Phase 1 Update - **Hardware Optimization of Sokoban Solver**

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1. Project Update

1. *Algorithm Description*
2. *Performance Peak*
3. *Design of the kernel*

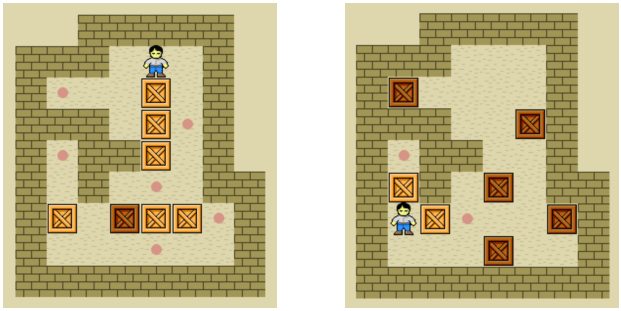
2. Performance Baseline

1. Performance Numbers
2. Distance from Theoretical Peak

3. Tentative Meeting Schedule

Tentative division of labor	
Yen-shi Wang	Deepening A* Search, Deadlock Tables, Goal Cuts
Benjamin Huang	Minmatching, Tunnel Macros, Goal Macros
Zachary Armendariz	Hash Tables, Move Ordering, Pattern Searches

Tentative Meeting Times	
1st Preference	Tuesday, 3:00-4:00pm
2nd Preference	Thursday, 5:30-6:30pm
3rd Preference	Friday, 1:00-2:00pm



(a) Start of game (b) Near the end of game

Figure 1: Screenshots of Sokoban

References

[1] Dorit Dor and Uri Zwick. "SOKOBAN and other motion planning problems". In: *Computational Geometry* 13.4 (Oct. 1999), pp. 215–228. ISSN: 09257721. DOI: 10.1016/S0925-7721(99)00017-6. URL: https://linkinghub.elsevier.com/retrieve/pii/S0925772199000176.

[2] Nils Froleyks. "Using an Algorithm Portfolio to Solve Sokoban". PhD thesis. Karlsruhe Institute of Technology, 2016, p. 56. URL: https://baldur.iti.kit.edu/theses/SokobanPortfolio.pdf.

[3] Anand Venkatesan, Atishay Jain, and Rakesh Grewal. "AI in Game Playing: Sokoban Solver". In: (2018). arXiv: 1807.00049. URL: http://arxiv.org/abs/1807.00049.

[4] Huaxaun Gao et al. "A Sokoban Solver Using Multiple Search Algorithms and Q-learning". In: ().

[5] James Hyun and Seung Hong. *sokoban-solver*. URL: https://github.com/jameshong92/sokoban-solver (visited on 09/16/2019).