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Alcohol Detection Sensor of Smart Helmet

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ABSTRACT-Nowadays, bike accidents are major threat in the city. We hear lots of news about accidents because of not wearing helmets and alcohol drinking we propose an innovative method where we will have 2 smart buttons placed in a helmet, only when the rider wears the helmet he can start the bike and we use alcohol detection sensor if the driver is drunk, then he will not be able to start the bike and we also use matrix keypad an innovative concept where in the driver need not carry any key using his pin number he could start the bike. This project will help us to save riders precious life.

KEYWORDS- Accidents, Helmet, Drunken driving

I. INTRODUCTION:

A traffic accident is defined as any vehicle accidents occurring on a public highway. In Indian road system, widening of the road is not an alternative solution to avoid traffic in such a cities. The problems with state drunk driving control systems can be solved in many ways .The most effective will follow several principles: They will invest authority and responsibility in people and organisations at all levels, local to national, because drunken driving control requires action at all levels. Road traffic crashes take the lives of nearly 1.3 million every year and injure 20-50 million more in the world. So to overcome from this problem this smart helmet is being introduced which helps to reduce number of accidents that takes every day and also helps to reduce death ratio. A helmet could be a kind of protecting gear worn to guard the pinnacle from injuries. additional specifically, a helmet aids the os in protective the human brain. Ceremonial or symbolic helmets (e.g. Great Britain policeman's helmet) while not protecting perform ar generally used. The oldest illustrious use of helmets was by Assyrian troopers in 900 B.C., United Nations agency wore thick animal skin or bronze helmets to guard the pinnacle from blunt object and arm blows and arrow strikes in combat. troopers still wear helmets, currently usually made of light-weight plastic materials.In civilian life, helmets ar used for recreational activities and sports (e.g. jockeys in racing, football game, ice hockey, cricket, baseball, camogie, hurling and rock climbing); dangerous work activities (e.g. construction, mining, riot police); and transportation (e.g. motorbike helmets and bicycle helmets). Since the Nineteen Nineties, most helmets ar made of rosin or plastic, which can be strengthened with fibers love aramids[3,5].

II. IMPLEMENTATION:

where keypad are used to start the bike without using keys.where smart helmet are used to avoid the accident for drinking person by using gas sensor.without wearing helmet the bike will not start by using push button inside the helmet only the bike startt to ride [1,2].

In this ,we use smart helmet.The word helmet is diminutive from helm, a medieval word for protecting combat headgear. The medieval nice helm covers the entire head and sometimes is accompanied with hood protective throat and neck in addition. Originally a helmet was a helm that lined the pinnacle solely part.All helmets arrange to shield the user's head by engrossing energy and protective against penetration. Their structure and protecting capability ar altered in high-energy impacts. Beside their energy-absorption capability, their volume and weight are vital problems, since higher volume and weight increase the injury risk for the user's head and neck. Anatomical helmets custom-made to the inner head structure were fictitious by neurosurgeons at the tip of the twentieth century.Smart elmets used totally different for various functions have different styles. as an example, a bicycle helmet should shield against blunt impact forces from the wearer's head putting the road. A helmet

designed for mountain climbing should shield against significant impact, and against objects love tiny rocks and ascent instrumentality falling from higher than. sensible issues additionally dictate helmet. Some helmets produce other protecting components hooked up to them, love a face visors or specs or a face cage, or Associate in Nursing ear cage or ear plugs and different types of protecting headgear, and a communications system. Sports helmets could have Associate in Nursing integrated metal face preserver (face cage).Baseball batting smart helmets have Associate in Nursing swollen protection over the ear, that protects the jaw from injury.

Motorcycle smart helmets usually have flip-down face screens for rain and wind protection, and that they might also have sticking out visors to guard the eyes from glare.

Hard hats for construction employees ar worn primarily to guard the user from falling objects love tools.

Helmets for riot police usually have flip-down clear visors and thick cushioning to guard the rear of the neck.

Modern firefighter's helmets shield the face and back of the pinnacle against impact, fires and electricity, and might embrace masks, communication systems, and different accessories [4].Welding helmets shield the eyes and face and neck from flash burn, ultraviolet radiation, sparks and warmth. they need atiny low window, known as a lens shade, through that the artisan appearance at the weld; for arc attachment this window should be a lot of darker than in burner specs and dark glasses.People with some medical conditions should wear a helmet to guard the brain, because of a spot within the cranium, e.g. attributable to cleidocranial dysostosis or in separated craniopagus twins.Mixed martial arts helmets have ear pads to stop serious injuries to the athletes, United Nations agency don't sometimes endure such force to the ears.Some watersports helmets, love for underwater hockey or athletic game, have ear-cages fitted that ar designed to assist forestall burst eardrums caused by Associate in Nursing excessive water pressure ensuing from a contact or percussion from different instrumentality concerned within the sport.Crash helmets for F1 athletics drivers, their style and construction have evolved hugely. all the same, head and neck trauma remains the best single injury risk to drivers.

III. GAS SENSOR:

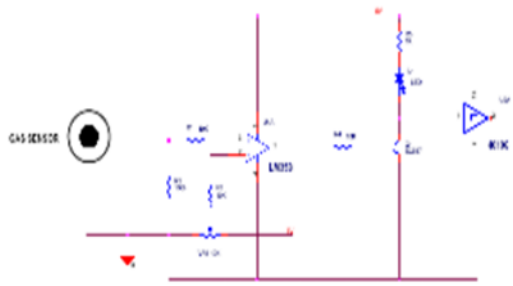

Fig1: Diagram for gas sensor

Ideal sensor for use to detect the presence of a dangerous LPG leak in your bike or in a service station, storage tank environment , Portable gas detectorA gas detector could be a device that detects the presence of gases in a region, typically as a part of a security system. Therefore this kind of apparatus is employed to sight a gas leak or alternative emissions and might interface with an impression system, so this method is often mechanically clean up. A gas detector will sound associate alarm to operators within the space wherever the leak is going on, giving them the chance to go away. This sort of device is very important as a result of the area unit several gases which will be harmful to organic life, resembling humans or animals. Gas detectors can be used to detect combustible, flammable and toxic gases, and oxygen depletion. This type of device is used widely in industry and can be found in locations, such as on oil rigs, to monitor manufacture processes and emerging technologies such as photovoltaic. They may be used in firefighting.Gas leak detection is the process of identifying potentially hazardous gas leaks by sensors. These sensors usually employ an audible alarm to alert people when a dangerous gas has been detected. Exposure to toxic gases can also occur in operations such as painting, fumigation, fuel filling, construction, excavation of contaminated soils, landfill operations, entering confined spaces, etc. Common sensors include combustible gas sensors, photoionization detectors, infrared point sensors, ultrasonic sensors, electrochemical gas sensors, and semiconductor sensors. More recently, infrared imaging sensors have come into use. All of these

sensors are used for a wide range of applications and can be found in industrial plants, refineries, pharmaceutical manufacturing, fumigation facilities, paper pulp mills, aircraft and shipbuilding facilities, hazmat operations, waste-water treatment facilities, vehicles, indoor air quality testing and homes shown in fig 1.

ULTRASONIC:

Ultrasonic gas leak detectors are not gas detectors intrinsically. They observe the acoustic emission created once a pressured gas expands in a very depression area through low opening (the leak). They use acoustic sensors to look at changes among the disturbance of its setting. Since most hard-hitting gas leaks generate sound among the quiet vary of twenty 5 kHz to 10 megahertz, the sensors unit ready to merely distinguish these frequencies from background acoustic noise that happens among the loud vary of twenty cycle per second to twenty kHz.[11] The quiet gas leak detector then produces academic degree alarm once there is academic degree quiet deviation from the standard condition of disturbance. quiet gas leak detectors cannot live gas concentration, but the device is prepared to figure out the leak rate of academic degree escaping gas as a results of the quiet sound level depends on the physical phenomenon and size of the leak.Ultrasonic gas observers unit within the main used for remote sensing in out of doors environments where atmospheric condition can merely dissipate escaping gas before allowing it to achieve leak notice that require contact with the gas to detect it associate degreed sound AN alarm. These detectors unit ordinarily found on offshore and onshore oil/gas platforms, gas automaton and metering stations, rotary engine power plants, and various facilities that house tons of outside the pipeline.

KEYPAD:

A computer keyboard may be a set of buttons organized during a block or "pad" that bear digits, symbols or alphabetical letters. Pads largely containing numbers are known as a numeric computer keyboard. Numeric keypads are found on character set keyboards and on different devices that need in the main numeric input corresponding to calculators, push-button telephones, hawking machines, ATMs, purpose of sale devices shown in fig 2.

Fig2:keypad

The first key-activated mechanical calculators and plenty of money registers used "parallel" keys with one column of zero to nine for every position the machine may use. A smaller, 10-key input initial started on the quality calculator in 1901.The calculator had the digit keys organized in one row, with zero on the left, and nine on the correct. the trendy four-row arrangement debuted with the Sundstrand calculator in 1911.

KEYPAD LAYOUT:

There is no normal for the layout of the four arithmetic operations, the mathematical notation equal sign or alternative additional advanced mathematical functions on the data input device of a calculator.The invention of the Push-button phonephone data input device is attributed to John E. Karlin, Associate in Nursing industrial man of science at Bell Labs in Murray Hill, NJ.[3][4] On a phone data input device, the numbers one through nine are organized from left to right, high to bottom with zero during a row below 789 and within the center. Phone keypads even have the special buttons tagged * (star) and # (range sign, "pound", "hex" or "hash") on either aspect of the zero key. The keys on a phone may bear letters that have had many auxiliary uses, akin to memory space codes or whole phone numbers.

IV. **CONCLUSION**:

Nowadays, most cases of accidents unit of measurement by motor bikes. The severities of these accidents square measure increased attributable to the absence of helmet or by the usage of alcoholic drinks. In our project we've got attendency to develop associate in nursing electronic good helmet system that with efficiency checks the carrying of

helmet and boozy driving. By implementing this method a safe two wheeler journey is feasible which might decrease the pinnacle injuries throughout accidents caused from the absence of helmet and in addition reduce the accident rate because of boozy driving.

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