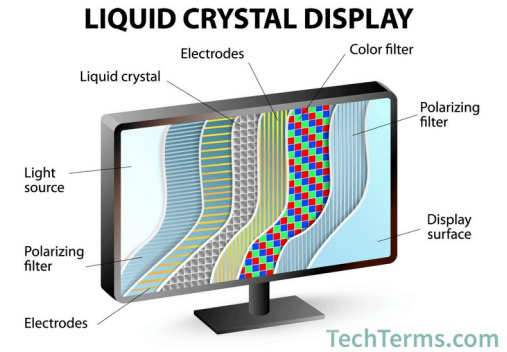
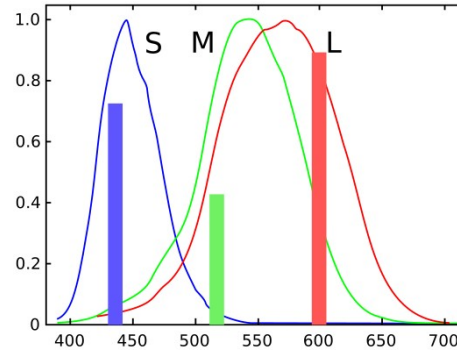




Conclusion

Course summary – acquisition

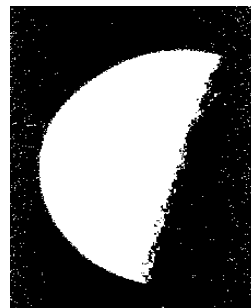
- Images
 - Image formation
 - Digital images
 - Color perception
- Videos
 - Frame-rate
 - Interlaced video
 - Television formats
- Sound
 - Digital sound
 - Sampling rate
 - Quantization



Course summary - manipulation

- Images

- Processing
- Filtering
- Transformations
- Merging



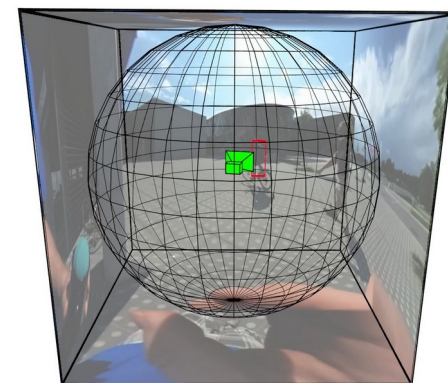
- Videos

- Stabilization
- Transitions



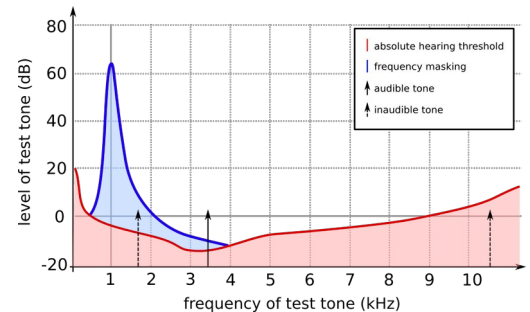
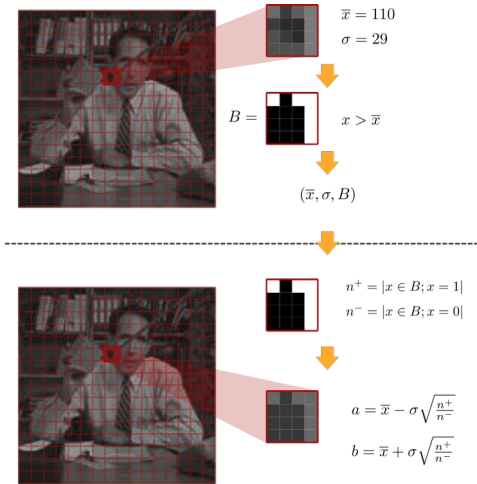
- Sound

- Linear filters
- FFT



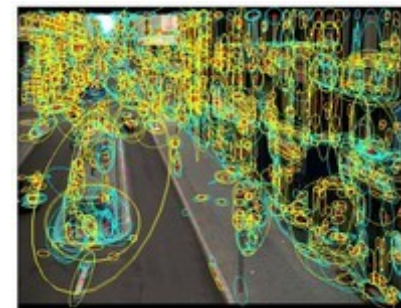
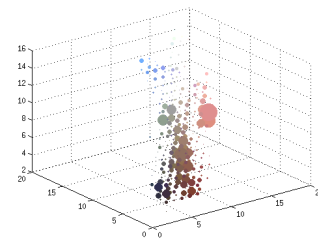
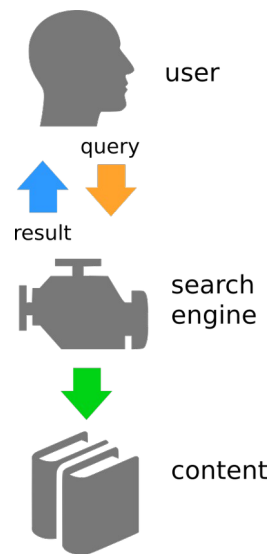
Course summary – compression

- Data compression
 - Entropy coding
 - Dictionary coding
- Image compression
 - PNG, JPEG
- Video compression
 - Intra and inter frame compression
 - MPEG-1, MPEG-2, MPEG-4
- Sound compression
 - Psycho-acoustical model
 - FLAC, MPEG-1 Layer 1, 2, 3



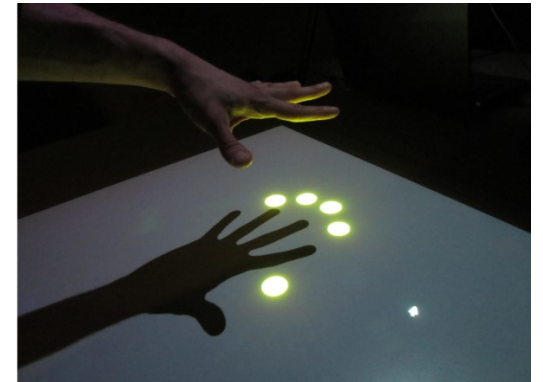
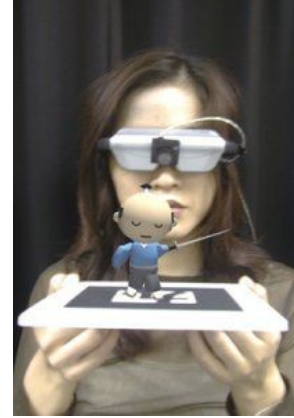
Course summary – retrieval

- Information retrieval
 - Documents, terms
 - Inverted index
 - Weighting
- Image and video databases
 - Low level descriptions
 - Bag of words
 - Deep learning



Course summary - interaction

- Augmented reality
 - Binary marker
 - Textured surface marker
 - Realistic rendering
- Interactive surfaces
 - Technologies
 - Use-cases



Towards the finish line

- Finish practical assignments (if you have not done so already)
- Written exam
 - All exercises must be completed before exam
- Oral exam
 - Must pass written exam
 - Mandatory for some students
- Final grade
 - Average of practical assignments and written exam
 - Can be changed by the oral exam

Examination

- Written exam
 - 90 minutes
 - ~7 questions
 - Theoretical and practical assignments
- Oral exam
 - Mandatory only for students who score less than 60-70% on written exam (depending on the overall results of the exam)
 - Focus on topics that you did not know at written exam
 - Theory questions

Beyond the course

- Computer vision at FRI
 - Machine perception (UNI)
 - Advanced computer vision methods (MAG)
 - Deep learning (MAG)
- Multimedia in ViCoS Lab
 - Diploma and Master theses
 - Practical work (Obštudijske dejavnosti)
 - Summer projects

Multimedia in ViCoS Lab

- Visual retrieval systems
 - Visual retrieval as a web service
 - Automatic photo collection annotation
- Augmented reality
 - Deep learning for camera localization
 - Sensor fusion on mobile phones
 - Embedded platforms
 - Light estimation
 - VSLAM evaluation environment
 - Multi user AR
- Natural interaction
 - Depth camera, gesture recognition
 - Fusing tactile and visual information
 - Interactive object recognition
- 3D reconstruction and modeling
- Learning image and video compression
- Visual tracking for multimedia

