

Coin Based Mobile Charger with Solar tracking System on IoT

Apoorva Kharwade

Department of Computer science and Engineering,
G. H. Raisoni College of Engineering,
Nagpur, India.
apookkhar@gmail.com

M. S. Gajbhiye

Department of Computer science and Engineering,
G. H. Raisoni College of Engineering,
Nagpur, India.
@raisoni.net

Abstract - This paper gives the audit on the utilization of a solar energy collector to charge mobile phones gadgets. Before all else, a thorough survey to the energy reaping, following and IoT innovations is exhibited. The Solar light which is most supported for the reason as no impact on the overall climate and no end energy source. The no imperativeness to solar energy while other essentialness sources like petroleum, trademark gas and coal are exhibiting their end. By having a system for trade control era, the utility cost can be diminished. At current circumstance, the sunlight based essentialness creation is done by changed board system.

Keywords-atmosphere; solar; coin; Internet of Things;

I. INTRODUCTION

The Solar light is most favored because of the accompanying reasons: Without effect on the worldwide atmosphere, solar energy can be utilized to produce control. The Sun energy is boundless while other energy sources like raw petroleum, normal gas and coal are demonstrating their end. By having a framework for substitute power creation, the utility cost can be decreased. At present situation, the solar energy creation is finished by settled board framework. To enhance the proficiency of the solar energy framework, following instrument can be executed. Henceforth, a thought is made in the proposed framework, single following system, which is from East to West heading, is utilized. At present, cell phone is a basic thing for each individual and along these lines, there ought to be a charging office of mobiles in broad daylight spots is required. As there is no persistent power supply (24 hours) from the power board, the constant charging office can't be given. Subsequently, a thought, solar power based multi portable charger framework is actualized in the proposed framework which can be utilized as a part of open spots like railroad stations, transport stands, healing centers and stops and so forth.

II. LITERATURE REVIEW

As we are going to implement the Coin Charger System with IoT, one has to find the previous system that have been built in past by various researchers to improve the quality and features of our proposed system. Also, we have to take some of the technological review, so that we could not have to face the serious problem in the development of our proposed system.

Paper 1. Coin based portable charger utilizing Solar following framework

This paper portrays coin based versatile charger utilizing solar following framework. Cell phone's turned into a noteworthy wellspring of business/individual correspondence; the cell phone business is right now worth

billions of dollars, and backings a huge number of telephones. The need to give an open charging administration is basic. Numerous commentators contended that an open cell phone charging administration is not a lucrative business in light of the fact that most clients can charge their telephones at home, in their office or in their autos. Coin worked cell phone charger is new business breakthrough in light of the fact that many are going to business traditions and overlooking their charger at home or in lodging rooms. Understudies and many individuals utilize the general population transportation that don't have the foggiest idea about that their level of their battery is low are planned clients for coin worked cell phone charger benefit. Prescribed areas include: Hotels, Conference focuses, Exhibition corridors, Serviced offices, Exchange lobbies, Motels, Leisure focuses, Health clubs, Training focuses, Golf clubs, Retail outlets, shopping centers, Internet bistros, Universities, Colleges, Hall of living arrangement, Airports, Train terminals, and so on., so that the cell phone clients can reactivate a low or dead battery by basically connecting to and charging for one rupee. This is composed in light of ATMEV 89c51 a 40-stick small scale controller that does the commencement timings for a time of 3 minutes with LCD shows demonstrating the genuine time left. Amid the planning time frame a hand-off yield is locked and getting done with timing in advance.

In this work a novel technique for charging portable batteries of various maker utilizing solar power has been intended for country and remote ranges where the present supply is not in the slightest degree accessible constantly. This paper is exceptionally helpful in today's life. Since now days the need of correspondence is imperative, so every individual having phone however every time we can't convey charger with us. When we are going for long travel we may neglect to convey phone charger.

Paper 2. Execution of Solar Panel Based Multi Mobile Charger with Auto Cut Off of Power

In this paper, the Solar light is most supported as a result of the going with reasons: Without impact on the overall environment, sun arranged essentialness can be used to create control. The Sun imperativeness is unfathomable while other essentialness sources like crude petroleum, trademark gas and coal are showing their end. By having a structure for trade control era, the utility cost can be diminished. At current circumstance, the sunlight based essentialness creation is done by changed board system. To improve the proficiency of the sun based imperativeness system, taking after part can be executed. In this way, a thinking is made in the proposed structure, single after instrument, which is from East to West bearing, is used. At present, cell phone is a key thing for every person and in this way, there should be a charging office of mobiles out in the open spots is required. As there is no steady power supply (24 hours) from the power board, the predictable charging office can't be given. Thus, an idea, sun based compel based multi flexible charger system is executed in the proposed structure which can be used as a piece of open spots like railroad stations, transport stands, specialist's offices and stops et cetera.

In this paper, a novel methodology for charging adaptable batteries of particular producers using sun controlled compel has been arranged and made for common and remote areas where the system constrain is not open continually. The adaptable correspondence has transformed into a need even in nation areas and this contraption is profitable for charging convenient batteries as these flexible battery chargers can be presented in stalls at various spots for the settlement of flexible customers. In this work a framework for charging flexible batteries of unmistakable maker using sun based drive has been expected for common and remote regions where the present supply is not in any way available continually. This charger is significant in today's life. Since now days the need of correspondence is crucial, so every individual having cell phone yet every time we can't pass on charger with us. When we are going for long travel we may disregard to pass on telephone charger.

Paper 3. Plan and Implementation of a Mobile Phone

Charging System Based on Solar Energy Harvesting

The capacity to reap energy from the earth speaks to an essential innovation range that guarantees to take out wires and battery upkeep for some critical applications and grants sending self-fueled gadgets. This paper recommends the utilization of a solar energy collector to charge cell phone gadgets. First and foremost, a far reaching outline to the energy gathering idea and advances is exhibited. At that point the outline methodology of our energy reaper was nitty gritty. Our model solar energy reaper demonstrates its effectiveness to charge the pointed batteries under sunlight or an indoor simulated light. This paper recommends the utilization of a solar energy collector in cell phone gadgets. The accompanying comments could be removed from the present work, it is conceivable to utilize solar energy to supply cell phones batteries with the essential power. Under

direct sunlight, it conceivable to charge an unfilled battery utilizing the important number of parallel solar cells. Indoor counterfeit light could be utilized to upgrade the charge of the battery. Our outline was actualized utilizing basic and financially savvy circuit.

Paper 4. Programmed Gadget Charger utilizing Coin Detection

In this correspondence time, portable - phone industry has developed profoundly. The urban populace utilizes the most recent cell phone innovation while the rustic populace purchases second hand ones, generally with corrupted battery, that require visit charging. This battery-issue turns into a goliath when client doesn't have a standard charger or a power association. In this paper, analysts goal is to propose an open coin based versatile battery charging framework. By utilizing picture handling strategies, estimation of the coin has been distinguished temporarily, it will charge the gadget in like manner. An appropriate microcontroller is customized for all the controlling applications. The hotspot for charging is gotten either from an immediate power lattice or by solar energy. Subsequent to comprehension the related articles, written works and examination of a couple of comparative undertakings, the present plan methodology was chosen. Different advancement stages were arranged lastly the entire framework was executed. In sum, the created framework can accomplish the essential destinations. Numerous subgoals is accomplished like, esteem recognition of the coin, controlling the correspondence between different segments and principally picture preparing. As examined in the past segments, there is a need of different improvements that prompts to the future extent of the proposed framework. Firstly, picture handling implanted frameworks procedures may enhance the throughput of present framework. Besides, paper cash distinguishing proof and acknowledgment systems can likewise be connected for the improvement of this venture. With these improvements one can popularize it for people in general use.

Paper 5. Design Specifications and Guidelines for Efficient Solar Chargers of Mobile Phones

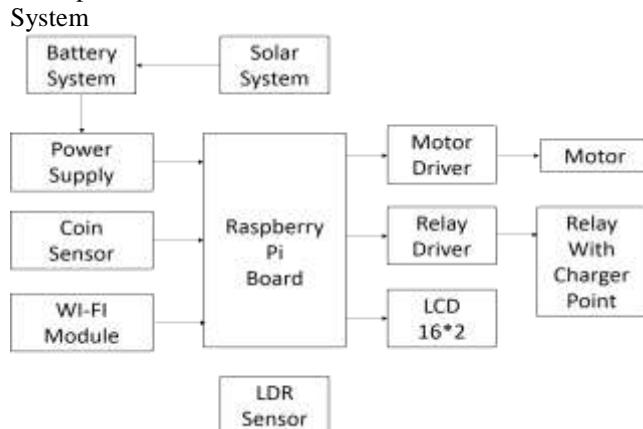
This paper discusses design requirements to efficiently gather solar energy for mobile phones. It examines current system structures such as conventional solar chargers with an aim to highlight evident weaknesses in existing system structures. Based on the analysis, the paper presents measurement results that indicate that prevailing strategies are not sophisticated enough to meet smartphone users expectations. It is important to note that the recharging time and the quantity of energy required for operational smartphones are critical. We propose design specifications that make solar chargers competitive in terms of expenses when compared with universal serial bus (USB) chargers. We conclude that conventional PV chargers cannot fulfil user expectations and demands at present. Increasing the size of photovoltaics and the overall degree of efficiency of system structures are imperative so that PV chargers provide significant quantities of energy. As a result, solar chargers

become competitive with USB chargers. Otherwise, they will not be considered for possible usage. We have to take various factors into account such as battery capacities, costs, size and weight while designing solar chargers. When smartphone users are indoors, PV chargers can be deployed outdoors.

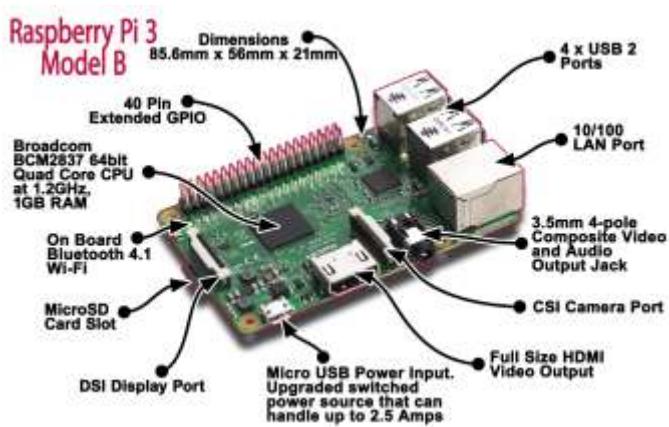
III. DISCUSSION

As studied with above literature, there are some system with coin charger. There are also some system with solar tracking. But they are not monitoring the system ones installed. Hence we developing the system as coin based mobile charger with IoT , so that we can monitor it's the power of solar system as well as battery power, coin inserted in the coin box. How many times it is used. Such system will help in commercial aspect as giving warranty with some extra features.

Proposed System



IV. RASPBERRY PI-3



The Raspberry Pi is an ease, Visa measured PC that attachments into a PC screen or TV, and utilizations a standard console and mouse. It is a proficient little gadget that empowers individuals of any age to investigate registering, and to figure out how to program in dialects like Scratch and Python. It can do all that you'd anticipate that a desktop PC will do, from perusing the web and playing

superior quality video, to making spreadsheets, word-handling, and playing diversions.

Besides, Raspberry Pi can collaborate with the outside world, and has been utilized as a part of a wide cluster of advanced producer ventures, from music machines and parent indicators to climate stations and tweeting perch rooms with infra-red cameras.

CONCLUSION

In this paper, a survey of a novel methodology for charging flexible batteries of particular creators using sun fueled compel has been arranged and made for common and remote areas where the adaptable correspondence has transformed into a need even in nation locales and this contraption is profitable for charging compact batteries as these flexible battery chargers can be presented in stalls at various spots for the convenience of adaptable customers. In this work a framework for charging adaptable batteries of particular maker using sun based drive has been expected for commonplace and remote domains where the present supply is not in any way open continually. This charger is profitable in today's life. Since now days the need of correspondence is key, so every individual having cell phone yet every time we can't pass on charger with us. When we are going for long travel we may disregard to pass on telephone charger.

REFERENCES

- [1] Aparna D. Pawar, , Coin Based Solar Mobile Charger, International Journal of Engineering and Technical Research (IJETR) ISSN: 2321-0869, Volume-3, pp.80-83, May 2015
- [2] D. Asha Devi & M. Suresh Babu, Design & implementation of efficient solar power system for multi mobile charger International Journal of Emerging Trends & Technology in Computer Science (IJETTCS) Vol. 3, pp. 88-92, Sep-Oct 2014.
- [3] Wallies Thounaojam1, V Ebenezer, AvinashBalekundri Design and Development of Microcontroller Based Solar Charge Controller,International Journal of Emerging Technology and Advanced Engineering, Volume 4, pp.510-513, May 2014).
- [4] Chandrashekhar , G. Swaminaidu , Ch. Babu Rao Experience Replay for Mobile Charger based on Coin by using Solar tracking System, IEEE International Journal of Innovative Research in Science, Engineering and Technology, Vol.3, pp. 9603-08, feb 2014.
- [5] F. Sani, H.N Yahya, M. Momoh, I.G. Saidu and D.O. Akpootu 'Design and Construction of Microcontroller Based Charge Controller for Photovoltaic Application' IOSR Journal of Electrical and Electronics Engineering. Vol. 9, pp. 92-97, Jan 2014.
- [6] Vikas Kulkarni& Rajesh Nehete , Simulation and Analysis of Photo-Voltaic (PV) based Solar Inverter System, IEEE International Conference Soft Computing and Engineering (IJSCE). Vol.3, pp. 114-120, Jan 2014.
- [7] anvir Singh, Prashant Bhardwaj, Dr. Balwinder Singh, Amit Kumar, 'Design and Development of Portable Power Charger: A Green Energy Initiative' ,

- [8] International Journal of electronics & communication technology IJECT Vol. 5, pp.12-15, OCT - DEC 2014.
- [8] Oke A. O, Adigun A. A, Fenwa O. D. 'Design and Construction of Solar Power-Based Lighting System', INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH TECHNOLOGY ISSN: 2277-9655 Impact Factor: 1.852, pp.2289-2292, Sep-2013.
- [9] Mohd Tariq, Sagar Bhardwaj, Mohd Rashid, 'Effective battery charging system by solar energy using C programming and microcontroller', American Journal of Electrical Power and Energy Systems , 2(2), pp.41-43, Mar-2013.
- [10] YaminiYadav, ApoorviSood , 'A Comparative Survey on Various Coin Recognition Systems Based on Image Processing', International Journal Of Engineering And Computer Science ISSN:2319-7242 Volume 2 Issue 11 November, 2013 pp. 3272-3277
- [11] Patil A. R, Atar K. D, Potdar A. A, Mudholkar R. R , 'EMBEDDED FUZZY MODULE FOR BATTERY CHARGER CONTROL', International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering (An ISO 3297: 2007 Certified Organization) Vol. 2, Issue 8, pp.4072-4078 August 2013
- [12] BHUVANESWARI, R.RAJESWARI, C.KALAIARASAN, 'ANALYSIS OF SOLAR ENERGY BASED STREET LIGHT WITH AUTO TRACKING SYSTEM', International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering Vol. 2, Issue 7, pp.3422-3428, July 2013
- [13] S.Varadarajan 'Coin Based Universal Mobile Battery Charger', IOSR Journal of Engineering (IOSRJEN) ISSN: 2250-3021 Volume 2, Issue 6 (June 2012), PP 1433-1438
- [14] N. Ingole , Mrs. Dr. Madhuri A. Choudhary , Dr. R.D. Kanphade, 'PIC BASED SOLAR CHARGING CONTROLLER FOR BATTERY, International Journal of Engineering Science and Technology (IJECT),pp.384-390 ,ISSN : 0975-5462 Vol. 4 No.02 February 2012