Future of General Game Playing

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Proposed Changes to GDL

-- Arithmetic, e.g. +, *, >

++ Persistent Connections (as an option)

+ Step count in messages

? Game ids and player ids

-- Tournament standings
Partial Information Games

Percept Action Model

Situation calculus
\[
true(s,N) :\!-\! \text{does}(P,a,M) & true(r,M) & succ(M,N)
\]
\[
true(r,N) :\!-\! \text{sees}(P,p,N) & true(q,M)
\]

Notes:
- Always possible to simulate with another player
- In current development plan but not scheduled
- No plans at present for probabilistic track
  (though players may use probabilities in playing)

Inductive General Game Playing

Unlike GGP, players do not receive complete rules at runtime, only definitions of possible percepts and actions.

On the other hand, players do receive multiple legal game histories.

Goal of the player is to induce the rules and then play the game effectively. Alternatively, it may skip straight to learning Q-functions. Interesting to see which approach works best.

Longer Start Clock
Really General Game Playing

Percept-Action Model for Agent

Player is provided
Enumeration/definition of percepts and actions
One of the percepts is a “happiness” percept
Performance measure is aggregate over steps

Discussion
Bit more difficult
Gets at issues of conceptualization of world

Competition Strategies
Most Important Suggestion

Make sure it works.

Second Most-Important Suggestion

Make sure it works.
Third Most-Important Suggestion

Make sure it works.