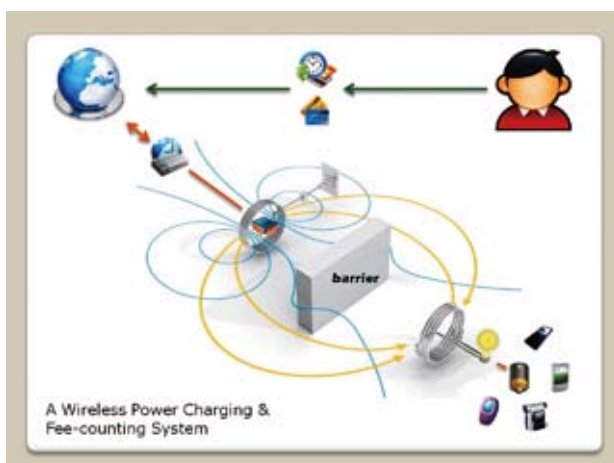




作品名稱	無線電力傳輸充電系統 A Charging System Design of Wireless Power Transfer
隊伍名稱	無線可能 <b>Wireless is Possible</b>
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### 作品摘要

設計一無線電力傳輸系統並將之應用於行動裝置充電計費之上，其架構為共振式磁能傳輸，在設計上以強耦合磁場共振之無線電力傳輸為基礎，特點在於具有節能信標架構、結合網路資料庫之充電驗證與收費系統設計，並藉由壓控振盪器來實現自我耦合調整之無線電力傳輸系統。設計一辦公室無線供電平台，藉由輸入驗證碼並透過網際網路連線至服務端資料庫檢查以進行充電控制具體實現計費系統之設計，該系統之傳輸效率最大可達22.82%，在二次側接受能量183mW時，最遠距離為九公分。



### Abstract

The target of this work is to design a wireless power transfer system and use it on a fee-counting function for mobile device charging. The main structure of this research is resonance magnetic field energy transmission, which is based on “Wireless Power Transfer via Strongly Coupled Magnetic Resonances”. The system includes a beacon power saving solution and battery charging credit verify by internet database concept. Furthermore it also implements a self-coupled frequency correction function with a voltage controller oscillator. The office charging platform controlled by input a credit code and checks through an internet connection to implement a fee-counting function. Finally, the maximum wireless power transfer efficiency is about 22.82%, and the maximum wireless power transfer distance is up to 9 cm when the secondary power is about 183mW in our design.