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***“Evaluation of Multimedia
Content Summarization Algorithms”***

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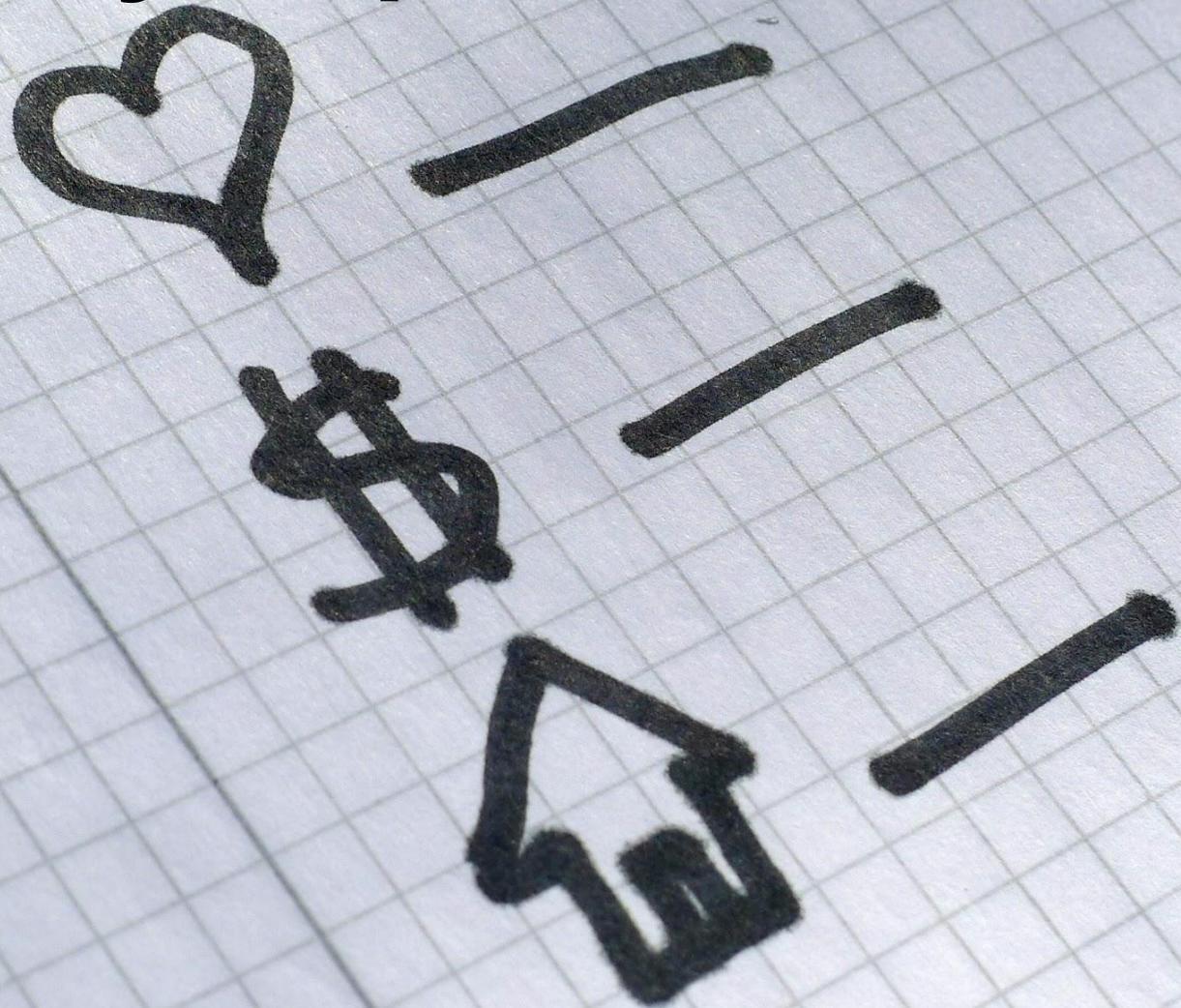
NATIONAL SCIENCE CENTRE
POLAND

VQEG

Multimedia Content Summarization



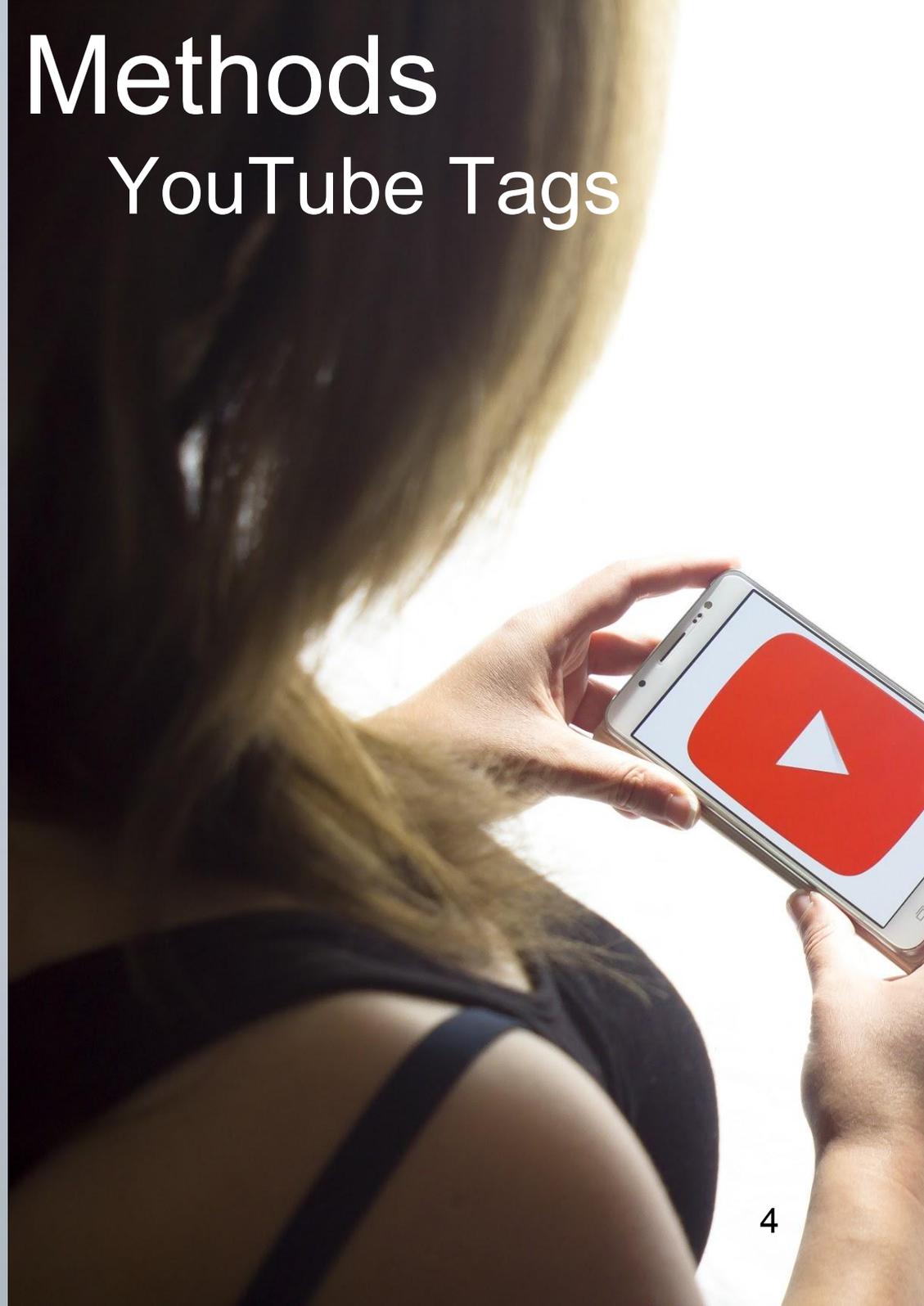
How to evaluate what is
really important?



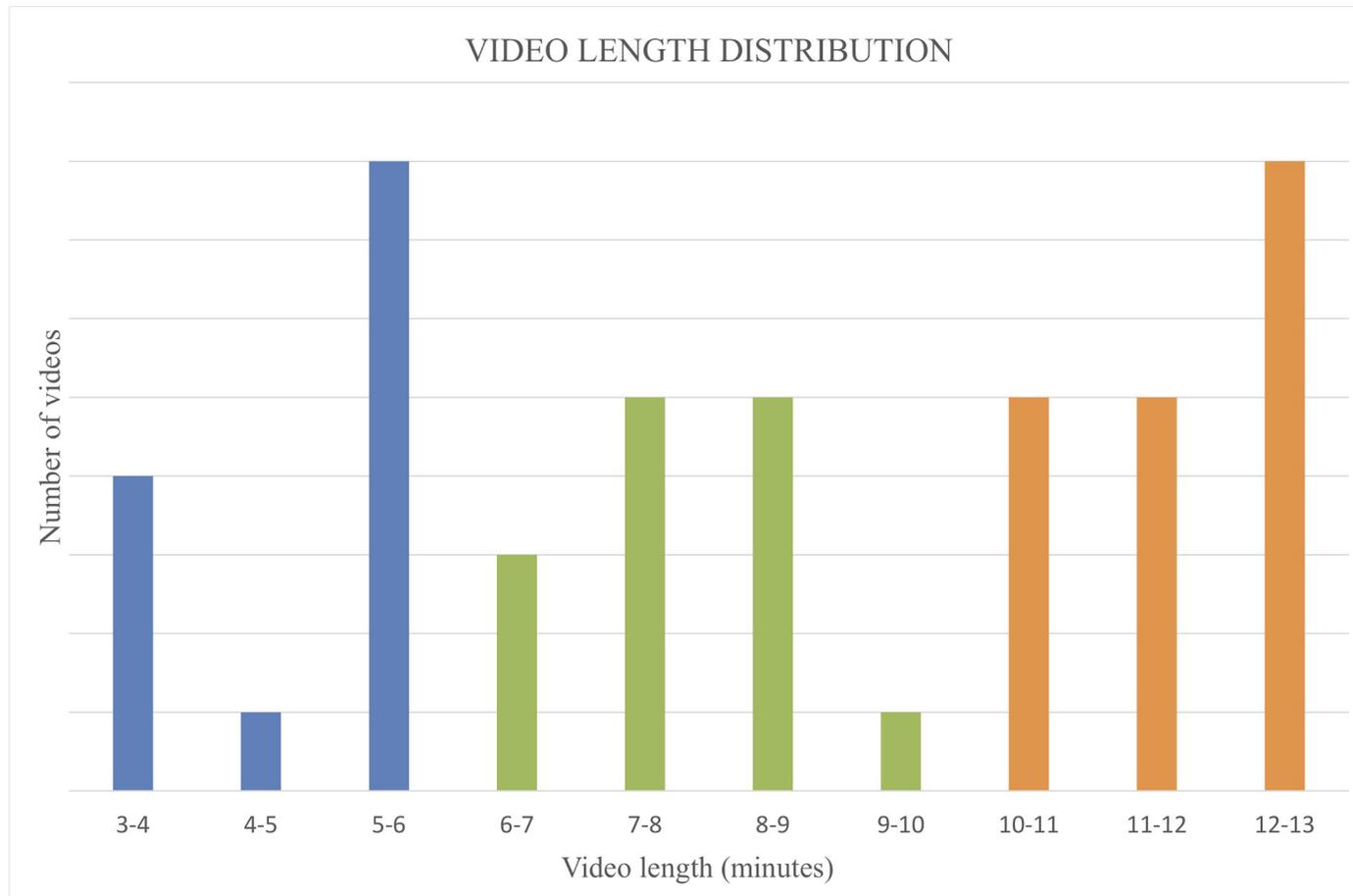
Two
Expert Annotations



Methods
YouTube Tags



Source Data

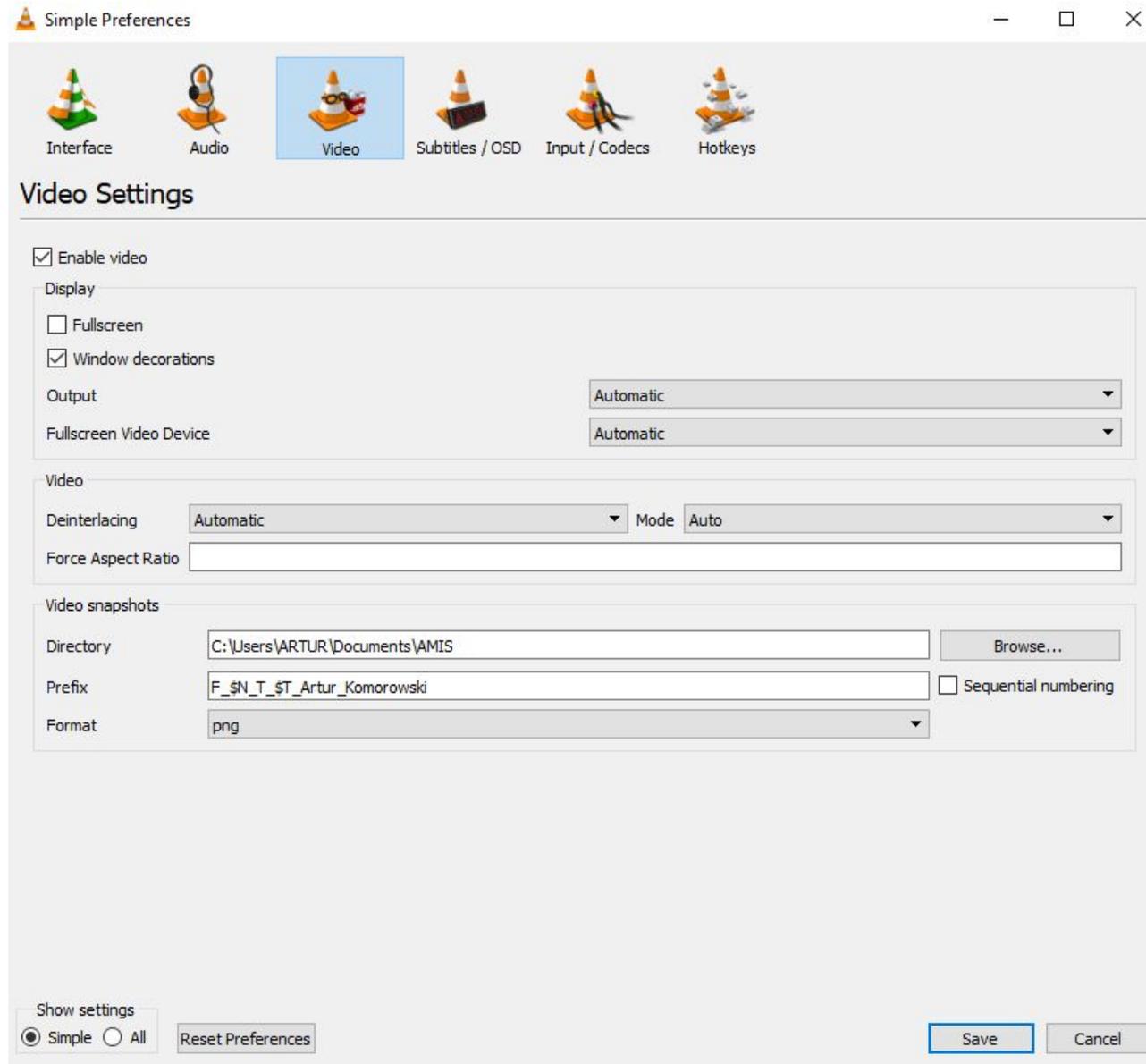


Annotation Method

never stop learning
trust yourself
always give 100 %
all things are possible
yes I can
yes I will
forgive yourself
think positive
take care of yourself
know your friends
know your enemy

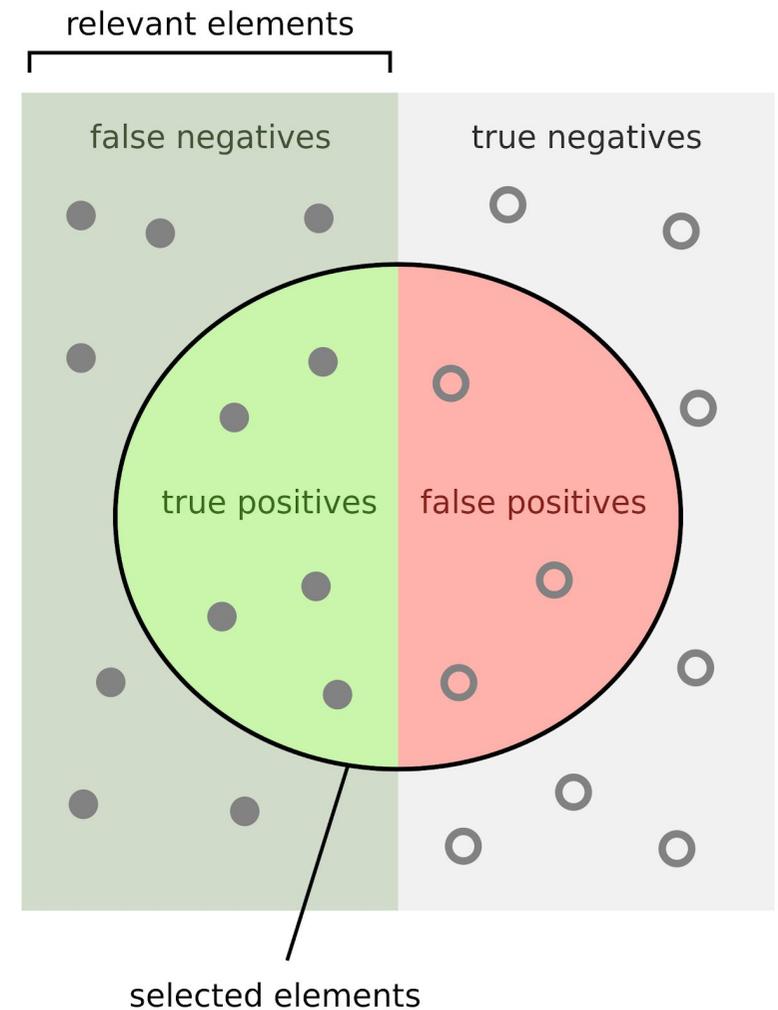


Annotation Procedure



Evaluation Algorithm

- » Checking if annotated shots in summary
- » Metric: F_1 score
- » Harmonic average of Precision and Recall
- » 0 - worst; 1 - best



How many selected items are relevant?

$$\text{Precision} = \frac{\text{true positives}}{\text{true positives} + \text{false positives}}$$

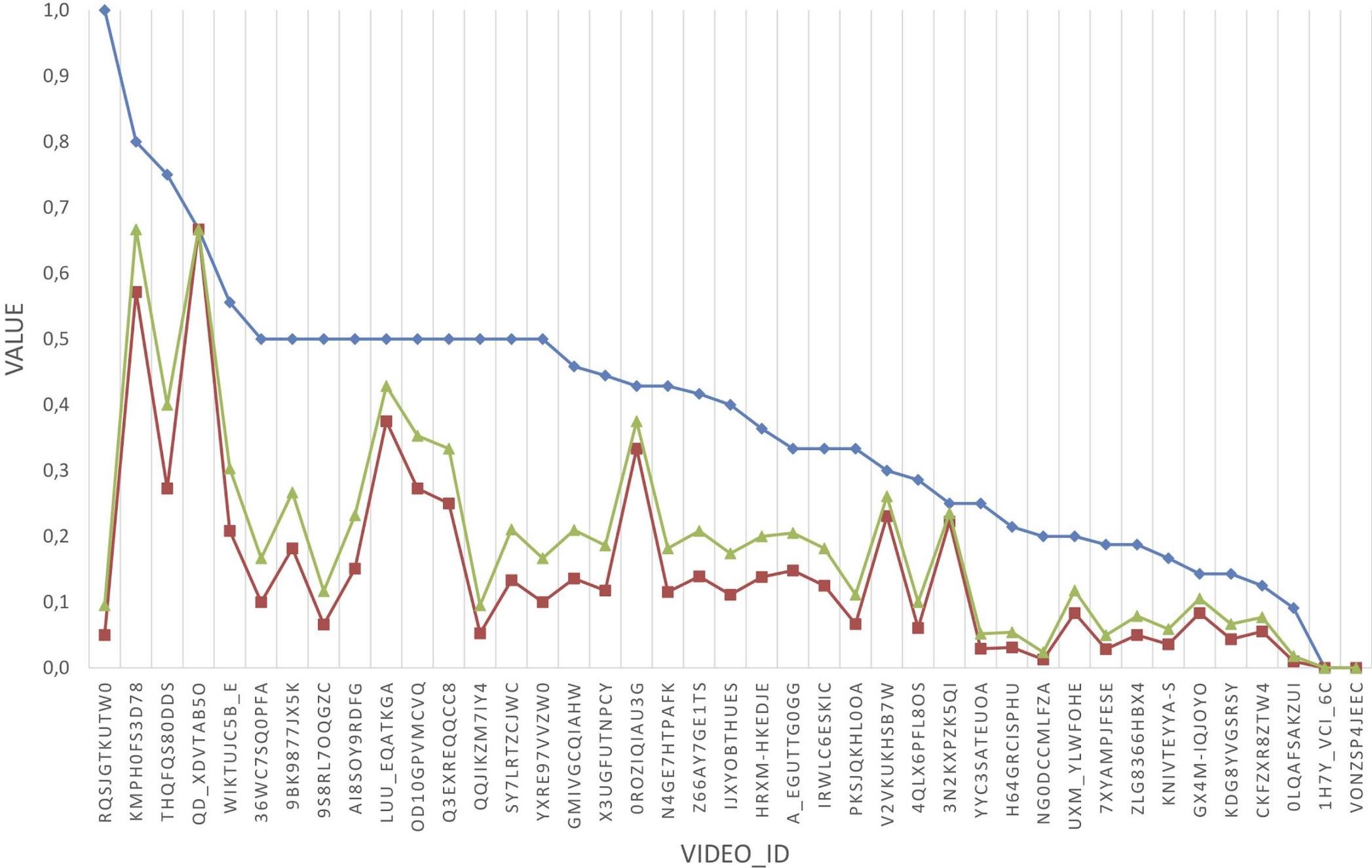

How many relevant items are selected?

$$\text{Recall} = \frac{\text{true positives}}{\text{true positives} + \text{false negatives}}$$


8

ANNOTATION METHOD RESULTS

Precision Recall F metric



Tag-Based Method



Tag Selection

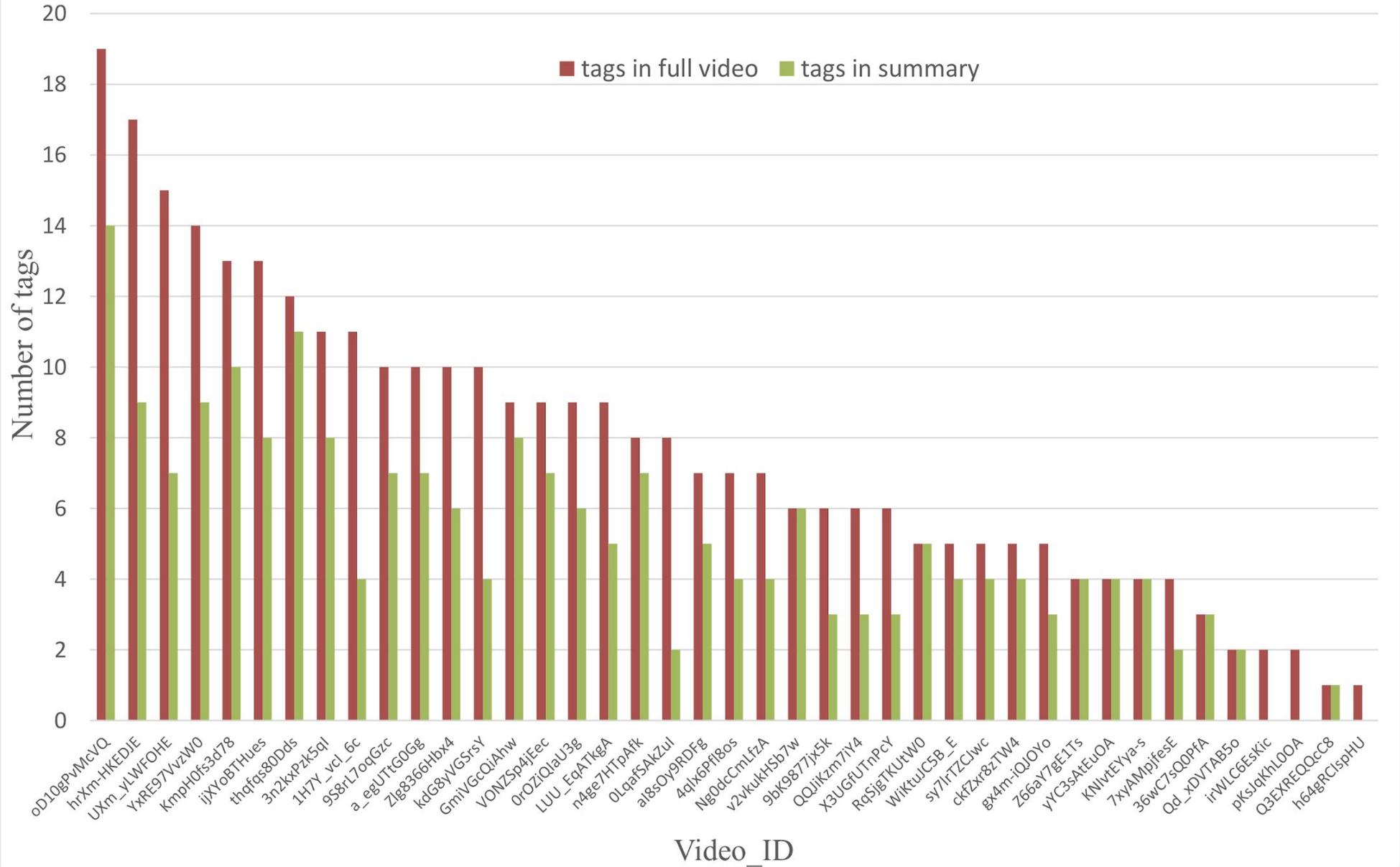
syrian
rt fsa today
kicks kicked
army withdraw
us-backed
special forces
war free
russia troops
syria

Evaluation
Algorithm

Comparing
tags in
full video
and
summary



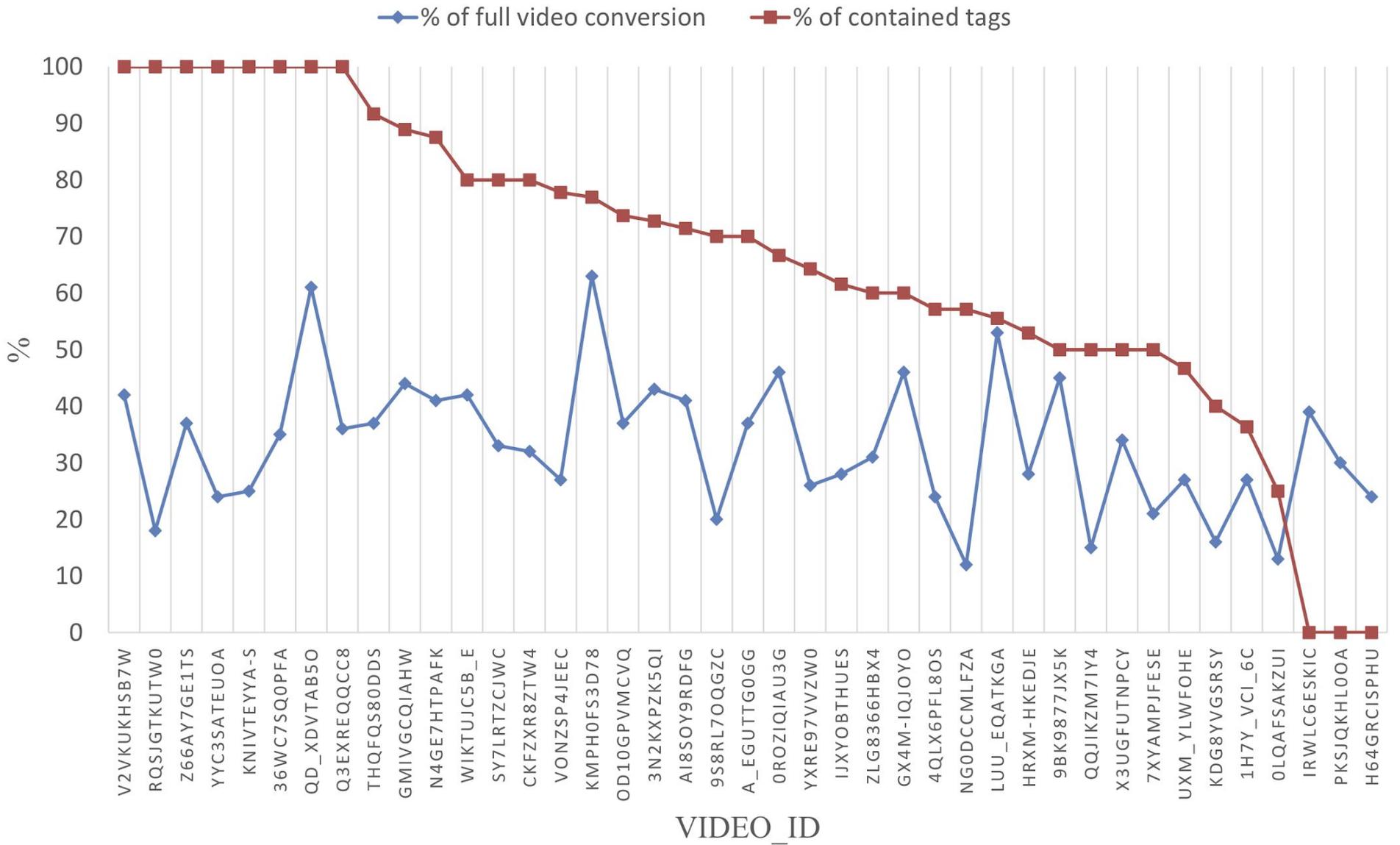
TAGS METHOD RESULTS



Does longer
summary
mean more tags
preserved?

Less
is
more
Ludwig Mies Van Der Rohe

RELATIVE DURATION TO CONTAINED TAGS COMPARISON



Further Work

- » All tests to be performed for more video sequences
- » Annotation to be done by larger pool of experts
- » More objective shots selection