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package org.firstinspires.ftc.teamcode;

import com.qualcomm.robotcore.hardware.DcMotor;
import com.qualcomm.robotcore.hardware.HardwareMap;
import com.qualcomm.robotcore.hardware.Servo;
import com.qualcomm.robotcore.util.ElapsedTime;

import com.qualcomm.robotcore.hardware.ColorSensor;

/**
 * This is NOT an opmode.
 *
 * This class can be used to define all the specific hardware for a single robot.
 * In this case that robot is a Babybot.
 *
 * This hardware class assumes the following device names have been configured on the robot:
 * Note: All names are lower case and some have single spaces between words.
 *
 * Motor channel: Left drive motor:      "left_drive" Motor 2
 * Motor channel: Right drive motor:     "right_drive" Motor 1 With encoder Wire
 * Servo channel: Servo to open claw:    "claw"
 * Servo channel: Servo to open arm:     "arm"
 */
public class HardwareBabybot
{
    /* Public OpMode members. */
    public DcMotor leftMotor = null;
    public DcMotor rightMotor = null;

    public Servo claw = null;
    public Servo arm = null;

    public ColorSensor colorSensor = null; // Color Sensor Device Object

    public static final double STD_SERVO = 0.1 ;
    public static final double FIN_SERVO = 0.9 ;

    // bLedOn represents the state of the LED.
    public boolean bLedOn = false;

    /* local OpMode members. */
    HardwareMap hwMap = null;
    private ElapsedTime period = new ElapsedTime();

    /* Constructor */
    public HardwareBabybot(){

    }

    /* Initialize standard Hardware interfaces */
    public void init(HardwareMap ahwMap) {
        // Save reference to Hardware map
        hwMap = ahwMap;

        // Define and Initialize Motors
        leftMotor = hwMap.dcMotor.get("left_drive");
        rightMotor = hwMap.dcMotor.get("right_drive");

        leftMotor.setDirection(DcMotor.Direction.FORWARD); // Set to FORWARD if using AndyMark motors
        rightMotor.setDirection(DcMotor.Direction.REVERSE); // Set to REVERSE if using AndyMark motors

        // Set all motors to zero power
        leftMotor.setPower(0);
        rightMotor.setPower(0);

        // Set all motors to run with encoders.
        leftMotor.setMode(DcMotor.RunMode.RUN_USING_ENCODER);
        rightMotor.setMode(DcMotor.RunMode.RUN_USING_ENCODER);

        // get a reference to our ColorSensor object.

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colorSensor = hwMap.colorSensor.get("color sensor");

// Set the LED in the beginning
colorSensor.enableLed(bLedOn);

// Define and initialize ALL installed servos.
claw = hwMap.servo.get("claw");
arm = hwMap.servo.get("arm");
claw.setPosition(STD_SERVO);
arm.setPosition(FIN_SERVO);
}

/**
 *
 * waitForTick implements a periodic delay. However, this acts like a metronome with a regular
 * periodic tick. This is used to compensate for varying processing times for each cycle.
 * The function looks at the elapsed cycle time, and sleeps for the remaining time interval.
 *
 * @param periodMs Length of wait cycle in mSec.
 * @throws InterruptedException
 */
public void waitForTick(long periodMs) throws InterruptedException {

    long remaining = periodMs - (long)period.milliseconds();

    // sleep for the remaining portion of the regular cycle period.
    if (remaining > 0)
        Thread.sleep(remaining);

    // Reset the cycle clock for the next pass.
    period.reset();
}
}
```