



Improvised Music





Improvised Music

- Live music is a way of communicating
- At least three senses are activated:
 - Hearing
 - Sight
 - Touch
- Improvisation bypasses thinking
- Connection between players is fragile



Eye-contact





Eye-contact





Sound

- **Quality**
 - Amplified vs. acoustic
 - Audio vs. MIDI
 - 44.1 KHz
- **10 ms latency limit**
 - Or at least a consistent short latency

Recording studio model 1



- Everyone plays in the same room

Recording studio model 2



- Each player is isolated in a sound booth



Network Solutions !?



- Short / long distance communication ?
- Slow / fast network ?
- 2 / 5 / 100 players ?



Network solution 1

- **Short distance / fast network**
 - High fidelity audio and video

Network solution 2

- **Short distance / slow network**
 - Synchronized Metronome
 - MIDI or Analysis / re-synthesis (0.526 Kb/s)
 - Original singing voice 
 - Synthesized singing voice 



Network solution 3

- **Long distance / fast network**
 - Constrain the type of music : loop
 - Delay and sync to the next loop



Network solution 4

- **Long distance / slow network**
 - Send instructions/material (sounds, etc.)
 - Limited but opened to non-experts and to more people simultaneously
 - A central system must take decisions and broadcast to all players (client-server model)
 - Could possibly be “unconscious music”

So what ?



- It can't be really like that !