

Design and Development of a Robot based System for Precision Farming

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Abstract: *Many advances in technology have made the agriculture business a much less labor-intensive industry to be a part of. If we think back even only 50 years, farmers were just beginning to incorporate technologies into their farming techniques. It has been said that individuals that are involved in the farming industry are some of the least susceptible to change. They are very set in the ways of those came before them. When we take a look at the farming industry now, we can see that this is rapidly changing. Farmers are looking for new ways to implement technology to cut costs and reduce labor hours. One of the ways that farmers are beginning to explore new technologies in farming come from the autonomous tractor. The RF based tractor is something that is very new to the agriculture industry, but is quickly gaining popularity from agriculture research companies around the United States. These tractors are described by Farm Industry News as a tractor that drives its solve with a computer in control. Although still in the research phase of development, autonomous tractors are rapidly becoming more of a reality than an idea. When the tractor is moving on a surface, it is controlled by a user Mobile app. This can be moved forward and reverse direction using geared motors of 60RPM. Also this robot can take sharp turnings towards left and right directions.*

Keywords: Battery bank, Microcontroller, Bluetooth module (HC-05), DC motor, Ultrasonic Sensor, Motor Driver Android app

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