Mark Claypool’s MQP Projects

Counter-strike  Metroid Prime: Hunters  Real Player

Network Games  Streaming Media

http://www.cs.wpi.edu/~claypool

Effects of Display Settings on Game Performance

- Computer games have many display options
  - Size, Resolution, Frame rate, Shadows, Textures ...
- Better quality displays may look better, but do they make you play better?
  - Example: High frame rate makes it easier to track enemy
- Established results for First Person Shooters
  - Frame rate matters lots, Resolution not so much
- Other games?
- Methodology: build/mod games, design game maps, run user studies, analyze data
Better Game Server Selection

- Choosing a “good” server is critical for multiplayer games, but how do you define “good”?
  - Lowest ping
- How do you pick the best server for you, your friend in California, and your friend in Florida?
  - Lowest average ping? Fairest ping? Use ping to handicap?
- Methodology:
  - Build/Modify custom software (using qstat)
  - Server here to collect data, Clients spread world-wide
  - Gather simultaneous server data for variety of games
  - Analyze
  - Propose and build better server selection

Wireless Information Exposure

- Wireless layer affects performance
  - Loss rate, signal strength, other clients...
  - Determines “best” streaming rate for video
- Has information that is hidden from applications
  - Only can measure throughput
  - Video player often chooses bad rate
- Goal: provide wireless end-host and AP information to video player on client
- Methodology:
  - Setup host AP
  - Provide wireless information in beacons
  - Provide end-host information in kernel
  - Use information for better video streaming
    + Custom video player or modify existing player
Questions?

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