Algorithms and Programming IV
P2P-based Whiteboard (20-4)

Summer Term 2021 | 21.06.2021
Barry Linnert, Luka Stärk
P2P Whiteboard

- A pure Peer2Peer architectural style that relies on a complete network of TCP connections.

- Each edit on the Whiteboard is broadcasted to all others.

- Every peer holds its own whiteboard.

- Every Peer records a sorted array of all EditRecords to generate a consistent state of the Whiteboard across Peers.

- Changes to the Whiteboard are saved locally and then “broadcasted” to all other peers.
An **EditRecord** contains the Edit, Shape, Peer ID, and has a logical time-stamp.

The **Whiteboard** class is the shared instance between the different Threads, where the data about the Peer2Peer network and the Whiteboard itself is stored.
The **PeerConnection** class facilitates the socket to another peer and is running a thread to receive broadcasted EditRecords.

The **ListingThread** waits for new Peers to join the network and establishes PeerConnections.
1. connect
2. "hallo II"
3. EditRecord PeerList Address
4. connect
5. "hallo III"
6. EditRecord PeerList Address (I)
7. connect
8. "hallo III"
9. EditRecord PeerList Address (II)