# ABSTRACT

Scrapping of cars in India is not an organized process like the sale of used cars. Transactions related to vehicles mainly involve buying and selling. However, tracking these transactions can be a challenging task. Even though there exist some solutions using centralized systems, they may have problems with transparency, trust, and access control. Also, scrap dealers might deceive naive customers by fixing unfair prices for the cars given for scrapping. Therefore, in this paper, we provide an integrated blockchain and machine learning-based solution for automating the transactions related to the scrapping of cars. The major parties involved in the transactions are the Regional Transport Officer (RTO), car owners, and scrap dealers, police and their communication is facilitated with the help of smart contracts. Along with this, damage detection followed by price prediction of the car to be scrapped is carried out which helps the car owner realize the actual worth of his/ her car without being deceived. We propose Extreme gradient boosting model for the same. The obtained results show that high-performance gains, having an accuracy of 89.96 percent. Finally, a scrapping certificate is generated and issued to the owners of the scrapped cars, with which they can avail discount while buying a new car thereby attracting more people to get their old and pollution causing cars scrapped.

Keywords—Scrapping, Blockchain, Machine learning, Smart contract

PROBLEM DEFINITION AND INITIAL REQUIREMENTS

## EXISTING SYSTEM:

*There is no Existing system.It processed by manually.* ***PROPOSED SYSTEM:***

The proposed system comprehends a private Ethereumblockchain and machine learning technologies. The blockchain technology helps in acquiring a decentralized system. It leads to quick and more translucent settlements, as the ledger is automatically updated and can be accessed by each member of the network . The system is incorporated with three entities, the scrap dealer, car owner, and the RTO. The scrap dealer, car owner, and RTO cooperate with each other using a proof of work consensus algorithm. Firstly, the scrap dealer registers with his details and wait for approval from the RTO,who in turn authenticates the scrap dealer’s details and allows the scrap dealer into the network. Secondly, the car owner has to register with his details and wait for approval by the scrap dealer as well as verification by RTO. On verifying boththe scrap dealer and the car owner, RTO will approve the scrapping request.

# Modules Admin

* *Login*
* *Change Password*
* *RTO Registration*
* *Police Station Management*
* *Scrap dealer view and approval*
* *View approved scrap dealers*
* *View rejected scrap dealers*
* *View scrapped vehicles*
* *View verified scrapping request*
* *View rejected scrapping request*

# Police

* *Login*
* *Change password*
* *Manage suspicious activity records*
* *View reports from scrappers*
* *View scrapped vehicles*

# RTO

* *Login*
* *Change password*
* *View profile*
* *Vehicle management*
* *View users*
* *View request from scrap dealers*
* *Verify request*
* *View scrapping station*
* *Issue certificate to user*
* *View scrapped vehicles*

# AI

* *Damage detection*
* *Price computation*
* *Check for previous existence*

# User

* *Signup*
* *Login*
* *Change password*
* *View and update profile*
* *View own vehicles*
* *Add scrapping request*
* *View request station*
* *Get status /certificate*

# Scrap Dealers

* *Sign up*
* *Login*
* *View profile*
* *Update profile*
* *View request*
* *View suspicious activity*
* *Forward details to RTO*
* *Verification status view*
* *Scrapping station updating*

## HARDWARE AND SOFTWARE REQUIREMENT

*This specifies the hardware and the support software required to carry out the development.*

## SOFTWARE REQUIREMENTS:

*One of the most difficult task is selecting software for the system, once the system requirements is found out then we have to determine whether a particular software package fits for those system requirements. The application requirement:*

*Operating System : Microsoft windows 7 or Above Front End : Python, JavaScript, HTML, CSS*

*Back End : MySQL Server*

*IDE : JetBrains PyCharm / VSCode, Android Studio*

## HARDWARE COMPONENTS:

*The selection of hardware is very important in the existence and proper working of any software. Then selection hardware, the size and capacity requirements are also important.*

*Processor : Pentium III Processor/Above Main Memory : 4GB or Above*

*Hard Disk Capacity : 40GB or Above Mouse : Any compatible*