

**Case Study Title:**

Motion Following Motorized Camera Base

**Problem Background**

STEM education requires rigor and focus. It helps in learning critical thinking, increasing science literacy and creates future innovators.

This case study focuses on home security.

It will upgrade the functionality of home security cameras and/or webcams by a motorized stand, which will detect and follow any motion around the camera.

**STEM Topics Involved**



Physics



Maths



Biology



Chemistry



Technology



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**Pedagogic Methods Suggested**



Lecture



Story Telling



Problem Based Learning



Peer Instruction



Inquiry Based Learning



Simulation



Project Based Learning



Role Playing



Direct Instruction



Debate



Collaborative Based Learning



Flipped Classroom Approach



Game Based Learning

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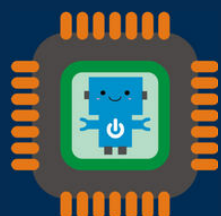
**RoboSTEM**

Project No. 2019-1-RO01-KA202-063965

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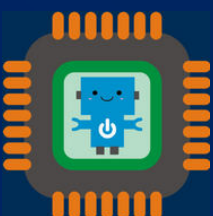


## Solution

The lesson needs to be prepared in a proper way, topic needs to be connected to a real world problem. Help the students with indentifying the problem and a way to solve it. If possible, provide a lot of guidance but with instructions. Allow them to make mistakes – it's the best lesson.

## Equipment & Materials Required

Arduino UNO & Genuino UNO  
Capacitor  
LED (generic)  
PIR Motion sensor (Generic)  
Resistor 220 ohm  
Servos (Tower Pro MG996R)



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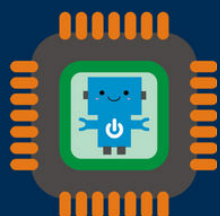
## Assembly Instructions

Step 1: Get All the Parts

Step 2: Building the Project and Testing It

Step 3: Code of the Project

Step 4: Final Thoughts and Improvements



## RoboSTEM

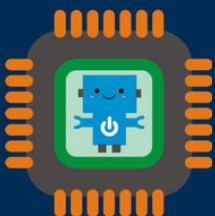
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## Assembly Instructions



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