KidSim (later Cocoa, then Stagecast Creator)

Smith, David C., Allen Cypher, and James Spohrer (1994)

In KidSim graphical simulations are created via graphical rewrite rules, which also enables a kind of programming by demonstration.

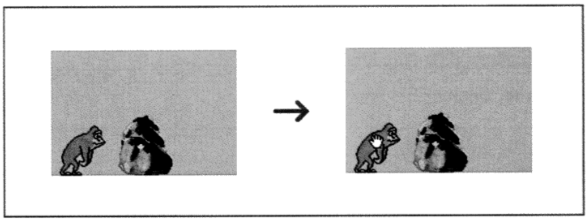


Figure 7. Defining a rule by demonstration

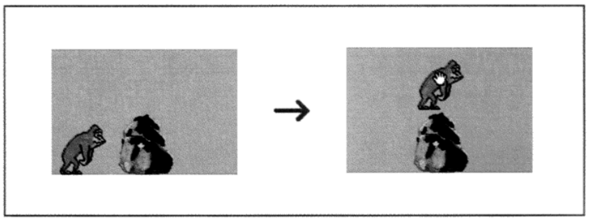
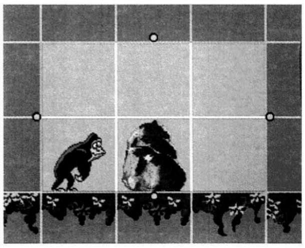


Figure 8. Dragging the monkey above the rock



Specifying the scope of a rewrite rule.

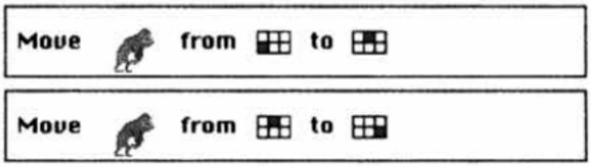
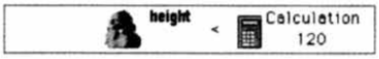


Figure 14. Pictorial display of recorded actions



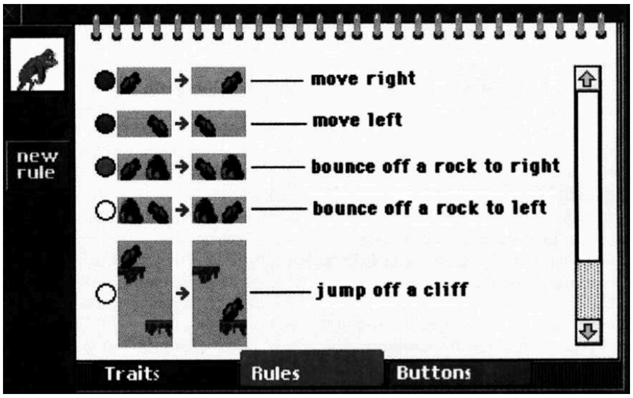
Programming by demonstration extends to using a calculator and dragging properties around to define conditionals.

The creators argue that most people can use editor GUIs (e.g. paint programs), and can give directions, but cannot program. Their solution is to "get rid of the programming language" in favor of a philosophy grounded in GUI design:

- Visibility. Relevant information is visible; causality is clear; modelessness.
- Copy and modify, not make from scratch.
- See and point, not remember and type.
- Concrete, not abstract.
- Familiar conceptual model. ("minimum translation distance").

They choose a symbolic simulation microworld as a domain because it leads to knowing, ownership, and motivation.

All objects are agents which have appearances, properties (name value pairs), and rules.



One of the creators of KidSim, David Smith, was also the creator of another graphical programming environment: Pygmalion.

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