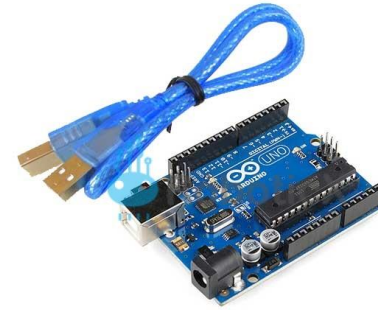
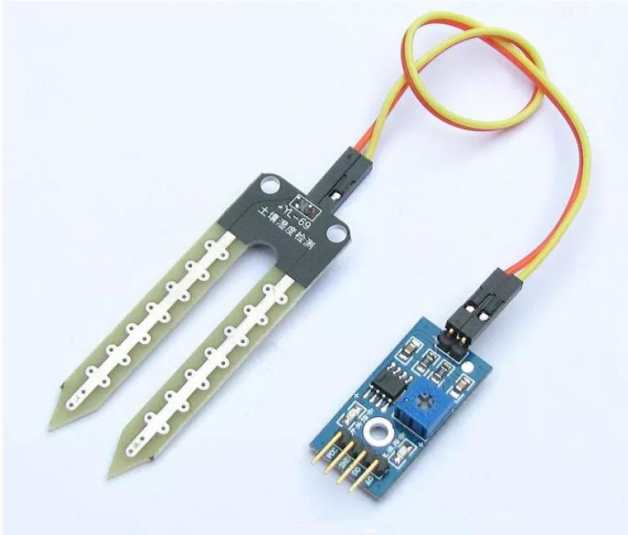


# Guide Stick for Blind

- Detect obstacles less or more than 50 cm.
- Detect upward or down stairs.
- Detect exist of water or light.
- Tracking system.
- Warn the user from danger of fall





**Water Sensor**



**Vibratory motor**



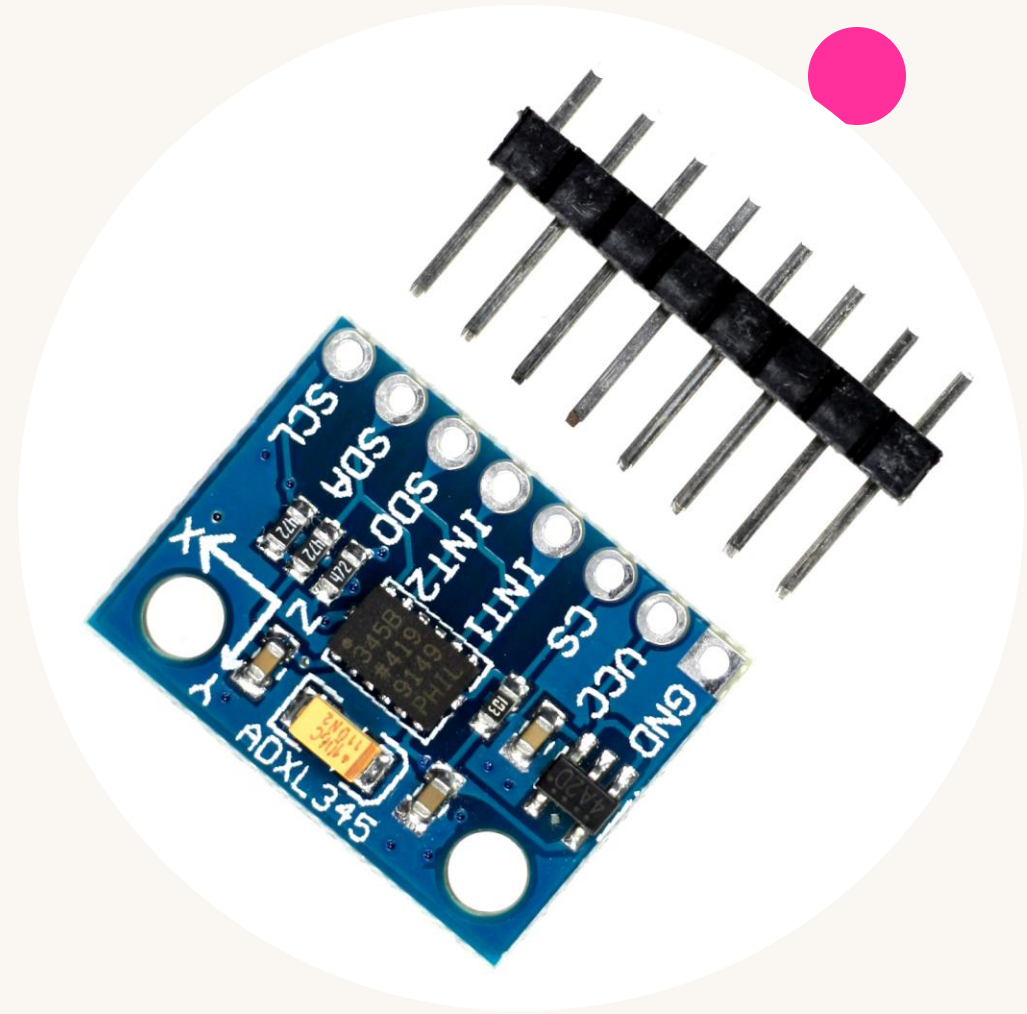
**Ultrasonic Sensor**



**LDR (light detector sensor)**

## ADXL335 Accelerometer

This module is used to sense stick movement in three dimensions X, Y and Z, it can measure static gravitational acceleration, in the project it is installed where the Y axis, so the acceleration in Y equal +10. It expresses the force exerted in this axis which equals 1G (single G force equivalent to the gravitational acceleration  $9.8 \text{ m/s}^2$ ), when the stick tilts this value will drop so that it indicates that the stick slides, and a message of “Beware of falling” is activated

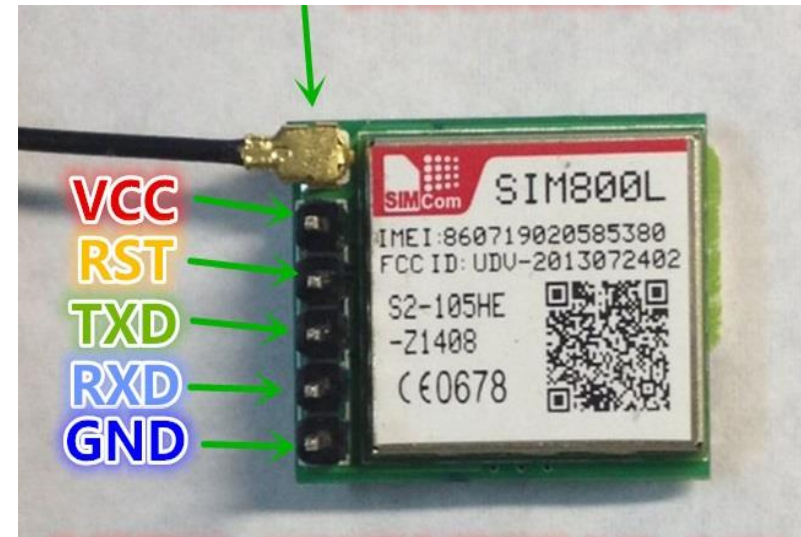


The slide features a light gray background with decorative elements in the corners. The top-left corner contains a large light purple circle, a small yellow circle, a small pink circle, a small blue circle, and a tiny dark purple dot. The top-right corner has a large pink circle, a small yellow circle, and a medium pink circle. The bottom-right corner is decorated with a small orange circle, a medium light purple circle, a small blue circle, a medium light purple circle, a small light gray circle, a medium light purple circle, a small blue circle, and a large orange circle.

# Tracking System

# GSM Shield

- is a miniature cellular module which allows for GPRS transmission, sending and receiving SMS and making and receiving voice calls.
- We send message (where) to track the stick ,GSM replied with message contain latitude and longitude.







# GPS module

- contain tiny processors and antennas that directly receive data sent by satellites through dedicated RF frequencies.
  - This module read the latitude and longitude.



# Thank You

Done by : Zahraa Qawariq & Islam Mohammed

Supervised by: Dr.Ashraf Armoush