Image Processing Project
Object recognition for coins calculation

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Agenda

- Notes
- Project progress
- Preprocessing
- Segmentation
- Conclusion

Notes

- Ask during sessions and send emails for more discussions!
- Use MATLAB help!

Project progress

Dataset

- At least 32 + 20 images

Calibration parameters

- Mean color values and scaling factor
- Calculation method

Preprocessing

Noise reduction (fspecial, imfilter)

- Averaging
- Gaussian
- Median
- Sharpening

Histogram transformation

- Dynamic expansion (imadjust)
- Histogram equalization (histeq)

Color spaces (makecform, applycform)

- HSV
- L*a*b
- YIQ
- XYZ

Segmentation

Problem definition

Background separation (white board, shadow cancellation)	Object splitting (individual, groups)

Methods

Thresholding (i.e. otsu)	K-means clustering	Transform (i.e. hough)	Gradient (i.e. edge detection)

Conclusion

- Session output: circular foreground objects (shown in different colors) are split individual or in-groups from white background and grey shadows
- Justify your method choices!
- Generalize your method for your whole dataset!