)

**Pre-Contest Set-Up**

1. Download the following software programs:
   1. [Scratch 2 offline editor](https://scratch.mit.edu/download/scratch2#installation)
   2. [Node](https://nodejs.org/en/download/) (LTS version)
2. Download files <https://github.com/houdinisparks/scratch_programming_tello/tree/master/scratch>

**Contest Set-Up**

1. Open Scratch 2 Offline Editor
2. While holding down the shift key, select “File” from the toolbar
3. Click “Import Experimental HTTP extension”
4. Choose the previously downloaded folder from your desktop and select the “Tello” s2e file.
   1. It is the second file in the folder. The TelloChs file has the same commands, but in Chinese.
5. In Scratch, select “More Blocks” and verify the tello controls have uploaded
6. Open your files
   1. find the scratch folder
   2. copy the file path
7. Open command prompt
   1. Type “cd <paste file path>”
      1. Make sure there is a space between “cd” and the pasted file path
   2. Hit enter
   3. Type “node tello.js”
   4. Hit enter
   5. You should receive a “Listening on…”
8. Power on Tello EDU
9. Connect Tello to Laptop by selecting the Tello from the available WiFi networks list
10. Return to Scratch and verify the circle next to “Tello Controls” found under “More Blocks” is green

**Contest Manual Control Set-Up**

1. Contest instructions will specify which key should be used for each function of the drone
2. On Scratch 2, click “Events”
   1. Drag the block labeled “When (space) pressed” onto the workspace (right side of screen)
      1. Next to the word “space” is an arrow, click the arrow to select the appropriate key
3. On Scratch 2, click “More Blocks”
   1. Drag the appropriate action to the workspace and connect it to the event indicator (When “space” pressed)
4. Repeat this action for each manual control

**Contest Pattern Control Set-Up**

1. Contest instructions will specify the pattern that should be built
2. On Scratch 2, click “Events”
   1. Drag the block labeled “When (space) pressed” onto the workspace (right side of screen)
      1. Next to the word “space” is an arrow, click the arrow to select the appropriate key
3. On Scratch 2, click “More Blocks”
   1. Drag the appropriate actions to the workspace and connect it to the event indicator
      1. All events of patterns should be connected to perform in sequence
4. Take a screenshot of the created manual controls and patterns for submission
5. Try out your manual controls and patterns!