Abstract—This project developed a strategy for navigating a group of mobile robots through an unknown environment containing various obstacles. Each robot is equipped with infrared sensors for obstacle detection. The group has one leader robot and several follower robots. The followers follow the leader and maintain a certain distance from one another, enabling them to form a regular polygon around the leader when the leader is static. When the leader is moving, the group adapts to the surrounding environment; for example, followers may form a line to navigate through a tunnel. The proposed strategy can facilitate multirobot navigation in complicated environments.

Reference