Requirements in Conflict
Player vs. Designer vs. Cheater

David Callele
Eric Neufeld
Kevin Schneider
{callele, eric, kas}@cs.usask.ca
Stakeholder Diversity

• **Producers**
  - Designer, Developer, Publisher, Distributor, Vendor
  - Financier, Marketer, Media, After-market Suppliers, Regulator, Society

• **Consumers**
  - Game players
    - Player vs. Game (PvG)
    - Player vs. Player (PvP)
Producer Requirements

- Game Design and Implementation
  - Gameplay (emotional) experience
  - Financial success
- Security
  - Artistic vision
  - IP protection
  - Integrity of gameplay experience
  - Positive player experience
Consumer Requirements

• Emotional experience (fun, escape, accomplishment)
• Value for my money
• Some control over the gameplay experience
  • Give me at least some choices!
• Self-validation
The Problem

- No game is perfectly designed
- Player feels betrayed
  - Puzzles too hard / easy
  - Gameplay is repetitive / boring / takes too long
  - Can't play just the fun parts
  - Can't fix the bad parts
Conflict: Who has Control?

• **Constructive stakeholders**
  - Work to improve a (flawed) experience

• **Destructive stakeholders**
  - Work to interfere with the gameplay experience
    - Cheat: the game, other players
    - Destructive infrastructure attacks
    - Disruptive gameplay (a.k.a. *griefing*)

• **Security threats anticipated by a *priori* security requirements**
The Proposal

• Use in-game justice systems as a metaphor for just-in-time requirements negotiation

• Gameplay requirements ↔ Laws

• Justice systems
  • Authority
  • Penalty
  • Enforcement
  • Recidivism
Prior Experience

• Administrative Control
  • Developer acts as judiciary

• Player Control
  • Usually, with assistance of developer
  • A Tale In The Desert

• Player Classing
  • Players for virtual world (PvG)
  • Players for combat (PvP)
Discussion

• Dynamic RE techniques for
  • Eliciting and capturing requirements
  • Translating requirements into laws
  • Translating laws into gameplay

• A priori vs Runtime requirements
  • Is it possible?
  • Can we handle the repercussions?
  • Is it worth it?
Extension to Other Areas

• Is the concept applicable to other areas?
  • In what manner?
  • Are specific techniques applicable?
Conclusions

• Realtime requirements negotiation could be implemented via in-game justice systems

• Transition from concept to implementation is difficult

• Extensibility to other domains is still an open question