SSY 150, lecture-8 (end-to-end performance) quiz, 2020-05-14

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1. In which layer of the 5 layer TCP/IP communication model that a packet loss may occur?
   ☐ physical layer ☐ transport layer ☐ data link layer ☒ Internet layer ☐ Others (specify)

2. Choose one effective packet loss network model from the list below
   ☐ Rayleigh fading models ☐ Additive white Gaussian noise models
   ☐ Rician fading models ☒ Gilbert-Elliot model ☐ Others (specify)

3. Which of the following situation(s) that a video packet is considered as lost?
   ☒ packet truncation ☒ long delay ☐ detected but uncorrected byte errors
   ☐ missing packet ☐ Others (specify)

4. What is the main error one needs to mitigate for transporting compressed multimedia data?
   ☒ bit/byte error ☐ packet error ☒ packet loss ☐ others (specify)

5. For end-to-end performance optimization of compressed multimedia data transportation, give one optimal cross-layer design example that involves several layers (just specify a name):
   ☒ Specify joint source- channel coding

6. An expected distortion (for end-end performance optimization of compressed video transportation) needs to associate adjustable network designing parameters with the network performance index.
   Chose the following way to realize the above if you need to define a distortion function:
   ☐ a) define a distortion function linked with adjustable parameters
   ☒ b) define constrains associated with the network delay
   ☒ c) define constrains associated with the network rate (or budget)
   ☐ d) combine several above items (specify the number of your selected items!), in a constrained optimization process
   ☐ e) others (specify)

7. Can you suggest a potentially better distortion measure for measuring the distortion of transported video, as compared with the MSE or the PSNR?
   ☒ specify Structural similarity measurment (SSIM)

8. Do you wish to have additional lectures on specific issues (yes/no)? If yes, please also mention the topic(s)?
   ☒ specify Video and packet loss in wireless networks and 5G NR

Thank for participating the quiz, hope it was fun to you!