ABSTRACT

“GSM Controlled Wireless Robot” is automatic robots which capable of receiving a set of command instructions in the form of Short message service and performs the necessary actions. We will be using a dedicated modem/mobile at the receiver module i.e. with the robot itself and send the commands using SMS service as per the required actions. Although, the appearance and capabilities of robot vary vastly, all robots share the feature of a mechanical, movable structure under some form of control. The control of robot involves three distant phases: perception, processing, action. Generally, the preceptors are sensors mounted on the robot, processing is done by the onboard microcontroller and the task is performed using motors or with some other actuators.

I. INTRODUCTION

GSM stands for Global System for Mobile Communications. GSM projects are based on one of the emerging technology of the century. It deals with design of a stand-alone embedded system that can monitor and control several devices remotely irrespective of distance limitations. Generally sending and receiving SMS is the concept followed in embedded domain. The system has two parts, namely; hardware and software. The hardware architecture consists of a stand-alone embedded system using a 8-bit microcontroller, several type of interface and driver circuits. The system software driver is developed using an interactive C programming language. The mobile unit which is dedicated at the robot is interfaced with an intellectual device called Micro controller so that it takes the responsibility of reading the received commands in the form of SMS from the mobile unit and perform the corresponding predefined tasks such as move front or back, left or right etc. The micro controller is also interfaced with few DC motors in order to move the robot in different directions. The ON and OFF of the DC motors depends on the direction it has to move which is the complete responsibility of the controller to take those intelligent decisions.

II. BLOCK DIAGRAM

The block diagram of the GSM based automatic robotic system has been shown in fig. 2. That robotic system technology will totally base upon the DTMF (Dual-tone multi frequency) technology. The block diagram consider microcontroller, DTMF decoder, motor drive that is consider for left and right movement of the system. Mobile phone is use like as a remote, which is use for movements of the drive.

By using that technology we can easily operate and control the considered drive. Basically this technology is consider for carrying the material from anywhere, but condition is this, the operator mobile and the second following mobile, these both should be remain in contact
or in range. The block diagram generates a robotic
device which will be controlled by the operated mobile.
That is such type of robotic system can move the motor
left, right, up or down side, which move anywhere at any
time. Wireless communication is main important thing
that is used here. Two mobile are interconnected here:
first mobile is operated by an operator and second
mobile which is connected with first mobile, which
follows the first mobile order. First mobile remain in
operator hands and the second mobile follows the order
provided by first mobile. And camera is provided on the
front side of robotic. Whole technology based upon the
MIN: Mobile identification number and used
microcontroller.

III. TECHNOLOGY USED

III. 1) DTMF keypad Technology

The DTMF keypad technology based upon keypad that
have an additional column for four now-defunct menu
selector keys. When used to dial a telephone number,
press a single key will produce a pitch consisting of two
simultaneous pure tone sinusoidal frequencies. The row
in which the key appears determines the low frequency,
and the column determines the high frequency. For
example, pressing the key will result in a sound
composed of both a 697 and a 1209 hertz (Hz) tone. The original keypad has levers inside, so each
button activated two contacts. The multiple tones are
the reason for calling the system multi frequency. These
tones are then decoded by the switching center to
determine which key was pressed.

“Fig. 2” Telephone keypad

III.2) Software used

OrCAD is a proprietary software tool suite used
primarily for electronic design automation. The software
is used mainly by electronic design engineers and
electronic technicians to create electronic schematics and
electronic prints for manufacturing printed circuit
boards. The name OrCAD is a portmanteau, reflecting
the company and its software's origins: Oregon + CAD.

IV. RESULT

The robotic system detects the signal from the operator
handle mobile through GPS receiver system. The
operator handle mobile operate the mobile and provide
the direction and the second mobile which is attach on
the robot it achieve the signal and move on according the
provided direction. The robot is mainly move in the
given direction which is provided by user through SMS.
The system based upon the GSM technology.

“Fig.3” Experimental view

This is the experimental work of the GSM robotic
technology. The used camera is very necessary thing
because the front attachment of the camera helps the
robots for move in much batter way. The usage of
camera is consider for monitoring purpose.

V. CONCLUSION

This paper propose for enhance the safety. The GSM
technology is deals with mobile it depends upon DTMF
technology. That technology is mobile based, its
interfaces offer more promises for wide variety of
applications. This technology is very reliable
adaptability and efficient. GSM applications are very
popular for their applications. Specially this technology
is consider for coal carrying from the core of the earth.
REFERENCES


