

## Tasks on TinkerCAD

### Ujwal's Candy Shop (15 Pts)

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Ujwal owns a candy shop and wants to create an **Automatic Door System** that opens when customers approach during the day but remains closed at night, as the shop closes as soon as the sun sets. Design a system that automatically operates the door based on the time of day, ensuring it only functions while it's light outside.

**Bonus:** Include a manual override feature that allows the door to be opened or closed regardless of the time of day.

### Strongman Game Simulation (20 Pts)

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At a fair, just before your turn in the **High-Striker (Strongman Game)**, the game malfunctions. Your task is to design a system that simulates the game.

The system should:

1. Measure and respond to the force applied.
2. Display the strength level progressively (not necessarily just on an LCD screen).
3. Trigger an alert when the maximum force is reached.

**Bonus:** Add a visually appealing effect when the maximum force is applied.

**Note:** You are **not allowed** to use 2-pin or 4-pin LEDs.

### Weather Monitoring System with Fire Alarm (30 Pts)

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Design a **Weather Monitoring System** that can:

1. Measure and display temperature, wind speed, and humidity on an LCD screen.
2. Activate an alarm system when a fire is detected.

Make sure the system:

- Continuously displays the weather readings on the LCD screen.

- Sounds an alarm when a fire is detected.

**Bonus:** Add an extra feature where the system changes the color of an LED or display when the temperature crosses a certain threshold (e.g., indicating a heat wave).

#### **4. Break the rooftop of your imagination. (35 Pts)**

Open challenge