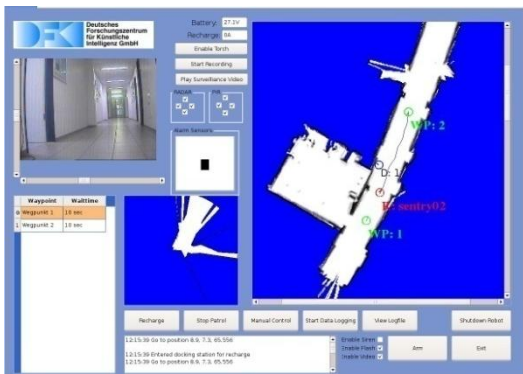


SentryBot

An Autonomous, Co-Operative Multi-Robot System for Security and Surveillance



The SentryBot systems are able to navigate autonomously indoors.



The operator can set waypoints for the robot and monitor the area through the robots sensors.



A docking station provides 24/7 operational time. The recharging process is initialized autonomously by the robot.

Intelligent team of security robots for indoor and outdoor surveillance tasks

The surveillance of security-critical compounds and buildings requires large amounts of human and financial resources. Especially office buildings and industrial compounds are frequently targeted by theft, sabotage or industrial espionage. In addition to that usually a large amount of money is needed if a security system has to be upgraded. As a matter of fact, most customers from the security business do not want to replace an existing security system, but prefer to enhance it in order to make it more efficient. Additionally, consequential costs for maintenance and personal training have to be reduced, as these factors are a criterion for customers to buy a new security system.

As a solution for the described problem, the DFKI Bremen is developing a team of autonomous mobile security robots which can be seamlessly integrated into existing security systems. Those mobile security robots are able to navigate autonomously and are able to recharge their batteries without any user interference. The robot team is self-organizing and provides an intuitive interface via voice control. By applying radar, passive IR Sensors as well as thermal vision for the outdoor area, the mobile security robots are able to secure large buildings and compounds autonomously.

The SentryBot robot team is able to navigate autonomously in indoor environments, i.e. without a prior learning of a patrol route. Based on its application sensors, which consist of radar, infra-red sensors and vision, the robot is able to trigger an alarm. An intelligent recharging concept provides the robot a 24/7 operation time without any user interference. The SentryBot robot can be operated by a multi-modal user interface or voice control, which allows a seamless integration into existing security concepts without prior time-consuming training of the security personnel.

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