Mechatronics project requirements satisfaction report

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- **Controlled by a microcontroller:**
  - Yes, the code is designed for an Arduino Uno microcontroller.
- **Instantaneous shutdown mechanism for incorrect/ unsafe operation:**
  - The code has stopping mechanisms (**stop()** function) based on sensor readings.
- **Other safety feature(s) in software/hardware to prevent damage:**
  - The code includes checks for distance (**cm**) and IR sensor status (**Rstatus** and **Lstatus**) to adjust the robot's behavior.
- **At least one digital sensor and at least one analog sensor for core feature(s):**
  - We are using an ultrasonic sensor (**cm** variable) for distance measurement (analog-like) and infrared sensors (**IRSensorRight** and **IRSensorLeft**) for detecting white lines (digital-like).
- **At least one actuator/transducer controlled by sensor feedback:**
  - We control servo motors (**rservo** and **lservo**) based on sensor feedback from the ultrasonic sensor and infrared sensors.
- **At least one core feature controlled/monitored by a human through a user interface:**
  - We have serial communication for sending commands ('F', 'L', 'R', 'S') to control the robot.