The main objective of this project is to design and build a smart walking stick for blind people using Arduino, that can help them as their third eye! We use simple sensors along with Arduino for making this smart walking stick. This project could be extremely useful and helpful for visually impaired people. This smart stick will have an ultrasonic sensor to sense obstacles in front of the blind man, LDR to sense lighting conditions like weather it is day or night and a Bluetooth module to locate the stick when it is lost or stolen. All the feedbacks will be given to the blind man through a buzzer with different tones.

In this project, we use Arduino - an open-source electronics platform based on easy-to-use hardware and software. Arduino board senses the environment by receiving inputs from many sensors, and affects its surroundings by controlling various actuators. The Arduino board is programmed by writing code in the Arduino programming language and by using the Arduino Integrated Development Environment. Unlike most other programmable circuit boards, the Arduino does not need a separate piece of hardware (called a programmer) in order to load new code onto the board - you can simply use a USB cable.

The main components used in this project are:

* **Arduino Uno Microcontroller board** based on the Microchip ATmega328P microcontroller is used in this project. This board also consists of other components such as crystal oscillator, serial communication, voltage regulator, etc. to support the microcontroller. Arduino Uno has 14 digital input/output pins (out of which 6 can be used as PWM outputs), 6 analog input pins, a USB connection, a Power barrel jack, an ICSP header and a reset button.
* **Ultrasonic sensor,** is an electronic device that measures the distance of a target object by emitting ultrasonic sound waves, and converts the reflected sound into an electrical signal.
* **Light Dependent Resistors (LDR)**, are light sensitive devices most often used to indicate the presence or absence of light, or to measure the light intensity.
* **HC-05 Bluetooth Module** is a Bluetooth serial port protocol designed for transparent wireless serial connection setup. Its communication is via serial communication which makes an easy way to interface with controller or pc.