

# Straight movement calibration device

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## Project description

- A device that examine the movement of the object in a strict straight line that can be used in rehabilitation or drunk people walk and turn test or to calibrate wheel chairs movements.
- The device is capable of giving alerts to notify that the object is out of his trail and not moving in a straight line.



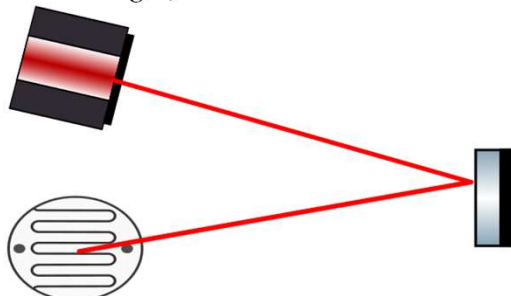
## Light parameters

- Color: Red
- Frequency:  $(4.61538:4.7619) \times 10^{14}$  Hz
- Wavelength: 630-670 nm
- Power: 5mW
- Luminous flux: 365 lumen



## Optic theory

- The project is mainly based on light reflection which states that when a ray of light reflects off a surface the angle of incidence is equal to the angle of reflection.
- The laser is sent to the mirror with an incidence angle that make the light reflect to the sensor put under the source detecting that the object is not moving in straight line(not in the path of the light)



## Optics used

- The optic used in this device is a simple mirror which will be best option to reflect the light beam of the laser indicating that the body is not in the path of straight movement.



## Components needed

- Arduino uno
- Small breadboard
- LDR sensor
- 5mW LASER
- Mirror
- LED
- Buzzer
- Resistors and connecting wires

