iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 11 **Issue:** V **Month of publication:** May 2023

DOI: https://doi.org/10.22214/ijraset.2023.52354

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 11 Issue V May 2023- Available at www.ijraset.com

Vehicle Lifter Enhancement for HV(EV) Battery Assembly

Logesh Raja.M[1], Santhosh Kumar.R[2], Arunachalam.M[3], Mahalingam.PP[4]
[1, 2, 3]*4th Year,* [4]*Assistant Professor, Mechatronics Engineering, Dr. Mahalingam College of Engineering and Technology*

Abstract: Vehicles have always been heavy and requiring regular repairs. That was the necessity behind car lifts invention. These days, car lifts are an integral part of many garages and repair shops but its applications are not limited to that, theyre also used to raise vehicles for storage in places where ramps are inconvenient or if there are space restrictions. The car lift we are working on is used for raising loaded mini-trucks.

I. INTRODUCTION

Before car lifts were invented, mechanics would often have to deal with cramped and dangerous conditions while working on motor vehicles. They would often use ramps or jacks to lift vehicles and accidents were common. Pits offered a safer option for working on vehicles, but very often these pits did not allow a mechanic to stand comfortably while working on a vehicle. It all changed thanks to the invention of the car .

II. OBJECTIVE

The objective of the online student software certification enrollment system using React and Node.js is to provide an efficient and user-friendly platform for students to enroll in courses and apply for certification online. The system aims to streamline the enrollment process, reduce administrative workload, and provide an effective means for tracking student progress and generating certificates.

III. LITERATURE REVIEW

1) Jacks, Industrial Rollers, Air Casters, & Hydraulic Gantries. ASME International, 2015, pp. 1–66, Safety Standards for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks, and Slings
2) OSHA Standard 1926.959
3) “Department of Labor Logo UNITED STATESDEPARTMENT OF LABOR.” 1926.959
4) Mechanical Equipment. | Occupational Safety and Health Administration,

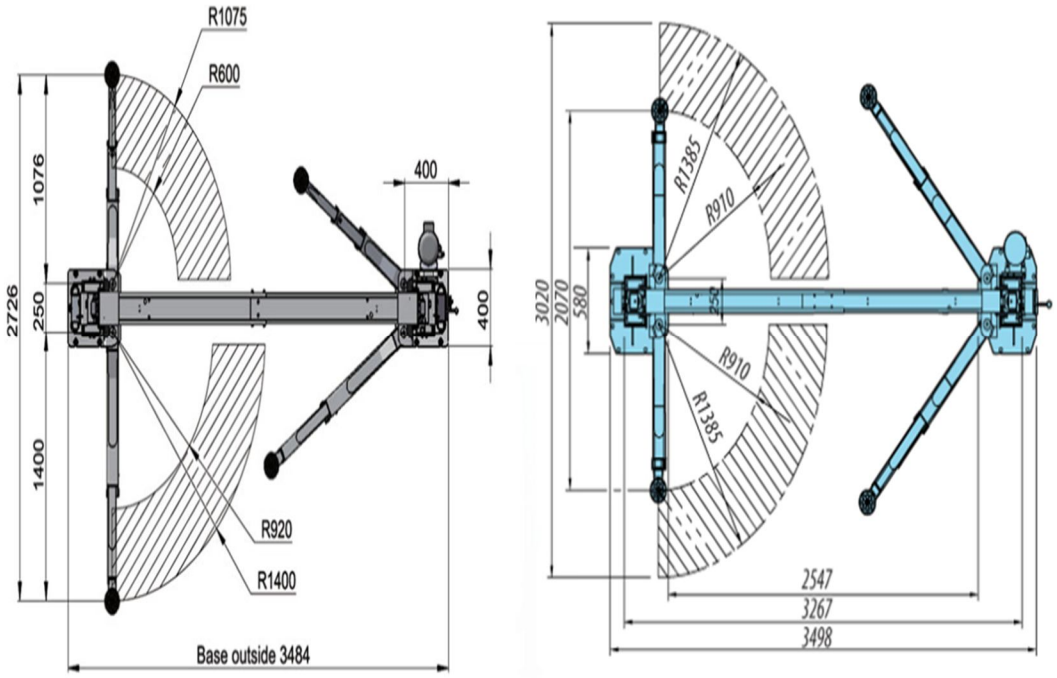
IV. MODULES OF PROJECT

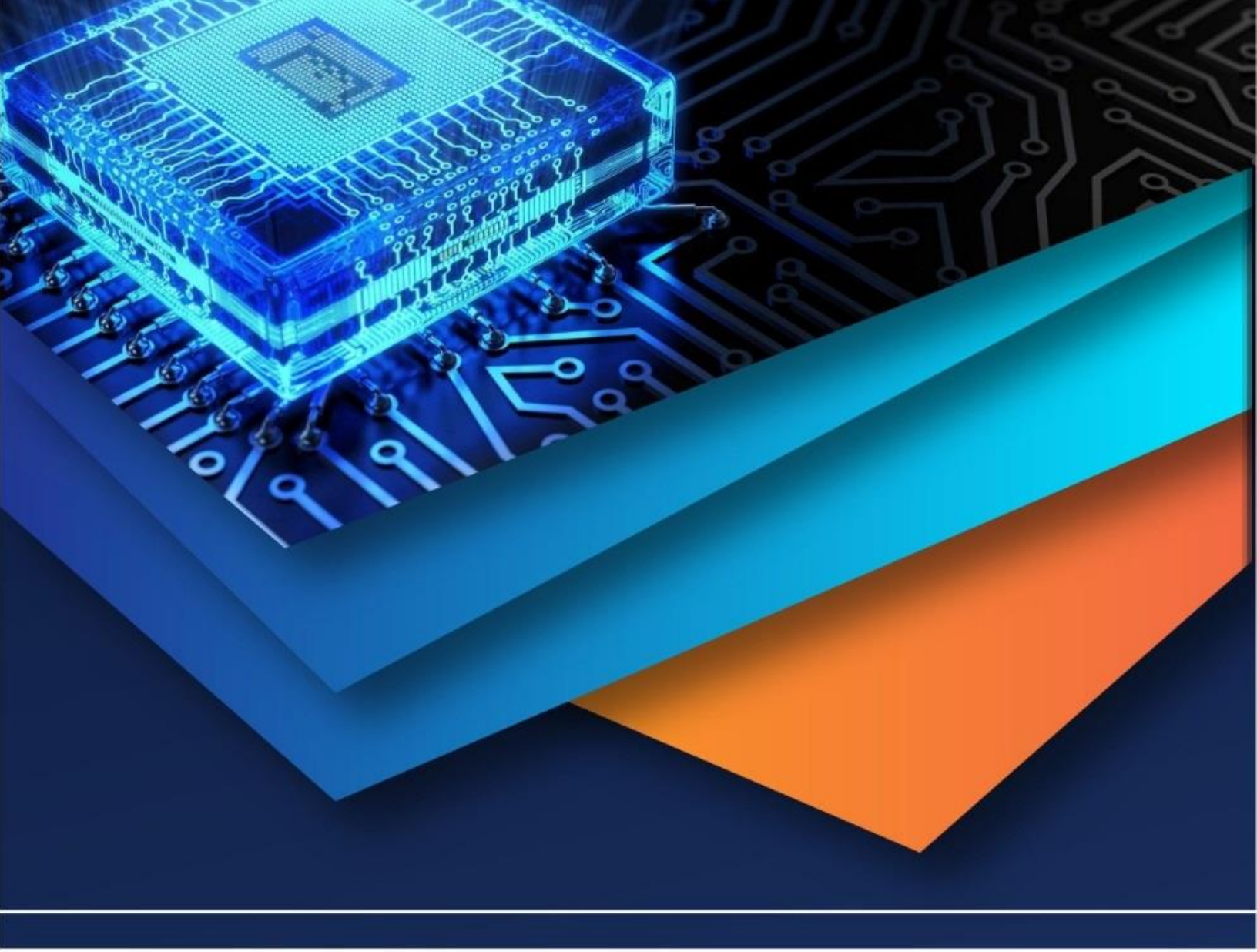
This project basically contains three modules . those modules were listed below.

1) Authentication Module This concept was somewhat feasible. With its low profile scissor style lifting you could slide it under a car with ease. The large diameter base plate would have been replaced with something more rectangular and also with extension arms that would swing out. The only downfall to this design is the cost of material and the amount of fabrication that would have needed to be done. The center lifting airbag alone may have cost as much as all the steel being used.
2) Student Module This concept was not feasible much at all. There was way too much steel considered in the design which would increase cost and weight and the center air lifting bag would have been expensive also. The design would not have been easy to move around do to its weight. Possible designing it with some kind of cart rolling system may have helped make the design more feasible.
3) Admin Module This concept was really the best of them all. It was light in weight and the amount of material was a lot less than all the rest of the concept designs. It being adjustable in its arm lengths made it a good application for both car and truck lifting

©IJRASET: All Rights are Reserved

DIAGRAM:


R1075
R600
400
1076
2726
250
400
1400
R920
R1400
Base outside 3484
R1385
R910
3020
2070
580
R910
R1385
2547
3267
3498



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)