Slides Media Data Formats

Summer Term 2020

Andreas Uhl

Department of Computer Sciences
University of Salzburg

March 19th, 2020

Monday March 23rd, 8:30

Questions for Lecture Notes p. 1 - Section 1.4

1. Why do we need different compression techniques for different data types ?
2. How can different compression techniques be classified into different classes ?
3. What does “Codec” mean ?
4. What is the “compression rate” and how does it relate to bpp or compression in % ?
5. Given the increasing storage capacity and transmission bandwidths, why do we still need compression ?
6. What are compression-enabling properties of data ? Why is it impossible to compress nois-like data ?
7. When have the first real compression algorithms been developed ? Of which type have they been ?

Monday March 23rd, 8:30

Questions for Lecture Notes Section 1.5 - 2.1

8. What is scalability and how does it relate to progressive transmission ?
9. Why is algorithm complexity an important selection criterion for a compression scheme ?
10. Why are standards important when selecting a compression scheme ?
11. What does transcoding mean ? As we always can transcode by simply deconding and re-encoding, what needs to be considered then ?
12. Why can adaptivity of an algorithm be an important issue ?
13. What is the classical trade-off in lossless compression ?
14. Which typical components does a lossless compression scheme exhibit ?

Monday March 23rd, 8:30

Questions for Lecture Notes Section 2.1 - 2.1.3

15. What is the most fundamental idea of lossless compression (see also statistical redundancy) ?
16. How do we call the average information per symbol and how is it defined ?
17. What is the lower compression bound for lossless compression ?
18. Does the sampling rate of media data have any influence on compression ratio ? If yes, why ?
19. What is the fundamental idea of predictive / differential encoding ?
20. In the example given on predicitve coding, what is the role / influence of the 999 pixels ?
21. In the Runlength coding example, please explain the “**33” part in the compressed data.

THEOL.
JUS
NAT.
PHIL.