ADVANCE

AI OBJECT FINDER - PART 3

WhiteHat Jr
Live Online Coding for Kids

INSTRUCTIONS:

Goal of the Project:

In class 137, you have completed the AI Ping Pong Web App.

You have to complete the JS code for the web page by adding gotResult() function, adding for-loop which will be used to fetch values from results object and draw rectangles and placing labels around the object. And add a ”if condition” to check if the object mentioned is detected then speak out object found.

**** This is a continuation of the project we did for Class 135 and 136. Please complete those projects before attempting this project ****

Getting Started:

Continue JS coding in the main.js file which you created in the project no.135.

Specific Tasks to complete the Project:

Complete JS code in main.js file:

1. Define gotResult() function, and inside it write code for fetching results from the model.
2. Define an empty array, this array will be used to store the results array obtained from gotResult() function.
3. Assign the results array to the array which you have defined in step two.
4. Inside p5.js **draw()** function, and inside it write the following code:
    - Add a “if condition” to check that the status of the model is not empty.
    - And inside this “if condition” write a for-loop for reading the objects array.
        - **Inside this for-loop write code for:**
            - Fetch confidence from the objects array and convert it into percentage.
            - Fetch label.
            - Fetch x and y coordinates from the objects array and using these coordinates place the label and confidence near the object.
            - Fetch width, height, x and y coordinates from the objects array and using these values draw a rectangle near the object.

The logic of if the object mentioned (means the object name use has been put inside the input box) is found then speak out the object found and stop the webcam and the execution of the cocossd model.

- Object mentioned is detected [for this add a “**if condition**” to check the label which you are fetching from the objects array inside for-loop is equal to the object mentioned which you have stored in a variable in the previous project(inside **start()** function)] then:
    - Stop the webcam live view.
        - Stop the webcam live view by: **variable_name_holds_webcamLiveView.stop()**
    - Stop the execution of the cocossd model.
        - For this write code of executing cocossd model, but only pass gotResult() function inside it.

```
objectDetector.detect(gotResult);
```

    - Update the HTML element which you had defined in project no.135 for holding the status of object(i.e whether the object found or not) with - “object mentioned found”. Here object mentioned means - name of the object which you have stored in a variable in the previous class(inside **start()** function).
    - Store the speechSynthesis API in variable. Recall speech synthesis API.
    - Use the SpeechSynthesisUtterance() function and inside it pass “object mentioned found”. Here the object mentioned means - name of the object which you have stored in a variable in the previous class(inside **start()** function) this will convert text to speech and store it in variable "utterThis". Recall SpeechSynthesisUtterance.
    - Then write the variable which holds the Speech API(defined in point 3) followed by the "**speak()**" function with a dot notation and pass "utterThis" variable as it holds the text-to-speech value so that it reads out “object mentioned found”.
- Add an “**else condition**” to the above “**if condition**”, inside this **else condition** write - Code to update the HTML element which you had defined in project no.135 for holding the status of object(i.e whether the object found or not) with - “object mentioned not found”. Here object mentioned means - name of the object which you have stored in a variable in the previous class(inside **start()** function).

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Submitting the Project:

IF you have not created a repository in the previous project and this is the first time you are hosting an **Object-Finder-Web-App** project on GitHub then:

1. Upload all the files which you have created in the **Object-Finder-Web-App** folder on GitHub. You can get the steps to do this by clicking this link.
2. Copy the hosted link which you will get after uploading all your files on GitHub and submit it in the Student Dashboard Projects panel against the correct class number.

OR

IF you have already hosted **Object-Finder-Web-App** project on GitHub then:

1. Upload **main.js** files on GitHub. You can get the steps to do this by clicking on the following link. Refer to **Reuploading Files** section from this link.
2. Copy the hosted link which you will get after uploading all your files on GitHub and submit it in the Student Dashboard Projects panel against the correct class number.

DO NOT TRY TO HOST THIS ON DRIVE TO WEB BECAUSE WE WILL BE USING IMAGES IN THIS PROJECT AND DRIVE TO WEB WON'T SUPPORT

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Hints:

1. Assign the results array to the empty array - this code will come inside the gotResults() function, because the results array is obtained inside the gotResults() function.
2. If you find any difficulty in coding for-loop, refer to the current class for-loop code.
3. "**if condition**" to check the label which you are fetching from the objects array inside for-loop is equal to the object mentioned which you have stored in a variable in the previous project(inside **start()** function) code for this:

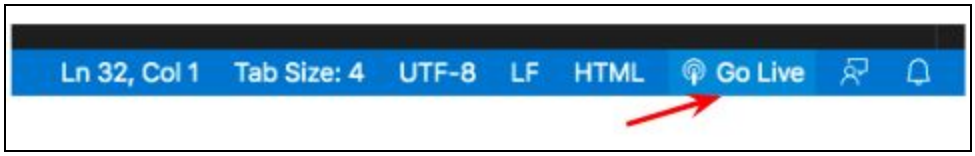
```
if(objects[i].label == object_name)
```

4. Update the HTML element which you had defined in project no.135 for holding the status of object(i.e whether the object found or not) with - "object mentioned found". Here object mentioned means - name of the object which you have stored in a variable in the previous class(inside **start()** function). Code:

```
document.getElementById("object_status").innerHTML = object_name + " Found";
```

5. If finding any difficulty working with speechSynthesis complete the following two activities Activity-1 and Activity-2. These 2 activities are additional activities from the current class, which is class no.137.

Whenever you are running the code, MAKE SURE YOU DO A TEST BY CLICKING ON GO LIVE BUTTON OF VISUAL STUDIO. THIS WILL RESULT IN RUNNING THE FILE ON THE LIVE SERVER OF VISUAL STUDIO.



Because we are using a image file, and p5.js just doesn't allow us to run any image file from a local system, it needs to be run on a server.

REMEMBER... Try your best, that's more important than being correct.
After submitting your project your teacher will send you feedback on your work.

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