trdrop

Teardrop - a video analysis software

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1   Description

trdrop - pronounced ['teə(r),drɑp], is a marvelous video analysis software. It can calculate the frame rate of a raw input video, show frame tears, visualize the result and export it into a youtube friendly format.

trdrop_lib is the core library which provides an interface to create a command line and a GUI interface for the provided functionality.

trdrop_c is the command line interface which will be configurable through a config file and/or flags. The output can be streamed while being processed from VLC to get a preview.

trdrop_v is the GUI interface which will be configurable through user interaction. The output can be shown in a custom window with additional layout options. This will only be done if the time constraint allows it.

2   Formal description

This project covers several themes of C++, mainly defined under the umbrella term *offline feature extraction of big raw video data*. The task consists of creating a streaming interface to being able to process multiple GB sized videos, apply the feature detection and encode everything into a single video in constant space complexitiy.

2.1   Functionality

The following features are to be included in **v0.1**:

- determine the real fps of the incoming video files

- show the fps as text in the video

- import up to 4 `.raw` video files with a size greater than 150 `GB`

- export the resulting video into a youtube friendly format (google-terms)

- the resulting video can be streamed using VLC while it's being created

2.2   Program Diagram
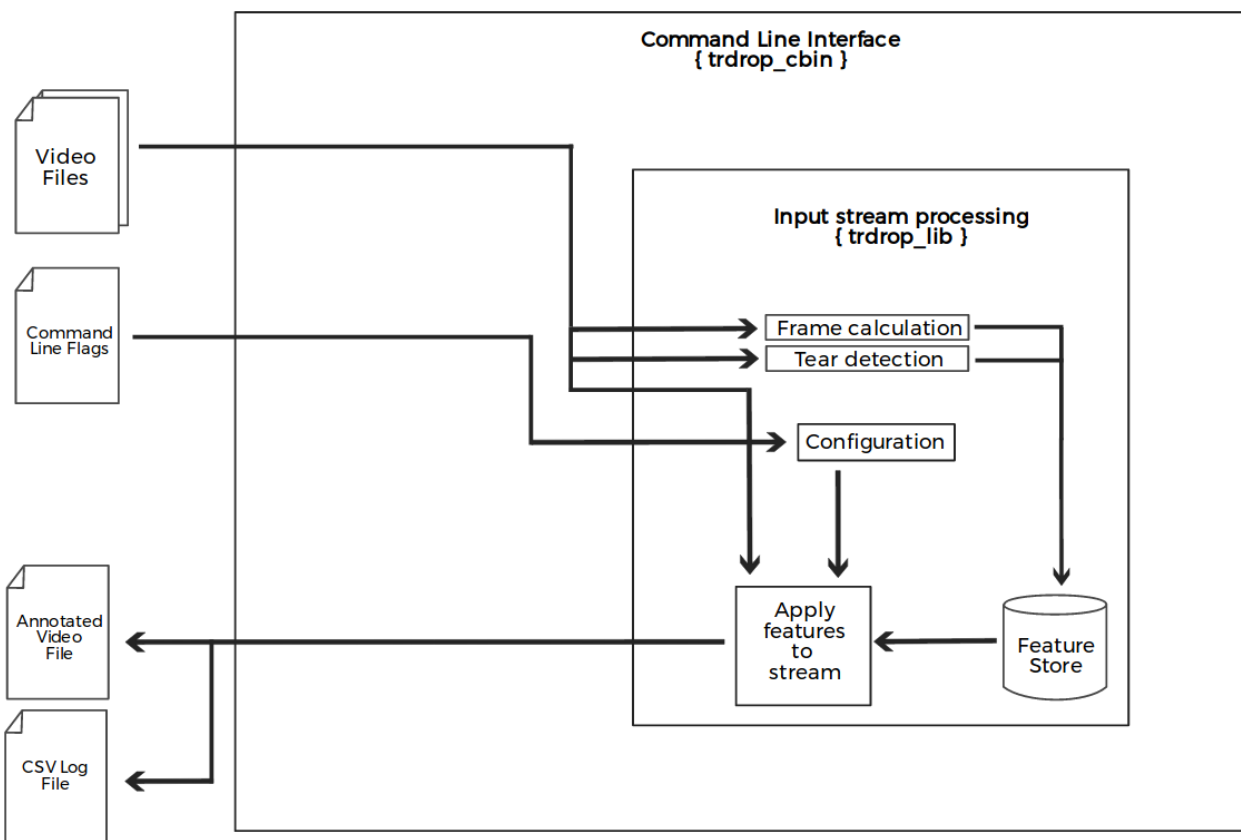
3   Example usage

3.1   Command Line Interface

```
# Creates a new annotated video with defaults
#
$ trdrop_cbin video_01.raw > converted_video.mp4

# Creates a new annotated video and VLC is used to visualize the result
#
$ trdrop_cbin video_01.raw > converted_video.mp4 | vlc

# Creates a new annotated video from multiple inputs
#
$ trdrop_cbin video_01.raw video_02.raw video_03.raw video_04.raw > converted_video.mp4
```

4   Future work