T-111.2350 Multimedia Technology

Exam 7.1.2009

Write the course name, date, your name, and your student number on each answer paper. The maximum of each question is six points.

1. Basics of Multimedia

Tell briefly (few lines per each item) what the following basic terms of multimedia mean:

- modality
- proactive interaction
- isochronous synchronization
- continuous media
- orchestration
- scripting language

2. Audio Compression

On what methods the audio compression is based in the following equipment:

- CD Player
- MP3 Player
- 3. generation mobile phone

3. Motion Prediction

What is motion prediction used in video compression? Tell how the motion prediction algorithm works in practise.

4. Multicast

Are the following claims true or false? Correct answer gives +1 point, but wrong answer -1 point. Unanswered claim equals 0 point. The total points can be 0-6 points.

1. Pruning removes unnecessary branches from multicast tree
2. Flooding of multicast trees should be avoided, because it can cause congestion of routers
3. Multicast Extension to Open Shortest Path First (MOSPF) is used together with distance based routing
4. Real-Time Transport Protocol (RTP) is usually used on top of TCP
5. Real-Time Streaming Protocol (RTSP) is similar to HTTP
6. Session Description Protocol (SDP) is based on XML language

5. Trafic Shaping

Tell briefly how the following traffic shaping methods work:

- leaky bucket
- token bucket
- RED algorithm