

# Results of Semestral Project OpenCV

Karel Lenc

A4M35OSP Open Source programming

30/05/2012

# Contents

Assignment

Android Camera Configuration API

Hierarchical MSER

Discussion

Bibliography

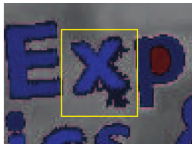
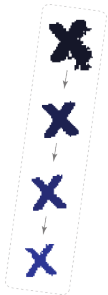
# Android Camera Configuration API

Implement access to android camera settings through OpenCV API for the OpenCV Android native camera driver.

```
CV_CAP_PROP_ANDROID_FLASH_MODE  
CV_CAP_PROP_ANDROID_FOCUS_MODE  
CV_CAP_PROP_ANDROID_WHITE_BALANCE  
CV_CAP_PROP_ANDROID_ANTIBANDING  
CV_CAP_PROP_ANDROID_FOCAL_LENGTH  
CV_CAP_PROP_ANDROID_FOCUS_DISTANCE_NEAR  
CV_CAP_PROP_ANDROID_FOCUS_DISTANCE_OPTIMAL  
CV_CAP_PROP_ANDROID_FOCUS_DISTANCE_FAR
```

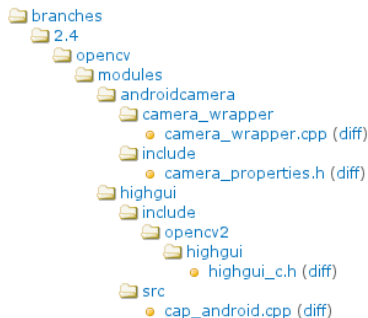
# Hierarchical MSER

Implementation of Hierarchical MSER based on [1].



# Android Camera Configuration API

- Allows to set internal parameters of Android Camera through its API
- Extends the original HighGUI Driver for another options



## Implementation

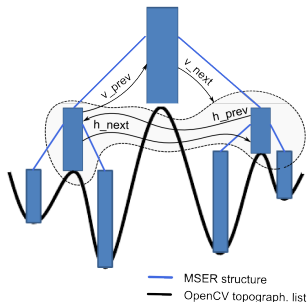
- However the HighGUI Driver API is not ideal
  - Only two functions: cvGetCaptureProperty and cvSetCaptureProperty
  - Does not allow callbacks (AutoFocus)
- Android uses strings for enumerated properties
- Mapping settings values from string → enum through linear search
- Available in the Java API

The result was accepted to OpenCV-Android version 2.4: [Issue](#)

## Implementation of Hierarchical MSER

- OpenCV implements linear-time MSER by [2]
- Done the first implementation using `std::list` (`lenc-mser.cpp.diff`)
- Final version by C. Merino-Gracia, much more simplified

The diff can be found in the project management system: [Issue 1577](#)





## Discussion

- Because OpenCV uses rather obsolete VCS, contribution quite clumsy
- No official guide how to contribute for beginners
- However it changes - mainly thanks to [code.opencv.org](https://code.opencv.org)
- Took long time for the response (actually forgotten about me :))



## Bibliography

-  C. Merino-Gracia, K. Lenc, and M. Mirmehdi.  
A head-mounted device for recognizing text in natural scenes.  
2011.
-  D. Nistér and H. Stewénus.  
Linear time maximally stable extremal regions.  
In *Computer Vision – ECCV 2008*, volume 5303, pages 183–196. Springer Berlin / Heidelberg, 2008.