

NETWORK PROGRAMMING

Multiplayer tetris based on memes

Yoann Bourse

(with Antoine Amarilli, Marc Jeanmougin and Pablo Rauzy)

2010-2011 : Semestre 1

Presentation plan

- 1 **Protocol**
 - Server-Client
 - Client-Client
- 2 **Rules**
- 3 **Implementation**
 - Interaction
 - Game

Protocol

- Verbose humorous protocol
- No guarantee against cheat
- Acknowledgement of receipt

Protocol

Server-client :

- Clients pings regularly
- Server broadcast the whole player list
- Gives to the clients random seed and neighbours

Protocol

Client-client :

- Oriented ring :
Connect to STARBOARD
Wait for connection from LARBOARD
- Direct introduction
- Broadcasting ascii art board
- Leaving/loss messages to reform the ring

Rules

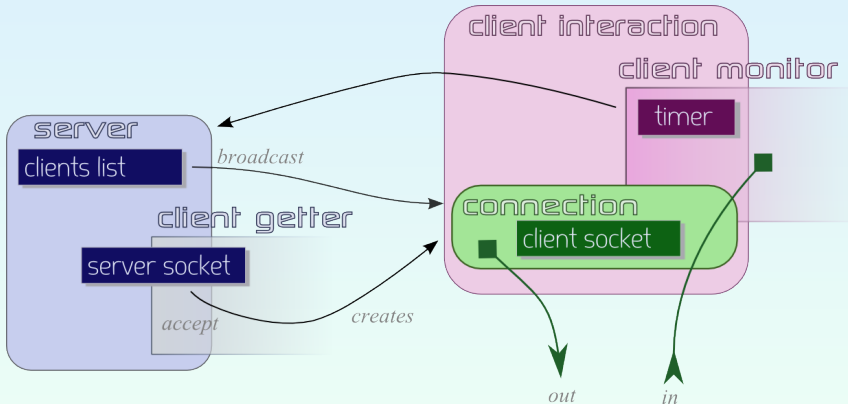
- 10x20 board
- Pieces pseudo-randomly generated from seed
($u_{n+1} = 15731 * u_n \text{ mod } 32003$)
- Fall at one block per second,
This timeout decreases to 90% every 10 lines.
- Send penalties to STARBOARD when lines are done

Penalties

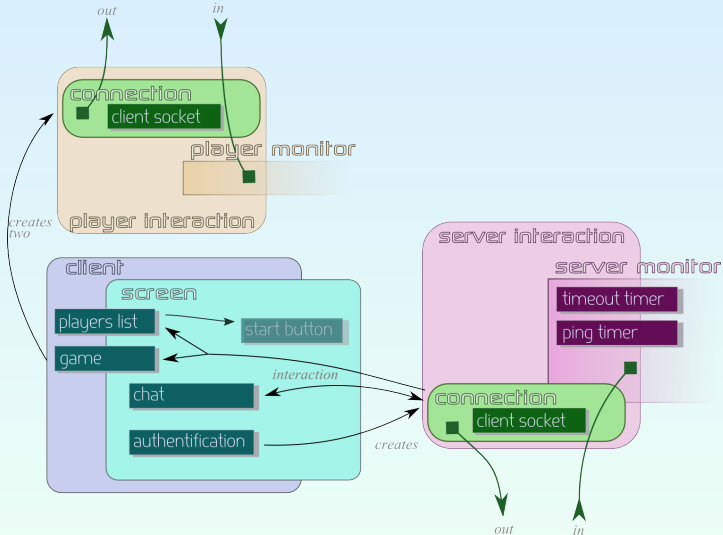
- Successive line-breaking creates combo points
- When n lines are broken at once,
 $(n - 1) + \lfloor \text{combo}/2 \rfloor$ penalties are sent
- Penalties send malus block lines with a single hole
- They are buffered : breaking lines removes buffered penalties before actually sending lines

Interaction scheme : server

6 classes, default port 4242, asks for another port if busy.



Interaction scheme : client



22 classes client



Game scheme

