



# Indian Institute of Information Technology, Allahabad

## A Presentation on Smart Helmet

Under the Supervision of

**Dr. Sanjai Singh**

Associate Professor

Department of Electronics and Communication Engg.

Presented By :-  
Enrollment no.-

Vikas Sahani (IEC2017067)  
Vikash Kumar (IEC2017038)

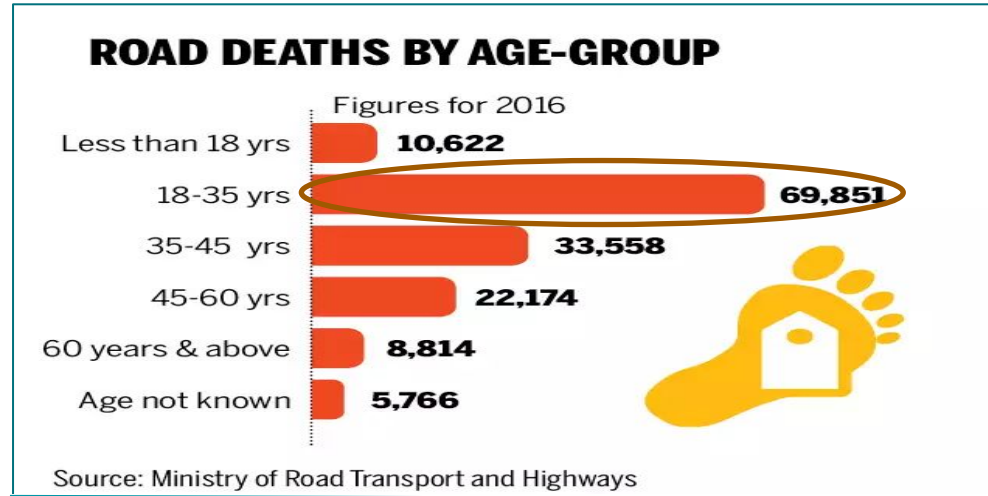
# Problem Definition

One of the major problem of human civilisation is losing lives in road accidents. It just not affect one life but the whole family and great loss of country too. There are various reason for the road accidents. One of the major reason is NOT WEARING HELMET while riding a bike. Many people take “wearing helmet” for granted which further leads to serious brain injuries and many times death during accidents.

## Data of recent years of accidents in India

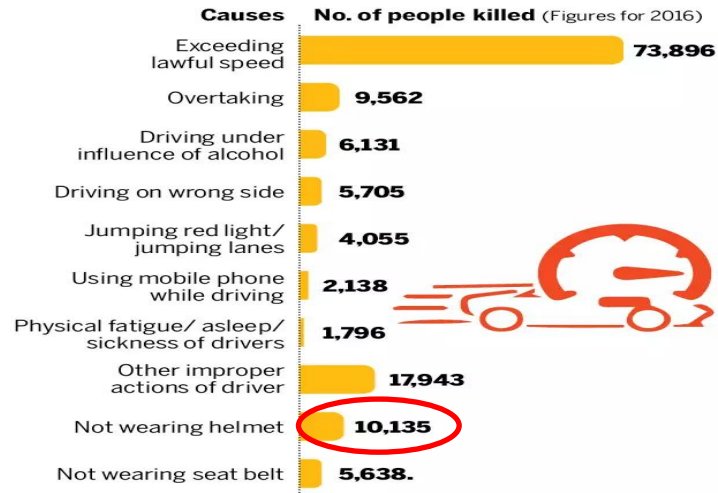


# Age Group Analysis of Road Deaths



# Statistical report on causes of deaths in road accidents

## OVERSPEEDING THE LEADING KILLER ON INDIAN ROADS



Source: Ministry of Road Transport and Highways

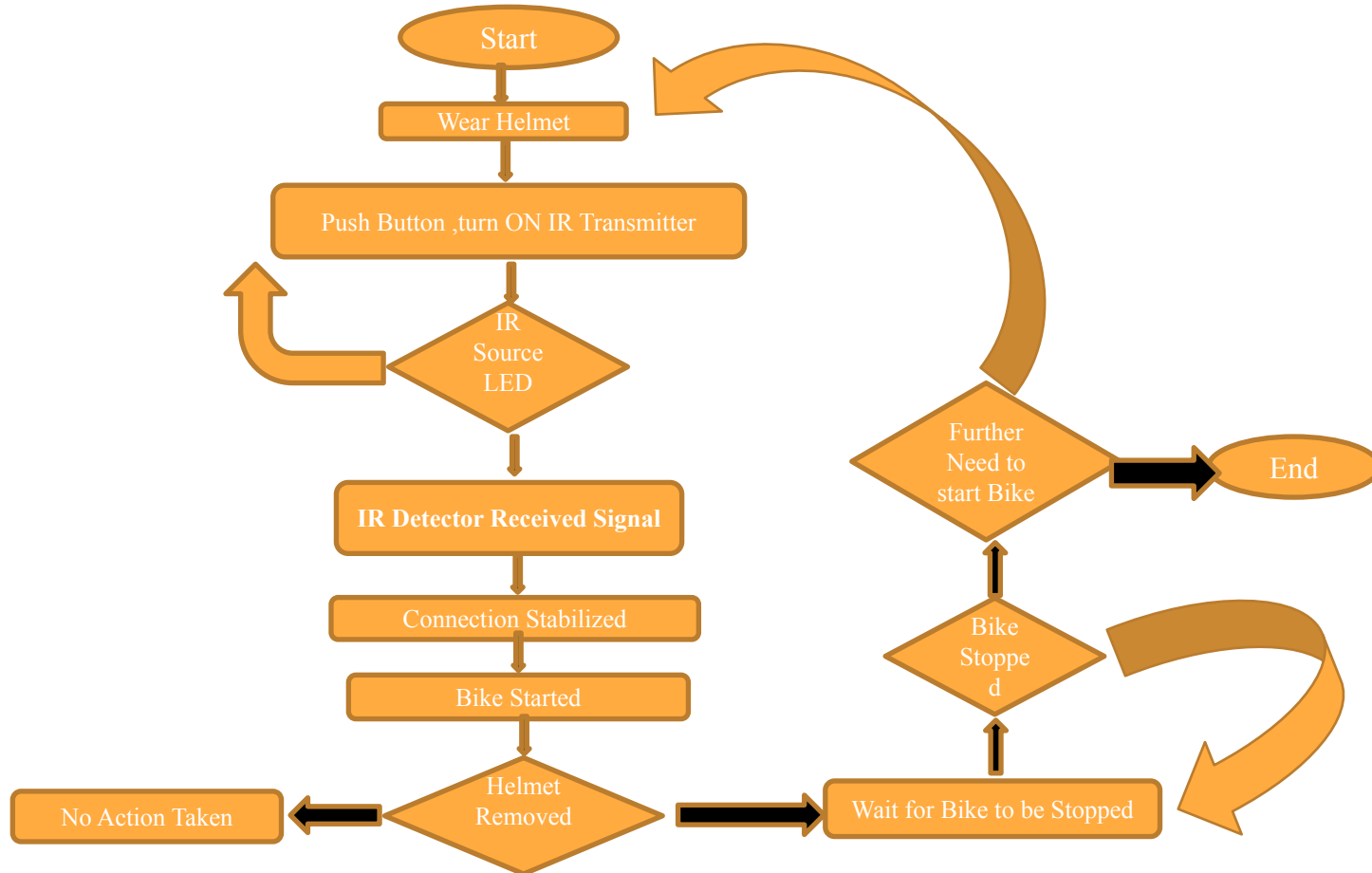
## **Proposed Solution --- Smart Helmet**

Since many people take wearing helmet for granted , we will develop a technology under which a person cannot start his bike without wearing helmet . He has to wear helmet willingly or unwillingly .

Rider have to wear Smart Helmet and turn on the button given on the helmet . It will release the signal from IR transmitter . IR receiver will receive the signal and establish a connection between battery and self-start button of the bike .

If a person does not wear the Smart Helmet , connection between the battery and self-start button of will not establish and bike will not start.

# Flow Chart of The Mechanism



## Resource Required :

- Arduino nano
- IR sensor
- Resistors
- Capacitors
- Transistors
- Connecting wire
- Arduino software(IDE)
- Power supply source(battery 5-12V)
- Helmet and bike (for testing purpose)



## **Estimated costs:**

Rs 2000

## **References :**

- [1] The Times Of India
- [2] Wikipedia
- [3] Government Data
- [4] Microcontroller based smart wear for driver safety (April2015) Abhinav Anand, Kumar Harsh, Kushal Kumar, Sourav Gouthi INTERNATIONAL JOURNAL OF RESEARCH IN ENGINEERING AND TECHNOLOGY, E-ISSN: 2319-1163, pISSN: 2321-7308