Group 6

Team Member:

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OCR and Language Translator

Motivation:

Many researchers have focused on improving optical character recognition (OCR) efficiency by developing new techniques using image processing-based methodologies. However, the major limitations of image processing techniques are their complexity and computational intensity. Thus, they are not applicable to some real-time application. This problem seems interesting to me and my team, so we thought why don't we spend some time and figure this out, how we can improve the traditional OCR techniques. And there's one extra thing which really drew attention of my team towards improving OCR, i.e. Language translation. What if we really obtain high accuracy on OCR , then using this improved version of OCR techniques we can translate text obtained from OCR model to any language effectively. Though G-Translate app has this feature but it's not that much effective in the real time.

Project Description:

Tools:

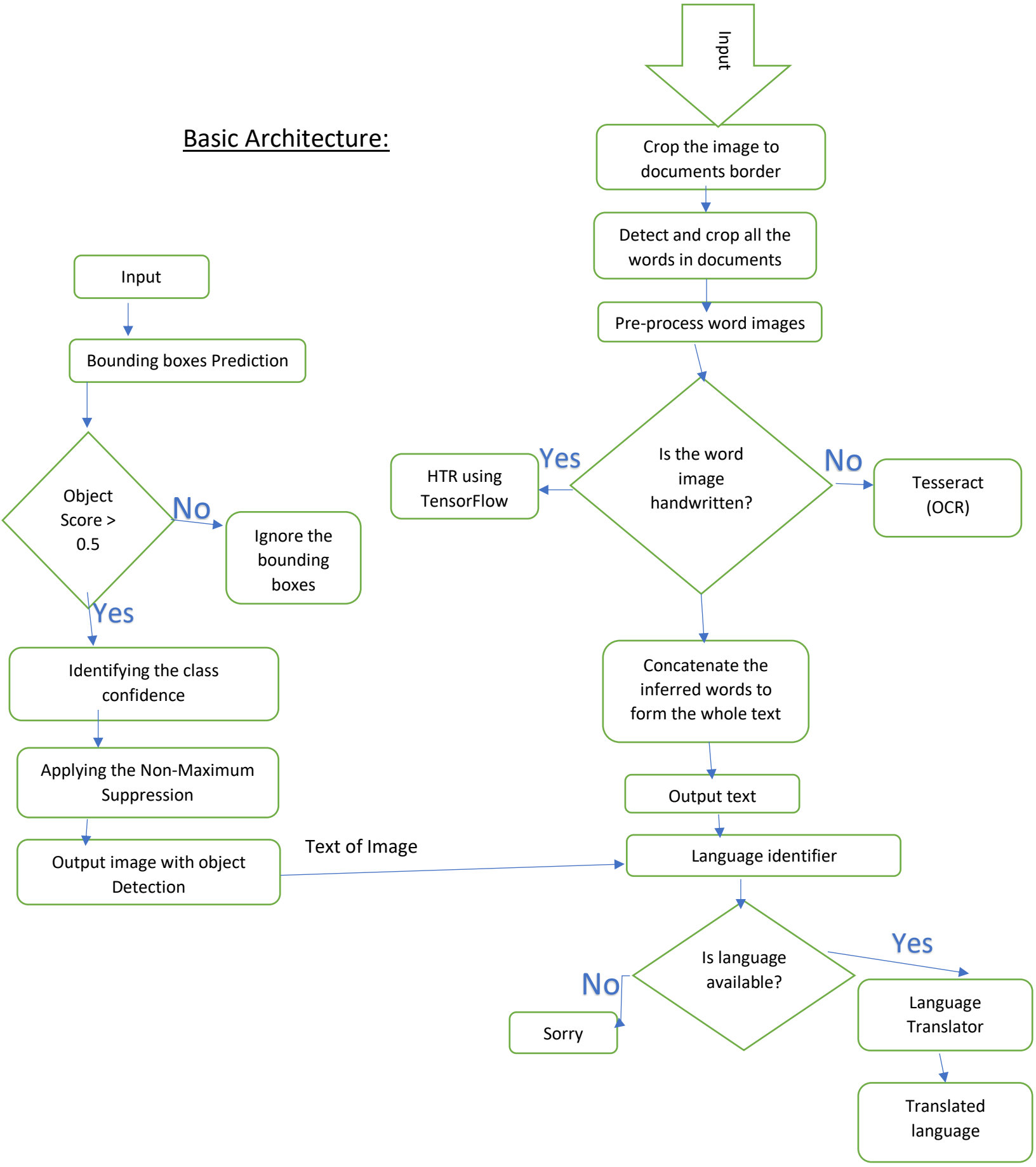
→ We are using python as a programming Language.

→ Tools for this project are, Deep Learning (CNN, NLP), TensorFlow, pyTorch.

Challenges:

→ We are doing OCR, object Detection and Language Translation, so main challenge is the accuracy at the real time.

Basic Architecture:



Deliverables:

- ➔ Final output is the text in the form of user desirable language. Suppose I am in Punjab and I want to read the banner, then what I will do is, first click the picture of the banner, and select the language that I want to convert the text in banner (say English), then I fed the clicked image into the app, and our app will show the exact meaning of what is written in that banner in English language.
- ➔ Main feature of our app will be the language translation, and we planned to add one extra feature i.e. Object detection. So, our app will also detect the objects in the picture and translate the meaning of that object into desirable language. Suppose I clicked picture of bird, and now I want to know what does bird mean in Hindi, now I fed the picture of bird into our app, and our app will show चिडिया.
- ➔ We are planning to do object detection and language translation at the very instant (in the real time). I mean, user need not to click the image in order to translate, user will just open the camera and focus on the banner or object and our app will do rest.