Abstract — The Web Application AI Based Salvage Value System for Scrap Vehicles can be used for calculation of scrap vehicle value and the fragmented component value of scrap vehicle. The project is an economic alternative to Vehicle Scrappage Policy 2021 and provides an ease of vehicle value evaluation within fraction of seconds at fingertips. Using this application, the user gets quality comparison for the price of old scrape vehicle as a consequence of the calculation based on snippets of the vehicle. As the price value of evaluation in this application is based on quality and age of the components therefore it may result in price better than that of the market evaluated value. The project is not only economically beneficial but also very important in the view of environment as it involves recycling and reuse of components of scrap vehicle.

Keywords — Scrap Vehicle, Fragmented components, Valuation, Reuse, Depreciation

I. INTRODUCTION

In the era of rapid growing world, automobile industry holds a major league. This developing world and automobile industry as well is connected with latest technologies and smart automations for ease, betterment and comfort of mankind. Due to this reason, there is generous demand of the voguish automobiles. However, we find both voguish and venerable automobiles running at the road altogether. With the growing age, patched and ragged vehicles are responsible for increasing pollution and poor quality of air and environment which have adverse effect on human health and surrounding.[1] Keeping this in mind, heavy commercial vehicles older than 15 years will be phased out from April 1, 2023, while personal vehicles older than 20 years will be phased out from June 1, 2024, according to India’s Vehicle Scrappage Policy.

Noting that the number of vehicles older than 15 years in India will surpass 2.4 crores.[2] The scrap value of a long-term or physical asset is its value or worth after it has served its purpose. The assets may not be employed as a complete machine, but they can be broken down into smaller parts. Individual components, the scrap could be put to good use in some way. These waste materials could then be recycled. Before they can be reused, they must be treated to give some scrap value. They generate a lot of value in this job. The scrap value is frequently determined by the demand and availability of scrap materials. It is the estimated cost at which a fixed asset can be sold once full depreciation has been taken into account. The asset is usually dismantled into its constituent parts, each of which is valued and sold separately. Instead of considering the whole vehicle as a scrap, there is an economic and ecofriendly alternative that is fragmentation and recycling of scrap vehicle. After an overall evaluation of the vehicle on the basis of data provided by the user and the superficial outlook of vehicle, a fair analyzed report will be provided and the value of vehicle would be on the basis of snippet evaluation rather as a scrap which will be probably higher than the value provided by scrapping of that vehicle. This web application is quite fast because of the pre-defined values of the components depending on their age, use and date of manufacture in the database. Thus, reducing the chaos of taking the vehicle for physical evaluation.

II. LITERATURE REVIEW

A hybrid growth model technique is used to forecast future vehicle stocks in India up to 2030. The emissions of CO2, CO, PM, and NOx from vehicles in India’s reference (2020) and forecast years fleets are examined (2030).[3] The SWOT investigation showed Sustainability how developing countries are slacking within the reusing of ELVs, in spite of the fact that there are valuable opportunities for reusing ELVs.[1] The anticipated benefits from the utilize of the proposed method are: financial execution enhancement, less negative impact on the Environment and more social inviting business activity of ATF.[4] Given India’s major rising position in vehicle manufacturing and use, a strategy like...
VSP is critical to progress towards circular resource management and emissions reduction in the transportation industry globally. Because of India’s growing middle-class population, low per capita car population, and rising energy consumption (IEA, 2021), vehicle use is expected to skyrocket in the coming decades, following current patterns.[2] Accelerate the development of remanufacturing industry of car’s component. Compared with the conventional material recycling, Car Remanufacturing Industry is in low energy consumption, less emissions, and high economic benefit.[6] Because the European Directive on end-of-life vehicle (ELV) treatment has had a significant impact on policy in many countries, car manufacturers must examine the early stages of product development in order to improve ELV treatment. This paper offers regulatory, technological, and business ideas for increasing the rate of ELV reuse, recycling, and recovery (RRR). The two countries' contextual backgrounds are explained, as well as their RRR performance from a lifecycle viewpoint, in this comparative analysis between the UK and Japan. Barriers to improving RRR rates and countermeasures are examined based on mutual learning between the two countries.[7] In 2002, the Japanese government passed the End-of-Life Vehicle Recycling Law (ELV Recycling Law). This rule mandates that manufacturers remove CFCs, airbags, and automotive shredder residue (ASR) from ELVs, as well as properly recycle the remaining materials. This framework is compared to the ELV directives in Europe. During the primary burning of ASR, compared to conventional municipal solid waste, pilot-scale incineration plant tests found a higher generation of by-product persistent pollutants (POPs).[8]

III. DESIGN INTERFACE

The waterfall model was used to create this project. A linear-sequential life cycle model is another name for it. It is really easy to comprehend and use. Each phase of a waterfall model must be completed before the following phase may begin, and the stages do not overlap. The entire software development process is separated into several phases in “The Waterfall” technique. Typically, the output of one phase serves as the input for the following phase in this Waterfall approach. The seven phases are in the following sequence that is Requirement gathering and analysis, System Design, Implementation, Integration and Testing, Deployment of System and Maintenance. The technologies used in building the project are PHP for backend, HTML and CSS for front-end followed by MySQL for the database.

A. PHP: PHP is a web development-oriented general-purpose scripting language. A PHP interpreter implemented as a module is commonly used to process PHP code on a web server. The outcome of the interpreted and executed PHP code – which might be any type of data, such as produced HTML or binary image data – would make up the entirety or portion of an HTTP response on a web server.

B. HTML and CSS: Hyper Text Markup Language is a markup language that’s used to create web pages. HTML is a markup language that combines hypertext with markup. The term "hypertext" refers to the link between web pages. The text document within the tag that defines the structure of web pages is defined using a markup language. HTML is a markup language that the browser uses to transform text, pictures, and other content so that it can be displayed in the desired format. CSS (Cascading Style Sheets) is a stylesheet language that is used to make a webpage more appealing. The purpose of CSS is to make the process of making web pages presentable easier. Styles can be applied to web pages using CSS. More crucially, CSS allows you to do so without having to worry about the HTML code that makes up each web page.

C. MySQL: MySQL is a quick, simple-to-use relational database management system that employs a standard version of the well-known SQL data language. It is compatible with a wide range of operating systems and languages, including PHP, PERL, C, C++, JAVA, and others. It is a fast database that performs well even with enormous data sets. MySQL is particularly friendly to PHP, the most popular web development language.

IV. IMPLEMENTATION

When an end user starts our web application, firstly he needs to register himself on the signup/registration page, using some details like Name, Contact Number and E-Mail address.

Fig. 1. Home Page

After the registration, the user gives the information of his vehicle that he wants to sell and the physical condition of various parts in the scale of excellent to poor.

Fig. 2. Home Screen/Registration Page
Following Car Registration, A fair value of car will be generated through the fragmented evaluation of car, which is shown in Figure No.3.

![Car Registration Screen](image1)

![Car Value Screen](image2)

**V. FEATURES AND FUNCTIONALITIES OF THE PROJECT**

The Car Valuation Tool is a free service that estimates the market value of your vehicle in seconds. Our car valuation algorithm is constantly updated, so it's always up to speed with the most recent modifications and market developments. However, the figures displayed during online assessment are only estimates and may change when your vehicle is inspected at the store. You don't even need to register to acquire an estimated value for your automobile; all you have to do is provide basic information on the state of car parts such as the air conditioner, radiator, wheels, and body. Pricing or valuing a car is important for insurance, as well as for purchasing and selling.

Functionality: A circular economy relies on resource reuse, sharing, repair, refurbishment, remanufacturing, and recycling to produce a closed-loop system that reduces resource consumption, waste output, pollution, and carbon emissions.[3] When an automobile is scrapped, numerous additional pieces may surface that can be repaired and put back into service, in addition to metals such as iron and steel. Scrap steel, including seats and plastic parts, has a market value in the scrap economy. It's analogous to the commercial activity of scrapping ancient ships, such as in Gujarat's Alang shipbreaking yard. The reusable parts recovered are sold in the after-market, while other hazardous components, such as air bags, CFCs, reactors, etc., are supposed to be disposed of properly.[5]

**VI. APPLICATION AND BENEFITS OF THE PROJECT**

The reduction of pollutants is the most significant benefit of the vehicle scrappage strategy. Air pollution will decrease as high-emission automobiles are removed off the road. The elimination of old automobiles from the road will result in an increase in new vehicle purchases.

Why Because modern automobiles have many more safety features than previous vehicles, the user benefits from increased safety. The government's auto scrappage centers will result in a large number of job openings.

**VII. CONCLUSION AND FUTURE SCOPE**

Unlike current vehicle scrappage policies, this project will not just scrap the vehicle but will also reuse certain components, offering the client extra value. Our program currently only works with static data and shows information that must be updated at regular intervals in order for the information to be properly seen. We can leverage machine learning and data science technologies to improve the web application even further.

**REFERENCES**


