MaSSP AI PROJECT DAILY REPORT NO. 3

Team 3
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Project theme: OBJECT DETECTION – Finding certain objects from input images or videos

1 General Progress

- Decided to build both a Website and a Desktop application for our AI model.
- Successfully implemented YOLO model on realtime object detection through camera using OpenCV library
- Trying to implemented the GUI for the app
- Decided *not* to retrain the YOLO model as the pre-trained one already covers most of what we have in mind

2 Future Plan

- Finish making a server using Minh's computer as the host to run the code on,
- Wrap up the desktop application
- Finish the technical report and presentation slides for the mock presentation day

3 Obstacles

- Minor problem while developing the website like security error and such

- `UnknownError` arise during the re-tweaking of our code (e.g. System exit 2, `AttributeError`)
  - Sometimes, when we try to run two .ipynb file at the same time, both do not run and exited with `AttributeError`
- We are unable to run the desktop application package that mentors send us (details in section 4.1)

4 Demo

The Colab link containing the progress so far: *https://drive.google.com/open?id=186OWo8ZU0dRYfMjsqumBpMVNRWlR2kwh* as well as our team's repository on GitHub: *https://github.com/goodudetheboy/MaSSP-Team3*.

4.1 AI Core Analysis

- Using the `detect_video` function extracted from `yolo.py` file from the `keras-yolo-master`, we tweaked it to fit into our code and made it into `detect_vid` function.

```
def detect_vid(self, video_path, detector, desired_classes, output_path=""):
```

Image 1: `detect_vid` function and its arguments

- `0` means that OpenCV will open the webcam. The `desired_classes`, as stated in Report No 1, is to define what we want to find by the program, ranging from 1 to 81, and 0 to find everything.
- If the code run successfully, the output will be somewhere in the line of this:

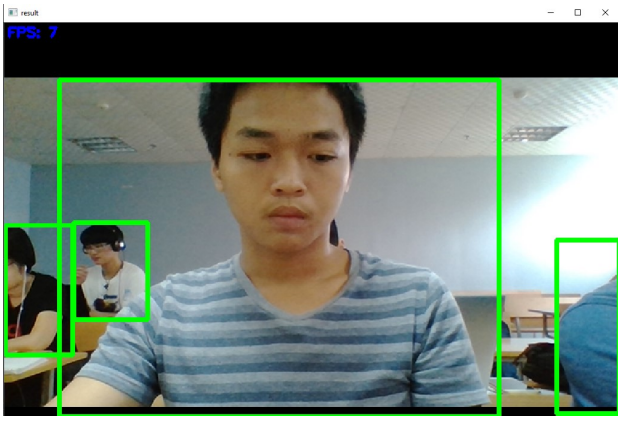

Image 2: Webcam window opened by OpenCV as well as the analysis

- Label and score will be added soon in the top left corner of the green bounding boxes.

4.2 GUI Analysis

- Though we have decided to go the extra mile to do *two* Wrapper for our core, we have run into quite a trouble

4.2.1 Web

- Here is what we have gotten so far:

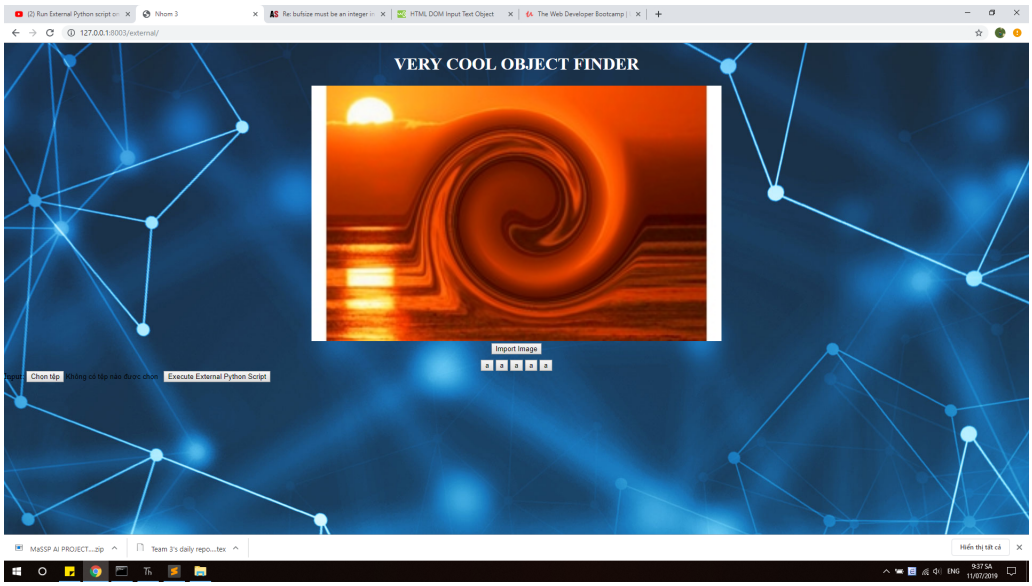

Image 3: Our Web application's GUI

- As Minh is working on this, he has ran on some trouble relating the `File Not Found` error, specifically not being able to load the .js file for the webpage.

4.2.2 Desktop Application

- When Vuong tried to run the camera.py from the desktop application package that the mentors sent, it reports the following error: `ModuleNotFoundError: No module named 'PyQt5.QtMultimedia'`. StackOverFlow does not have much information about such error, and the only solution to fix it is to downgrade the `pyqt` library. Even after Vuong did that, nothing changed.