Run the Robot Program Guide
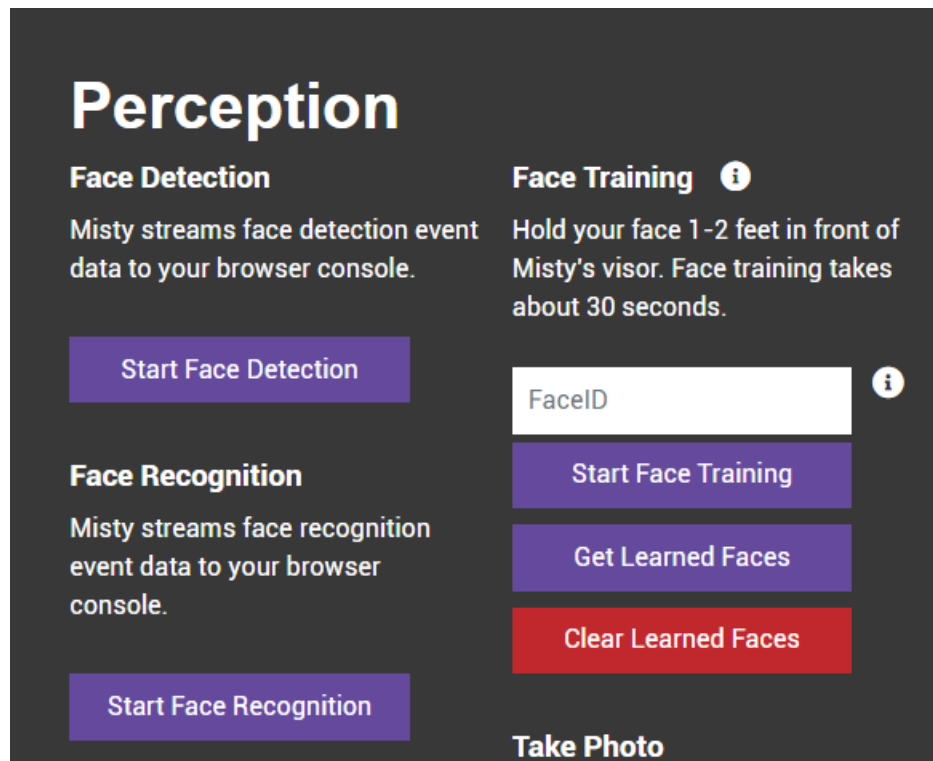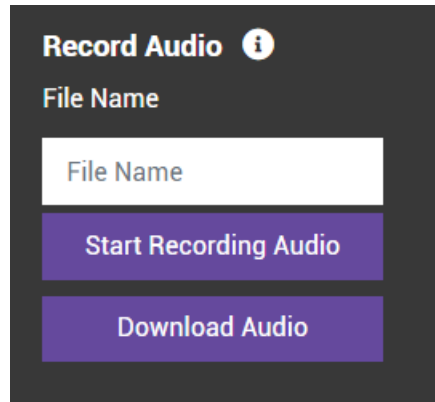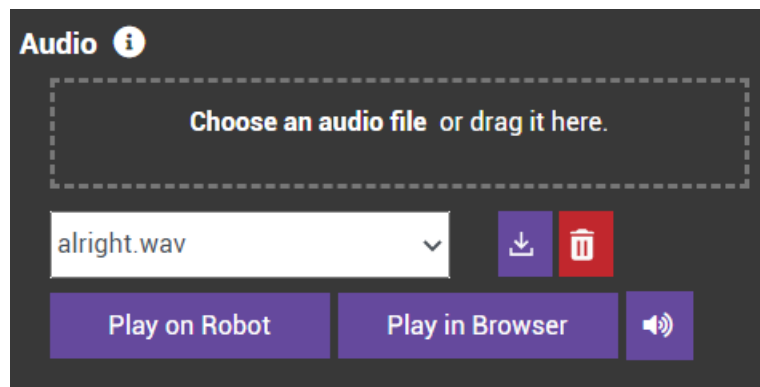
1. This robot programming package includes the features / skills and the python wrapper supporting the below:
   a. Robot Version: 1.15.1.10476 and later. It is automatically updated over-the-air, WiFi
   b. Sensory Services Version: 1.15.1 and later. It is automatically updated over-the-air, WiFi
   c. Features: Remote control facial recognition and announce names via REST API interface with Python
   d. Skills:
      i. Face learning, detection and recognizing
      ii. Associated name to detected face learning
      iii. Obtain a list of learned face names
      iv. Play audio files associated to face names and others
      v. Record audio and save it in the robot storage
      vi. Play back recorded audio file in the robot
      vii. Get time of the day for greeting
      viii. Measure the battery level
      ix. Head movement control
      x. Hand movement control
      xi. LED color control
2. This robot programming and execution will not move the Misty robot. However, to be safe when you're exploring the interactive webtool, please place the foam block (comes with the robot package) under the robot between the 2 tracks while it is on a table. Before you start, please check the followings:
   a. Power on Misty robot to allow it connecting to your WiFi network
   b. Install the Misty mobile app to your smart phone per installation instruction comes with the robot package. This will detect and assign an IP address to Misty robot.
   c. Use a text editor of your choice to open the "myMisty_FacialRecognition.py" in the C:\Misty_robot folder and update the IP address field of the variable "robot_IpAddress" with the address shown on the mobile app. The IP address won't change after the first successful WiFi connection made.
3. Launch the Command Center webtool in your web-browser with the address http://sdk.mistyrobotics.com/command-center/index.html
   a. Face learning: from the webtool panel, scroll down to the Perception section as shown below:

Perception

Face Detection

Misty streams face detection event data to your browser console.

[Start Face Detection]

Face Recognition

Misty streams face recognition event data to your browser console.

[Start Face Recognition]

Face Training ⓘ

Hold your face 1-2 feet in front of Misty's visor. Face training takes about 30 seconds.

FaceID ⓘ

[Start Face Training]

[Get Learned Faces]

[Clear Learned Faces]

Take Photo

b. Enter a name in the FaceID field. For example: John. An audio file with greeting name for this example is included in the purchased robot programming package

c. I you're alone while exercising this step, it is better to have the PC screen face behind or side-by-side with the robot. This helps to aim the mouse cursor to the "Start Face Training" button and can glance to see any messages easier

d. Start looking straight to Misty face with a distance of 2 feet.

e. Click the "Start Face Training" button

f. The LED color by the side of Misty will change to blue and go away when done. There're messages indicating the face detection process and training completion during this step

g. Click on the Get Learned Faces button to verify if there's a face ID/name has been recorded successfully.

h. Repeat the steps b to g for any additional people.

4. This robot programming package includes the greeting name for John and Grandma. At execution time, it will announce "Hi John" or "Hi Grandma" if it detects any of their faces. You can record the additional greeting name audio file using external audio software or via this command center webtool while speaking directly to Misty robot. Under the same Perception section, there is a audio recording command area as shown below:

a.
b. Enter the file name such as "Hi Joe"
c. Click on the "Start Recording Audio"
d. Speak directly to Misty at a distance about 1ft or 2ft.
e. Click to stop when you finish speaking. These greeting audio file name can be added and used in the robot programming source code

5. Transfer the pre-recorded audio files into Misty robot for supporting the Facial recognition and greeting features at the run time.

a. From the Command Center panel, scroll to the Expression section to see the Audio file transfer are as shown below:

b. Click on "Choose and audio file" to open the dialog and point to the folder C:\Misty_robot\Audio files and upload one file at a time until finish all of them.

6. Run the Facial Recognition feature program remotely without the Command Center webtool

a. If you use an IDE software such as Visual Studio Code,
    i. Please choose to open the folder C:\Misty_robot first
    ii. Click to open the "myMisty_FacialRecognition.py" file
    iii. Press "F5" key or choose Run->Start Debugging->Python file
    iv. Misty will greet, change LED colors, moves her hands and head to search and to recognize any faces and will greet and announce the name of the person associated to the detected face.

b. If you want use the python command line to run then
    i. Launch a Command prompt console window
    ii. Change the active directory to C:\Misty_robot
    iii. Type a command line to run as **python myMisty_FacialRecognition.py**