Tele-Robotics

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Tele-robotic Algorithm Optimization for Non-GPS Assisted Search Operations

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Open Physical Databases have given people an ability to utilize vast amounts of physical data for planning and decision making. For example systems like Google Earth run off of these data bases, and many people use this information for projecting on or planning future events. However the information that traditional systems gather are limited in scope, non-GPS assisted data, such as information inside of structures can be highly valuable especially for supporting real-time activities such as search and recovery operations. The goal of this project will be to test several robotic search algorithms that support the two-way communication between humans and robotic system that are collecting non GPS assisted data. The goal will be to determine the cognitive benefits and draw backs of various algorithms. This data will be tested using real robots performing search and recovery activities in buildings on ISUs campus. The end product of this study will be the development of a hybrid algorithm that will optimize human performance.