Transporting Goods using Cellular Automata

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1 Introduction

2 Literature

[1]

3 Model

2D cellular automa with gravity. Bots, obstacles and boxes. Pushing.

3.1 The world

Falling
Pushing

3.2 Cellular Automata

The bots move according to cellular automa rules.

4 Implementation

5 Experiments

5.1 Experiment 1

5.2 Experiment 2

5.3 Experiment 3

6 Conclusion

References

1. Butler, Z., Kotay, K., Rus, D., Tomita, K.: Generic decentralized control for a class of self-reconfigurable robots. In: Robotics and Automation, 2002. Proceedings. ICRA '02. IEEE International Conference on. vol. 1, pp. 809 – 816 vol.1 (2002)

Rule 1   Rule 2a   Rule 2b

Rule 3   Rule 4   Rule 5a

Rule 5b   Rule 6   Rule 7

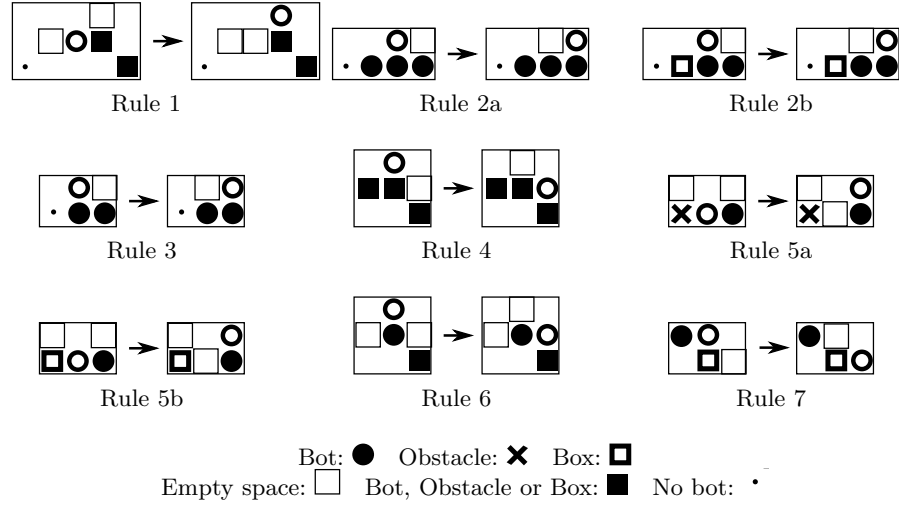Bot: ●   Obstacle: ✖   Box: ☐
Empty space: ☐   Bot, Obstacle or Box: ■   No bot: ·

Fig. 1: Cellular automata rules for moving bots.