



e-ISSN:2582-7219



INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH IN SCIENCE, ENGINEERING AND TECHNOLOGY

Volume 5, Issue 5, May 2022



INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 7.54



6381 907 438



6381 907 438



ijmrset@gmail.com



www.ijmrset.com



Suicide Prevention System using Microcontroller Techniques

G. Trisanthi Swaroop¹, K. Tarun², A. Phaneendra Nadh³

B.Tech Student, Department of CSE, KKR & KSR Institute of Technology and Sciences, A.P, India¹

B.Tech Student, Department of CSE, KKR & KSR Institute of Technology and Sciences, A.P, India²

B.Tech Student, Department of CSE, KKR & KSR Institute of Technology and Sciences, A.P, India³

ABSTRACT: Suicide is delineating as inflicting owns death purposely. Multiple mental disorders, Stress, relationship issues square measure some suicide impulsive. In line with Wikipedia, 0.5% individual's suicide per annual with around ten to twenty million suicide tries. Suicide may be a critical issue that has to be addressed .Since information Science may be a multidisciplinary field, we are able to get some insight into why there's a high suicide rate in Bharat by detective work patterns in our datasets. The target of this paper is to analyze the correlations between suicide rate and socioeconomic psychological state metrics by finding the pattern. Here we have a tendency to use python and completely different libraries to discover the pattern in our information and notice the correlations. Suicide is AN act that is outlined by varied varieties of social factors. Quite 100 thousand lives square measure lost per annum in Bharat because of suicide that is why suicide may be a critical issue in our country. Compared to ladies, men square measure additional liable to suicide and around forty p.c of individuals United Nations agency kills square measure below the age of thirty. Suicide among this people is of additional concern since this people is liable for the economic process and development of the country. Dismissed individuals like men and housewives square measure additional abandoned for suicide tries. This causes large socio-economic and emotional burden on our society. Every year quite 6 June 1944 of the student's kill in Bharat. Bharat stands at number one on youth suicide "which is of nice concern toward mental and social care of scholars. Farmers that contribute to 17 November of economic process in Bharat are additional possible to kill. This can be a vital issue that has to be addressed by the govt. of our country. Results in my paper shows that a lot of determinants like Religions, Sun, and Sleep will have a positive influence on mental "well-being and harmful mentation together with different factors like sensible parenting and faculties teaching cognizance may cut back suicide risks in Bharat.

KEYWORDS: Suicide, Microcontroller, Sensor, ATMEGA 328 and ARDUINO NANO

I. INTRODUCTION

Did you recognize zero.5% of individuals within the world kill each year? Whereas it's usually believed that someone is committing suicide because of depression however there square measure multiple alternative circumstances too. This means that the mental welfare of someone can't cure self-destructive thoughts. In my analysis paper, I found some extra factors that induce suicide and facilitate scale back self-destructive thoughts. Dataset employed in my paper is from various sources.

My information is principally tailored towards Republic of India. Dataset compilation is finished from secondary supply i.e Internet. Information is collected from the Indian information government web site and alternative open sources accessible on the net all the information is accessible freely and is open-sourced. Dataset was cleansed and analysed mistreatment Python opensource libraries like NumPy, Sklearn, Pandas, SciPy and was unreal mistreatment matplotlib and seaborn.

II. LITERATURE SURVEY

[1] One hundred and one victims (69.65%) hanged themselves at night, while 44 (30.34%) at day time. In 72 victims (45.65%), stomachs were found empty. One hundred and forty two bodies (97.93%) were recovered from inside the living rooms and 03 (2.06%) from outside. One hundred and forty one victims (97.24%) had complete



suspension and 04 (2.76%) were cases of partial hanging. Considering the knot, most were situated at right side of neck (45.51%), followed by left side (38.62%). 142 (97.93%) cases had ligature mark in neck. Thirty nine (26.89%) cases had fracture of hyoid bones, 27(18.62%) cases had fracture of thyroid cartilages Dopatta (orna) was the commonest (35.17%) ligature material used for hanging purpose (Table-II) Cervical spinal cord injury was not found in any of those studied case. Family quarrel among husband and wife was the commonest (31.03%) cause of suicidal hanging. The number of suicidal hanging cases is increasing day by day. A well designed and comprehensive program is needed to identify the causative factors and prevention of suicidal behaviors. Appropriate education, influencing the media in their portrayal of suicidal news, reporting method, involvement of young generations in encouraging activities may reduce the rate of suicidal death by hanging in future.

[2] According to the [Centers for Disease Control and Prevention \(CDC\) WISQARS Leading Causes of Death Reports](#), in 2019:

Suicide was the tenth leading cause of death overall in the United States, claiming the lives of over 47,500 people. Suicide was the second leading cause of death among individuals between the ages of 10 and 34, and the fourth leading cause of death among individuals between the ages of 35 and 44. There were nearly two and a half times as many suicides (47,511) in the United States as there were homicides (19,141).

	Male		Female		Total	
	No	%	No	%	No	%
Poisoning by drugs (X60–X64)	10 211	8.6	10 209	24.7	20 420	12.7
Poisoning by other means (X65–X69)	6432	5.4	1766	4.3	8198	5.1
Hanging (X70)	64 730	54.3	14 735	35.6	79 465	49.5
Drowning (X71)	3598	3.0	3186	7.7	6784	4.2
Firearms (X72–X74)	11 593	9.7	548	1.3	12 141	7.6
Jumping (X80)	9341	7.8	5977	14.5	15 318	9.5
Moving object (X81)	5817	4.9	2162	5.2	7979	5.0
Other methods	7400	6.2	2755	6.7	10 155	6.3
Total	119 122	100	41 338	100	160 460	100

*Available years summarised.

Research on suicide methods could lead to the development of gender-specific intervention strategies. Nevertheless, other approaches, such as better identification and treatment of mental disorders and the improvement of toxicological aid should be put in place.

[3] Micheal M. Tadesse, Hongfei Lin , Bo Xu , and Liang Yang titled ‘Detection of Depression-Related Posts in Reddit Social Media Forum’ changed into one of the most important inspirations for our undertaking. The paper discusses techniques for detection of signs of despair the use of poems from suicidal and non-suicidal patients. These datasets are used for constructing the version so that it will help to are expecting if the posts from reddit fall into the suicidal class or no longer.

[4] The performances of the methodologies carried out had been noteworthy and reasonably true. But the researches nevertheless believed that further exploration is required and that their experiment ought to similarly assist increase mechanisms in healthcare to estimate melancholy and different variables which we believe to be truly genuine as their studies helped us substantially to increase our mission. Another paper written by means of Jane H. K. Seah and



Kyong Jin Shim titled 'Data Mining Approach to the Detection of Suicide in Social Media: A Case Study of Singapore' [5] became very thrilling and one of the focal factors in developing this challenge and paper.

BLOCK DIAGRAM:

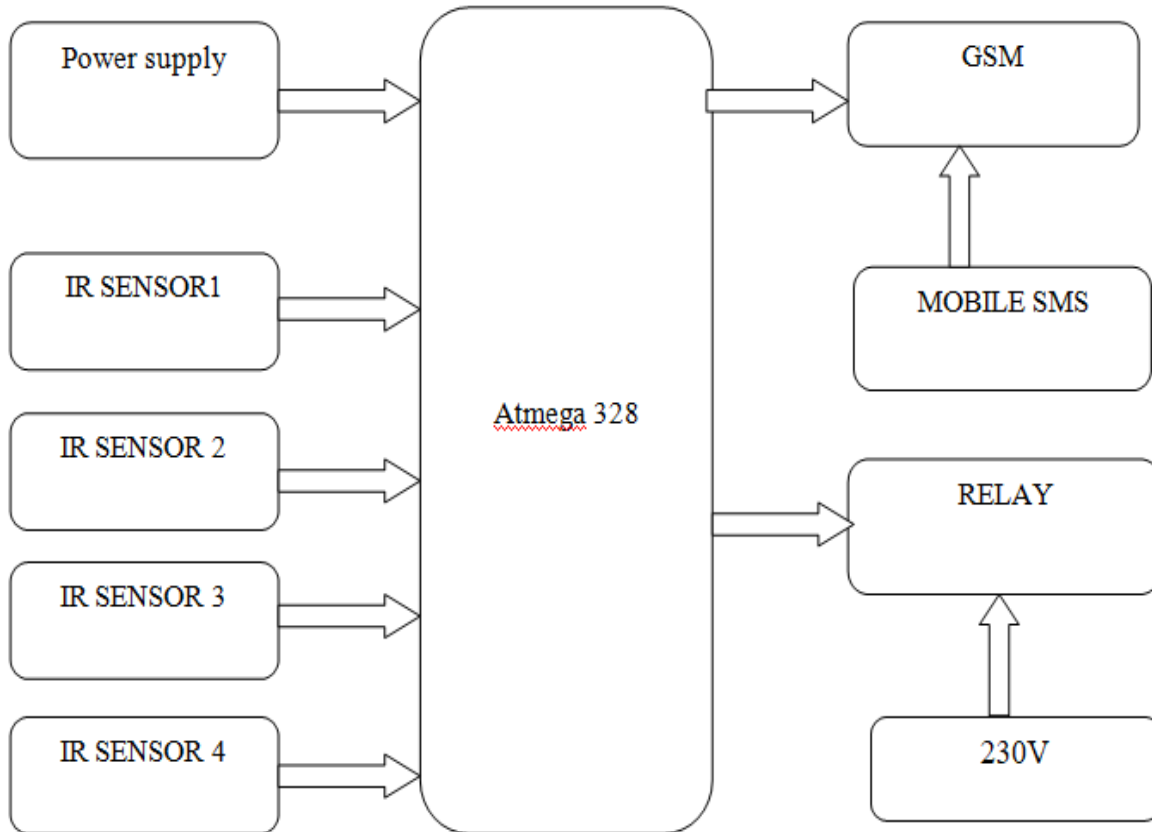


Fig: Propose system Architecture

III. PROBLEM IDENTIFICATION & DEFINITION

Hanging is a common method of suicide in several countries. Even as global suicide rates decrease, there is no evidence of suicides by hanging declining. There is limited research by type of hanging, and many papers present suicide by hanging from ceiling fans.

Our paper proposes a research agenda that will: specify the size of the problem of hanging by ceiling fan

Stage 1: Surveillance, use standard engineering product development processes to modify ceiling fans for reducing their lethal capacity.

Stage 2: Design Testing and Redevelopment, and examine the resulting beta- and release-build fans for safety and potential to reduce suicide in community samples.

Stage 3: Evaluation, We are implementing our project by using Sensors and IOT Technology. The main motto of our project is to save lives of many people those who commit suicide for several reasons through hanging.

In the existing system, a special rod is placed in place of Iron Rod that expands upto 10 Feet when the weight of the person is added to the ceiling fan.



In the Proposed system, various sensors are present at the different parts of ceiling fan. The main objective of the project is to reduce the suicide attempts occurring through ceiling fan. The proposed project design consists of ceiling fan with hardware components of microcontroller, PIR sensor, Buzzer, GSM module, Relay, switch and DC motor.

Whenever the person tries to commit suicide through ceiling fan. IR sensors detect objects like saree or rope and get activated. Automatically when the IR sensors are activated Buzzer will ring and start rotating of ceiling fan.

1. Identifying the Objects: Objects like saree, rope are identified by using IR sensors. Basically, the ceiling fan will rotate 360°. So we place 4 IR sensors on the fan which are perpendicular to each other (0°, 90°, 180°, and 360°). Whenever an object is closer to fan then the IR sensors will activate and detect the object.
2. Automatic Rotation: As soon as the object is detected by the IR sensors, it will generate 5 Volts of current as an output. These 5 Volts are given as input to the Relay and it will produce 220 Volts as an output. Then the rotation of the fan will be automatic.
3. Spring Rod: If a person tries to hang when there is no power supply to the fan, then this spring rod will be used. When the weight of the person is added to the ceiling fan this spring will expand up to 10 feet.

About ATMEGA 328 and ARDUINO NANO

We will study the Arduino UNO board because it is the most popular board in the Arduino board family. In addition, it is the best board to get started with electronics and coding. Some boards look a bit different from the one given below, but most Arduinos have majority of these components in common.

1. Power USB

Arduino board can be powered by using the USB cable from your computer. All you need to do is connect the USB cable to the USB connection.

2. Power (Barrel Jack)

Arduino boards can be powered directly from the AC mains power supply by connecting it to the Barrel Jack (2).

3. Voltage Regulator

The function of the voltage regulator is to control the voltage given to the Arduino board and stabilize the DC voltages used by the processor and other elements.

4. Crystal Oscillator

The crystal oscillator helps Arduino in dealing with time issues. How does Arduino calculate time? The answer is, by using the crystal oscillator. The number printed on top of the Arduino crystal is 16.000H9H. It tells us that the frequency is 16,000,000 Hertz or 16 MHz.

REFERENCES

- [1] Ahmad M, Hossain MZ, " HANGING AS A METHOD OF SUICIDE RETROSPECTIVE ANALYSIS OF POSTMORTEM CASES" JAFMC Bangladesh. Vol 6, No 2 (December) 2019.
- [2] https://www.nimh.nih.gov/health/statistics/suicide.shtml#part_154969. National Institute of Mental Health Suicide. (Accessed on 19 February 2019)
- [3] Tadesse, Michael & Lin, Hongfei & Xu, Bo & Yang, Liang. (2019). Detection of Depression-Related Posts in Reddit Social Media Forum. IEEE Access. PP. 1-1. 10.1109/ACCESS.2019.2909180.
- [4] SEAH, Jane H. K. and SHIM, Kyong Jin. Data mining approach to the detection of suicide in social media: A case study of Singapore. (2018). 2018 IEEE International Conference on Big Data (Big Data): Seattle, WA, December 10-13: Proceedings. 5442-5444. Research Collection School Of Computing and Information Systems.



INNO SPACE
SJIF Scientific Journal Impact Factor
Impact Factor
7.54

ISSN

INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA



INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH IN SCIENCE, ENGINEERING AND TECHNOLOGY

| Mobile No: +91-6381907438 | Whatsapp: +91-6381907438 | ijmrset@gmail.com |

www.ijmrset.com