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The Robot Program Episode 020: Detect Face and Wave - RoboScratch

This lesson will demonstrate how to use RoboScratch to have the robot wave once it detects a face. At the end of this lesson, readers will be able to enable facial detection and code a basic script using RoboScratch. Follow along with The Robot Program Episode 020: Detect Face and Wave - RoboScratch.

View the video episode here: https://www.ez-robot.com/Tutorials/Lesson/94

Last Updated: 6/12/2018

Professor E's Overview

This episode demonstrated how to enable facial detection and how to trigger an action using a **RoboScratch** script.

Always start with a fully charged, disconnected robot. Load **EZ-Builder** and connect to the robot. Open the bare robot project, which provides a clean workspace without unnecessary controls.

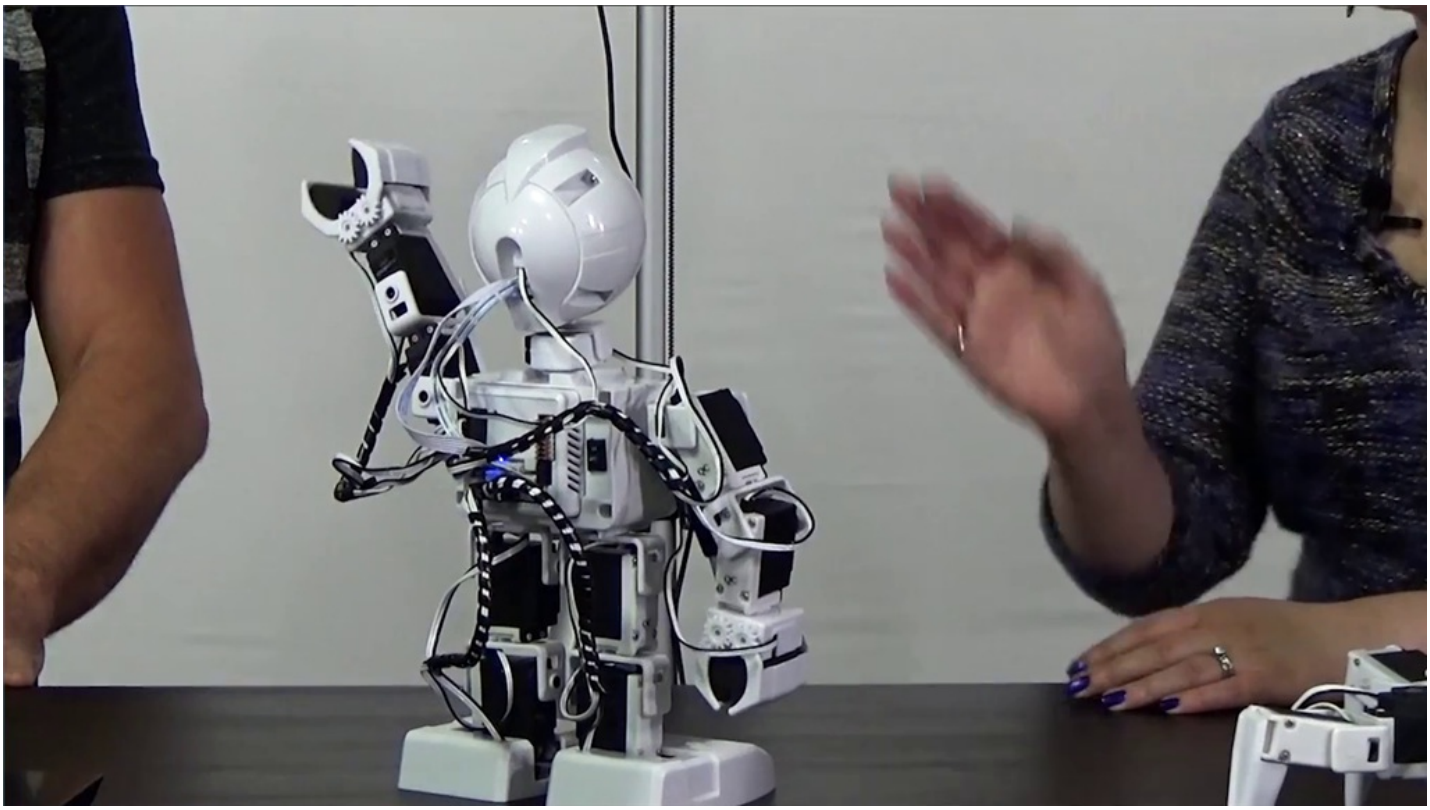
Add the control for the camera and test the camera view. The camera will provide peripheral information (external input/output that can be used to provide information).

Open the **RoboScratch** workspace. Add the **WaitForFace** command. This command tells the robot to wait until it detects a face before moving on to the next line of code.

Add **Say** and type in the desired speech. This command does not include a **Wait**, so it will execute and move immediately to the next command while the robot is still speaking.

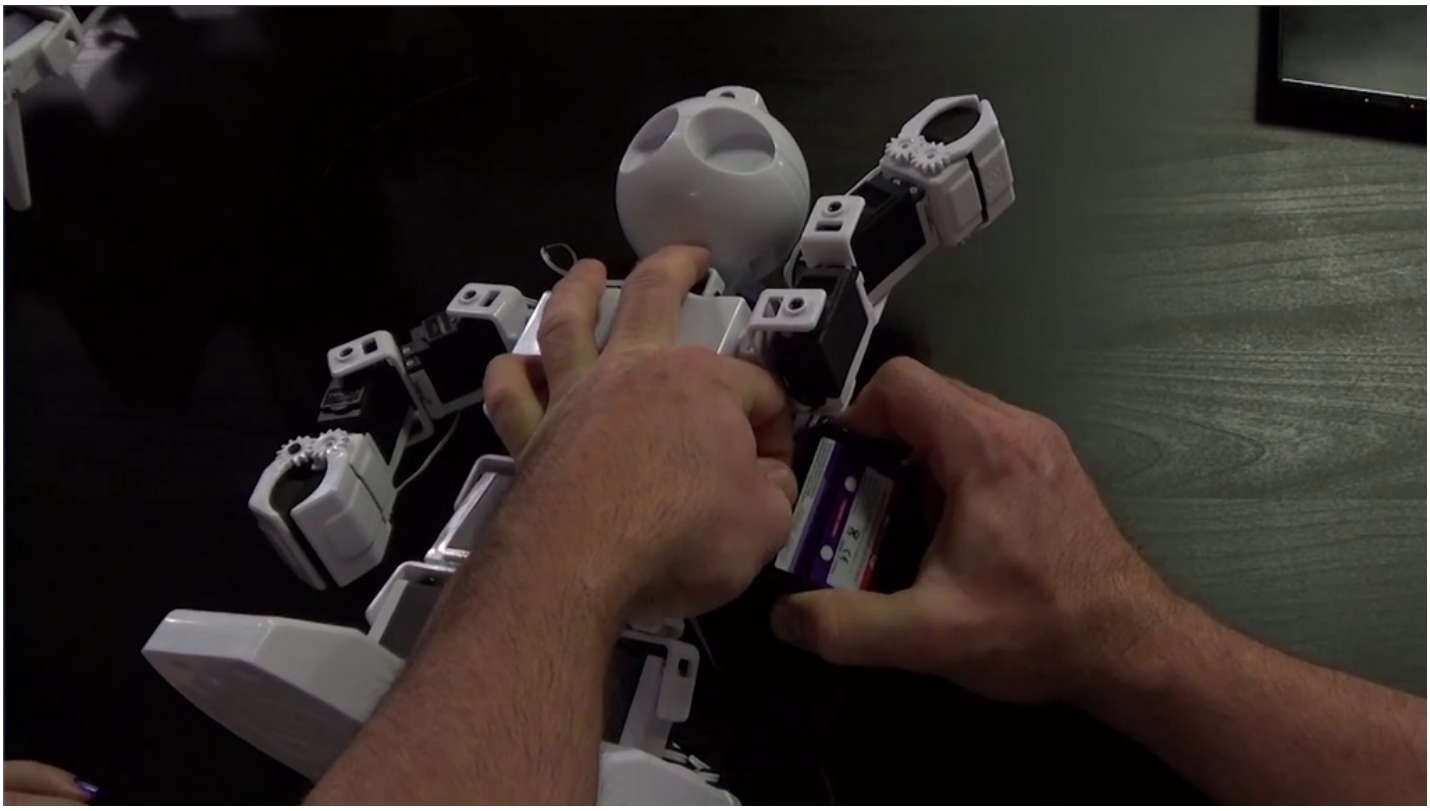
Add **Action (Wait)** and choose an action, such as **Wave**. The use of **Wait** means that the action will be fully completed before moving on to the next line of code.

Use the green line and highlighting features to follow along with the linear execution of the script. Remember to disconnect, power off, and charge the robot when finished.



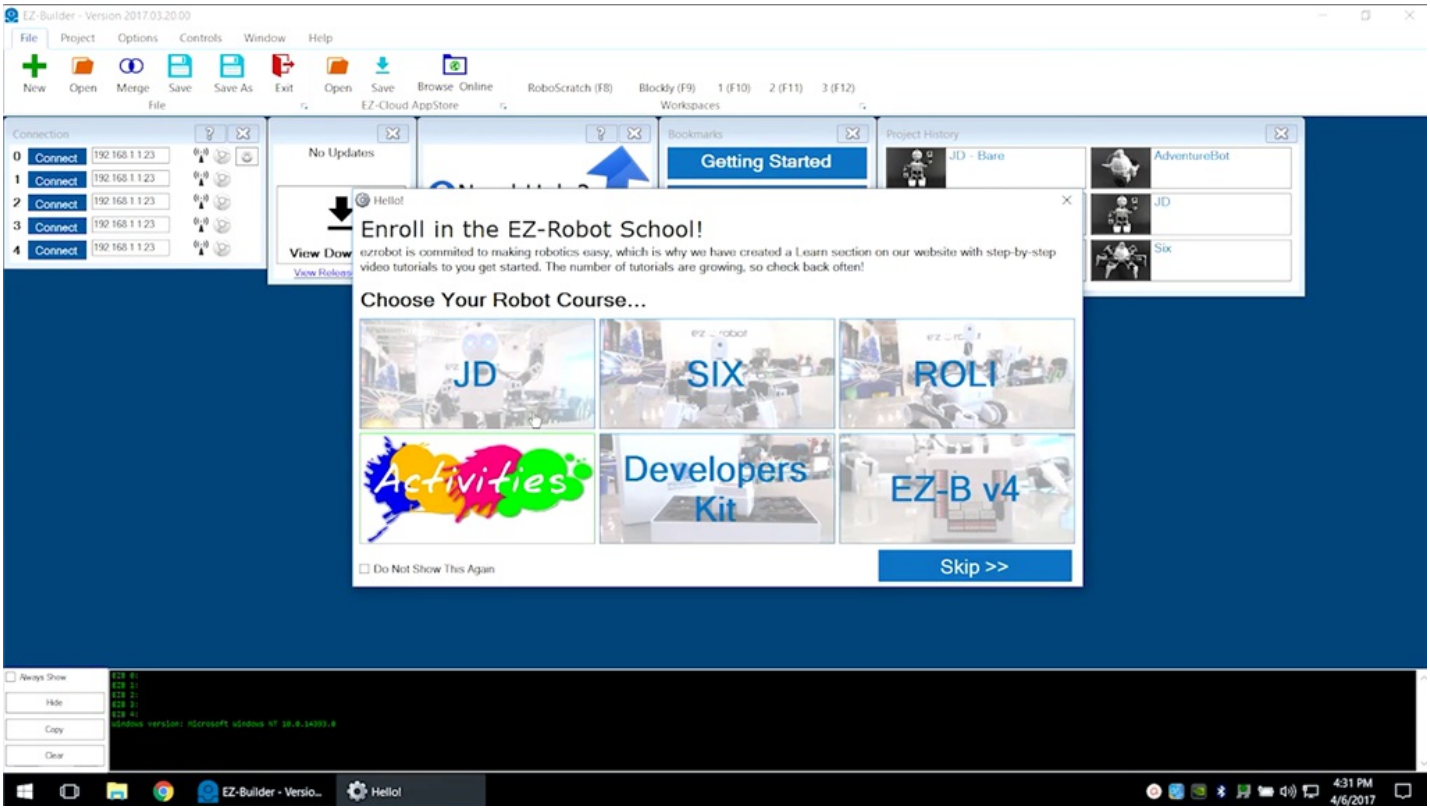
Step 1

Learn how to use **RoboScratch** to make the robot wave when it recognizes a face. Power on the fully charged robot. This example will use **Revolution JD**.



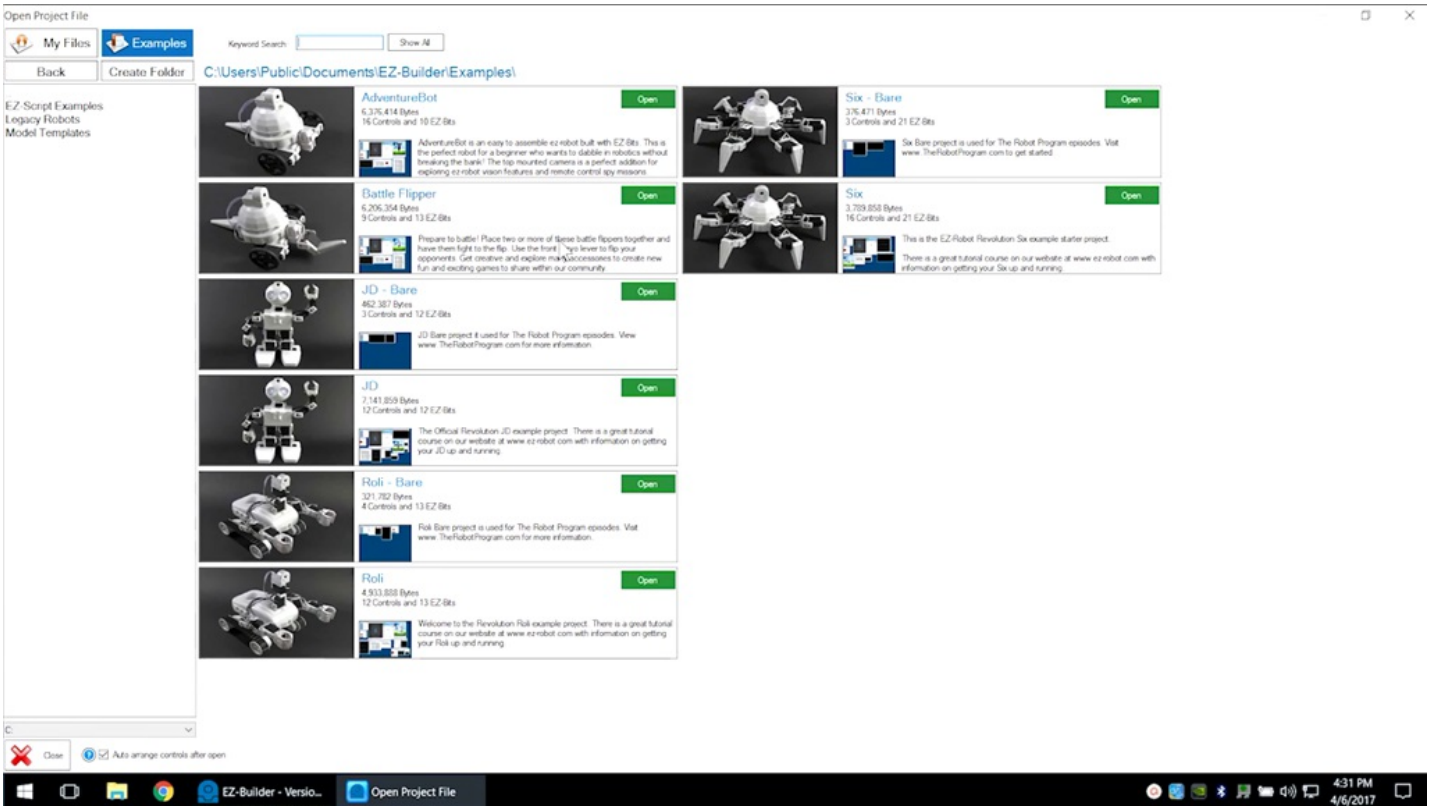
Step 2

Load the **EZ-Builder** software.



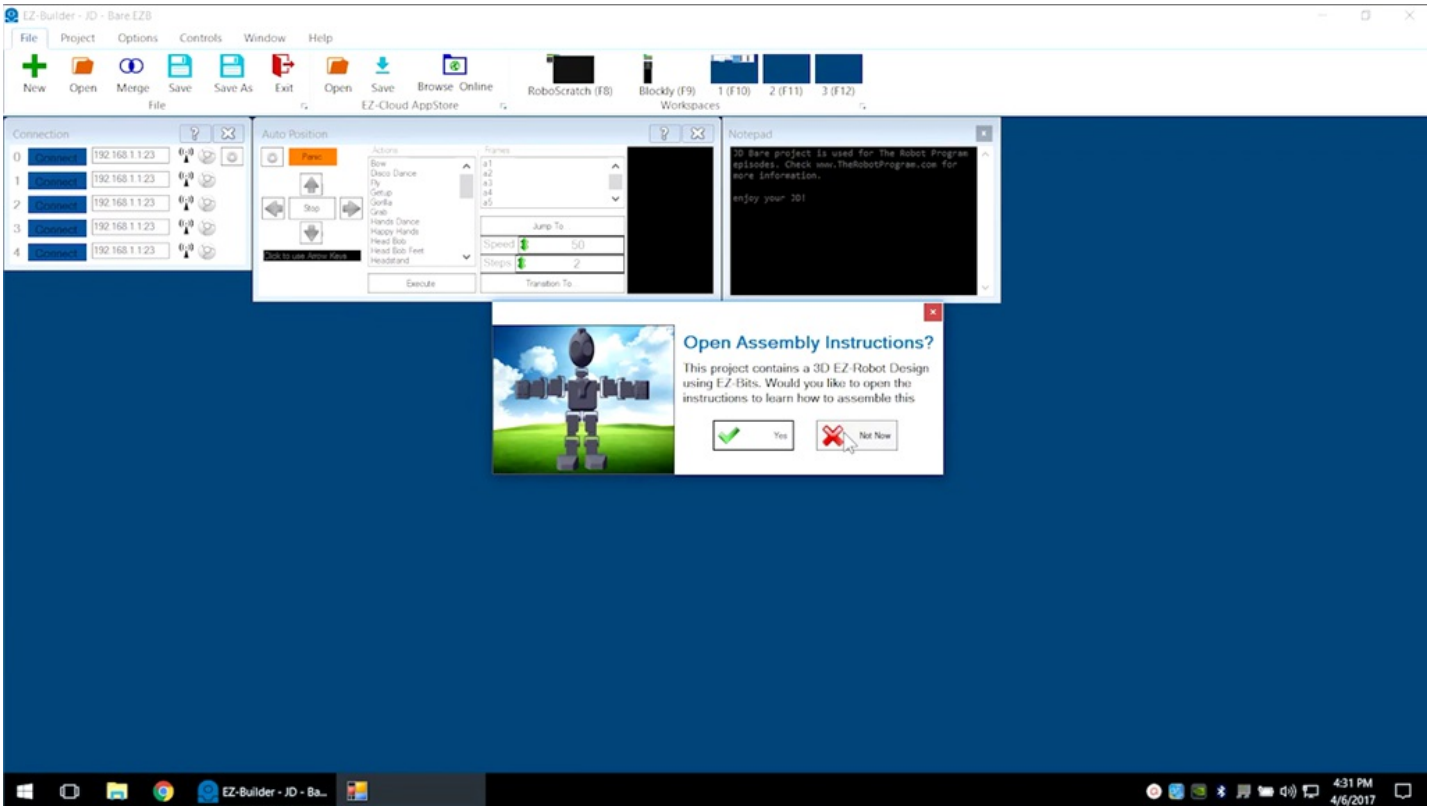
Step 3

Open the bare project for the desired robot.



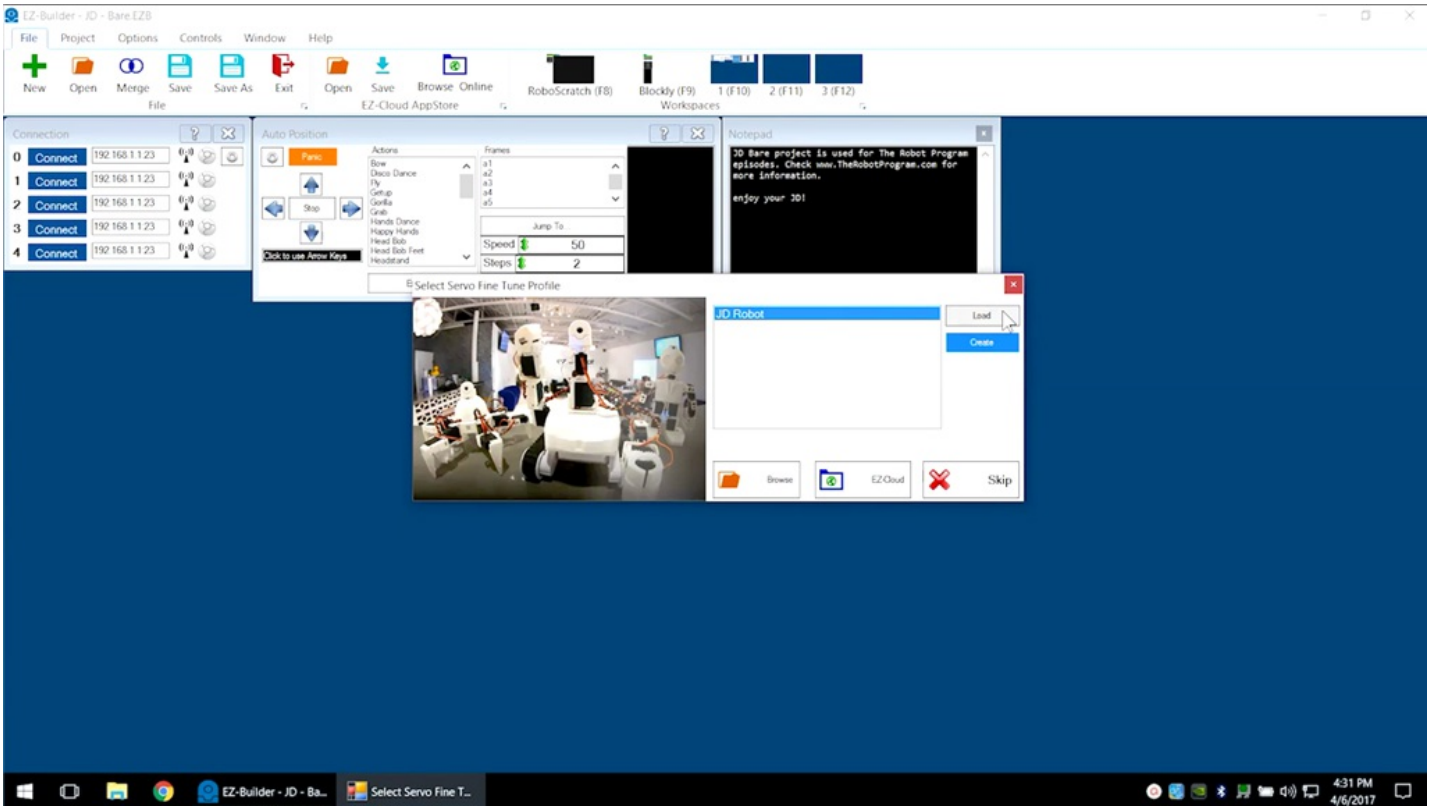
Step 4

Skip the build instructions. View past episodes for more build information.



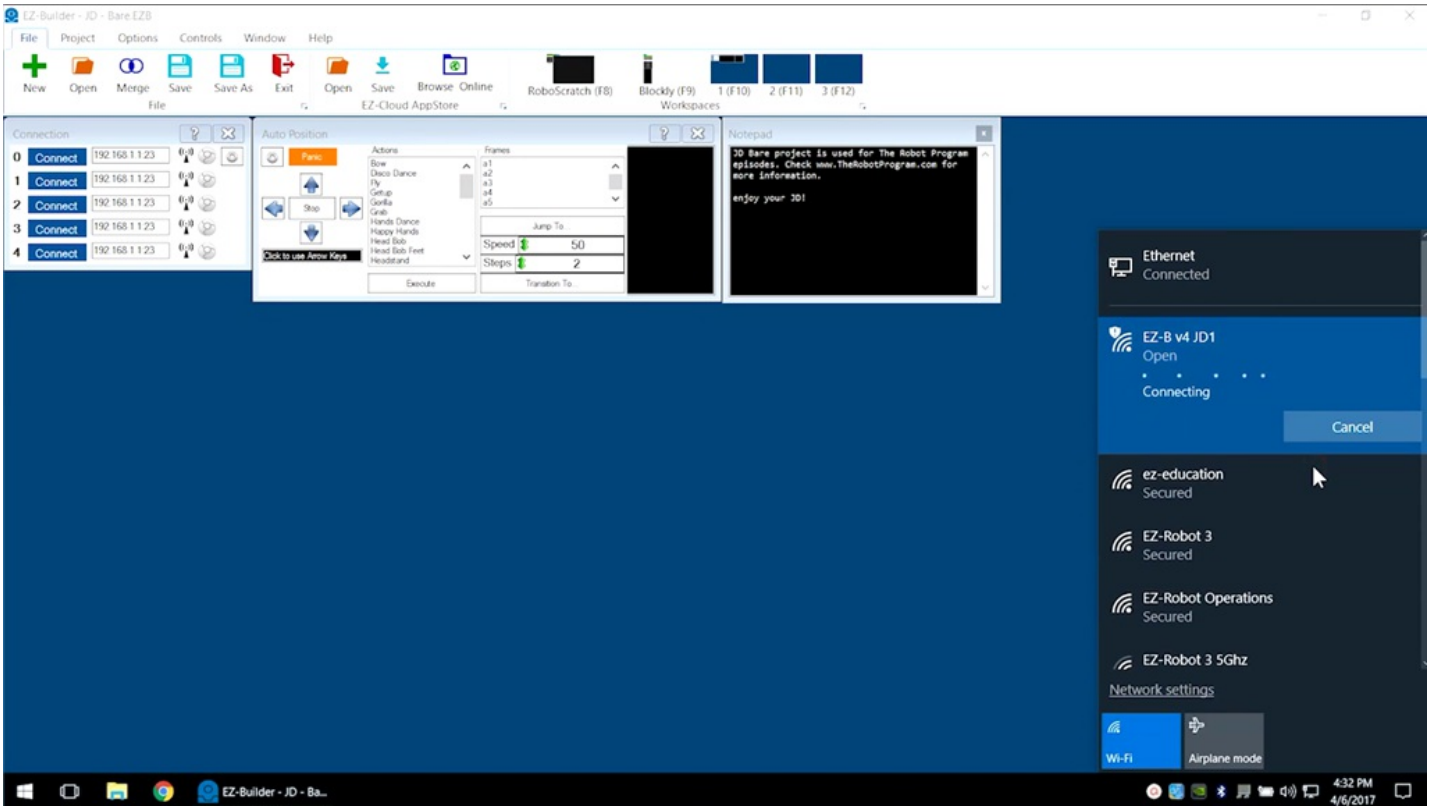
Step 5

If using **Revolution JD**, load the calibrated servo profile as necessary.



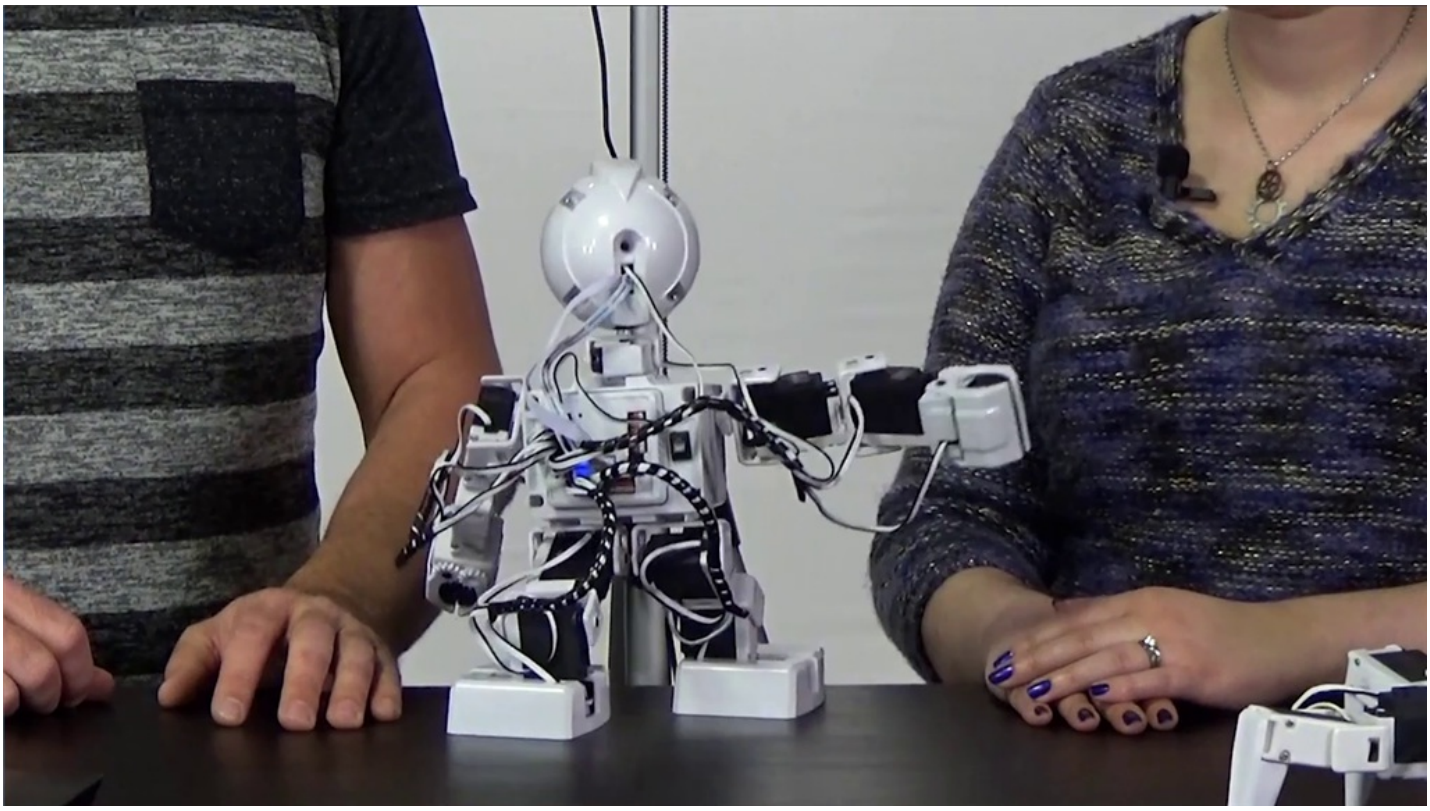
Step 6

Use Wi-Fi to connect to the **EZ-B** and click on the blue **Connect** button.



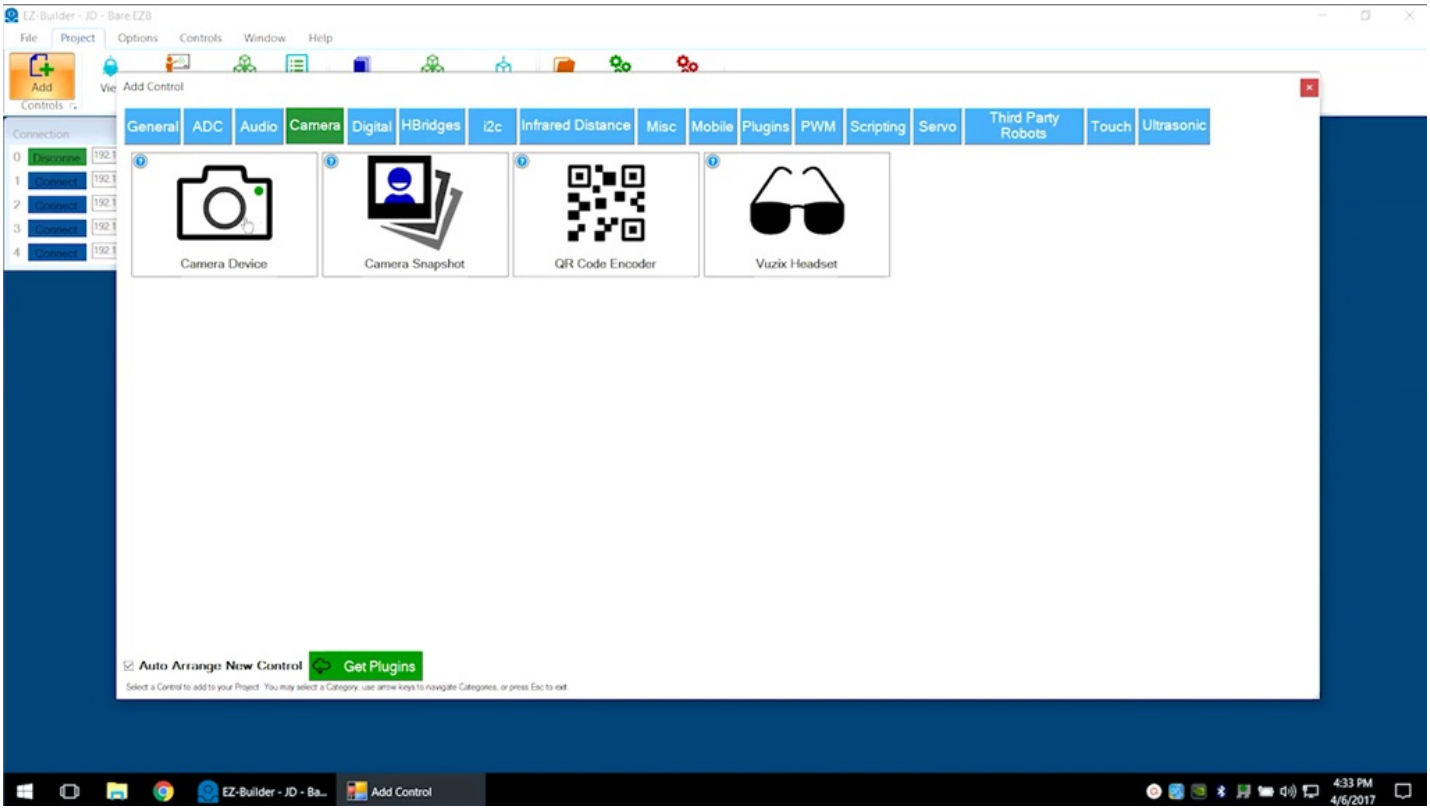
Step 7

If using **Revolution JD**, execute **Stand From Sit** in the **Auto Position** control window to bring the robot to a standing position.



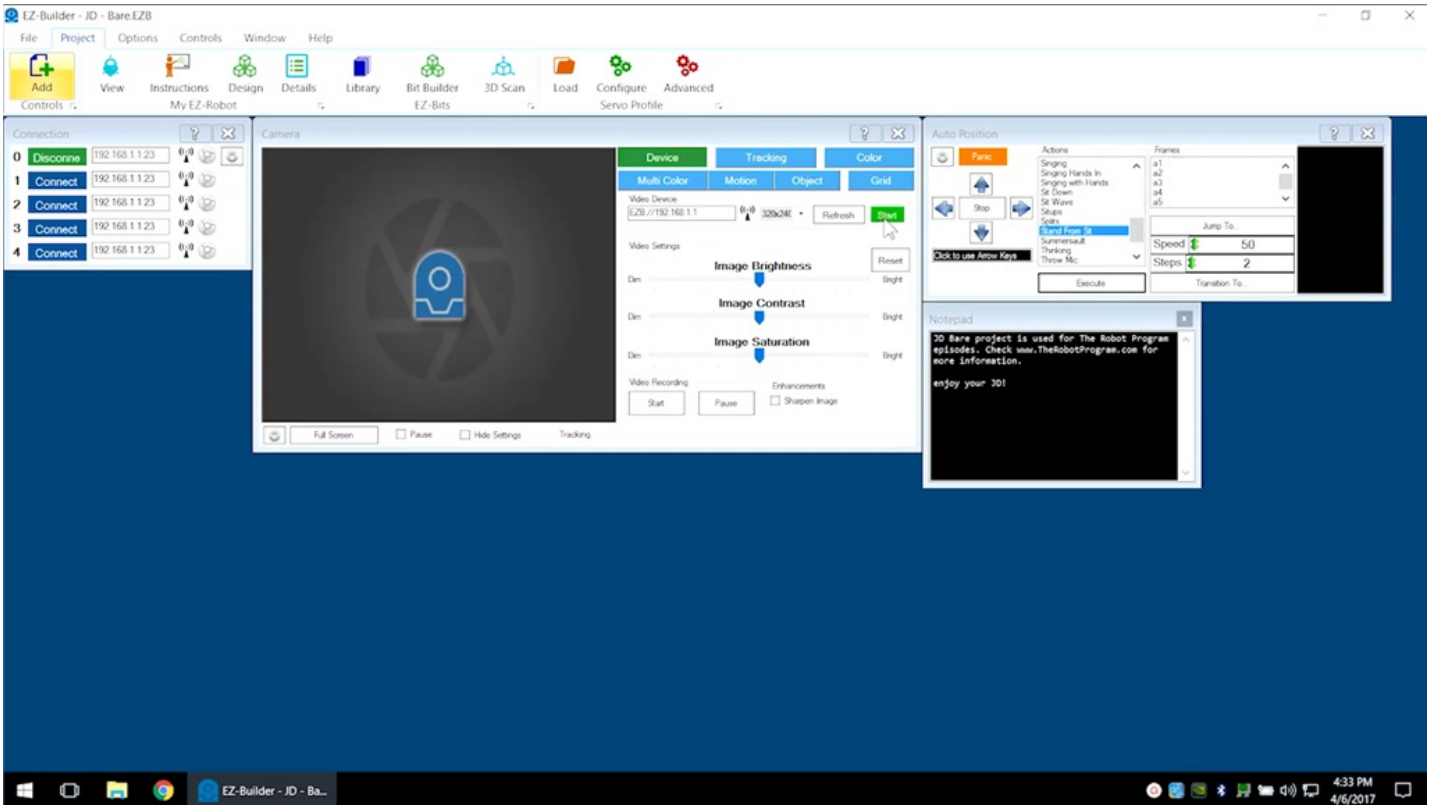
Step 8

Select **Project** -> **Add Controls** -> **Camera** -> **Camera Device** to add the camera controls.



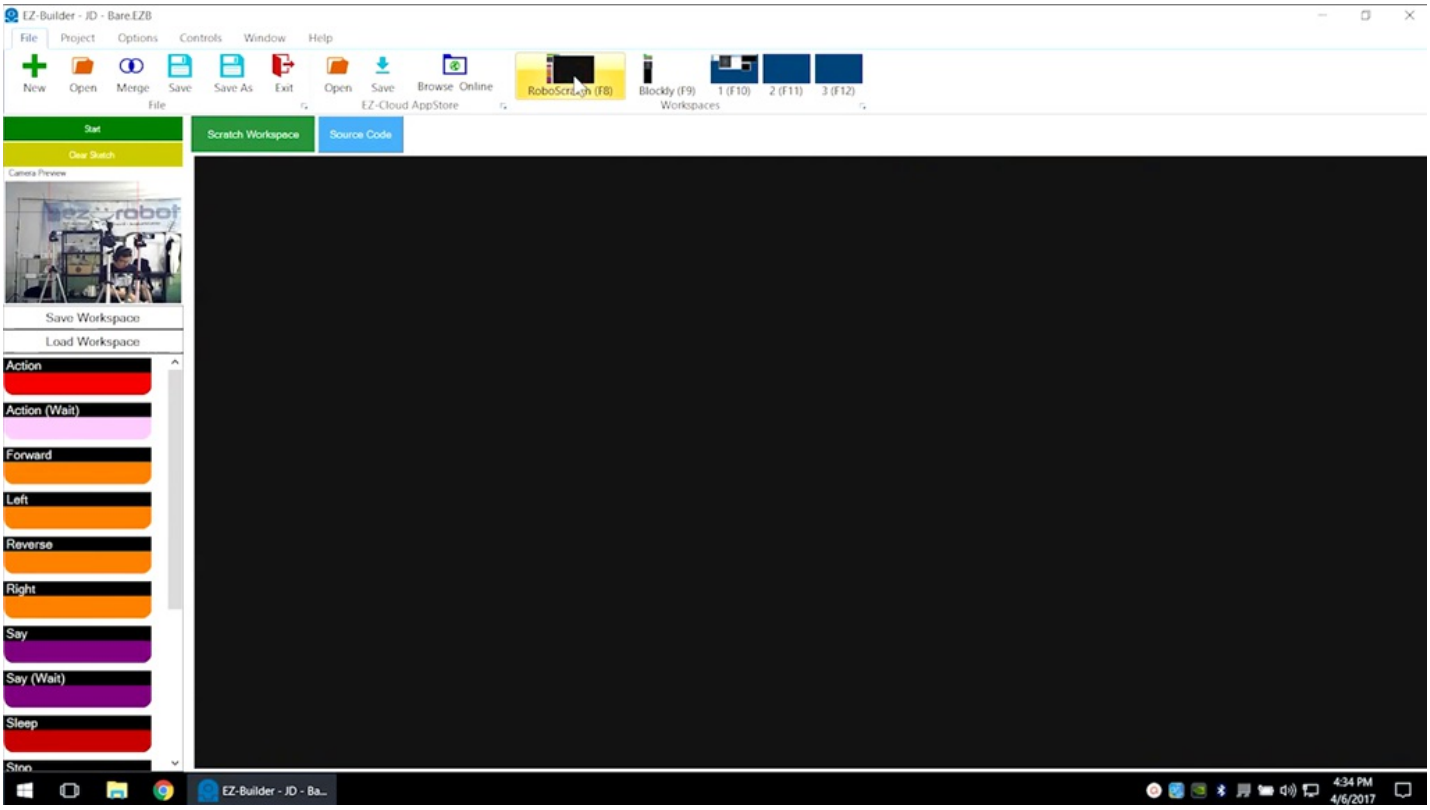
Step 9

Click the green **Start** button. The camera will provide peripheral information that will be used within the program.



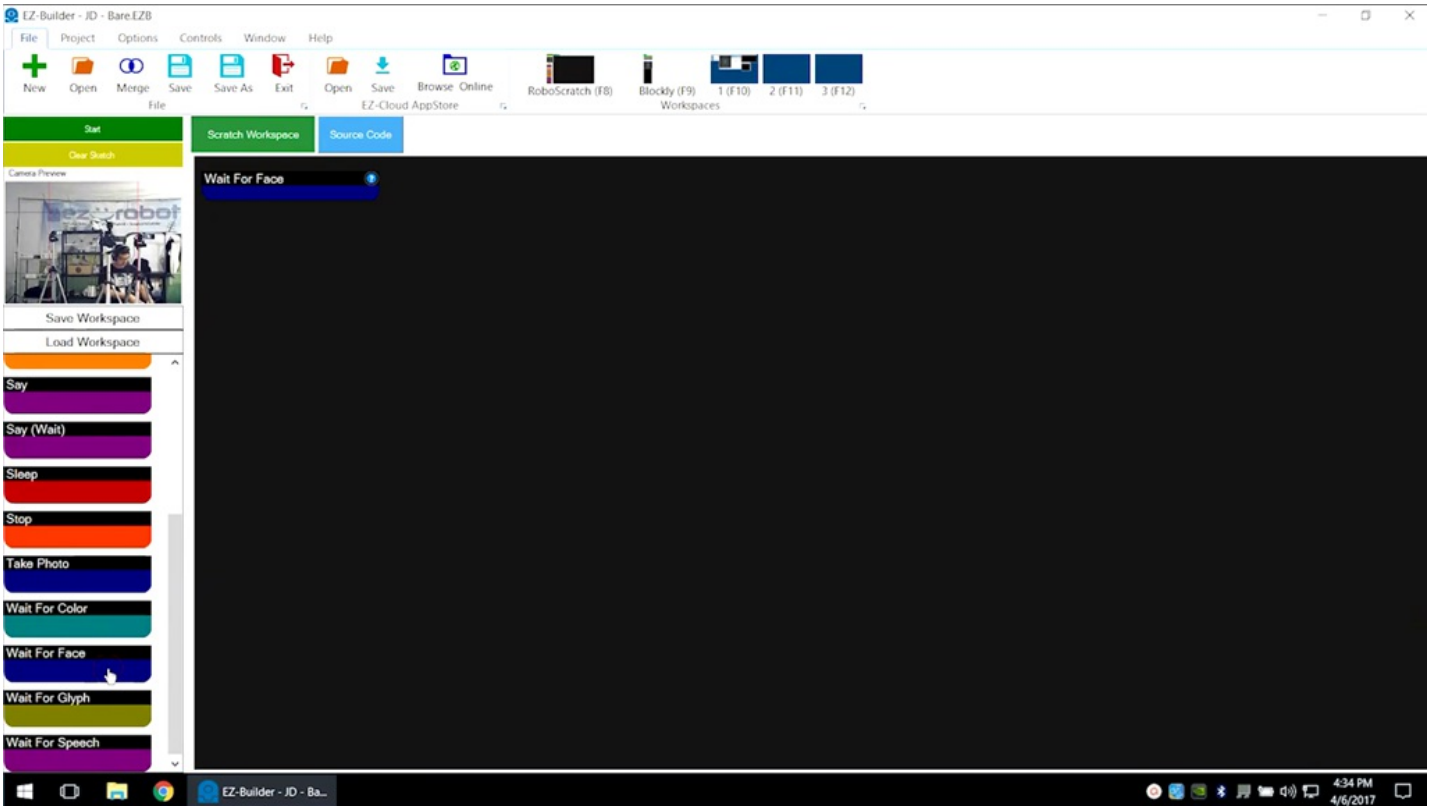
Step 10

Select **File** -> **RoboScratch** to enter the **RoboScratch** workspace. The available functions are listed on the left-hand menu. Click as needed to add them to the workspace.



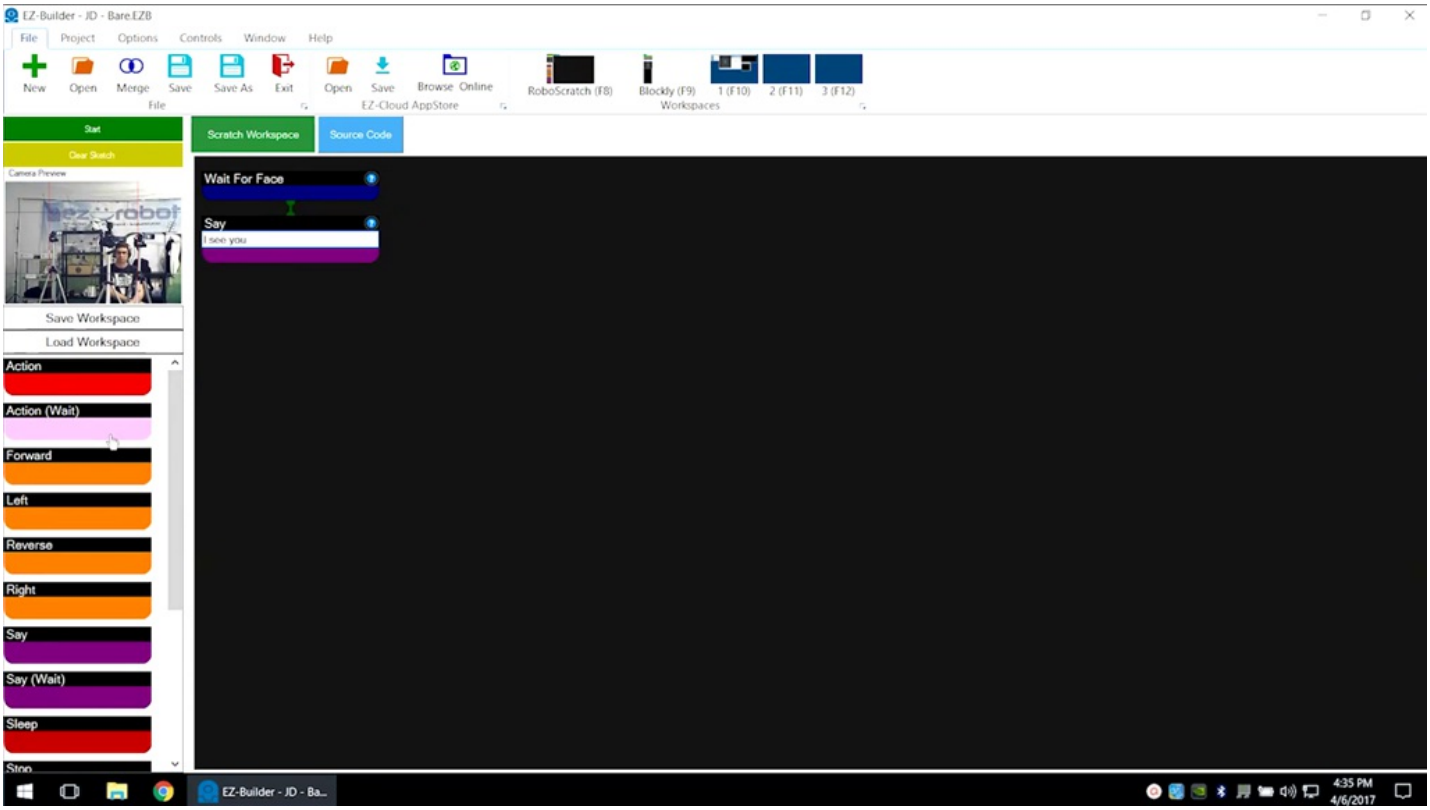
Step 11

Click to add **Wait For Face**.



Step 12

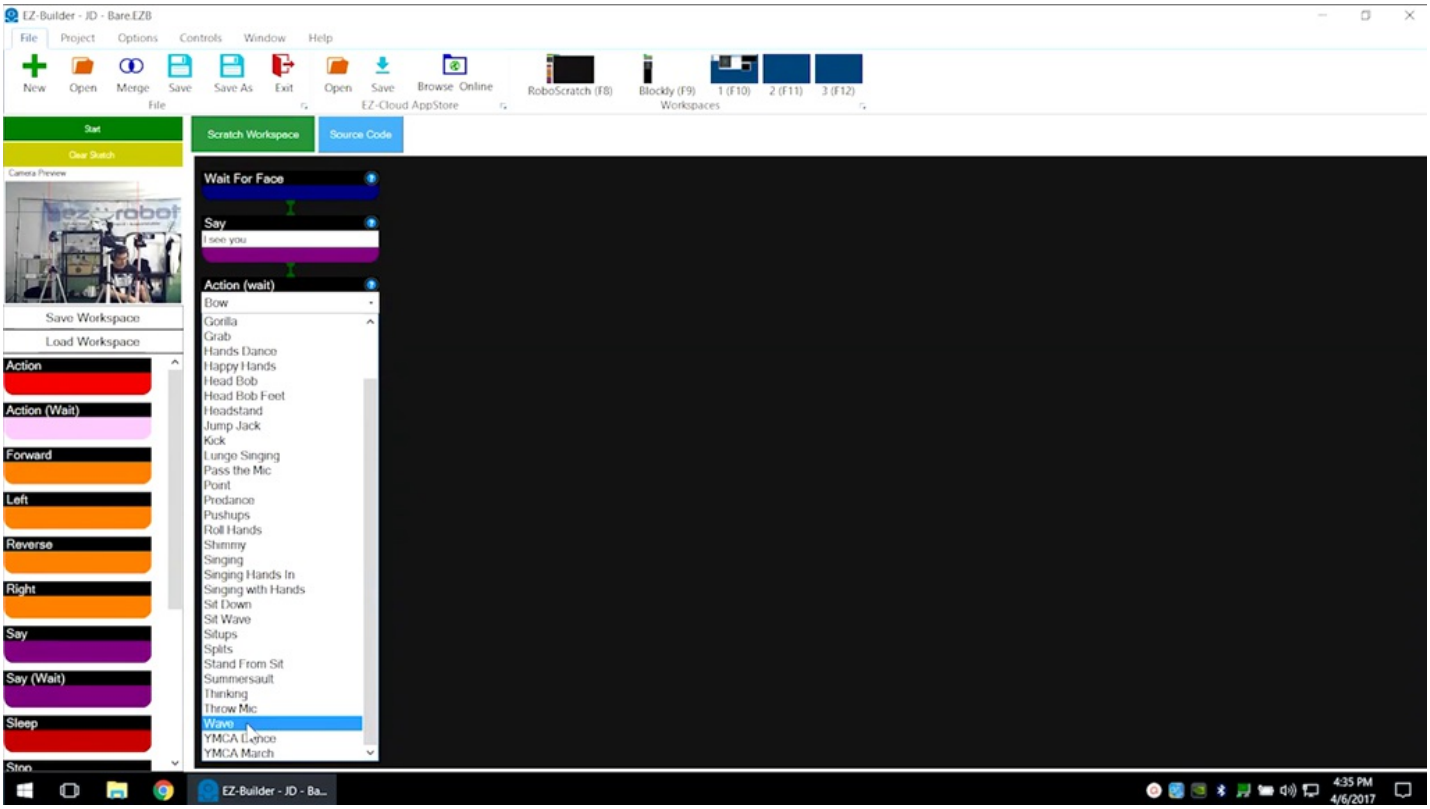
Click to add **Say**. Enter the phrase **I see you**.



Step 13

Click to add **Action (Wait)** and choose **Wave** from the list of options.

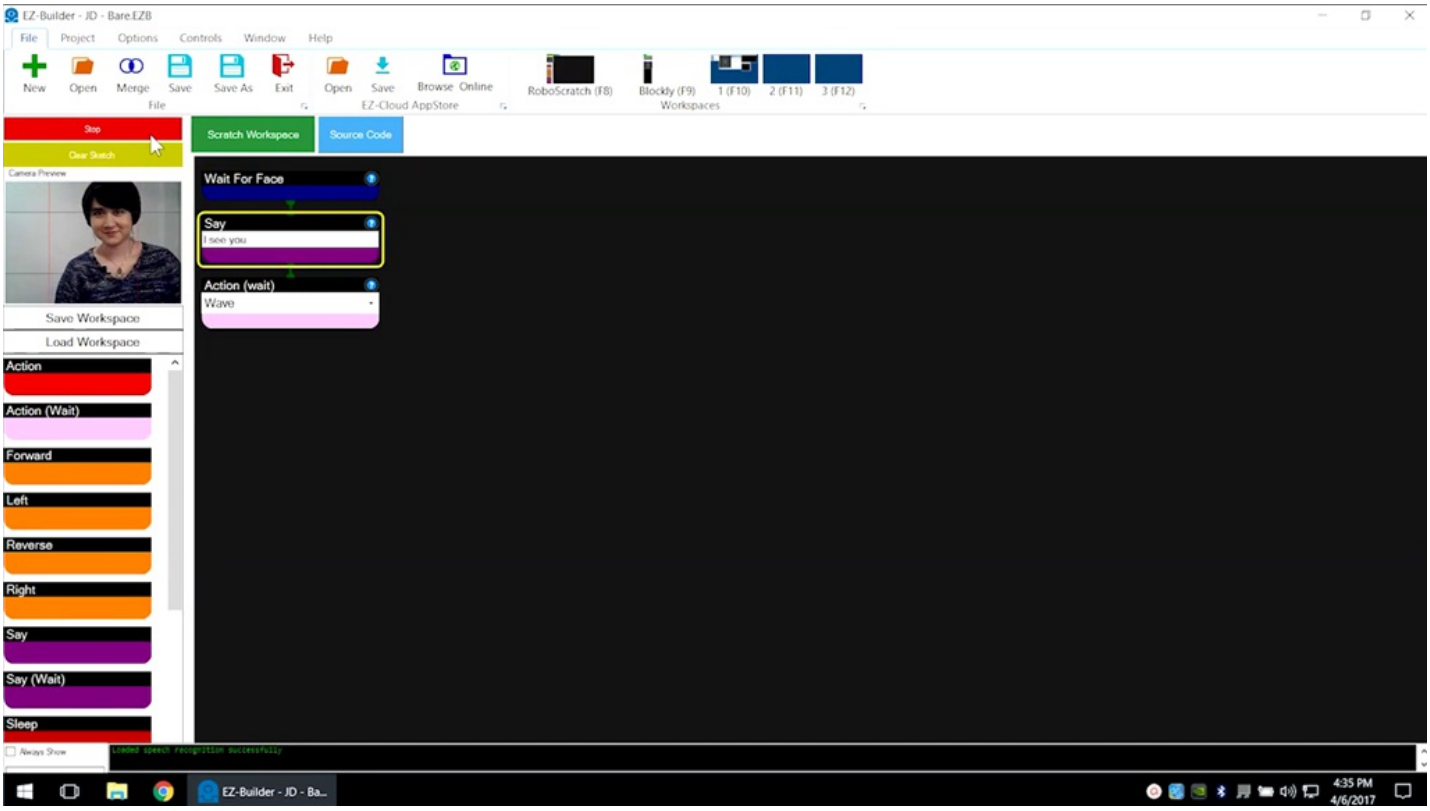
Functions that have b[/b] in their name will run completely before moving on to the next function.



Step 14

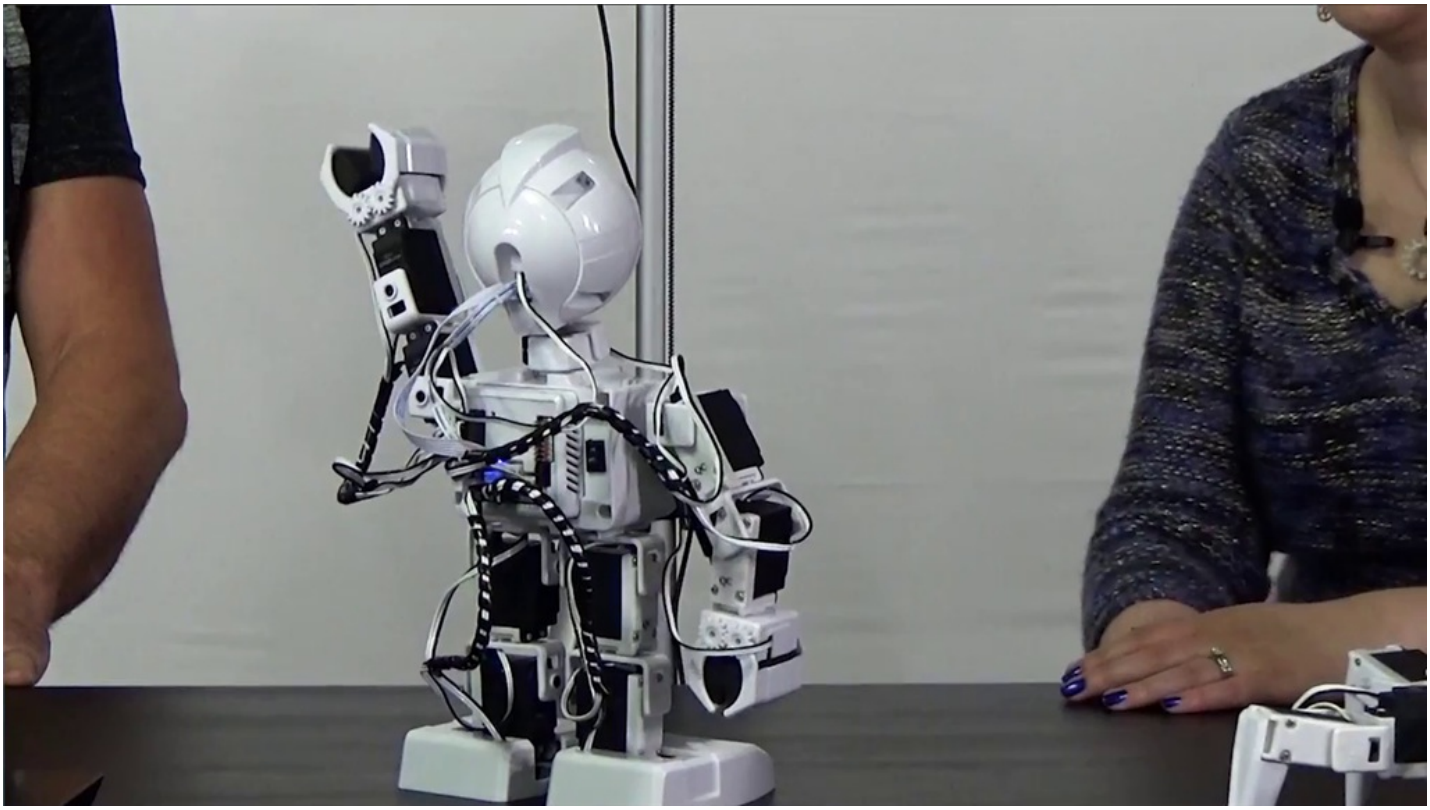
These three components will cause the robot to speak and wave once a face is detected.

Execute the program using the green **Start** button. Follow the green line and highlighting as the program runs.



Step 15

Once the robot detects a face, it will speak and complete the wave action.

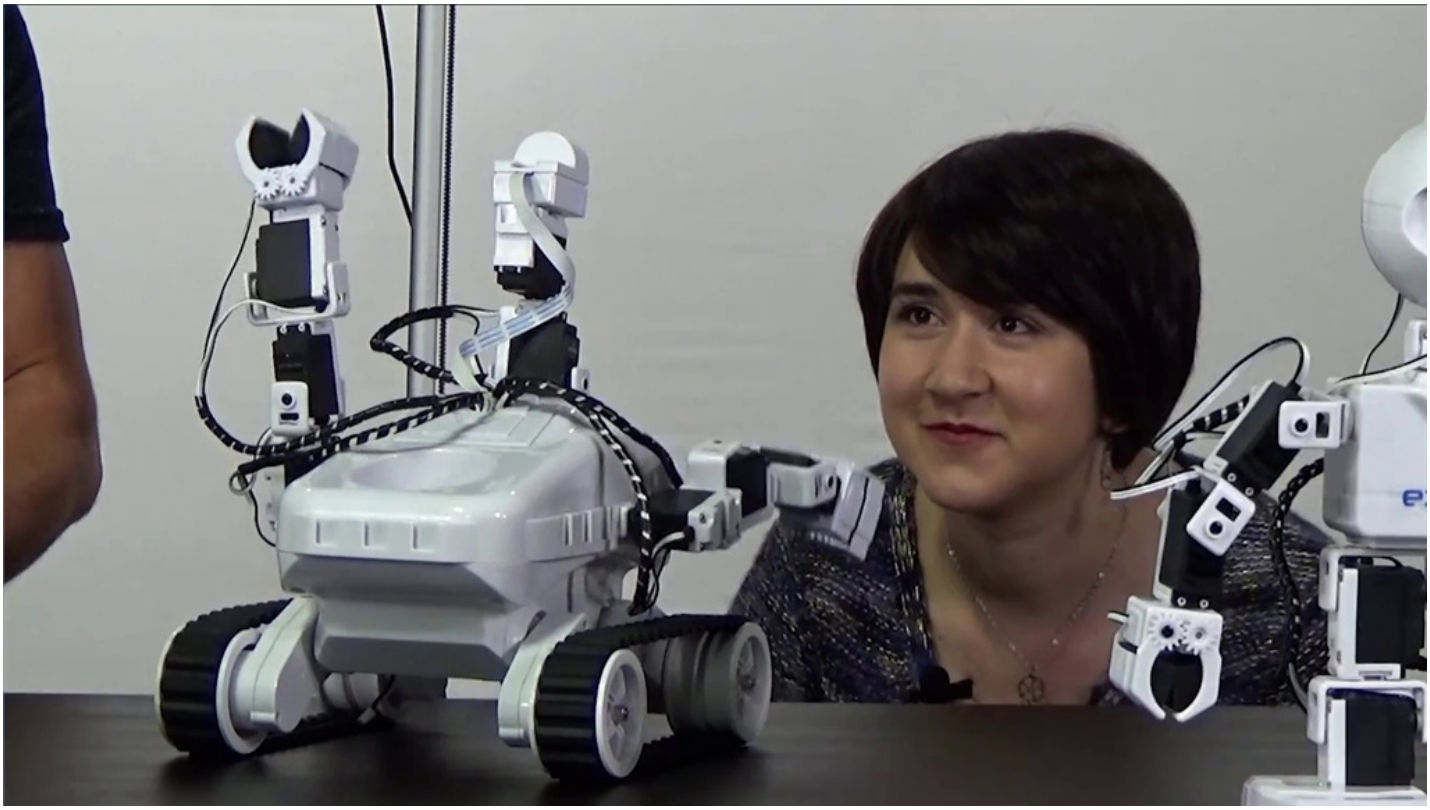


Step 16

Revolution Six will execute the same steps.

Step 17

Revolution Roli will execute the same steps.



Step 18

Save the project for future use.

Quiz

Question #1 What peripheral device is used to detect a face?

Question #2 What does Action (Wait) mean?

Question #3 What is linear programming?

View the answers to this quiz at www.ez-robot.com/Tutorials/Lesson/94.

Visit www.TheRobotProgram.com for more episodes.