

STRATEGIES FOR AI PRODUCTION SYSTEMS

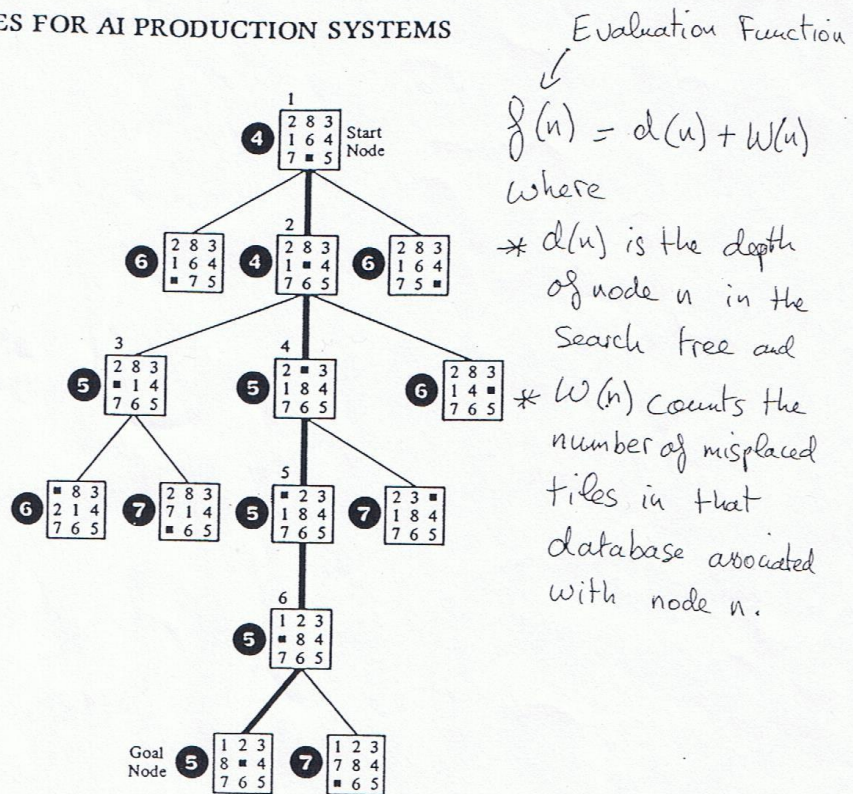


Fig. 2.8 A search tree using an evaluation function.

Evaluation function

$$f(n) = d(n) + h(n)$$

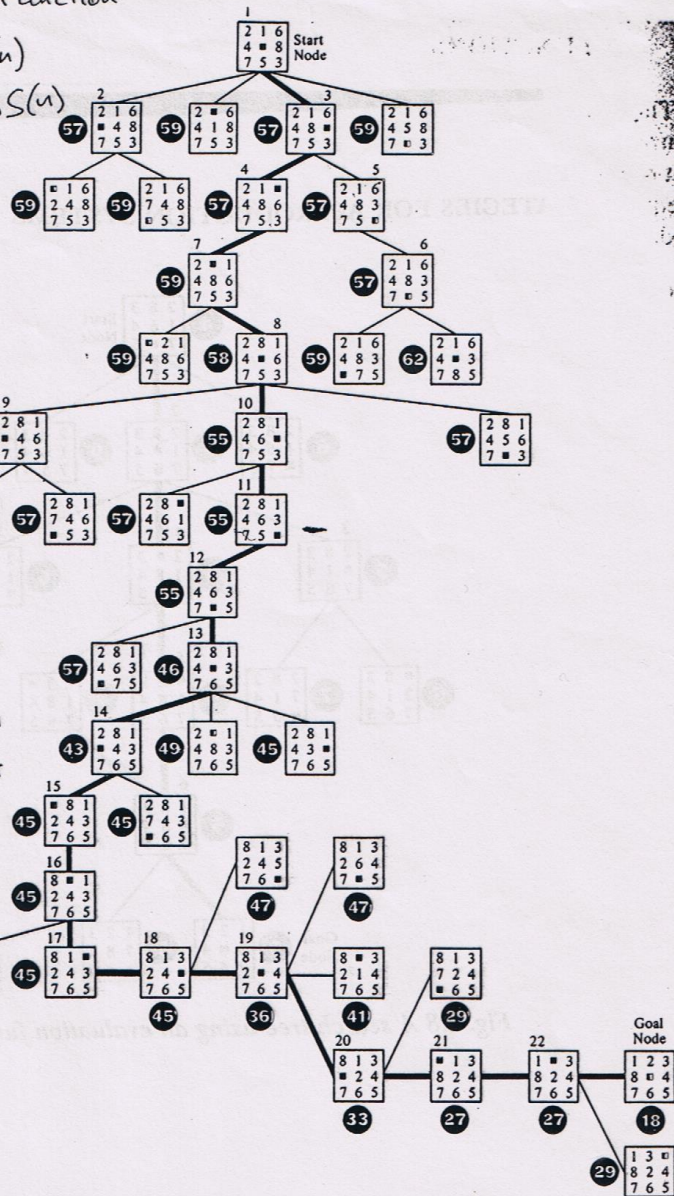
with $h(n) = P(n) + 3S(n)$

where

* $d(n)$ is the depth of node n in the search tree;

* $P(n)$ is the sum of the "Manhattan" distances that each tile is from "home", and

* $S(n)$ is a sequence score obtained by checking around the noncentral squares in turn, allotting 2 for every tile not followed by its proper successor and allotting 0 for every other tile; a piece in the center scores one.

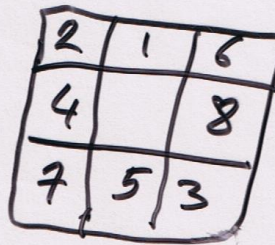


Manhattan Distance =

$$1 + 1 + 2 + 2 + 1 + 3 + 2 = 12$$

Sequence Score =

$$2 + 2 + 2 + 2 + 2 + 2 + 2 = 16$$



$$P(n) + 3S(n) = 12 + 48 = 60$$