PC-BASE WIRELESS DEVELOPMENT SYSTEM (WDS) FOR MOBILE ROBOT

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ABSTRACT

Mobile robot is a robot that capable of moving in space with the aid of a specialized mechanism such as wheels, chains and articulated legs. It can be used for various tasks, such as inspecting and repairing, mining, unmanned aerial vehicle (UAV), navigation and disarming in hazardous environments. In order to improve the capability of mobile robot, current researchers focused on applying wireless communication to control the mobile robot. This project proposed to build a prototype Wireless Development System (WDS) for Mobile Robot. It will utilize radio frequency (RF) wireless communication between the mobile robot and computer through graphical user interface (GUI) on a computer. This project presents one of the usages of the PIC (Programmable Integrated Controller) as embedded controller that had the ability to interface with the RF technology. In addition, it will be equipped with a wireless camera as a feedback device to the remote system. For interaction, a gripper is fixed to the mobile robot to pick and place object. The prototype has be successfully implemented and tested for its functionality in real time environment. Outcome from this research project hopefully can be utilized in ROBOCON competition for UITM Robot team.

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