

# Network Pong

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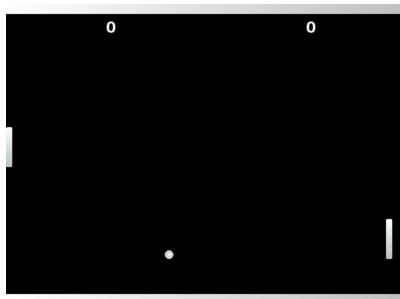
2011-08-11

# Outline

- Game of PONG
- Network Pong
- our team
- problems + solutions
- conclusion
- working demo

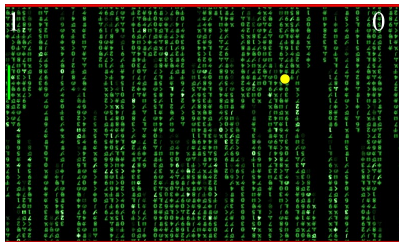
# PONG

- classic arcade tennis-like video game
- Atari (1972)
- one of the most popular games in the history

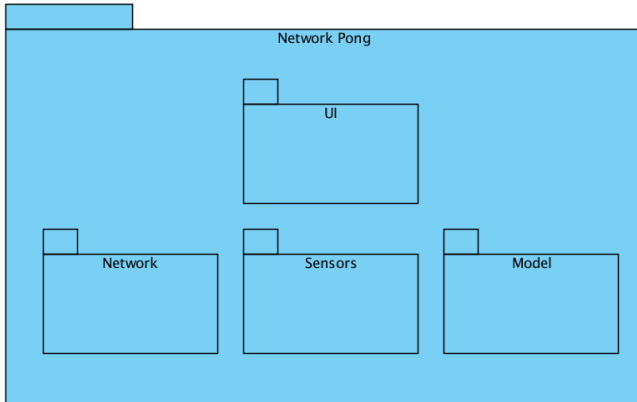


# Network Pong

- version for mobile phones with networking and sensor support to allow real-time matches between friends
- based on C++ and Qt framework



# Architecture



# Work Distribution

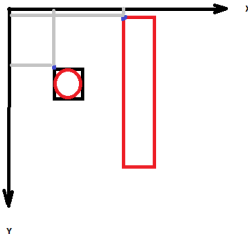
- Everybody
  - C++ and Qt get-to-know
- Georges-Henri + Sergio
  - model, physics, graphics
- Alexis
  - networking
- Miro
  - GUI, network game, sensors, device setup

# Gameplay

- 3 game modes
  - player vs computer
  - 2 players on 1 phone ;-)
  - 2 players over network
- game ends when one of the players reaches certain score
- simple AI
- extensible model (obstacles, balls, paddles...)

# Gameplay

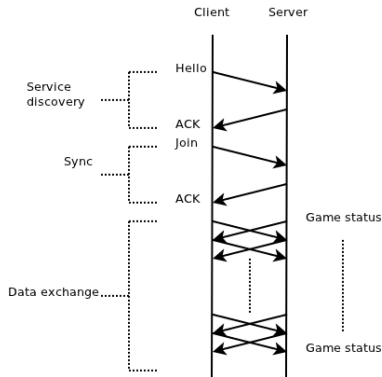
- game physics
  - coordinate system translation between model and view
  - ball control
    - bouncing against the walls + obstacles
    - influenced by the speed of the paddles





# Networking

- ad-hoc network creation
- UDP based communication
- service discovery based on broadcast initiated by the client
- local game setup
- client-server synchronization
  - a few packets measuring the delay



# Networking

- protocol for data exchange
  - what to send
  - how to update the game when an update is received
  - how to deal with packet loss + changes in packet order
- game ending
  - score check
  - timeout check
  - cleanup

# UI

- graphics
  - QGraphics
- sounds
  - Phonon, Multimedia
- vibration
  - QtDBus + MCE
- game control via touch, keyboard and/or accelerometer
  - QAccelerometer

# Future Development

- 3 weeks not enough to perfect the application
- many ideas on extending the game
  - settings customization (obstacles, paddle movement, bonuses...)
  - more players
  - fancy graphics
  - highscores
  - optimization

Thank you.