

DESIGN AND DEVELOPEMENT OF A ROBOT BASED SYSTEM FOR PRECISION FARMING

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Abstract: This paper presents a system which operates for advanced agriculture process which includes cultivation based on the area defined for different dimensions of land scape on robotic platform. The farm is cultivated by the robotic system, depending on the dicotyledon crops (Ground nut, Peas, Beans etc) considering particular rows & specific columns. The multifunctions are operated in a single robotic platform such as Ploughing, Seed sowing, Liquid fertilizing and Water sprinkling. The infrared sensors detect the obstacles in the path. The movement of the machine is predefined and the solar panels are used to charge the battery, the power supply is used as a backup. Embedded C language is used in programming the microcontroller. The microcontroller is used to control and update the work processed by the agriculture robot which is performed by the system.

Keywords: Agriculture Robot, Seed sowing mechanism, Liquid sprinkling mechanism, Solar panels, IOT, DC motors, Servo motor, Sensors, Arduino mega 2560 (Atmel Microcontroller).