A VR-Based Interface for Simulation and Manipulation of an Omnibus Surveillance Mobile Robot

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Abstract

Along with the progress of robot technologies, robots are with more appealing functions for security applications. Rapid development in networks and microprocessors also enhances the performance of teleoperation. We can now operate the robot to execute the patrolling mission via network. However, due to time delay image and sensor information are not transmitted in real time. On the other hand, the camera systems equipped on the robot cannot fully cover the entire of the robot in the environment. Therefore this thesis, we develop a VR-based interface to tackle these challenges. With this interface, operators can observe the environment and robot from various viewpoint and distance.