

Abstract

This thesis investigates the navigation of units in real-time strategy computer games and is focused on the task of navigating a bigger group of units through a game world that contains narrow passages. The narrow passages causes significant delays that could be avoided by splitting the group and taking some part of it through an alternative way. In this thesis, a solution using flow networks is proposed. The map is transformed into a flow network which then allows the planner to find an alternative route to the fully occupied narrow passage. The proposed method was tested in a simulator specifically designed for this task and compared with the conventional methods of navigation in computer games. The final evaluation shows that the navigation of units using flow networks can successfully solve this problem.