Solar Wireless Charging Station At Public Places

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I. INTRODUCTION

Coming to the point of our presentation,our group of keen IT engineers have arrived at a very sure short point of wireless green energy to charge the electric devices.when green energy comes in our mind it should be clear about the unending source of Energy.

II. BACKGROUND

When we are in hurry we forgot to charge phones and then we run in trouble for not being able to connect with friends and families so we thought we make a thing which can charge phone or any IOT device just by placing it in particular space in particular position so we are came across a concept so on the basis of the fact that the solar energy concept is little tough we can find many ways to solve it. called wireless charging but the main problem was to create a sustainable power source that won't affect the environment as well as the natural resources like coal. So we're gonna use solar panels for energy .cause it is now a days the most imp and we know source of energy,due to lack of energy sources like coal and fossil fuel the demand of solar energy is increased and its availability is duck soup so we gonna use is which will result in low cost and efficient energy supply so that we are ending.

III. ADVANTAGES OVER THE TRADITIONAL MODEL

The handset is usually charged these days by using electricity, generated and supplied from different power stations. But this proposed system does not need any connection with this type of conventional power sources to charge a handset. The handset will be charged through solar power. So, additional electricity is no longer needed to charge a phone’s battery. In addition, this wireless system does not require any wire to connect with the device for charging. Handset just needs to drop onto the charging dock and things start working without having to plug anything into the phone. This is significantly easier than traditional wired charging method. So, plugging and unplugging a cable is no longer necessary in every time to charge a phone.

IV. METHODOLOGY AND MODELING

Wireless power transmission means transferring power without physical wire. For this project we are gonna use a solar panel, wireless charging dock, supply cables (copper wire) voltage multiplayer and set it up for the work. Solar panels will be for energy source for the circuit the main power supply for the whole circuit will be gained from it and the next will be voltage multiplier , These days Smartphone and IOT manufacturers that is IT companies developed a tech called fast charging so we gonna use the same existing tech with with our idea to make it more efficient and affordable. we are going use the simple easy to to handle as we as affordable pvc wires which will help in supply of non varying lossless (minute losses will be there due to resistance of material and also the largest %of loss will be there while we convert wired to wireless charging) .

Transmission is possible for inductive coupling. The system implementation is done in two parts, one is transmitting side and another one is receiving side. Firstly, solar array takes energy from the sun. Then, this DC power goes to maximum power point tracking (MPPT). Secondly, MPPT looks at the output of the panels and compress it to the battery voltage. Actually, it figures out what is the best power that the panel can put out to charge the battery and converts received voltage to the best voltage to get maximum ampere into the battery.

Thirdly, maximum DC power goes to the wireless charger circuit. In there, wireless battery charging uses an inductive or magnetic field between two objects. At the receiver end, a typical battery is connected. Finally, the battery will be charged. Part by part implementation has been described below.

V. LIMITATIONS

As we know, nothing is perfect and long lasting in today's world. Same goes with wireless charging. One of the main reason behind unsuccessful of wireless charging on extended large distance. The charging transmitter still needs to be connected to a power source so we cannot be moved everywhere. Certain wireless chargers cannot reach the same level of efficiency as traditional charging, so the process tends to be slower. As our project is solar based so sometimes it is very difficult to produce sufficient power as needed. In addition, the heat generation of wireless charging technologies is generally higher with the conventional charging method**.**

VI. FUTURE ENHANCEMENT

Basically, the wireless solar charger is designed to charge the mobile battery.

But in the future, by making some modifications, it can be used for different portable devices, for example, Laptop, iPad, digital camera, electric vehicles.

With the development of the extended distance wireless charging, it is possible to charge the devices by walking outside on the street. It will work like a hotspot area similar to a Wi-Fi hotspot, the device gets charging while users are walking or speaking. Now, wireless charging would allow the vehicles to power up. This wireless charging vehicle would not use plugs or charging cords.

Drivers would park their electric vehicles over a wireless energy source. Then the system will automatically transfer power to the battery charger on the vehicle.

These electrochemical high rate batteries can be used for wireless charging vehicles. So within very short times vehicles will be charged.

VII. CONCLUSION

In this paper, we consider a hybrid framework that combines the advantages of wireless charging and solar energy harvesting technologies. We study a three-level network consisting of WNs and MCs levels. The solution is improved by using intra-cluster Weiszfeld algorithm in continuous space. Second, we examine the energy balance in the network and develop a distributed head re-selection algorithm to designate some WNs as cluster heads when solar energy is not available during raining/cloudy days. Third, we focus on how to optimize the joint tour consisting of both wireless charging and data gathering sites for the MCs. A linear-time algorithm is proposed that can approach very closely to the exact solution and reduce at least 5 percent MC's moving energy compared to previous solutions. We also propose to partially refill sensors' energy to further reduce battery depletion and develop an efficient algorithm to solve the problem with high accuracy. Finally, based on real weather data, we demonstrate through simulations the effectiveness and effi- 7 ciency of the hybrid framework that can improve network performance significantly.

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