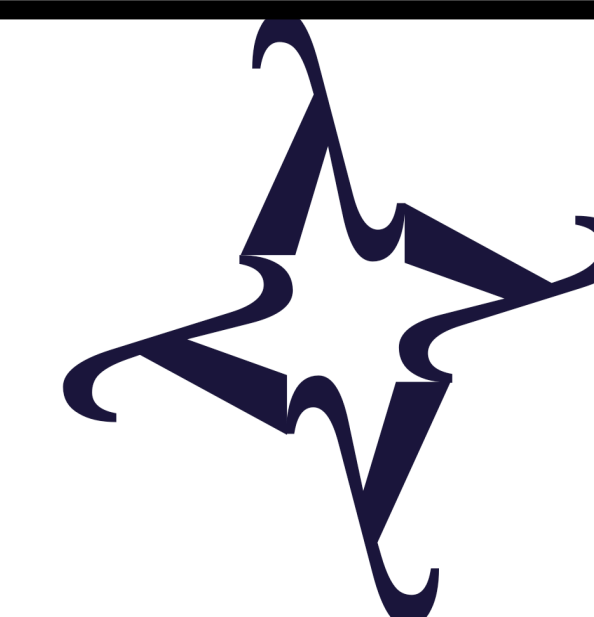




Automating the Design of Game Visualizations

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<http://logic.stanford.edu>

General Game Playing



Game rules are supplied at **run-time** in contrast to specialized game playing where rules are supplied in advance.

Unlike specialized game players (such as Deep Blue), general game players are able to play different kinds of games.

Games are expressed using **Game Description Language (GDL)**

Game Description

Game states are conceptualized as **databases** and the **state transitions** are conceptualized as **database updates**

| cell | | cell |
|------|---|------|
| 1 | 1 | b |
| 1 | 2 | b |
| 1 | 3 | b |
| 2 | 1 | b |
| 2 | 2 | b |
| 2 | 3 | b |
| 3 | 1 | b |
| 3 | 2 | b |
| 3 | 3 | b |

Player "black"
places mark 1, 2

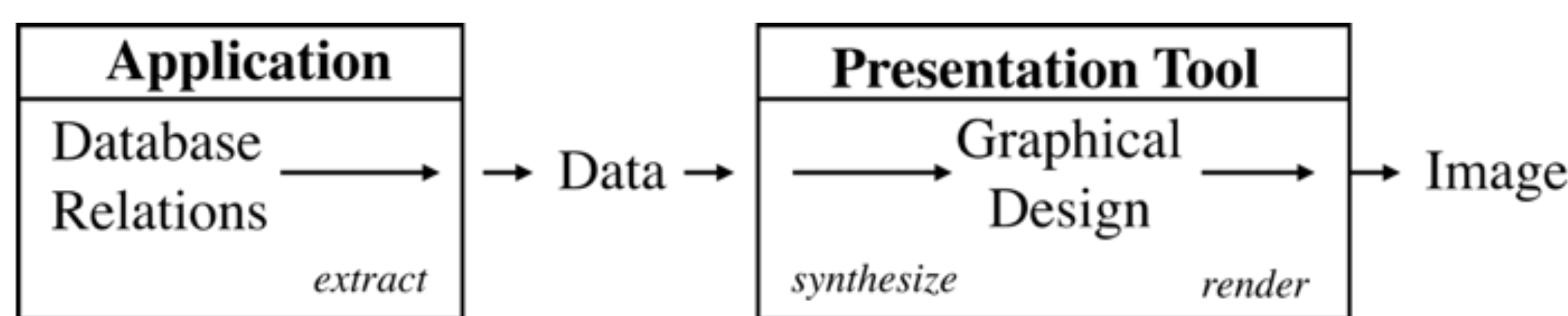
| cell | | cell |
|------|---|------|
| 1 | 1 | b |
| 1 | 2 | o |
| 1 | 3 | b |
| 2 | 1 | b |
| 2 | 2 | b |
| 2 | 3 | b |
| 3 | 1 | b |
| 3 | 2 | b |
| 3 | 3 | b |

legal(W, mark(X, Y)) :- true(cell(X, Y, b)) & true(control(W))
next(cell(X, Y, o)) :- does(black, mark(X, Y)) & true(control(black))

Automating the Design of Graphical Presentations from Relational Information [Mackinlay '86]



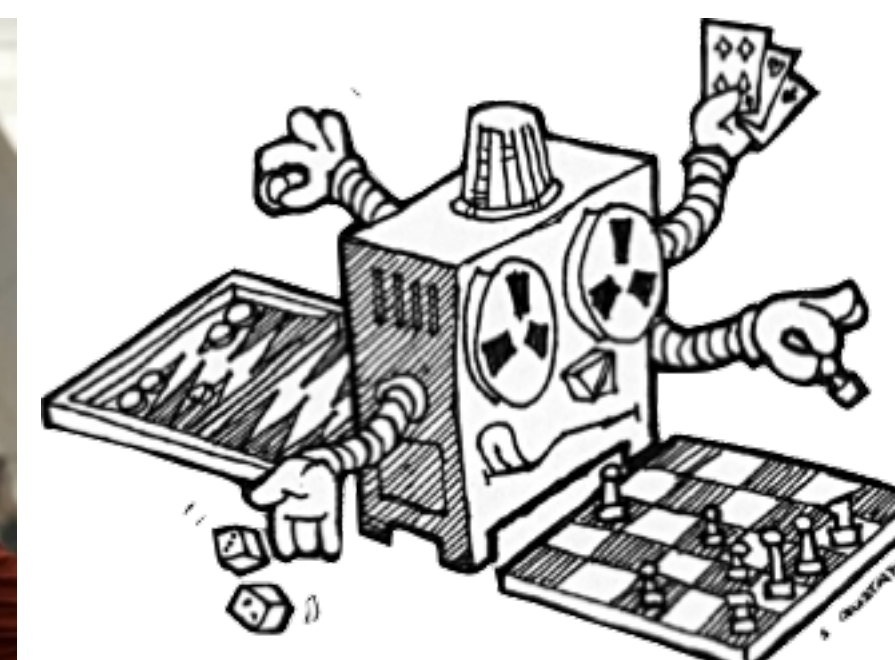
Jock Mackinlay



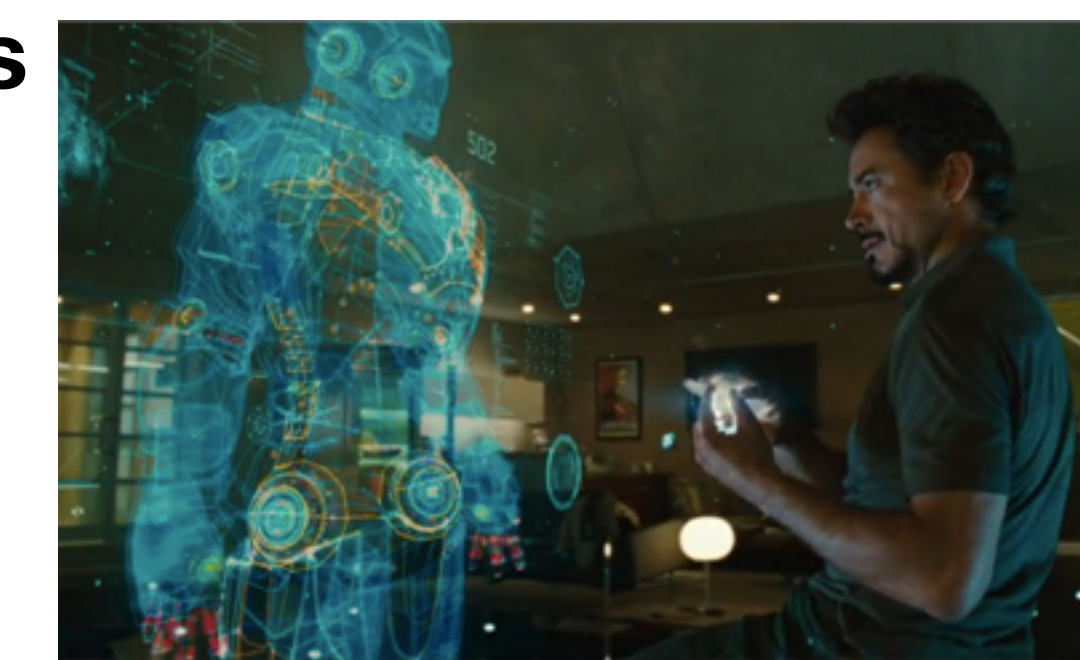
Motivation



Bring humans into the loop: Provide a visual medium for humans to play games

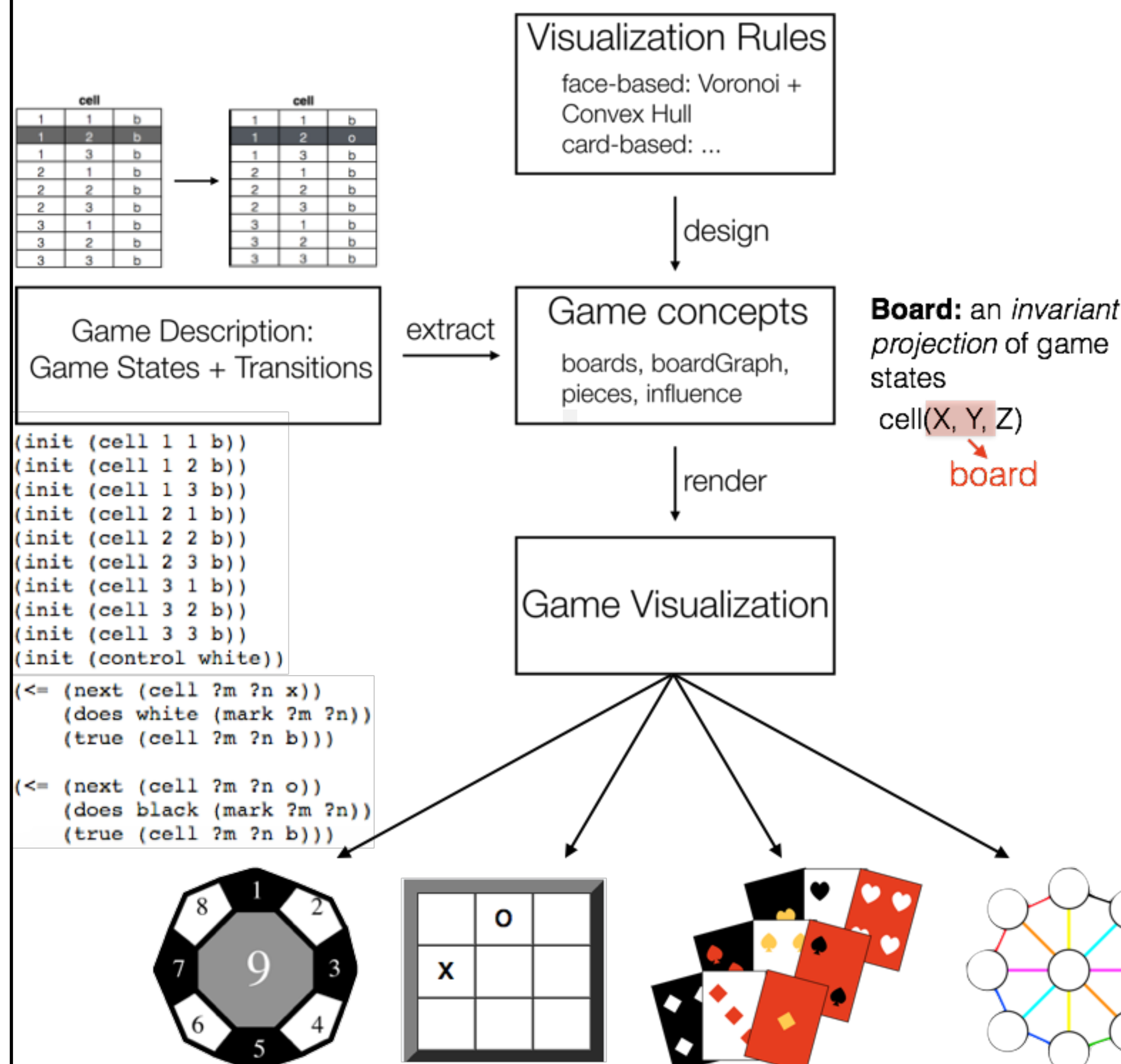


Automating Game Visualizations saves game developers the burden of designing game visualizations

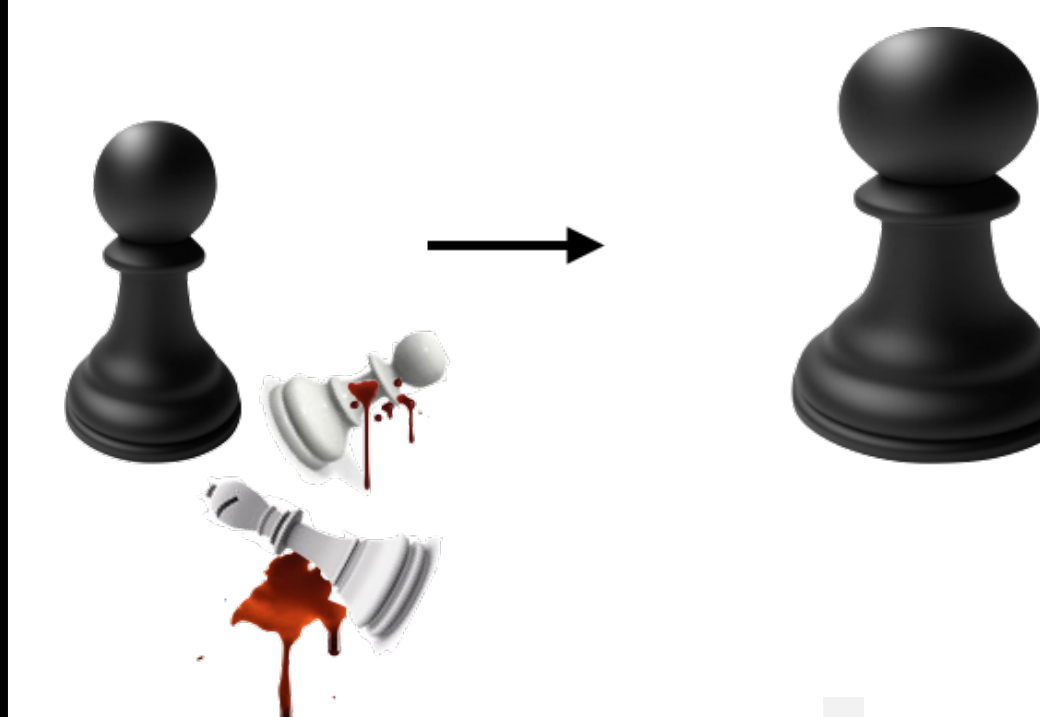


Help game artists improve their designs or design new visualizations

Designing Game Visualizations



Next ...



"Pawns getting fatter"
Visualizing game dynamics



Modeling Captures



Avatars: Personalized Visualizations