

DEVELOPMENT OF FLOOR CLEANING ROBOTS

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ABSTRACT

Cleaning the floor from dust is one of the routine activities carried out every day. This activity is not only carried out in homes but also in offices to shopping centers. Sometimes because the activity of cleaning the floor from dust requires a short time, there are other activities that are neglected. For this reason, an application for intelligent floor cleaning robots that are able to navigate is automatically developed to clean dust and polish the floor. The research was conducted with Pressman's research and development research methods which included stages: analysis, design, implementation and testing. Robots developed using omniwheel wheels, to simplify robot navigation, vacuum cleaner and floor polishing motors, and control systems based on Arduino microcontrollers and Bluetooth-based Android smartphone communications. The robot that was developed was able to move according to the navigation controls of Android. Besides that the robot is also able to move to avoid the barrier if the distance between the robot and the barrier is less than 15 cm. The performance of floor cleaning of various types of impurities still leaves less than 20% of the dirt on the floor.

Kata Kunci: *robot vacuum cleaner, Arduino, Android, Bluetooth*