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Solar Grass Cutter using Arduino UNO

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Abstract: *This system was fully automated based on solar applied in grass cutter is a fully automated grass cutting vehicle powered by solar energy that also avoids obstacles and is capable of fully automated grass cutting without the need for any human interaction. The system used 12V batteries to power the vehicle movement motors as well as the grass cutter motor. We also use a solar panel to charge the battery so that there is no need for charging it externally. The grass cutter and vehicle motors are interfaced to an Arduino family microcontroller that controls the working of all the motors. Here we have interfaced an ultrasonic sensor for object detection. The microcontroller moves the vehicle motors in forwarding direction in case no obstacle is detected. On obstacle detection the ultrasonic sensor monitors it and the microcontroller thus stops the grass cuter motor to avoid any damage to the object/human/animal whatever it is. The microcontroller then turns the robotic as long as it gets clear of the object and then moves the grass cutter in forwarding direction again*

Keywords: Arduino ATmega328p, Ultrasonic sensors, motor driver circuit, obstacles etc.

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