e-Yantra Robotics Competition (eYRC 2019-20)

Task 0.2 - Supply Bot

Introduction

The objective of this task is to:

1. Understand what a video is.
2. What are the properties of a video frame – viz. colour, aspect ratio, resolution, etc.
3. How to read, display and write a video using Python and OpenCV installed in Task0.1

Problem Description

Remember that all file and folder paths in your program should be relative. A video named *"RoseBloom.mp4"* is provided in the **"Videos"** folder. The video is a colour video of the blooming of a red rose. As the video progresses the rose flower blooms into a fully bloomed rose. The Video is a 13 second playout .mp4 format video of resolution 640×360 at a $25fps$ frame rate. All your files must be generated in **"Generated"** folder. Write your code in the placeholder file, *"main.py"* provided in the **"Codes"** folder. Your *"main.py"* file must solve all the parts at once.

Part A

Read the video and save the frame at the **start of 6th second**. Save the image as *"frame_as_6.jpg"* in the **"Generated"** folder.

Part B

We want to visualize the red component of the *frame_at_6.jpg* image. Read the video or the file (which ever convenient) and set the Green and Blue components to 0. Save the image as *"frame_as_6_red.jpg"* in the **"Generated"** folder.

Warnings

1. IMPORTANT: The code and documents you submit should be YOUR work in YOUR WORDS. To avoid any copyright violations, you must NOT copy phrases or code snippets directly from manuals or web.
2. The team should NOT mail or upload the document, code or folders anywhere else, except on the portal.
3. Teams failing to submit the document, code or folders by the deadline will lose the marks for this task.
4. e-Yantra WILL NOT entertain any request for extension of deadline for uploading the task.
5. e-Yantra holds complete discretion to disqualify a team if any foul play is suspected.