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BIKE CUSTOMIZATION & ENHANCEMENT PORTAL

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Abstract - *With the rapid development of Internet and Internet Penetration into the automobile industry, more and more people search and browse automobile related parts and data on the net before making and buying. We specialize in the task of the analysing, predicting and provides a platform for a customer to buy the automobile parts easily where the user has the intention to get a specific part. The most intention of this website is to assist the purchasers in purchasing their automobile parts and satisfying them on the idea of their budget and as well as the comfort from the automobile. We have surveyed some websites (indiamart.com; boodmo.com; spareshub.com). The web site also provides the bike parts supported the budget satisfying the customer and sorts all the parts from the admin's portal in line with the chosen bikes parts by the users. This is often an interactive website created for the good thing about the users that promotes personalization i.e creating customized bikes consistent with user's wish and desire which increases the life time of the bikes and also helps in enhancing the bike's engine functionality and its performance.*

Key Words: Apriori algorithm, Collaborative filtering

1. INTRODUCTION

Customization of bikes has always been an expression of their owner's personality and sense of individuality. Customization means modification or personalization ,according to one's taste, visual preference, performance requirements and then on. Bike Customization & Enhancement Portal is where bikes parts are selected consistent with the user's need and compatibility of the user's bike. Bike customization has become a prefered passion likewise as need for increasing the security and functioning of the bikes. Some enthusiasts would go from improving the engine output to changing parts of the bikes, visuals and also different mods.The portal provides all the knowledge you would like at one place together with the feasible options for the user to pick out the parts that matches their budget and is compatible with the bike.

2. PROPOSED APPROACH

Bike Customization & Enhancement Portal could be a system which provides the user to settle on their own automobile parts. During this proposed system there'll be two modules admin and user. Admin will add customized parts and structural and final model. Customer will enter the bike model and supported the entire model the parts are going to be flaunted to the customer. The customer will select and add parts to the cart. Once all products are selected the ultimate model is presented to the user.

Collaborative filtering

Collaborative filtering (CF) and its modifications is one amongst the foremost commonly used recommendation algorithms. Even data scientist beginners can use it to build their personal recommender system. After we want to recommend something to a user, the foremost logical thing to do is to search out people with similar interests, analyze their behavior, and recommend our user the identical items. Or we will observe the things just like oneswhich the user bought earlier, and recommend products which are like them. These are two basicapproaches in CF: user-based collaborative filteringand item based collaborative filtering, respectively. In both cases this recommendation engine has two steps: 1.No what number users/items within the database arealmost like the given user/item.

2. Assess other users/items to predict what grade you would give the user of this product, given the overall weight of the users/items that are more similar to this one.

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3. ALGORITHM USED

Apriori algorithm

Apriori is an algorithm for frequent item set mining and association rule learning over transactional database . It proceeds by identifying the frequent individual items within database and lengthening them to large and enormous itemset as long as those item sets appear sufficiently often within database. The frequent item sets determined by Apriori can be used to determine association rules which highlight general trends within database. This has applications in domains like market basket analysis. Apriori could be a seminal algorithm proposed by R. Agrawal and R. Srikant in 1994 for mining frequent itemsets for Boolean association rules. The name of the algorithm is based on the fact that the algorithm uses prior knowledge of frequent itemset properties. Apriori employs an iterative approach known as a level-wise search, where k-itemsets are used to explore (k+1)-itemsets. First, the set of frequent 1-itemsets is found by scanning the database to accumulate the count for each item, and collecting that items that satisfy minimum support. The resulting set is denoted L1 Next, L1 is used to find L2, the set of frequent 2 itemsets, which is used to find 3, and so on, until no more frequent k-item sets can be found. The finding of each Lk requires one full scans of the database. To improve the efficiency of the level-wise generation of frequent item sets, an important property called the Apriori property, presented below, is used to reduce the search space.

Apriori property: *All nonempty subsets of a frequent item set must also be frequent.*

The Apriori property is predicated on the subsequent observation. By definition, if an itemset/ doesn't satisfy the minimum support threshold, min sup, then I is not frequent; that is, P (I) <min sup. If an item 4 is added to the itemset/, then the resulting itemset (i.e.. I UA) cannot occur more frequently than I. Therefore, I UA is not frequent either; that is, P (I UA) <min sup.

CART algorithm

The main elements of CART (and any decision tree algorithm) are: Rules for splitting data at a node based on the value of one variable; Stopping rules for deciding when a branch is terminal and might be split no more; and. Finally, a prediction for the target variable in each terminal node.

CART property: *The CART algorithm provides a foundation for important algorithms like bagged decision trees, random forest and boosted decision trees*
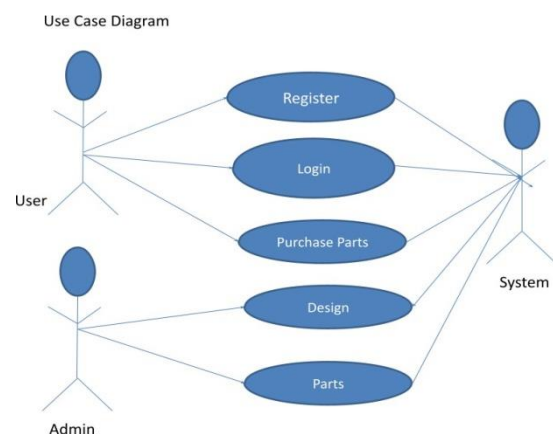
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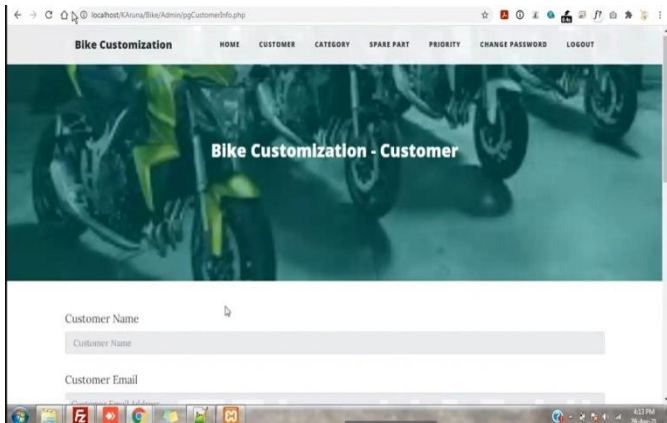
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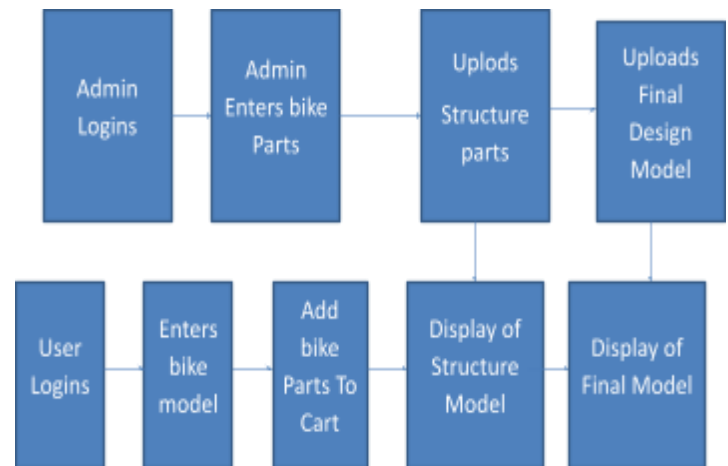
USE CASE DIAGRAM
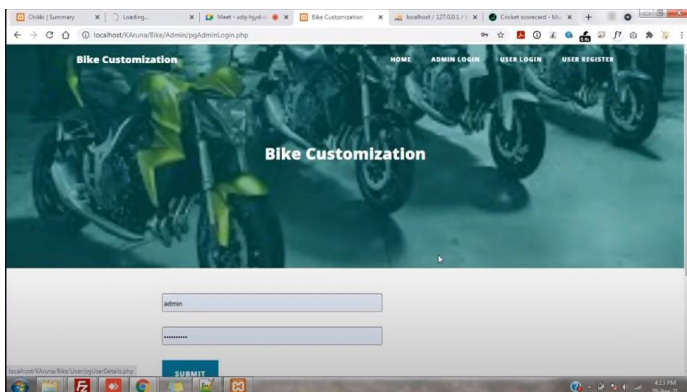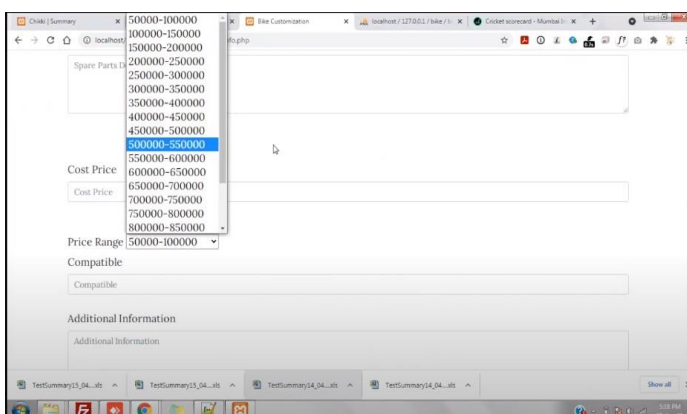
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5. RESULT

Customer Login:

Admin Login :

User Interface :

6. CONCLUSION

This system is a nice service for educating users regarding organic systems and supporting the help of an oversized quantity of sure info .Thus, our proposed system is effective in providing rather more accurate and fast results for the replacement parts which are compatible with your model of the bike. The system proves to be time-saving and requires less maintenance. The biggest advantage of shopping online for spare parts is that it affords the convenience of having the ability to access an enormous database of accessible bike parts & accessories. Adding to present, the varied variants and brands available online without having to travel or rummage through local dealer shops and salvage yards trying to find the precise part that you just can be searching for your bike. From this project we get to understand about different kinds of methods and algorithms of machine learning like apriori, content-based filtering method.

7. ACKNOWLEDGEMENT

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