

## Overview of Bike Automation using Voice Recognition Chip

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**Abstract:** Automation is the creation of technology and its application in order to control and monitor the production and delivery of various goods and services. It performs tasks that were previously performed by humans. Automation is being used in a number of areas such as manufacturing, transport, utilities, defense, facilities, operations and lately, information technology. In today's world it is commonly noticed that two wheelers are the most commonly used locomotives. As day by day population is increasing there is a heavy demand for new two wheelers. In Pune (Maharashtra) the RTO Office registered about 1.1 lakh new two wheeler from December 2016 to December 2017 and it goes on increasing in mega cities like Mumbai, Chennai, Kolkata and Delhi in India and till date there is no security or any antitheft provisions nor any instantaneous medical help providing mechanism for two wheeler users when accident occurs. The aim of this paper is to provide smart bike monitoring system that will help in saving human lives and also avoid robbing of vehicles. The system has three units that comprises of detecting an accident and providing a SMS to the mobile number stored in the memory. It will also give a vehicle tracking system that will give position and a wireless remote that will control on/off mechanism of the bike.

### I. Introduction

Automation is the creation of technology and its application in order to control and monitor the production and delivery of various goods and services. It performs tasks that were previously performed by humans. Automation is being used in a number of areas such as manufacturing, transport, utilities, defense, facilities, operations and lately, information technology. In today's world it is commonly noticed that two wheelers are the most commonly used locomotives. As day by day population is increasing there is a heavy demand for new two wheelers. In Pune (Maharashtra) the RTO Office registered about 1.1 lakh new two wheeler from December 2016 to December 2017 and it goes on increasing in mega cities like Mumbai, Chennai, Kolkata and Delhi in India and till date there is no security or any antitheft provisions nor any instantaneous medical help providing mechanism for two wheeler users when accident occurs. The aim of this paper is to provide smart bike monitoring system that will help in saving human lives and also avoid robbing of vehicles. The system has three units that comprises of detecting an accident and providing a SMS to the mobile number stored in the memory. It will also give a vehicle tracking system that will give position and a wireless remote that will control on/off mechanism of the bike. Till the date there are lots of security anti-thefts system for four wheelers such as central locking system Anti-lock braking system - ABS, EBD, If someone anyhow manages to open the door and tries to start the ignition with master key, the engine gets shut off within 5–10 minutes. But what about the two wheelers do they really have any security system for that? Being two wheelers greater in number than four wheelers, don't have any security for it. Even at times when someone's bike get stolen he or she simply gives a police complaint and would hope for getting their assets in few days, but that day never comes, so here a novel, simple and economical system which will make human lives easy and reliable for their valuable assets. Human beings always want to make their lives comfortable by making intelligent system which works faster, very efficiently than humans. This paper can gather the information such as current position of bike through GPS and GSM, in case of an accident by alerting the family member by sending the message on default number saved on chip, thus it would help to inform police or ambulance to reach at accident site so that a person in adverse condition can be saved if possible with the instantaneous first aid help. Most of the time people those caught in accident don't get the immediate medical help and can be made survived by this system. Due to lack of first aid and emergency medical help there is huge increase in death rate due to road accidents of two wheelers. Another important security which is needed is antitheft which will keep burglars away from our assets being stolen.

This system avoids false emergency call in case of safe conditions or sometimes bike may get fall down statically due to any reason or due to improper handling by users thus the vibrations made by piezo disc does not exceeds its critical value set for detection of an accident. If and only if accelerometer shows critical values along with piezo-disc exceeding its critical point vibrations accident is detected and call is made to default mobile number. The side stand automation will avoid the accident when user carelessly leaves the side stand in unreleased position while driving and loses balance. When the side stand is left in unreleased position it will give an indication that it is unturned and the user just has to press a switch that will turn the stand connected

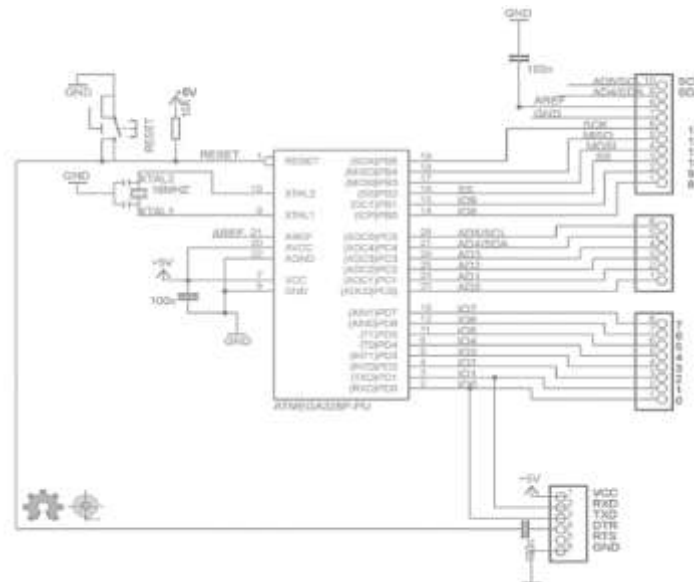
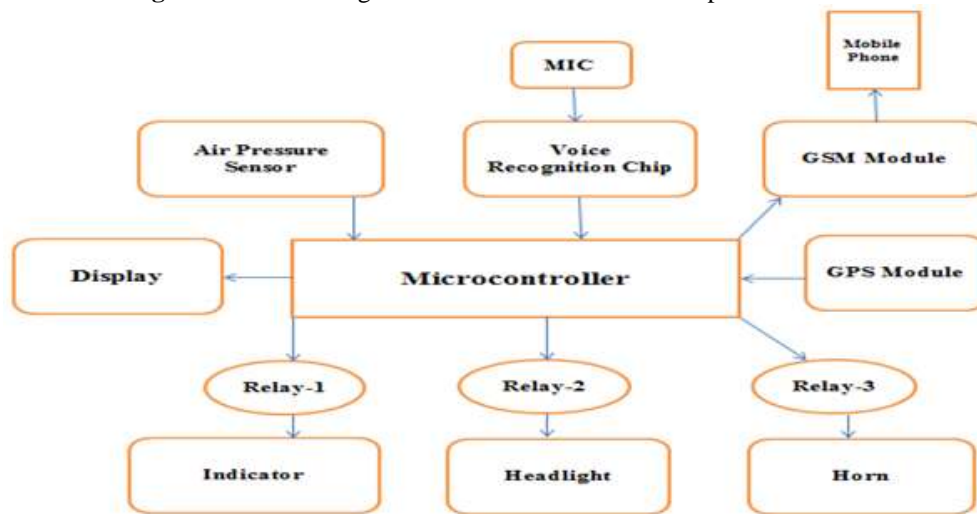
to the stepper motor and will maintain safer condition. Most of the stolen vehicles are dismantled and sold there is no chance of the owner getting their bike back when theft. Certainly there are many cases in which the stolen bike is sold in the neighbouring states. After meeting with accident the person can be saved within a certain amount of time if given proper medical help.

## II. Block Diagram

In this project, the overall block diagram consists of aATmega328p controller, voice recognition chip, air pressure sensor, GSM module, relay, GPS module relays and bike appliances . Over here each and every block has its separate working and function. And they all together are controlled by ATMEGA Development Board which is been commanded by user as it's a user interface device. In this system we are using voice recognition chip to control the indicator and horn. We are using voice recognition chip as the replacing option to switch. Air pressure sensor will be used to indicate that if the air pressure in the tier reduces belowto specific level it will display the pressure. In short this will be indication that air filling is needed. GSM and GPS module will providethe key feature to the system. With the help of GPS module we will get the current location of our bike. This location of the bike will get send to our mobile through GSM module. This will help to recover the stolen bike.

(1) Voice recognition chip is used for operating bike appliances (horn , indicator).we are storing some commands in VR chip for example left , right. If rider want to take left turn he just have to give command "LEFT" , then left indicator will turn on for some time. Command from rider will work as input signal to the controller. Then controller will take a relative action which is mention in program

Figure 2: Circuit Diagram of ATMEGA 328P Development Boards.



### **III. Conclusion**

Hence, We have designed a system to automate a vehicle using a system of controllers interfaced with various sensors. We faced problems regarding the execution of the system. Through the time gap the problems were covered up and the newly automated vehicle will be ready.

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