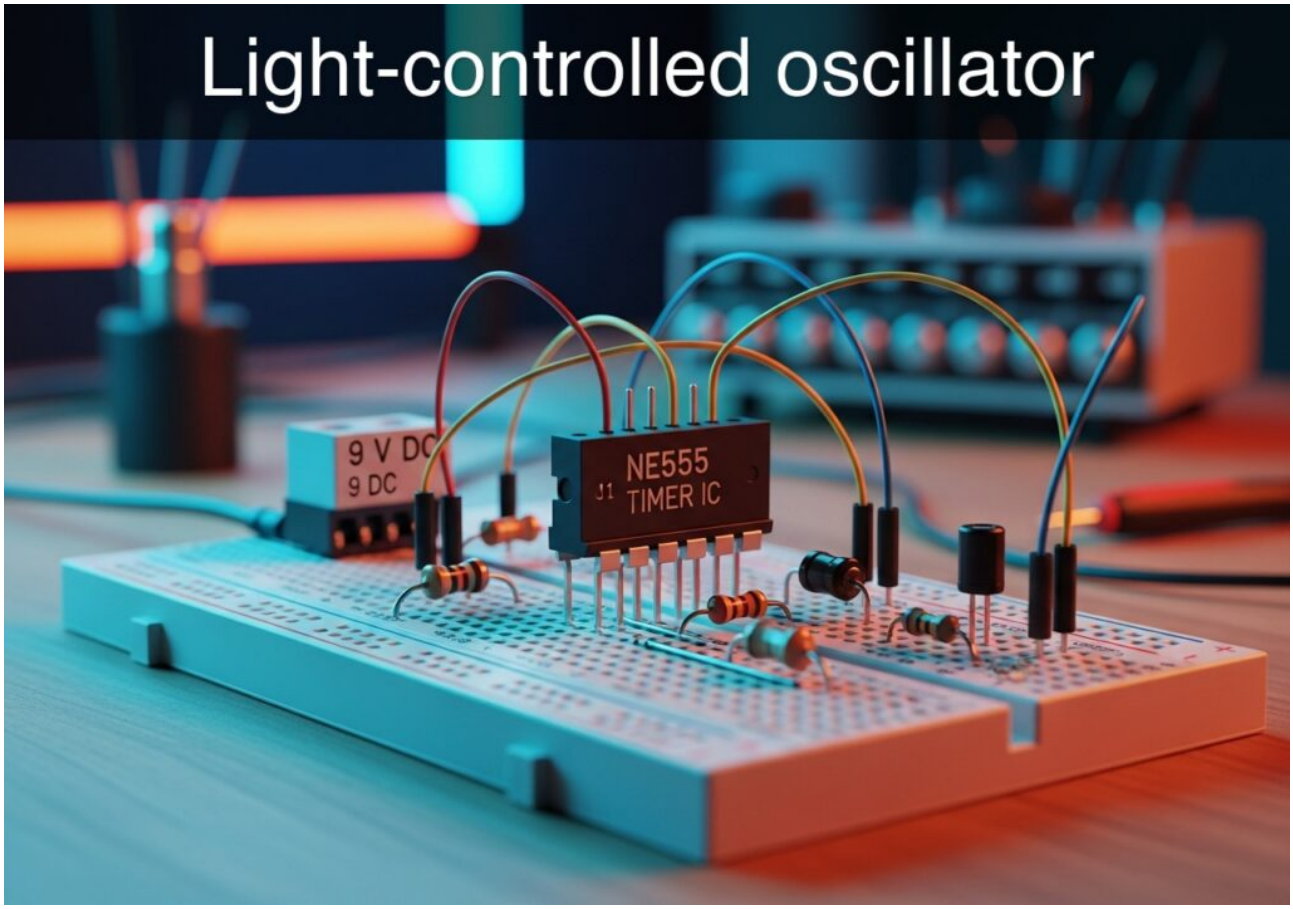
## Practical case: Light-controlled oscillator

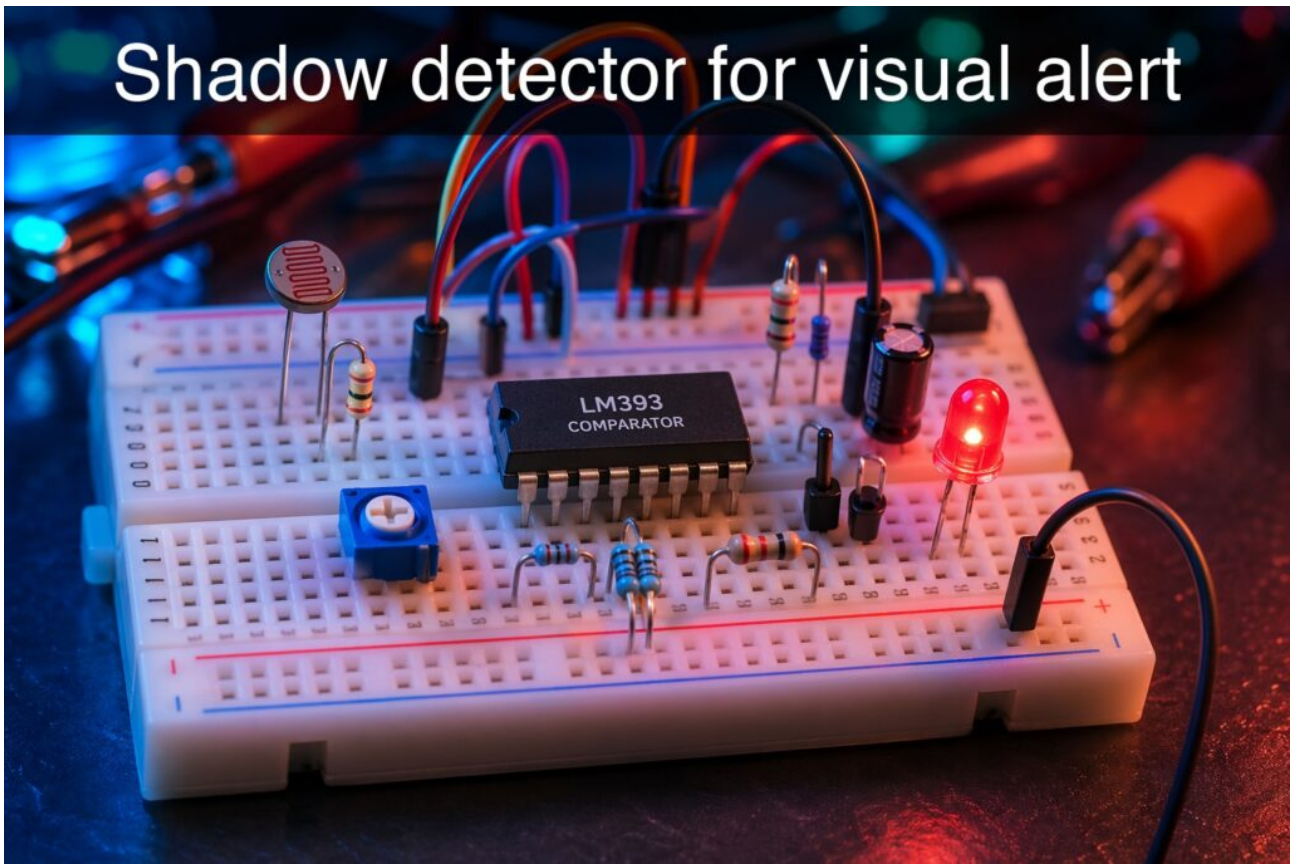



Level: Medium. Design an astable NE555 oscillator where an LDR modulates the output frequency based on ambient light.

## Objective and use case
In this…

---

## Practical case: Shadow detector for visual alert



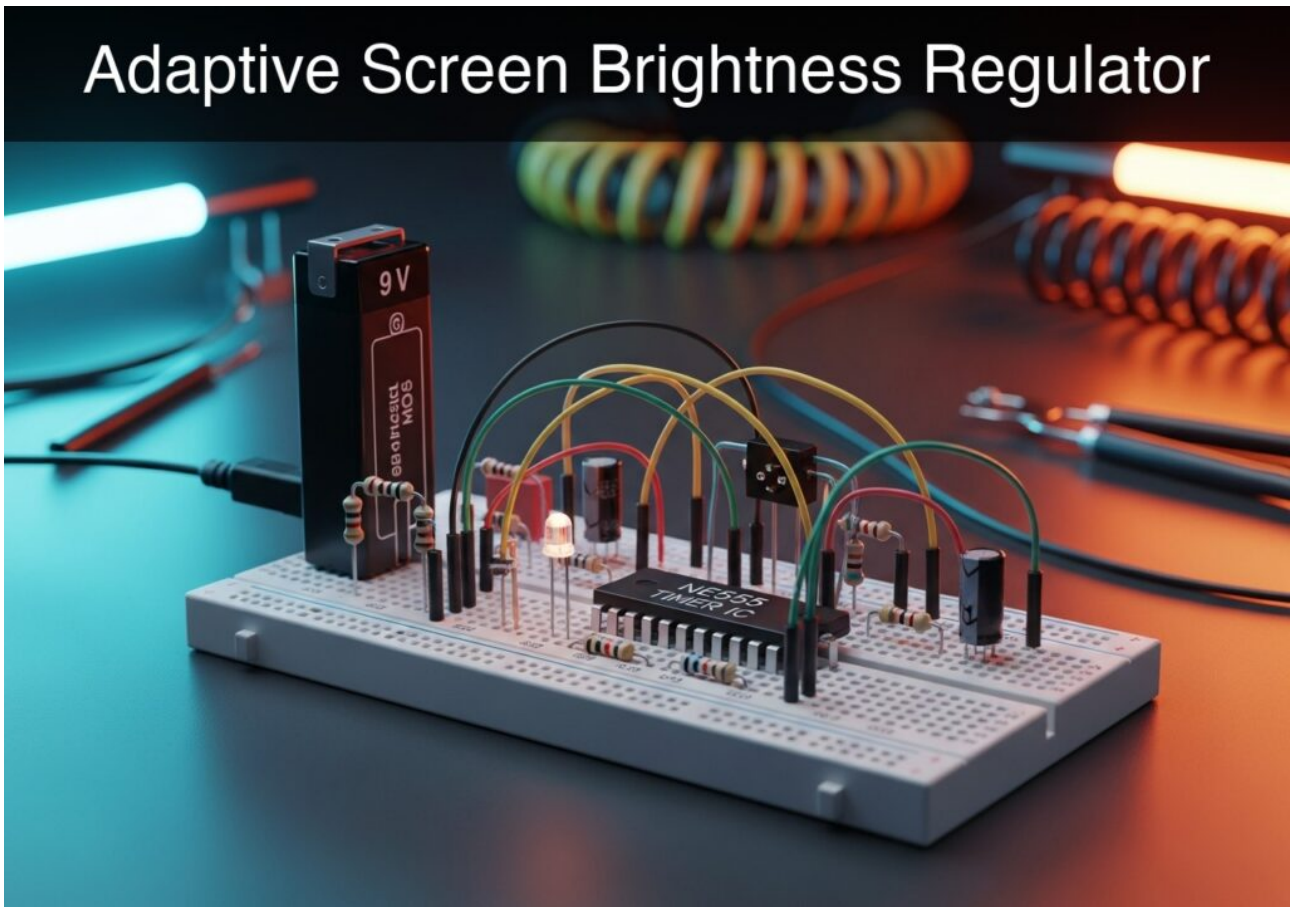

Level: Medium — Build a stable shadow detector with visual indication and low false triggering.

## Objective and use case

You will build a…

---

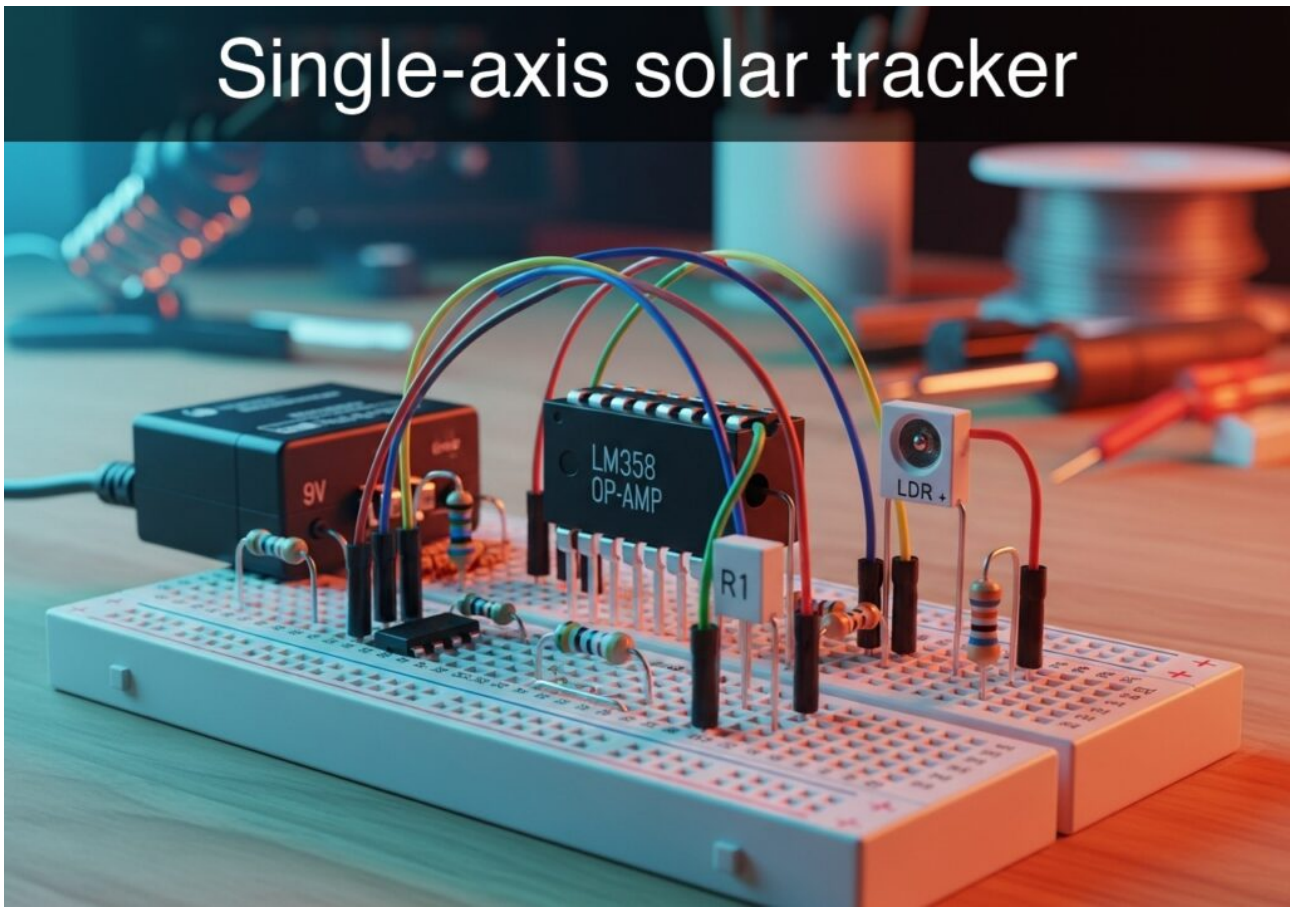
## Practical case: Adaptive Screen Brightness Regulator




Master Analog Electronics by building a smart dimmer. Use a Photoresistor and 555 timer to auto-adjust LED brightness via PWM based on ambient light levels.

---

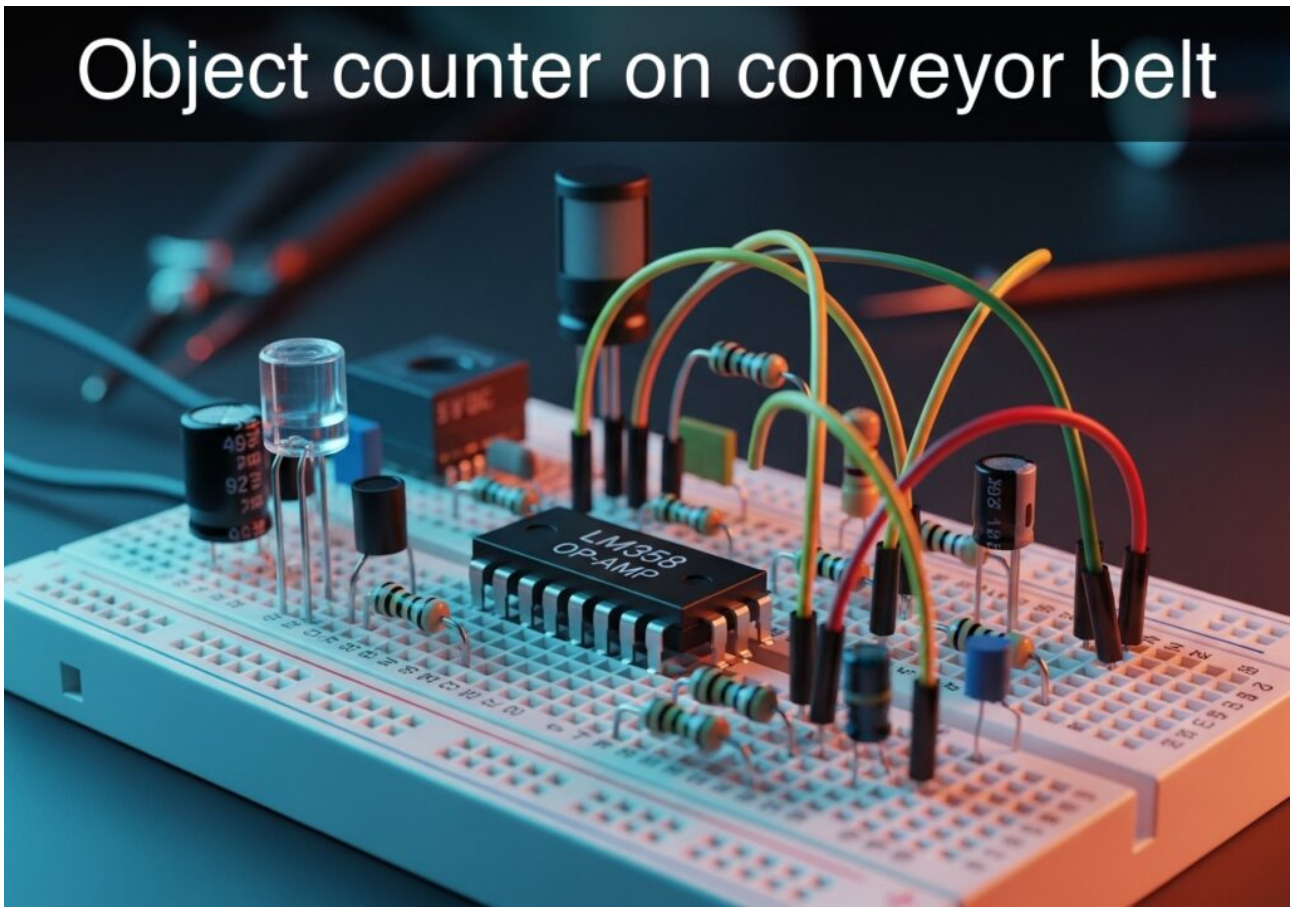
## Practical case: Single-axis solar tracker




Master Analog Electronics by building a sun seeker circuit. Use a Photoresistor pair to drive a motor that actively tracks the brightest light source.

---

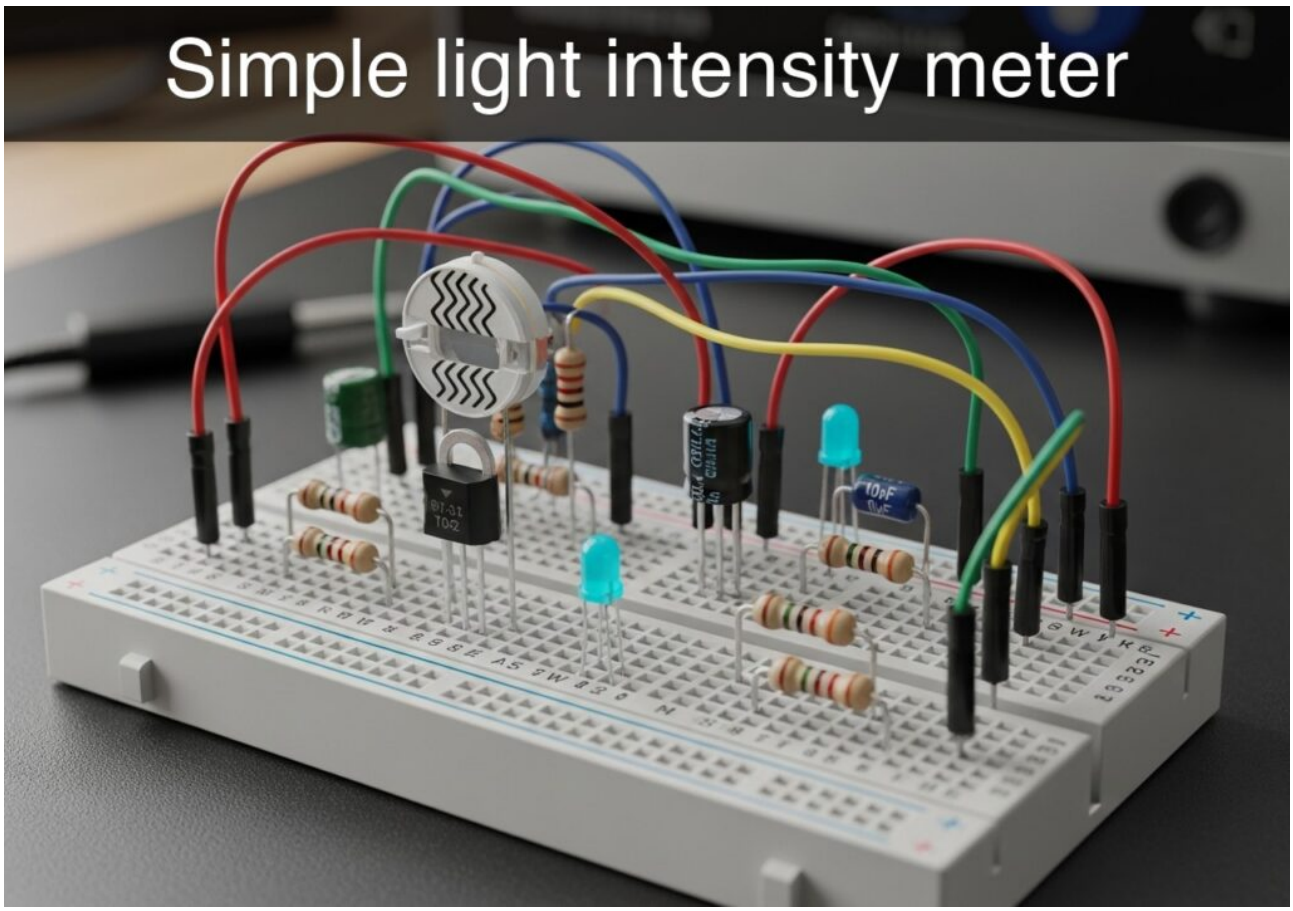
## Practical case: Object counter on conveyor belt




Master Analog Electronics by building an optical barrier with a Photoresistor. Detect moving objects and trigger a precise logic signal when the beam is broken.

---

## Practical case: Simple light intensity meter




Master Analog Electronics by building a dark sensor with a Photoresistor. Create a circuit where an LED automatically dims in bright light to save power.