

The “Solarnator”



Facts about the Problem



- In cars, a device called the “Alternator” powers the electronics in the car, but what if it was not the most effective way to recharge a car battery.
- Imagine if this device was solar powered so it would last longer and would produce more energy.
- Due to the mechanical nature of Alternators, they have a limited life span. Over time they wear out and must be replaced. A solar powered solution wouldn't have moving parts and should have a longer live span.

Defining the Problem



- Supply more power for electronic accessories such as:
 1. GPS
 2. 12v sockets
 3. DVD players
- Charging the car battery when the car is not running
- Making cars more environmentally safe

Facts about the alternator



- The alternator generates electricity from the spinning coils inside of it.
- These coils are spun by the pulleys in the engine of the car, and the engine gets its power from gasoline.
- The electricity generated by the alternator is used to charge the car battery and provide power to the car's electrical system.

Requirements for the Solarnator



- Convert solar energy into electrical power
- Supply sufficient power for electronic accessories
- Charge the car battery
- Be able to switch between solar power and alternator

Solution

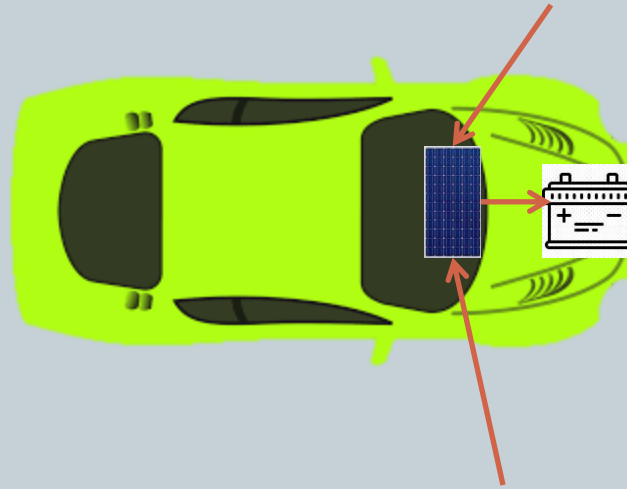


- Create a device called the “Solarnator”.
- The device would be installed into the dashboard of an automobile.
- The device would capture the solar energy from the sun.
- The solar energy from the device would supply power to the battery and the electronic devices in the automobile.

Prototype Illustration



Windshield magnifies
sunlight onto the
Solarnator on the
dashboard



Solar panel beneath
windshield on top of
dashboard converts solar
energy into electricity.