Readme for reproducibility submission of

- Paper ID [#60] - MMSys 2024 ODS Track
- Paper ID [#75] - MMSys 2024 Demo Track

A) Source code info
Repository: https://github.com/simula/SoccerSum
Programming language: Python, JavaScript, HTML, CSS, AJAX
Additional Programming Language info: Python 3.11
Packages/Libraries Needed:
Flask-related Imports: flask, re, torch, torchvision, ultralytics, cv2, numpy, requests, openai, whisper, librosa, sklearn.feature_extraction.text, sklearn.metrics.pairwise, matplotlib, mpl_toolkits.mplot3d

B) Dataset info
Repository:
https://drive.google.com/drive/folders/1gHGS_5LWZoEZAOqQ2FBXB_Ph073h9a1t?usp=drive_link

C) Hardware Info
We have tested our system with Linux. For speeding up the detection, segmentation and classification we need at least 1 GPU with 4 GB VRAM.

D) Experimentation Info
Recommended:
Through https://github.com/simula/SoccerSum:

1) Clone the SoccerSum Repository from aforementioned link:
   `git clone https://github.com/simula/SoccerSum`

2) Install the necessary requirements from the requirements.txt file by rooting to the main folder and run:
   `pip install -r requirements.txt`

3) Download the model weights for Detection, Segmentation and Classification ultralytics model from:
   https://drive.google.com/drive/folders/1EYrtLYCFbQin8RAorGUrTjtB4by-79CC?usp=drive_link

4) Place the weights in the weights folder of cloned repository and adjust the paths to them in the main.py file.

5) Flask application will be run in the deployment mode on the 5000 port on your machine. Make sure this port is being used at time with other applications.

6) Root to the main folder and run the `app.py` file by:

`python3 app.py`

7) The GUI will be run on your default browser and you need to specify the path to the file of a Goal event with either a local MP4 file path or a live M3U8 url.

8) Other configurations can be adjusted by your preference and you could also give the system more information by filling up the meta data section of the goal event.

9) System needs a valid OPENAI api Access Token for the GPT4 for generating the output. This step is mandatory to fill in to see the final result.

SoccerSUM GUI will take around 1 minute for a 30 second goal event clip to process and generate the tweets of that event. In case of larger video clips, the system will need more time. The progress of each step of the processing will automatically be shown on the right sidebar of the GUI.