

# VQEG JEG

Marcus Barkowsky, Nicolas Staelens, Lucjan Janowski



# Motivation

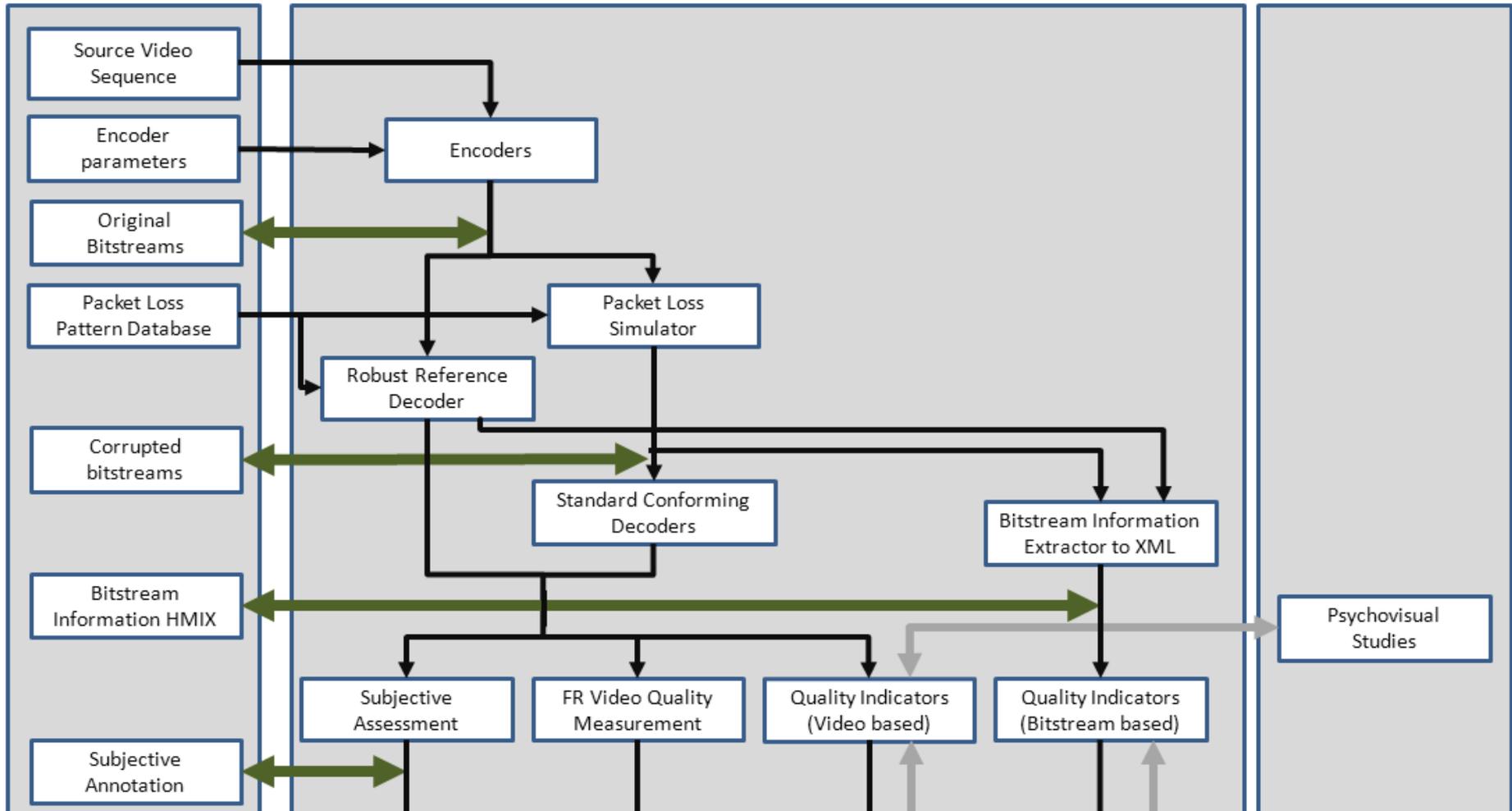
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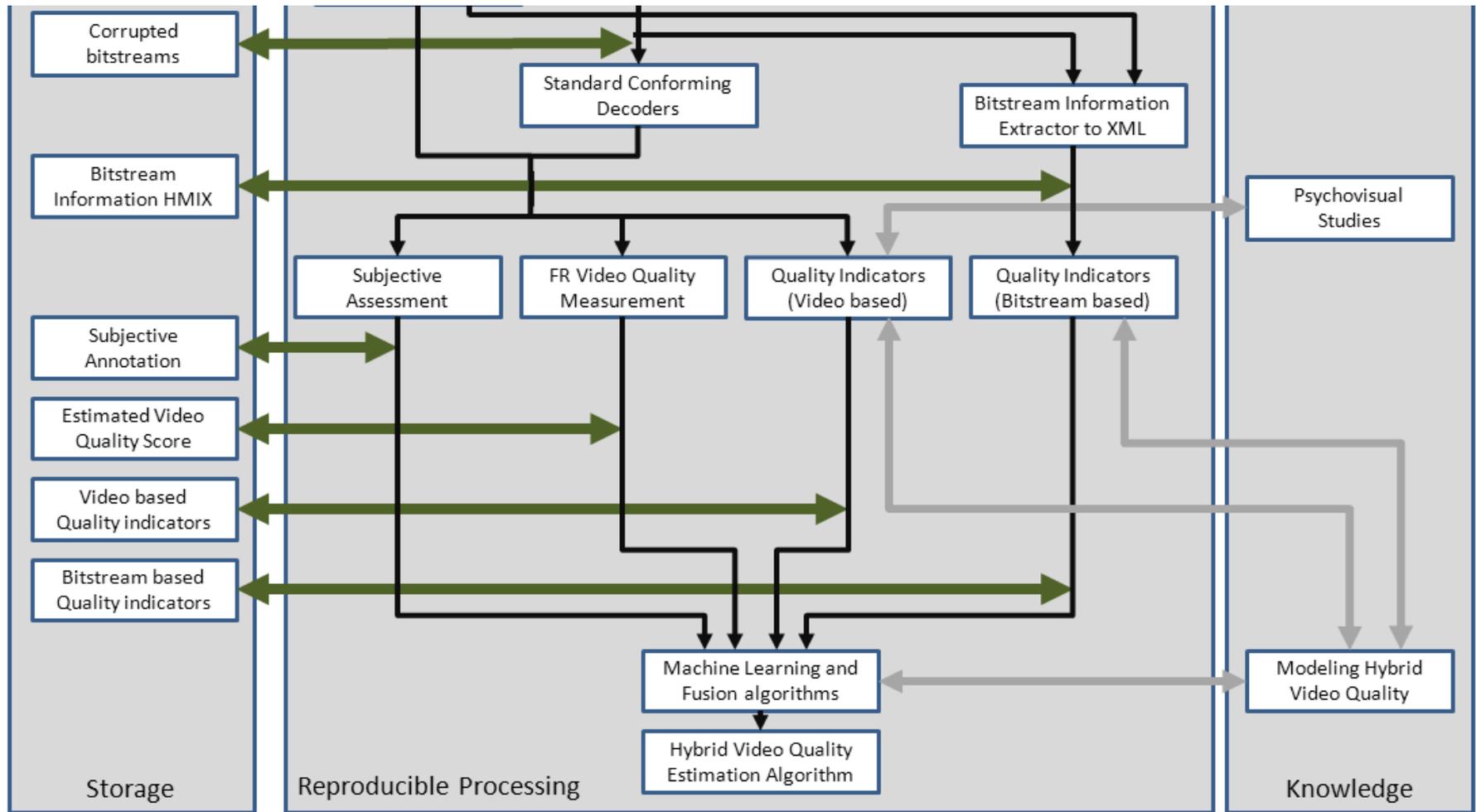
- Collaborative effort on video quality assessment
- Research requires knowledge and skills in:
  - Subjective evaluation of video quality
  - Human visual perception
  - Video coding algorithms
  - Transmission schemes and network protocols
  - Statistical analysis
  - Machine learning
  - Data mining
- Reliable and reproducible results shall be in focus
- Collaborative efforts are mandatory to improve the state of the art

# Why a large scale database?

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- Learning about the accuracy of objective measurements with respect to various application scopes
- Automatic Identification of « critical cases »
- Identification of insufficient algorithmic modeling precision OR missing perceptual features
- Characterisation of algorithmic indicators within-scope / out-of-scope / in-extended-scope
- Reproducible verification procedures due to known conditions
- New methods for machine learning and data mining
- Finally: Determining missing modeling factors, eventually requiring further perceptual/psychovisual research





# Advances

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- During the last study period:
  - The HEVC 60.000 sequences database has been made available
  - FR Measurements have been run on all 60.000 sequences
  - Further objective FR measurements have been calculated on the AVC database
  - The robust decoder has been adapted to HEVC
  - First approaches to analyse the FR measurement have been tested

## Ongoing work

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- Biweekly meetings will continue
- Reproducible creation of the databases with a Virtualbox
- Creation of a relational database for the FR measurement results
- Further analysis on determining which of the 10.000 sequences can be sufficiently reliable predicted
- Contribution of T-Labs: Python implementation of P.1201.2
- Adding more sequences with network impairments in H.264 and H.265 using the robust decoder and simulated or captured network streams
- Creating an UHD HEVC encoded database from 31 contents in 3 resolutions (UHD, 1080p, 720p)

# Presentations

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- Kongfeng Zhu:  
No-Reference Video Quality Assessment Based on Artifact Measurement and Statistical Analysis
- Adriaan Barri:  
Machine learning for quality assessment
- Michele Saad and Philip Corriveau:  
No-Reference Consumer- Oriented Image/Video Quality Assessment
- Glenn van Wallendael:  
HEVC database, parameters
- Enrico Masala:  
Simulation of Robust HEVC Decoding in presence of Data Loss
- Enrico Masala:  
First analysis on the large scale dataset:  
What we can learn by « only » comparing objective measurements