**Project Title**: Wireless Energy Harvesting using a Transmitter circuit as source and a Receiving Circuit for Powering any electronic circuits.  
  
  
**Project Category:** Engineering.  
  
  
**Project Objective :**

                                   The objective of this project to deliver Wire-free power to grant mobility and freedom to roam where you want to without worrying about your battery powered devices running out of a charge. Transmitters give you the freedom to receive wireless power within a charging zone without having to surrender your device to a pad or static location.  
  
  
**Project Synopsis :**

                                  The goal of this project is to capture enough power in an electronic device in order to charge a battery. The requirements for the system to be presented are that it be incorporated into a base station and the operating frequency is set. The design of the board and choice of antenna for the stand are the focal point of the experiments that are performed. Power needs to be supplied to the energy harvesting circuit by an external transmitter. This transmitter will send a signal at the set frequency. Our test system will then receive this signal through the energy harvesting circuit. This circuit is the fundamental design of this project. This circuit will convert the received signal into DC voltage to charge the battery. The RF transmitter, the analysis of the electronic device are used. A set of experiments were conducted to demonstrate the feasibility of wirelessly charging the battery of an electronic device. The details of the same are enclosed in the PDF.  
                                 This project is based on a very simple concept, capture RF energy using an antenna, input it into a charge-pump and use this energy to power some other circuit. The testing is done using a light emitting diode (LED). RF energy is transmitted to the circuit and the charge pump stores the energy in a large capacitor. When the amount of charge is large enough, the LED uses the stored energy to light for a moment. This is called a charge-and-fire system. Thus, the basic aim of this project is to power any circuit wirelessly.  
  
 **Materials and Methods**:

                                           The Materials used in the Harvester are – Electrolytic Capacitors (16 V, 100uF), Mylar Capacitor (0.22/10 250 MKT), Schottky Diodes (85 BAT), Fabricated Antenna. Materials for the Transmitter circuit – Highly coiled Solenoid (Inductance set for max output, Different for different harvester circuits), Transmitter 2N2222, Switch, LED, 9 V alkaline battery. To test the workings and the output we use a Multimeter.  
  
  
**Results/Observation/Findings :**

                                                The prototype generates power of 4.025 Watt. Prototypes can be connected in series or parallel to give increased voltage or current respectively. The prototype makes an LED bulb glow dimly near 4G LTE dongles, Running PCs, and near the source the LED glows brightly for a second. Amplifying this concept into technology is our aim.  
  
**Conclusion :**

                    Thus, we see “THE HARVESTER” Can Be Embedded into a Virtually Limitless Number of Different Devices, powering/Charging them WIRELESSLY.  This is a very feasible and hassle-free concept . The production cost is also very low and the size of the device is also small . The device we developed costed less than Rs 100/- Let’s make the future WIRELESS.

**Innovation :**

                                 A way to charge the battery of an electric circuit without plugging it into the wall  or restriction to a charging pad would change the way people use electronic devices. A Future without tangling wires.