Collaborative VR
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- Collaborative VR:
  - Joint Research
  - Expert consultation
  - Teaching
  - Reviews
  - Presentations
Collaboration modes

• Loose
  - Viewpoints are not synchronized
  - Avatars show the position of partners
  - Suited for joint work
• Tight
  - Viewpoints are synchronized
  - Avatars are not displayed by default
  - All Partners are allowed to interact with the VR World
  - Suited for joint work on small objects and presentations
• Master/Slave
  - Viewpoints are synchronized
  - Only the master is allowed to interact with the VR world
  - Suited for Presentations
Loose Coupling

- Participants can walk through the scene independently
- They are represented as avatars
Tight and Master/Slave Coupling

- Position and orientation of the Projection environment relative to the scene is synchronized
- Local head tracking is performed
- Avatars are not displayed
The Avatar

Advantages:
• Can transmit many gestures
• Shows the exact position of the viewer
• The size of the person is visible, even when floating in space
• Does not hide objects

Disadvantage:
• Poor visibility, especially in architectural models

Future work:
• Animated person with inverse kinematics
Marker

- Any number of Markers can be placed in the scene
- Markers can be moved by all participants