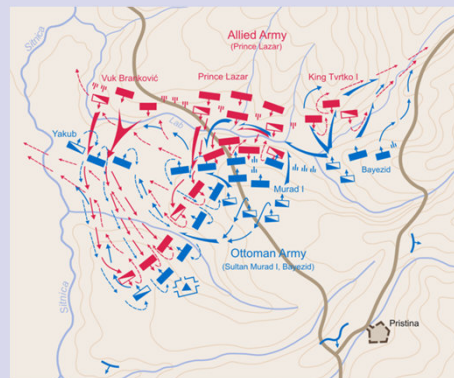


Artificial Intelligence



(recall?)

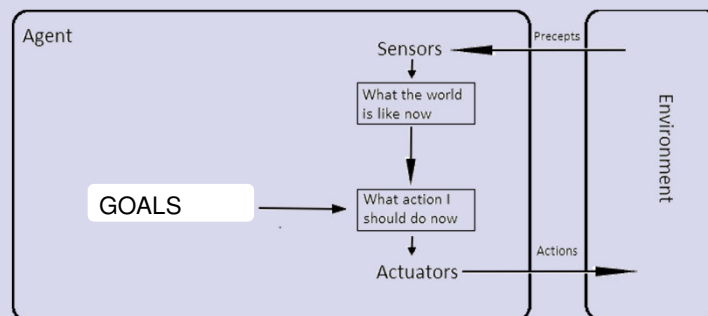
Game Engine



- Parte del game che si occupa di alcuni dei task “comuni”
 - Scena / livello
 - Renderer
 - Real time transform + lighting
 - Models, materials ...
 - Physics engine
 - (soft real-time) newtonian physical simulations
 - Collision detection + response
 - Networking
 - (LAN – es tramite UTP)
 - Sound mixer e “sound-renderer”
 - Gestore unificato HCI devices
 - Main event loop, timers, windows manager...
 - Memory management
 - Artificial intelligence module
 - Soluz dei sotto task comuni AI
 - Supporto alla localizzazione
 - Scripting
 - GUI (HUD)

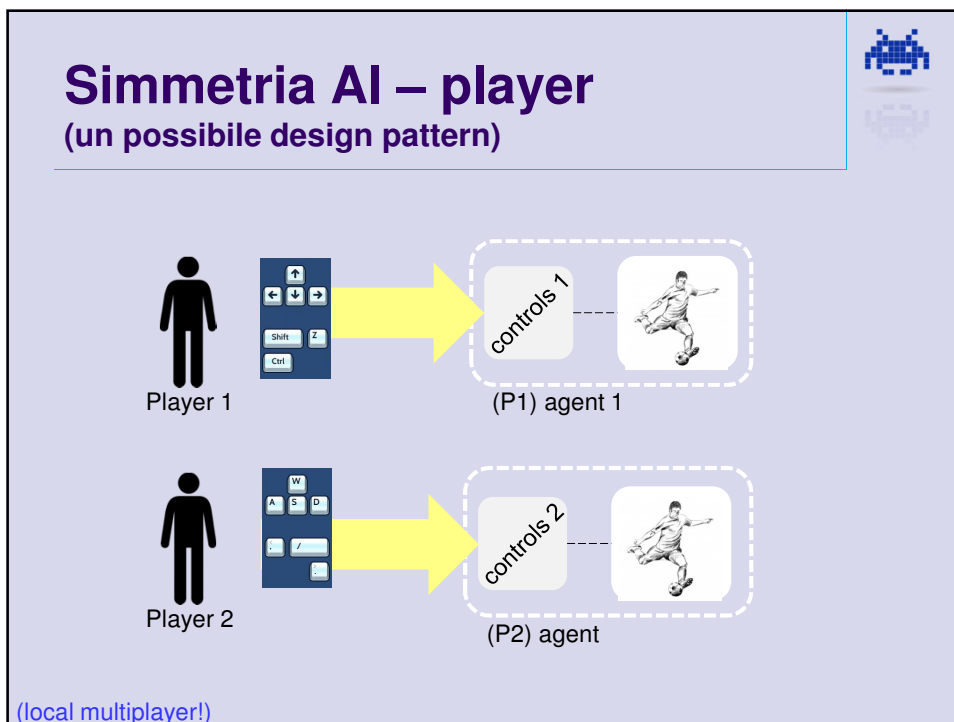
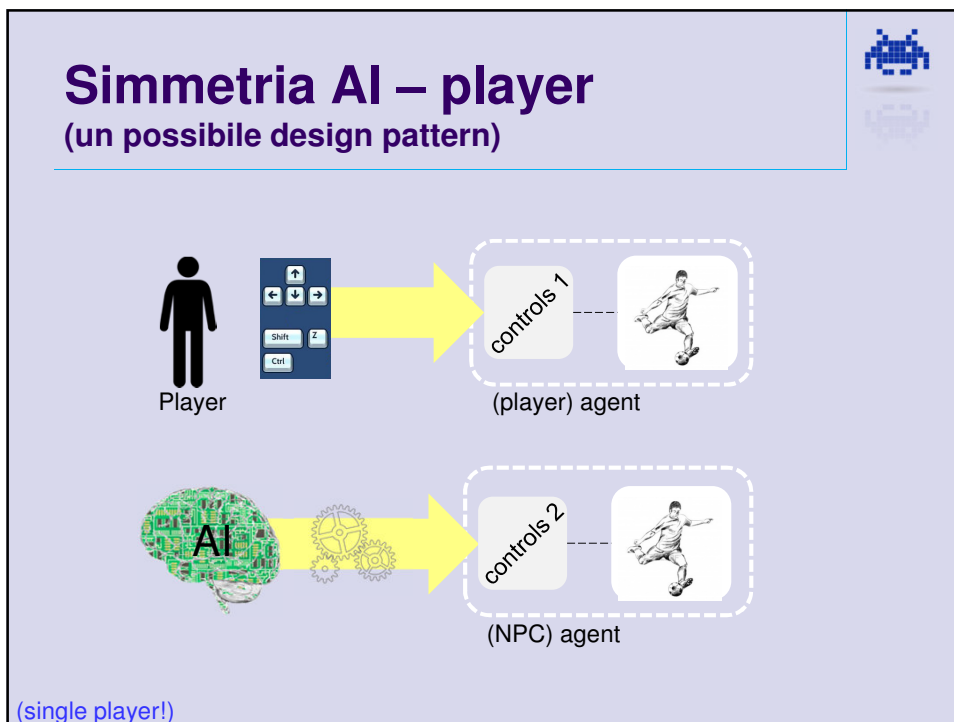
AI

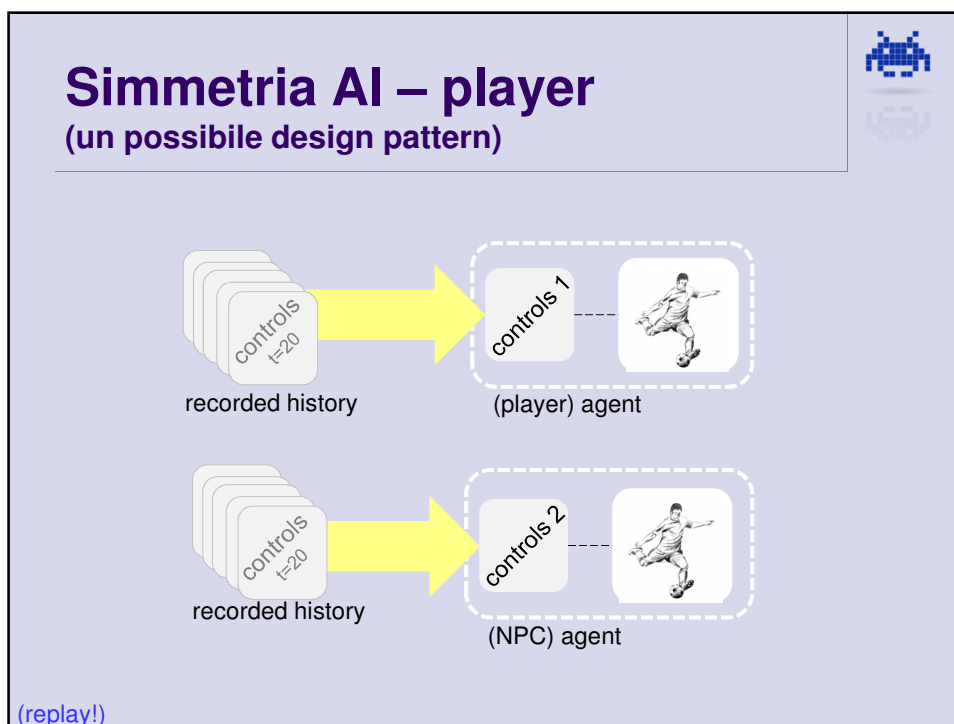
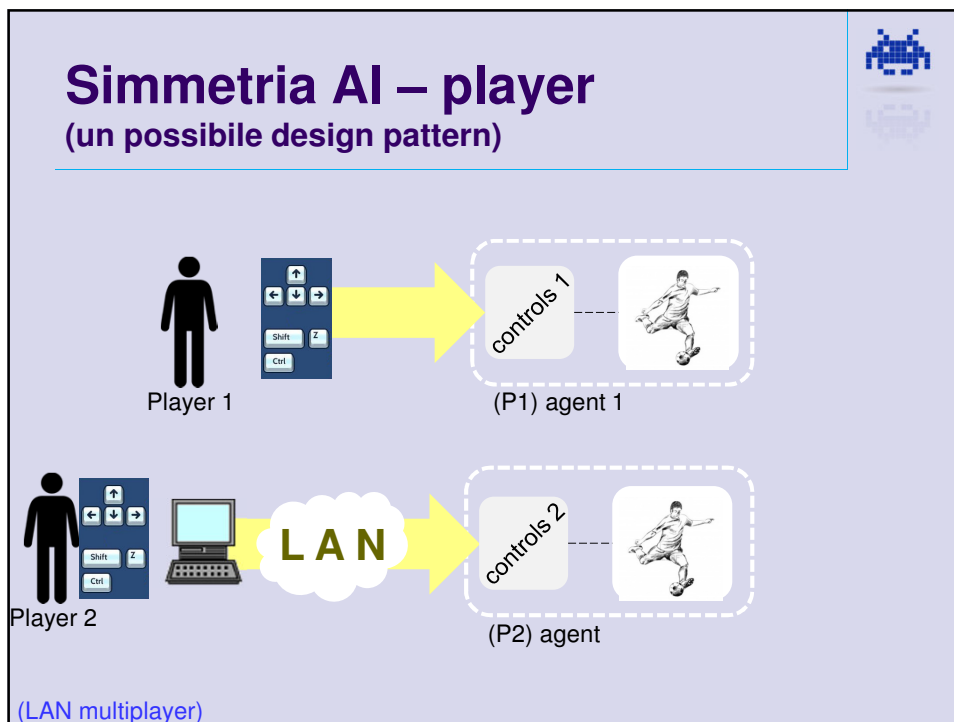
- An intelligent agent



Artificial... intelligence?

- Per NPC
 - computer controlled characters
- Differenze con AI standard
 - real-time
 - sub-optimal often required
 - realistic behavior simulation
 - difficulty tuning
 - ampie possibilità of cheating
 - location





Game AI : struttura ricorrente



- Hi-level Goals
 - tipic: macchina a stati finiti
 - update: ogni tanto
- Low-level Goals
 - soluz di sottoproblemi specifici
 - update: spesso
- (a volte: mid level goals)

Alcuni sub-Task ricorrenti



- Facing
 - pro-tip: remember *atan2*
- Aim
 - compreso il “walking” dei targets
- Avoidance
- Path finding
 - Dijkstra
 - A* search

