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Electric Vehicle Recharge to Find Nearest Bunk

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Abstract: *Transportation electrification is one of the essential components in the future smart city planning and electric vehicles (EVs) will be integrated into the transportation system seamlessly. Charging stations are the main source of energy for EVs and their locations are critical to the accessibility of EVs in a city. They should be carefully situated so that an EV can access a charging station within its driving range and cruise around anywhere in the city upon being recharged. In this paper, we formulate the Electric Vehicle Charging Slot Booking, in which we minimize the charging station queue for EV charging. The proposed system of EV Charging mobile app to provide EV car owner the convenience of locating charging stations on Google map, vacancy of charging slots, getting status updates on charging. Help to easy way of charging of EV station and ensure smooth journeys long distance.*

Keywords: EV, Electric Vehicle, RFID, Radio Frequency Identification.

I. INTRODUCTION

Transportation electrification is one of the essential components in the future smart city planning and electric vehicles (EVs) will be integrated into the transportation system seamlessly.Charging stations are the main source of energy for EVs and their locations are critical to the accessibility of EVs in a city.

They should be carefully situated so that an EV can access a charging station within its driving range and cruise around anywhere in the city upon being recharged. In this paper, we formulate the Electric Vehicle Charging Slot Booking, in which we minimize the charging station queue for EV charging. The proposed system of EV Charging application to provide EV car owner the convenience of locating charging stations on Google map, vacancy of charging slots, getting status updates on charging. Help to easy way of charging of EV station and ensure smooth journey long distance.

II. PROPOSED METHODOLOGY

The charging station proposed in this paper is targeting small EVs with a battery of 24 V/80 Ah and a range of 50 km which requires an energy capacity of about 2.4 kWh.

III. SYSTEM ARCHITECTURE

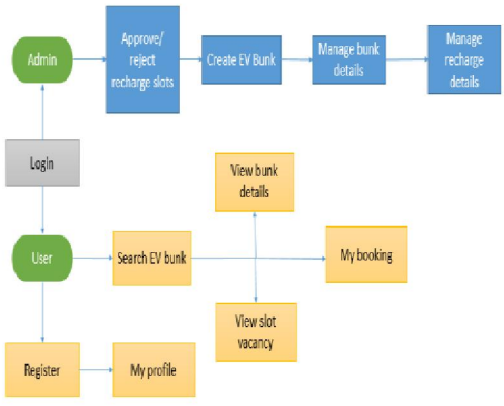

Fig -1: DFD-Level1

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- Multi-port charging station is proposed with charging ports of 1 kW for standard or regular charging and 2 kW for fast charging.
- The proposed charging station is capable of charging five small EVs simultaneously. The charging time of the EVs depends on the use requirement.
- Out of five charging ports, four ports are provided as normal chargers, which can fully charge the.
- Considered small EV within two hours. The remaining charging port is designed as the fast charger which can fully charge a small EV within an hour.

A. Module List

- **User**
  1. Register
  2. Login
  3. Search EV Bunk
  4. View Bunk details
  5. View slot vacancy
  6. My booking
  7. My profile

- **Bunk Admin**
  1. Login
  2. Approve/Reject recharge slots
  3. Create EV Bunk
  4. Manage Bunk details
  5. Manage recharge details

IV. OBJECTIVES

- It consumes less amount of time when compared to manual paper work through the automated system.
- The system will take care of all the servicing activity in a quick manner. Data storing is easier. Various Electric industries are becoming very careful about manufacturing & distribution of their products.
- New technology addresses these requirements, providing the foundation to allow cooperative interaction to be developed.
- Thus, the unmanned Electric recharge bunk using GSM is an example of new technology which will be providing the base for security of product distribution & data keeping using database.
- As the project is PC controlled, the project will be connected to one of the PC ports & programming languages like android application

V. CONCLUSION

Gasoline is a heavily demanded natural resource and most is consumed on transportation. Its electrification can relieve our dependence on gasoline and tremendously reduce the number of harmful gases released, which partially constitute global warming and worsen our health. EVs will be integrated into the transportation system seamlessly and this will help make our cities “smart”. To do this, we need to determine the best locations to construct charging stations in the city. In this paper, we focus on human factorsrather than technological ones. An EV should always be able to access a charging station within its driving capacity anywhere in the city.

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principal sir Prof. Upasni, as well as our respect-ed HOD mam Prof. G.R Jagtap whose encouragement was main source of our energy behind this work.

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