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A NOVEL BASED ROW GUIDANCE APPROACH FOR NAVIGATION OF MOBILE ROBOT

K.Pavithra[1] N.Sasikala[2] P.Mahalakshmi[3] M. Sudhakaran[4]
[1,2] UG Student, EE, [3]Assistant Professor, EEE, [4]Assoicate Professor, EEE
Ganadhipathy Tuli's Jain Engineering College[5]

ABSTRACT : In India agriculture plays a major role, Our project is about an agriculture robot using mobile for navigation with the help of Bluetooth device and row guidance is done where seed and water is spreader according to limits. This project reduces the formers works does not causes any harmful radiation. Thus the project is environmental friendly.

Key words: Mobile, Microcontroller, Bluetooth, Sensor

OVERVIEW:

The project is been an agriculture based project in which in the previous existing paper it is been controlled using that of the GPS by which it is been a disadvantage has the network as to be connected but in this project. LIFI requirement is been used in the simulation in which it as the capabilities of faster communication than any other wireless devices of transmission in which it can obtain more than the 10000ghz. It has no interference in it so its traveling speed is more than 100 times faster than other types of devices.

In this normal operation is been done by the robot motor driver working and based as it can detect the obstacles as its own and returns back to its path. The LCD is placed to detect the normal and abnormal states of the sensors and the buzzer is been connected to alarm the condition of abnormality. Thus the project can be implemented in the real time aspects.

In this the PIC microcontroller to been used it is been having the same operation has that the 8051, ATMEL by which the PIC controller has an advantage in which it has 32 coding to study it can be understand easily thus it has same 40 pin has the ATMEL but PIC has the inbuilt ADC in it where it can be used for connection of sensors or any other analog devices. In this instead of power supply the adepter is used where it converts 12vto the operation to the microcontroller.

The relay operation is been controlled with the help of the mobile operation. In this project we are going to implement, agriculture based robot control. Robot can be controlled using LAB VIEW from the PC, so that robot will move in all directions inside the field. If we give command to adjust the pouching blade, and we can control the seed spreader valve and water tank valve using LABVIEW. If any problem occurs in valves and blade, buzzer will be alarmed and in PC we can view the condition. PH LEVEL sensor is used to find the ph content in the water level. All the values will be displayed in the LCD.

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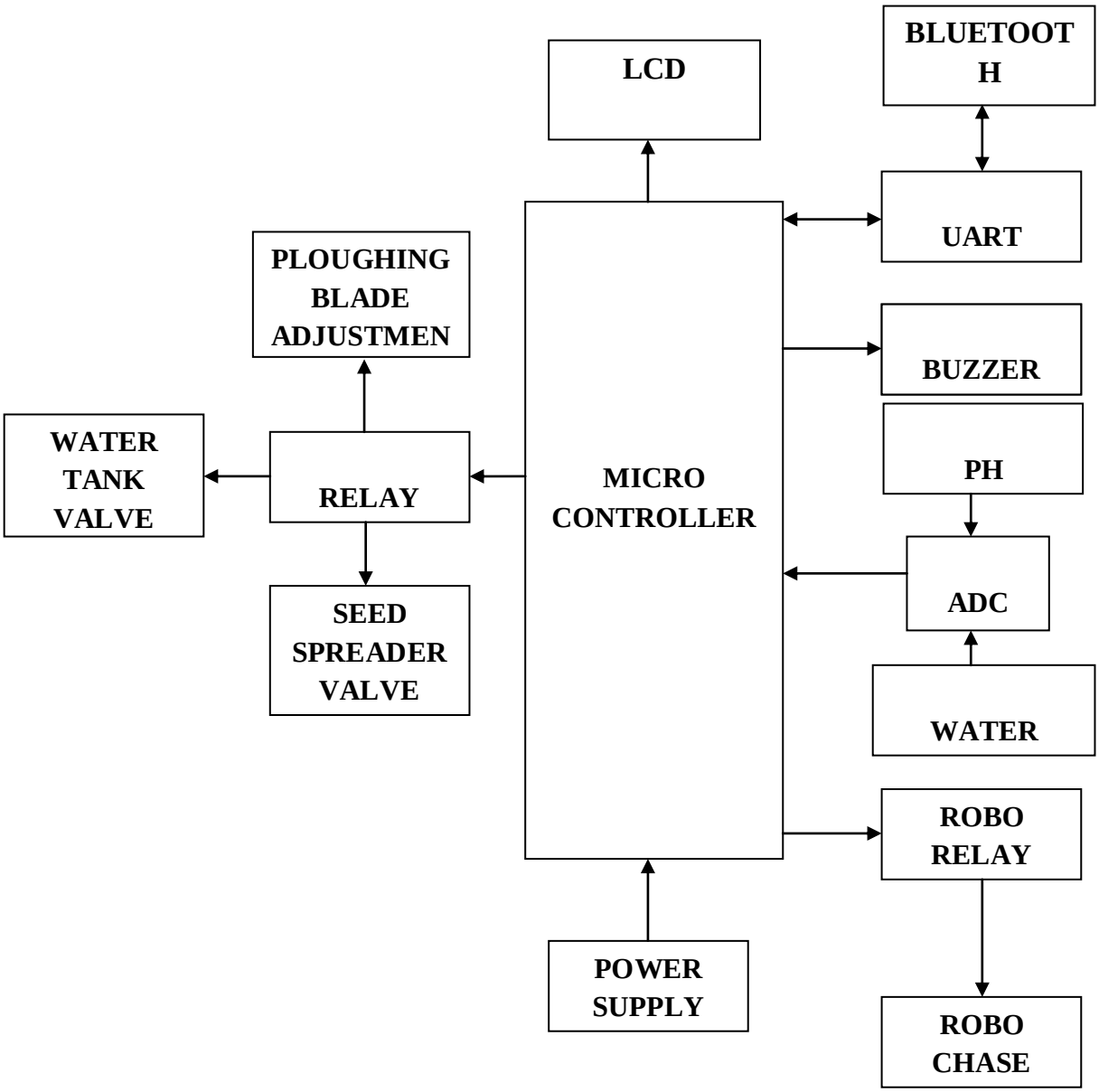
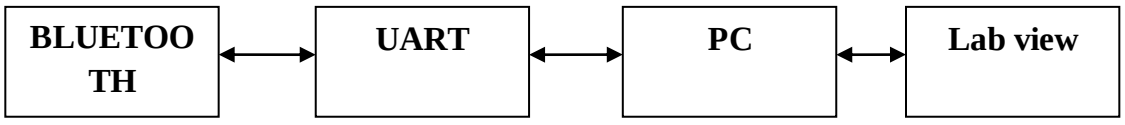
PROPOSED BLOCK DIAGRAM:





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HARDWARE USED:

MICROCONTROLLER

ROBOT CASE

LCD

RELAY

UART

BLUETOOTH

SIMULATION TOOLS:

EMBEDDED C

KEIL COMPILER

LABVIEW

SIMULATION RESULT:

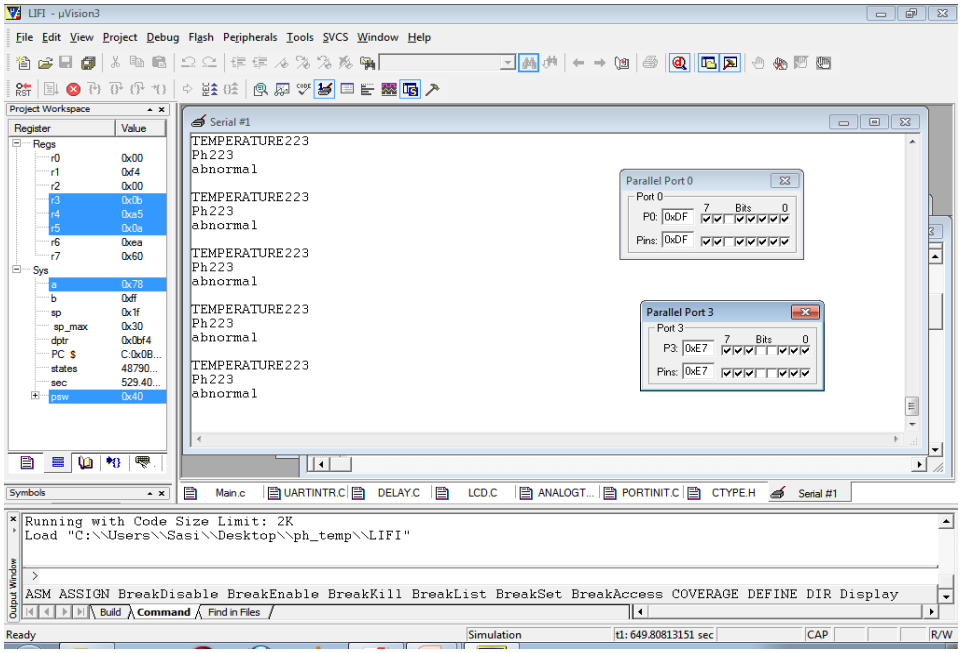

FIG 1.1 SIMULATION OUTPUT

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HARDWARE

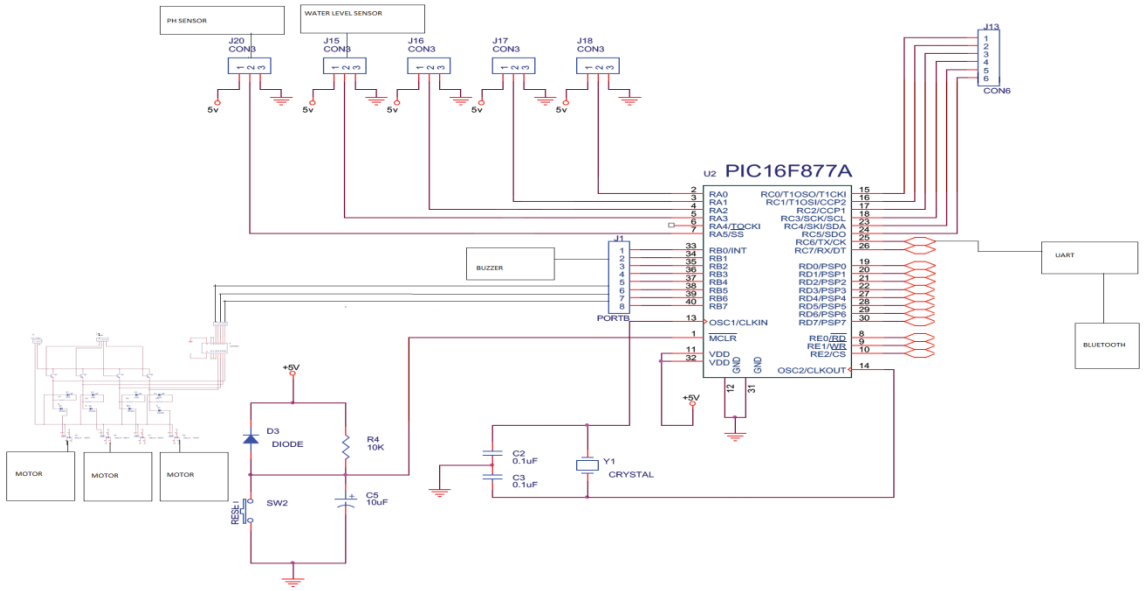

FIG 1.2 HARDWARE IMPLEMENTATION

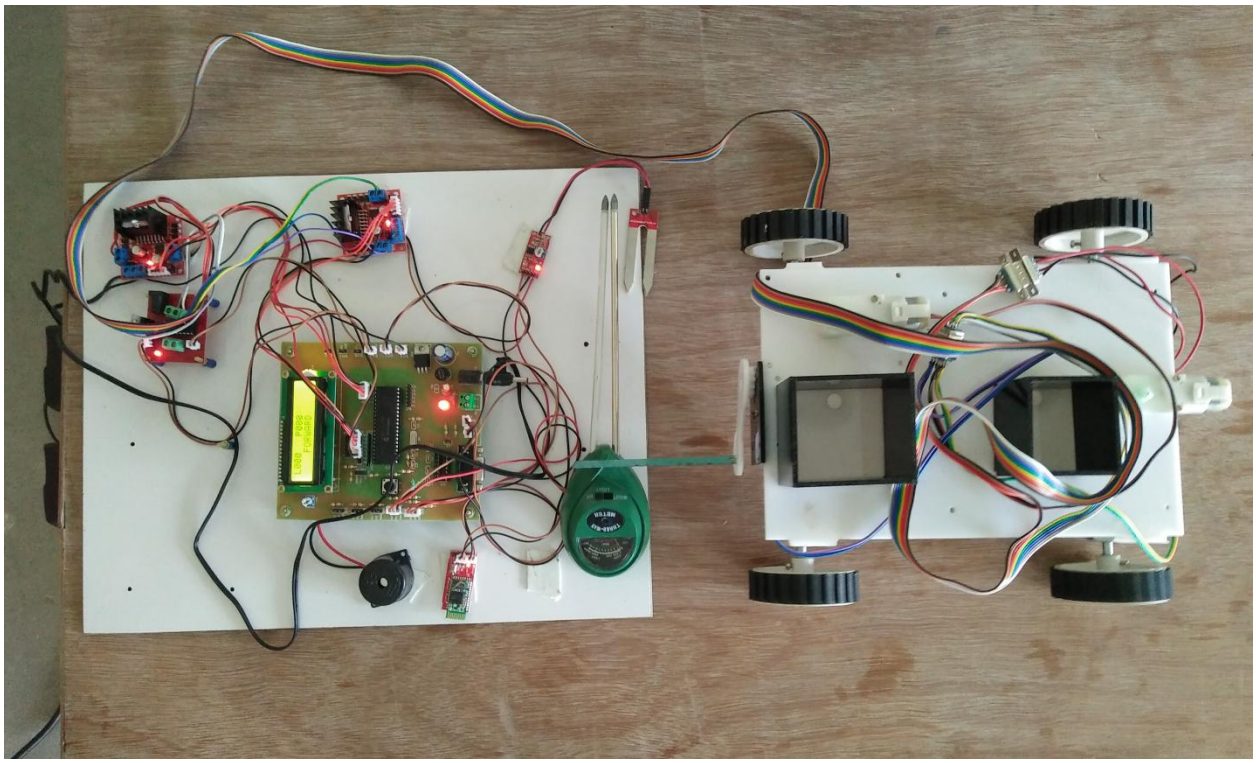

FIG 1.3 HARDWARE

CONCLUSION:

This system supports aggressive water management for the agricultural land. This architecture is based on the capabilities of current and next-generation microcontrollers and their application requirements. Microcontroller used for the system is promising that it can increase system life by reducing the power consumption resulting from lower power consumption.

REFERENCE

[1] Prema, K., N.S. Kumar and S.S. Dash, 2013. Design of fuzzy logic controller for online speed regulation dc motor using pwm technique based on laboratory virtual instrument engineering workbench. J.Comput. Sci., 9: 990-997. DOI:10.3844/jcssp.2013.990.997

[2] Shrinivas R. Zanwar, R. D. Kokate (June-2012), Advanced Agriculture System-International Journal of Robotics and Automation (IJRA)magazine.

[3] S.Chandika ME AMIE (June 2009), Automation and Emerging Technology Development of 2d Seed Sowing Robo-Journal of agriculture science.

[4] Yangchangwan (2011). Plant production robot platform for application-driven development of four-wheel steering, pp. 36-45

[5] Lee Yong Tae (2011). Plant production robots-wheel independent steering drive platform for the application of research, Journal of Korea Society of Precision Engineering 28 Chapter 8 pp. 942-950.

[6] Gwoninso (2011). Autonomous Technology, Vol.51, No.3, 2011