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Proper training and preparation is crucial in many areas in the world today, both for safety and economical as well as for practical reasons. Advanced simulators exist in a variety of fields for training in extremely realistic environments for maximum effectiveness. With high fidelity computers and softwares, simulation is becoming ever more capable. Unfortunately these simulators are mostly built towards users that are stationary within the simulator itself, for example pilot crews. The fidelity spectrum for mobile users, such as dismounted infantry, is more limited, especially in terms of realistic interfaces. Effectiveness of training can be impaired when senses and abilities of users that physically move in their work are restricted by unnatural ways of control. The work in this thesis addresses this limitation and converges reality and virtuality into a seamless training environment. Focus is on maximizing the effect of the training through the facilitation of interaction techniques that support natural human behavior. With novel interfaces, hardware and software, a simulator is developed where a user can physically walk indefinitely in any direction, interact with the surroundings and have a large field of view of both real and virtual objects without parallax errors. The field of robotic telepresence is also explored through a wireless robotic platform designed for integration with the simulator. Instead of a mixed real and virtual world, the simulator environment and robot are joined to form a combined real world where every move of the user is matched by the robot.