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BRAINY ROBOT

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Abstract- In the present scenario of war situations, unmanned systems plays very important role to minimize human losses. So this robot is very useful to do operations like detecting fire, obstacle, bombs and other things. In this paper we are controlling a robot with wire. In this system, a robot is fitted with motors. A micro controller is used to control all operations. According to the motor operations the ROBOT will operate as specified in program. If any obstacle is observed the robot will change its direction or stopped. Whenever the any land mine is detected, the Buzzer will ON. The objective of the present project is to design a robot, which senses various parameters in the nature. It is designed with smoke sensor,landmine, self-learning (IR-sensors), and temperature sensors. In this methodology we are using the micro controller to control the robot direction and to sense the various parameters.

Index Terms- Microcontroller, Robot.

I. INTRODUCTION

Robotics is the science and technology of robots, their design, manufacture, and application.[1] Robotics requires a working knowledge of electronics, mechanics and software, and is usually accompanied by a large working knowledge of many subjects.[2] A person working in the field is a roboticist. Although the appearance and capabilities of robots vary vastly, all robots share the features of a mechanical, movable structure under some form of autonomous control. The structure of a robot is usually mostly mechanical and can be called a kinematic chain (its functionality being akin to the skeleton of the human body). The chain is formed of links (its bones), actuators (its muscles) and joints which can allow one or more degrees of freedom.

Most contemporary robots use open serial chains in which each link connects the one before to the one after it. These robots are called serial robots and often resemble the human arm. Some robots, such as the Stewart platform, use closed parallel kinematic chains. Other structures, such as those that mimic the mechanical structure of humans, various animals and insects, are comparatively rare. However, the development and use of such structures in robots is an active area of research (e.g. biomechanics). Robots used as manipulators have an end effector mounted on the last link. This end effector can be anything from a welding device to a mechanical hand used to manipulate the environment.

II. LITERATURE SURVEY

Now a days every system is automated in order to face new challenges. In the present days Automated systems have less manual operations, flexibility, reliability and accurate. Due to this demand every field prefers automated control systems. Especially in the field of electronics automated systems are giving good performance. In the present scenario of war situations, unmanned systems plays very important role to minimize human losses. So this robot is very useful to do operations like detecting fire, obstacle, bombs and other things [1,2].

There is the impressive PR2 from Willow Garage [3] which can do things like fold towels (but slowly, and for $400K). HERB, developed at CMU [4] is also intended to perform household tasks, but currently requires environmental modifications for its vision system. Then there is El-E from Georgia Tech [5] that was specifically created to retrieve objects for disabled persons. However, none of these robots are designed around a speech interface – to change their actions you either completely change their programs or you configure options in a GUI. Other robot such as Carl [6] and Cosero [7] can take speech input, but require a handheld or headset mike..

provided to power the robot to perform all functions. These are very useful for carrying files in offices, or any other material which human cannot handle.

III. PROPOSED WORK

In this paper we are controlling a robot with wire. In this system, a robot is fitted with motors. A micro controller is used to control all operations. According to the motor operations the ROBOT will operate as specified in program. If any obstacle is observed the robot will change its direction or stopped. Whenever the any land mine is detected, the Buzzer will ON. In this system we have one fire sensor. Whenever the sensor observes fire, buzzer will be on and also have another sensor used for detecting the bomb or any dangerous materials or land mines. A 12V battery is

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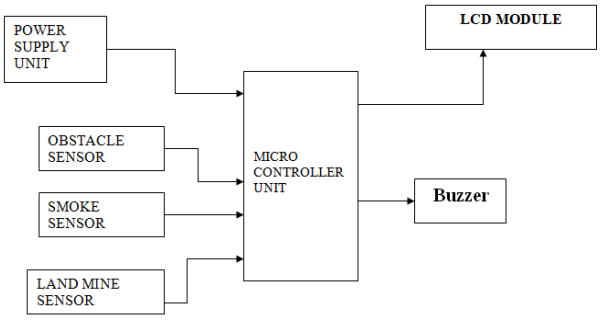

Fig. Block diagram

The block diagram of the present project consists of the microcontroller, Obstacle sensor, and land mine sensor; smoke sensor, buzzer, and the lcd. The microcontroller plays major role in receiving the data from the sensors and to take the required action. The buzzer indicates the presence of smoke, land mine,abstrcle parameters. According to the received data the microcontroller sounds the buzzer to indicate certain condition

The field of robotics has created a large class of robots with basic physical and navigational competencies. At the same time, society has begun to move towards incorporating robots into everyday life, from entertainment to health care. Moreover, robots could free a large number of people from hazardous situations, essentially allowing them to be used as replacements for human beings. Many of the applications being pursued by AI robotics researchers are already fulfilling that potential. In addition, robots can be used for more commonplace tasks such as janitorial work. Whereas robots were initially developed for dirty, dull, and dangerous applications, they are now being considered as personal assistants. Regardless of application, robots will require more rather than less intelligence, and will thereby have a significant impact on our society in the future as technology expands to new horizons..

V. CONCLUSION

The paper presented a design of "BRIANY ROBOTS" which has been successfully designed and tested. It has been developed by integrating features of all the hardware components used. Presence of every module has been reasoned out and placed carefully thus contributing to the best working of the unit. Secondly, using highly advanced IC's and with the help of growing technology the project has been successfully implemented.Finally we conclude that "BRIANY ROBOT ON MICROCONTROLLER" is an emerging field and there is a huge scope for research and development.

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has arrived. The land mine sensor to indicate the land mines if any detected. The smoke sensor detects the fire and feed the signal to the controller.

The power supply unit is to supply the required power to the various components in the system. In this power supply, a step down transformer is used to step down the current from 230V to 5V AC, next step is to convert this AC to DC which is done by using a Bridge Rectifier and additional Filter Circuits are used where the ripples or noised in the DC voltage are removed and at last a 7805 Regulator is used to makeup regulated a 5V DC, from the output of the 7805 IC we connect a 2 pin connector to make a connection with the corresponding Vcc (40) and Gnd (20) pins of the AT89C51 microcontroller. Now the microcontroller is powered up to do the specified controlling action given by the user.

IV. RESULTS AND DISCUSSION

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