

Database Ideas For Computer Games

Johannes Gehrke

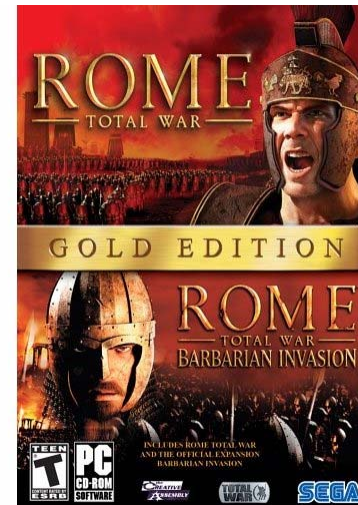
(Al Demers, Christoph Koch*, Walker White)

Department of Computer Science

*University of Saarbruecken

Computer Games (I)

- Virtual environment
- \$7B in sales in 2005



Lots of opportunities for database research

Computer Games (II)

- Game AI
- NPC
- Three groups of actors
 - Players
 - Game programmers
 - Game designers
- Boundary between players and game designers is closing
 - User-created content



Game AI

Two approaches:

- Complex behavior: Only a few NPCs
 - Rules engines for sports games, NLP for character interaction
- Simple behavior: A large number of NPC
 - Strategy games, massively multiplayer online games, open world games
 - Too many NPCs → need simple, but not simplistic approach
 - Creating AI is labor-intensive



Sample Research Questions

- Can we replace today's NPC scripts with a declarative scripting language?
- Can we then use query processing techniques to efficiently implement such games?



Final Thoughts

- Lots of traditional and non-traditional database problems here
- Requires expertise from DB, systems, HCI, PL, algorithms
- Attraction for the next generation of students?