

In this thesis we describe new models for solving the cooperative pathfinding (cpf) with the requirement of minimal makespan and experimental comparison with current models is performed. These new models investigate the possibilities of encoding the cpf problem into binary integer programming (bip) or constraint satisfaction problem (csp). Mainly the new active-edges IP model tests with high number of agents yielded good results, where it fell only slightly behind the best SAT model. A new csp model reached the fastest times in tests with low number of obstacles and agent interactions while struggling heavily in the opposite cases.