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Coin Based Electronic Vehicle Charging Station

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ABSTRACT: The transition to electrical quality may be a promising international strategy for decarbonizing the transport sector. India is among a few of nations that support the worldwide EV30@30 campaign, that targets to own a minimum of half-hour new vehicle sales be electrical by 2030. The Govt of India has instituted numerous sanctionative policies to market the event of the charging infrastructure network. The first audience for this enchiridion embrace public and personal sector stakeholders that are to blame for charging infrastructure implementation, like electricity distribution corporations, municipal firms, urban development authorities, and charge purpose solutions suppliers and operators. This paper offers the development and validation of the charging station to be access simply mistreatment coin based mostly design. The prevailing technique work unit station provide associate choice to use the station through solely the applying.

The major drawback of existing system is within the method of charging time we have a tendency to can't disconnect the charger for the emergency purpose. If we have a tendency to disconnect the charger we have a tendency to lost the actual quantity of cash. Thus during this paper we have a tendency to projected coin based mostly come policy work unit station to rectify the issues.

KEYWORDS: Smart card, Urban Development, Smart charging

I. INTRODUCTION

When a coin is entered into the coin-based mobile charging system, the phone gets charged. This technology is utilized by store homeowners and rural folks, and it should be deployed publicly locations like train stations and bus stops to permit mobile charging. As a result, the coin acceptor detects legitimate coins and alerts the Arduino for more action. If a real coin is found, it alerts the Arduino, and also the Arduino begins the mobile charging procedure, supply a 5V provide to the itinerant via an influence provide section. The Arduino begins a reverse enumeration timer to point the charging time for that itinerant. Once the user inserts another coin, the Arduino adds it to the presently remaining time and decrements the enumeration over again. This technique could also be wont to charge sensible phones publicly settings. This coin-based mobile charging system can offer adequate power to the phone and is out there publicly locations on demand. The system's primary technology is that the world Positioning System (GPS). A GPS receiver is employed to trace period bus coordination by frequently aggregation position information from GPS satellites, that square measure latitude and great circle values. The position information is then sent back to the most server that processes the raw location information into period data for users. This method is constructed on the net, therefore passengers could read the knowledge exploitation Internet-connected devices.

II. RELATED WORK

2.1 HIEARCHIAL MANAGEMENT CONTROL BASED ON EQUIVALENT ENERGY CONSUMPTION METHOD FOR MULTIPLE FUEL CELLS HYBRID POWER SYSTEM In 2021 Y. Yan projected a way for coin based mostly mobile battery charging driver hypo vigilance (drowsiness and fatigue) becomes one amongst the principal causes of traffic crashes, it will prompt several deaths, wounds and lots of economic losses. Therefore, the employment of a system that takes into consideration the driver's level of vigilance will play a very important role in preventing accidents and saving human lives. During this work, we have a tendency to propose a non-intrusive driver hypo vigilance detection system in real time. This technique makes it doable to find sleepiness by the identification of small sleep such as a drowsiness of quite a pair of seconds through the analysis of eye-closure, and to spot fatigue by the analysis of the movement of the mouth to find yawning. Just in case of sleepiness or fatigue, AN alert is launched to

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create the motive force watchful and therefore undoubtedly avoid road accidents, decrease the proportion of murders and injuries caused by driver hypo vigilance, then save several human lives. Experiments were conducted in real time to gauge the projected approach.

2.2 GRID INTEGRATION OF BATTERY ENABLED DC FAST CHARGING STATION FOR ELECTRIC VEHICLES In a pair of020 M. M. Mahfouz projected a way with the event of technology, during this project we are able to digitally sensing vital sign and rate mistreatment Arduino. in the main Arduino is employed as a result of it will sense the setting by receiving input from type of sensors and might have an effect on its surroundings by dominant lights, motors, and alternative actuators. The microcontroller on the board is programmed mistreatment the Arduino programming language". LM35 is employed for the sense vital sign. Vital sign could be a basic parameter for observation and identification human health. Heart beat sensing element was used for sensing rate. This device can permit one to live their mean blood pressure (MAP) in regarding one minute and also the correct vital sign are going to be displayed on the robot. The system will be accustomed live physiological parameters, like rate (Systolic and Diastolic), Pulse rate.

2.3 AN OPTIMIZED ENERGY MANAGEMENT STRATERGY FOR FUEL CELL HYBRID POWER SYSTEM BASED ON MAXIMUM EFFICIENCY RANGE IDENTIFICATION In 2020 T. H. Wang projected AN intelligent double closed-loop system controller for electrical vehicle (EV) charging system in sensible grid (SG) is projected, during which it will perform seamless transformation from constant current (CC) to constant voltage (CV) charging stage. Moreover, it will perform CC And CV charging management on an individual basis while not adding in an external logic. Experimental results are going to be provided fully paper submission so as to verify the projected controller as compared to the traditional one.

2.4 OPTIMIZED OPERATIONAL COST REDUCTION FOR AN EV CHARGING STATION INTEGRATED WITH BATTERY ENERGY STORAGE In 2020 Q. Yan projected a way for communication era, mobile -
telephone trade has full-grown deeply. The urban population uses the newest mobile-phone technology whereas the agricultural population buys used ones, principally with degraded battery, that need frequent charging. This batteryproblem becomes an enormous once user doesn't have a customary charger or AN electricity association. During this paper, research worker intent is to propose a public coin based mostly mobile battery charging system. By mistreatment image process techniques, price of the coin has been detected for a restricted time, it'll charge the device consequently. An acceptable microcontroller is programmed for all the dominant applications. The supply for charging is obtained either from a right away grid or by alternative energy.

2.5 EXTREME FAST CHARGING OF ELECTRIC VEHICLES In 2019 H. Tu projected a piece is projected the look of a system to make and handle electrical Vehicles (EV) charging procedures, supported intelligent method. because of the power distribution network limitation and absence of sensible meter devices, electrical Vehicles charging ought to be performed in an exceedingly balanced manner, taking into consideration past expertise, weather info supported data processing, and simulation approaches. So as to permit info exchange and to assist user quality, it absolutely was additionally created a mobile application to help the energy unit driver on these processes. This projected sensible electrical Vehicle Charging System uses Vehicle to Grid (V2G) technology, so as to attach electrical Vehicles and additionally renewable energy sources to sensible Grids (SG). This technique additionally explores the new paradigm of half dozen Electrical Markets (EM), with release of electricity production and use, so as to get the most effective conditions for commercializing electricity.

2.6 A STATE MACHINE CONTROL BASED ON EQUIVALENT CONSUMPTION MINIMIZATION FOR FUEL CELL This paper introduces a state machine management supported the equivalent consumption technique for fuel cell/supercapacitor hybrid tramcar is projected. By the effective combination with a state machine, the coordinate management of multiple power sources enhances the performance of equivalent consumption step-down strategy, will increase the electric cell operational time in an exceedingly vary of high potency, and reduces the fluctuation of electric cell. Moreover, the projected approach will effectively cut back the gas consumption and keep the system-on-a-chip (SOC) of supercapacitor at an affordable level. By constructing the RT-LAB semi physical hardware platform, this technique is compared with state machine strategy and equivalent consumption step-down strategy. The gas consumption of the projected technique is reduced by four.18% compared with the state machine strategy, and reduced by zero.56% compared with the equivalent consumption step-down strategy. Then, the result demonstrates that the projected technique contains a higher performance. Hence, this new technique can have an honest application prospect within the high-voltage hybrid tramway.

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III. PROPOSED ALGORITHM

In this system, we can provide the support for the card and physical currency (coin). So that we can also get the unused charging time in the card while tapping it we can get the unused time and need to pay it. If we need more time for charging with that time. We need to pay the amount required for it. In this system, we will provide the support for the cardboard and physical currency (coin). In order that we are able to also get the unused charging time within the card while tapping it we are able to get the unused time and wish to pay it. If we want longer for charging therewith time. We want to pay the quantity required for it

A.*Description of the Proposed Algorithm:*

Aim of the proposed system is to assist the individuals to don't waste their cash and time for charging.

Step 1:
The ARDUINO MEGA microcontroller is utilised in this suggested technique to communicate with the modules and receive information.
Step 2:
The Coin Acceptance Module accepts coins and transmits data to the microcontroller. It computes the time required to charge the car.
Step 3:
The RFID Module is used to tap the card in order to receive information about the former user and to charge for the balance amount.
Step 4:
The GSM is used to smartly recharge the RFID card by delivering signals to the owner about paying money and charging the RFID card.

IV. RESULTS

In this paper, we presented the Coin Acceptance Module for converting actual coins to digital coins, as well as the RFID card as a smart card that could be recharged anytime needed. Then there's the GSM Module, which allows you to recharge your smart card from anywhere and saves you time.

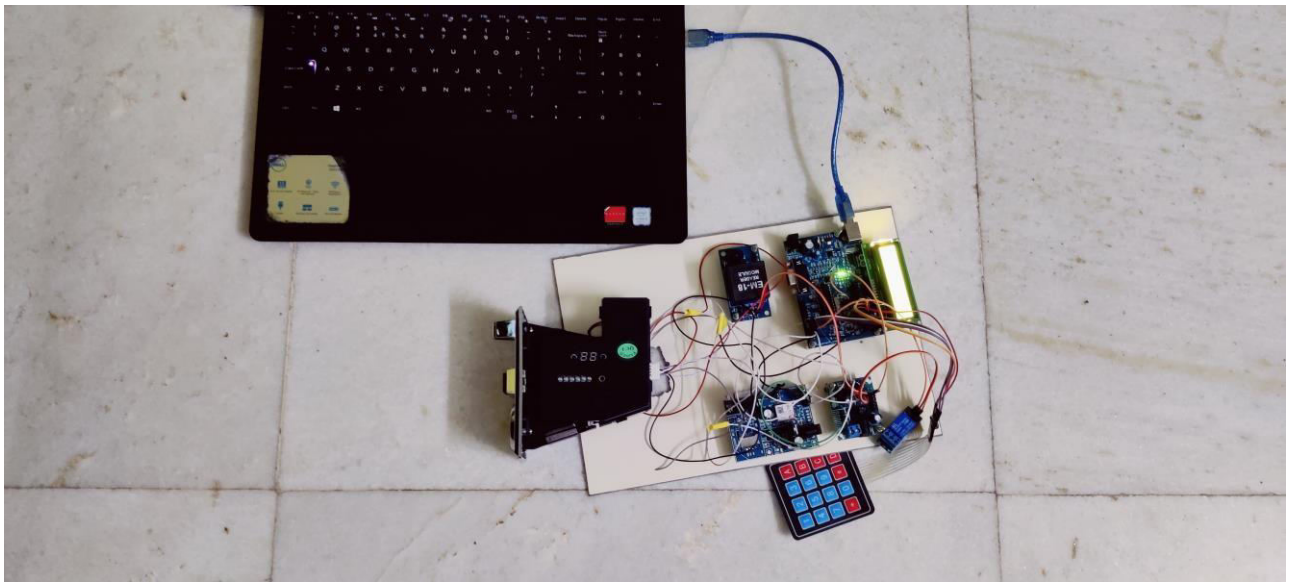

Fig 1: snap of the project

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V. CONCLUSION AND FUTURE WORK

The Share & Charge Foundation creates tools based on distributed technologies, such as block chain technology, to aid in the development of solutions for electric vehicle charging. Unlike filling an ICE car, charging an electric vehicle increases the number of interactions between vehicle users and their energy source. Charging will take place in a variety of different settings, including at home, on the road, and at any destination. Because there is no need for fuel, maintenance is less expensive. More eco-friendly, having a lesser carbon impact. Noise pollution is decreased, and the journey is more comfortable. Range Anxiety, Lack of Charging Infrastructure The charging times are considerable. Battery life is reduced, and battery expenses are increased. EV Smart charging has significant implications for the whole EV charging ecosystem, from the utility to individual EV drivers. Investing in EV charging, particularly smart EV charging, gives long-term capital and operational benefits to organisations. Individual EV drivers gain the most from smart EV charging since it is less expensive, better for the environment, and safer..

REFERENCES

1. Y. Yan, Q. Li, W. R. Chen, W. Q. Huang, and J. W. Liu, “Hierarchical management control based on equivalent fitting circle and equivalent energy consumption method for multiple fuel cells hybrid power system,” IEEE Transactions on Industrial Electronics, vol. 67, no. 4, pp. 2786–2797, Apr. 2021.
2. M. M. Mahfouz and M. R. Iravani, “Grid-integration of battery-enabled dc fast charging station for electric vehicles,” IEEE Transactions on Energy Conversion, vol. 35, no. 1, pp. 375–385, Mar. 2020.
3. T. H. Wang, Q. Li, X. T. Wang, Y. B. Qiu, M. Liu, X. Meng, J. C. Li, and W. R. Chen, “An optimized energy management strategy for fuel cell hybrid power system based on maximum efficiency range identification,” Journal of Power Sources, vol. 445, pp. 227333, Jan. 2020.
4. Q. Yan, B. Zhang, and M. Kezunovic, “Optimized operational cost reduction for an EV charging station integrated with battery energy storage and PV generation,” IEEE Transactions on Smart Grid, vol. 10, no. 2, pp. 2096– 2106, Mar. 2019.
5. H. Tu, H. Feng, S. Srdic, and S. Lukic, “Extreme fast charging of electric vehicles,” IEEE Transactions on Transportation Electrification, vol. 5, no. 4, pp. 861–878, Dec. 2019.
6. Q. Li, B. Su, Y. C. Pu, Y. Han, T. H. Wang, L. Z. Yin, and W. R. Chen, “A state machine control based on equivalent consumption minimization for fuel cell,” IEEE Transactions on Transportation Electrification, vol. 5, no. 2, pp. 552–564, Jun. 2019.

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