Robot Teleoperation System based on GPRS For Militan Confidential

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ABSTRACT

In this paper we present a strategy for using the cellular network, and specifically the general Packet Radio Service, to teleoperate a mobile robot. This allows the system user a wider mobility range and coverage. The system application is developed using Java Programming Language, implementing two teleoperation methods: predefined sequences and instant actions. This paper describes a Robot Application System developed using mobile communications and integrating data transfer technologies. The system was developed to teleoperate a robot such as the Giraa_02, a robot initially made for robotic research only. The application runs on a cell phone, implementing the following two control methods: The first consists of real time commands sent by the user via the application interface, while the second consists of sending preprogrammed sequences to a dedicated server, which then sends the orders to the robot sequentially using predefined timers. The system uses a GSM/GPRS mobile telephony network (1900MHz bandwidth), while the Java application is installed on a low/medium gamma cell phone (A Nokia 3100 series phone), and is developed using the manufacturer's software and simulator. The server side application is also developed in Java, using the servlet package as a tool. We implement this concept in Military Application. We will present the Simulation for this concept.

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