

Project Ideas

1. Hand-held Videogame Console (some game ideas: Hangman, Blackjack)
 - a. Sensor: Buttons
 - b. Controller: Arduino
 - c. Actuator: LCD display
 - d. Description: A videogame with button input where each button press yields different LCD screen printouts until the conclusion of the game.
2. Obstacle Avoidance Robot
 - a. Sensor: Ultrasonic Sensor
 - b. Controller: Arduino (ATMEL or ESP32 SoC), Motor Controller
 - c. Actuator: 2 x Motors
 - d. Description: This is a small robot car that moves around on its own and will avoid bumping into objects that are in its way. The chassis of the robot is the PCB board and only needs a small lithium ion battery for power. Most users of this robot are those that want to build their own robot, add their own modifications, and develop their own programs on the robot at a low cost.
3. TinyML Security Camera
 - a. Sensor: Camera
 - b. Controller: Arduino
 - c. Actuator: Red LED
 - d. Description: Camera that identifies if a person is detected by lighting a red LED.

Choice:

1. We choose the hand-held videogame console. We can create a cool, simple game with button input and LCD display and then easily add features as time permits. We also all have success and experience with Arduino and there is lots of support, so completion should not be an issue.