

EXPERIMENT 27: MOBILE TILT CONTROLLED Chelonia Bot

Objective: The objective of this experiment is to control the Chelonia Bot using the "Arduino Bluetooth Connector" mobile app. By executing this code and using the app, you can make the Chelonia move forward, backward, turn left, turn right, and stop through tilting the mobile phone.

Before diving into the experiment, make sure you have completed the basic hardware assembly outlined in the earlier sections of this user manual. Additionally, you need to set up the mobile application to control the Chelonia Bot through tilt commands.

Mobile Application Setup:

Follow the link for the Mobile application setup for [tilt controlled Chelonia](#)

- **Bluetooth Connectivity:**
 - Enable Bluetooth on your mobile device.
 - Pair your mobile device with the Chelonia's Bluetooth module.
- **Hardware Setup:** Connect the hardware as follows to ensure proper functionality.
- **Motor Control Pins:**
 - Connect Motor 1:
 - Direction input 1 (IN1): Connect to pin 8
 - Direction input 2 (IN2): Connect to pin 9
 - Connect Motor 2:
 - Direction input 1 (IN3): Connect to pin 10
 - Direction input 2 (IN4): Connect to pin 11
- Ensure the Bluetooth module (HC-05) is properly connected to the Arduino (VCC and GND). Connect its RX to TX and TX to RX. For detailed guidance on connecting the HC-05 Bluetooth module to your Arduino, please refer to the following link: [HC-05 and Arduino Connection](#).

Code Example: [Chelonia control using mobile](#)

- **F:** Move forward – Tilt the phone in forward direction
- **B:** Move backward - Tilt the phone in backward direction
- **L:** Turn left - Tilt the phone in left direction
- **R:** Turn right- Tilt the phone in right direction
- **S:** Stop

Note: Connect the RX and TX pins of HC-05 to the TX and RX pins of Arduino after uploading the code.

Common Issues:

Bluetooth connection issues: If your device is connected, but not appearing in the mobile app, troubleshoot by checking the Bluetooth pairing settings and ensuring the HC-05 module is connected. If the issue persists, a simple resolution is to press the reset button on the HC-05, which often resolves connectivity problems.