CPP OOP test

Design a C++ based application that obtains its input data from a CSV/JSON file and organizes it in "items" passenger and luggage

1) Using OpenCV's C++ library, make an app that opens a video source captures its frames one by one and displays it on screen.

2) Using OOP, design a speed measurement module that
- receives a cv::Mat image (video frame),
- receives a vector<cv::Point> point_set with 2 or 3 coordinates,
- calculates the dense optical flow by comparing the recent cv::Mat input with a previously stored cv::Mat "buffer",
- calculate the speed (in pixels/frame) for each coordinate in point_set,
- print the [x, y] flow matrix components corresponding to each input coordinate.



**Image #. Recent frame and its corresponding dense flow image colorized (this output requires an stored image to compare recent and previous frame).**

3) calculate the average speed in the vicinity of those points

Notes:
If the buffer cv::Mat image is empty (start of runtime), calculate the optical flow comparing the recent cv::Mat with itself.
The point_set can be hardcoded.

Class