

Online Shopping Fake Product Review Analysis

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Abstract

Seller selling the products in both online and offline mode. Users or buyers also buy the products in both modes. Nowadays online shopping is becoming more popular and users like to buy the product through online mode itself with ease. Due to this many online e-commerce sites are developed by many sellers all over the globe Moreover users do make a survey on their needed product reviews which helps them whether to buy the product or not. Many e-commerce sites are getting benefits from their buyers, but also many other sellers of different e-commerce sites to make them more profit they make fake reviews of products that are available on different sites. For this purpose with help of many digital marketers they make fake reviews with different IP addresses and accounts. In our project those fake reviews are identified and those IP addresses are blocked. It helps to improve the honesty of reviews available on site. It will increase the sale of the products.

Keywords— Fake product review, IP address

I. INTRODUCTION

Before buying any product, we usually collect information which is based on the thoughts of other people and their thinking which helps us to make any decision. In many countries half of their country's population is aware of the internet and things happening through the internet. Most of them are using smart phones, laptops, tablets etc., Due to the awareness of internet and usage of internet is getting higher. The online shopping is known as e-commerce also increases with the growth of e-commerce sites people likes to buy the products through online without any presence in the shop. Many e-commerce sites to increase their site popularity and also their sales rate they allow users to make their reviews of the products they buy[3]. It also helps them to know the users opinions and also for other buyers to make a decision. Our application also allows users to leave their reviews only once and if the same IP address repeats it will be blocked, so the originality of the review on the product is higher.

II. Proposed Framework

As discussed earlier, the framework consists of three parts they are, detection of fake reviews, user and admin interfaces, detection of nature of reviews.

A. Detection of fake reviews

Normally all e-commerce sites allow users to make their reviews without actually buys the product. This feature is given to users to encourage their views on every product they are not buying. But many other e-commerce companies make benefits of this feature by making bad reviews on their opposite e-commerce site to reduce their sales rate. In our application with the help of programming the same IP address will not allow us to give a review for the second time on the same product. Mostly the fake reviews reflects the negative opinion on that product. It becomes a main problem for every e-commerce sites to detect and remove the fake review with our application to help all the fake review are detect and deleted.

The detection of fake review is explained as the flow chart is shown in fig[1]

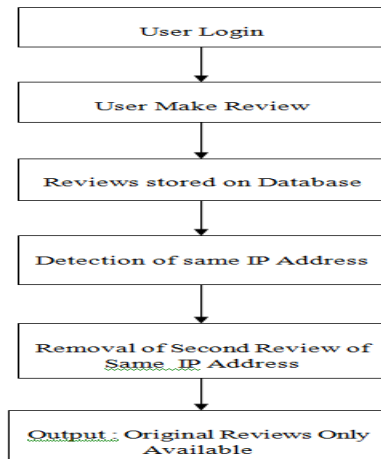


Figure 1: Flow chart fake review detection

B. User and Admin Interfaces

Every e-commerce sites have two parts in it that allow known user and admin parts e-commerce sites always looks very impressive and the side which is shown to user is known as the user side. Our e-commerce site asks user to create their own account before they are purchasing any product. On the user side while creating the user account it has some collection of fields like username, email address, password, conform password, credit card number. By creating their account they have their user name and password. It helps them to easily login and to make the purchase easier the user side is shown in fig[2]

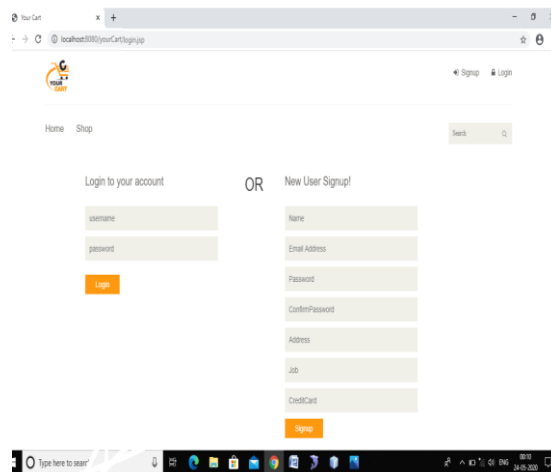


Figure 2: User side interface

The admin interface it consists of the database connectivity to the user side. In our application the admin is the main role. In the admin side all the user details are collected and maintained. The Purchased list consists of the customer and the product details they were purchased. It also shows the reviews which are original and fake reviews along with the IP address[6]. If the same IP address makes

more than one review it denotes like it is a fake review then that particular review will be removed from the web at that time itself. The admin side interface is shown as in fig[2.1]

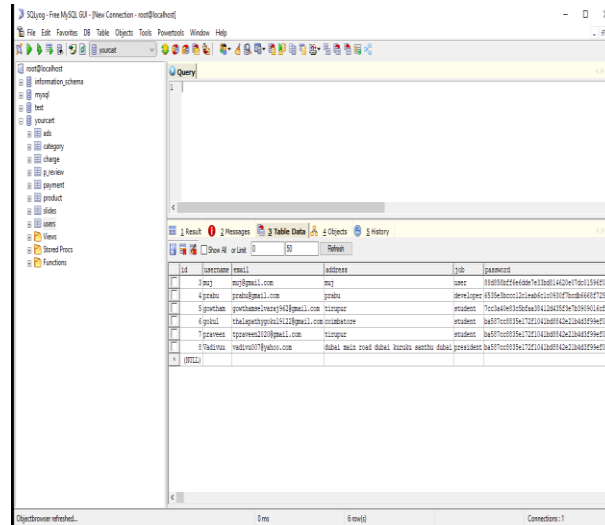


Figure 2.1: Admin side interface

C. Detection of nature of reviews

A recent survey made by Local Circles, a community social media platform[1]. The majority of online shoppers believes online reviews made on the product and that particular product rating. Over 65% of the people make a view on online reviews and ratings before they are going to by the product[7]. It shows online reviews and also its nature of the reviews plays an important role in e-commerce sites. In our application the reviews are taken into text summarization. In this method all the reviews are consider a sentence. In one sentence first two words are checked to detect is that any word denote a negative response or not and the process goes on till all the reviews are taken under process. It also detects the percentage between the different types of reviews as shown in fig[2.2]

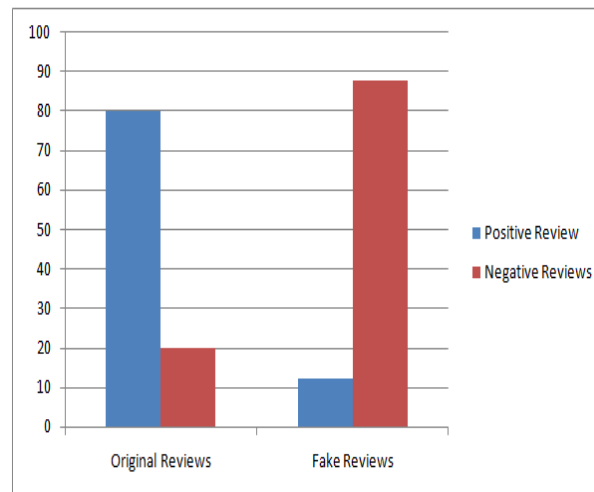


Figure 2.2: Detection of nature of reviews

III. Experimental Results

According to a recent survey, 33 percent of consumers believe they saw ‘a lot’ of fake reviews in amazon that are paid fake reviews. According to an analysis by Washington post[2], a majority of reviews are fake in some e-commerce sites. In our project we created our e-commerce site and listed various products like a real hosted website. Let us take some data sets from amazon survey it shown as fig[3.1]

Figure 3.1: Recent survey on amazon

A. Detection of fake reviews

In our project the fake reviews are stored separately in spam then it will be deleted automatically. It can be defined in another way also the fake reviews will be moved to the spam folder to avoid the visibility of the fake reviews to the users. The IP address gets repeated then it is considered to be the fake review because our program into the application like not more then one time the same IP address could not make the reviews on the same product. By this technique fake reviews on the web will be easily identified and deleted from the web. The US customers spends more money on e-commerce[8]. It looks simple and make the application to work without any hang situation and in this technique the lines of code used also reduced to identify the fake review, the detection of the fake review is shown as in fig[1]

Percent	Amazon Product Survey
33%	Consumers saw 33% fake reviews on the site, survey by washington post.
61%	Electronics product reviews are fake.
70%	Users make purchase based on reading reviews.

B. User and Admin interfaces

In user and admin interfaces the working and how they look like are mention in above fig[2] it shows the user side interface and the fig[2.1] describes the admin side interface. The experimental result is simple in both the interfaces particularly in the user side the user account details only visible on the admin side and it includes information like user id, email address, contact details, password, credit card number etc..these details are stored in the database. The customer stars will reflect the result of product[5]. Database will store both the user details and the reviews which are enter by the users also it detect and block the IP address which makes the fake reviews the both interfaces are shown in fig[3.2] and fig[3.3]

The user interface can be designed in many ways and any details or information can be collected by the user interfaces. The user account details are not shown to anyone except the user and admin. The interface can make easier for the user to create and purchase the products on the e-commerce site. It also shows variety of the products available on the websites.

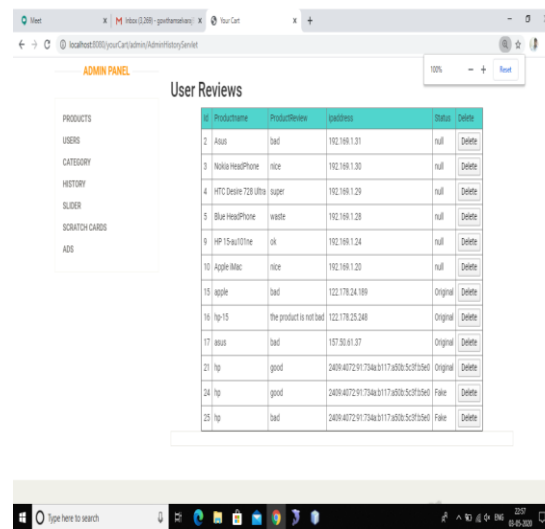
The reviews which are fake available on the web cause serious problems in their sales[9]. It is one of the main and the difficult problem all the e-commerce sites are facing off[10]. But it can be controlled in the near future by creating some very difficult protocol to avoid fake reviews on their sites. The local circle and Washington post show that the e-commerce sites are not aware of the fake reviews on their sites but they are also trying to control all the things happening on the web. By this surveys made by various journals, companies are making a self-evaluation on them itself. In this user and admin parts in our application helps to identify and remove the fake reviews to the spam folder[4] and it encourages the originality of the reviews present in our site it helps people to trust our application for sure.



Figure 3.2: User Interface Executed

The admin interface plays an important role in identifying and detecting fake reviews on the web. It collects all the user accounts details that are provided by them. Admin will make an everyday inspection on the web and look into all reviews which are posted on the product reviews area. Normally all the reviews along with their IP address are stored on the database. According to our program logic, when the same IP address which makes two reviews on the same product reviews are it will consider as fake one by default even the second review reflects the negative thought on that product.

The admin will delete those fake reviews. By this work by admin will lead to the originality of the reviews available on the web it also increases the hope of the user on the e-commerce site all the reviews shown to them all trustable reviews. Admin carries this work of detection and deletion of fake reviews every day. It also promotes the sales of the site compared to all the other sites carry the fake reviews. By default our application will a become more popular and trustworthy e-commerce site.



#	ProductName	ProductReview	Ipaddress	Status	Delete
2	Asus	bad	192.168.1.31	null	Delete
3	Nokia HeadPhone	nice	192.168.1.30	null	Delete
4	HTC Desire 728 Ultra	super	192.168.1.29	null	Delete
5	Blue HeadPhone	waste	192.168.1.28	null	Delete
9	HP 15-wa011ne	ok	192.168.1.24	null	Delete
10	Apple Mac	nice	192.168.1.20	null	Delete
15	apple	bad	122.178.24.169	Original	Delete
16	hp 15	the product is not bad	122.178.25.248	Original	Delete
17	asus	bad	157.50.61.37	Original	Delete
21	hp	good	2409:4072:917:304a:b117:a03b:5c0f:5f6d	Original	Delete
24	hp	good	2409:4072:917:304a:b117:a03b:5c0f:5f6d	False	Delete
25	hp	bad	2409:4072:917:304a:b117:a03b:5c0f:5f6d	False	Delete

Figure 3.3: Admin Interface Executed

C. Efficiency

When compared to all before researches made for this identification of fake product reviews, our project looks simple and it can be run on any operating system platforms. It is more efficient and this application consumes very less storage and it a cloud-based project so it is more reliable[9]. Compare to all other techniques used to find fake reviews it is very simple and not complicated like other techniques. It efficiency is high and our application can be updated at any time when the update is needed. Its efficiency does not depend on the user to insist on them not to make fake reviews it is an independent protocol. As per our program procedure says it will allow a user to make their number of reviews but it will results in fake reviews[10]. It is easily noticeable one to the admin, who is continuously working on it the whole day. Due to this the efficiency will automatically increase in our e-commerce site.

IV. Conclusion

In this paper, We describe how to identify and remove the fake reviews present on the e-commerce sites to execute our project we created e-commerce site in our site all the fake reviews enter by the users are detected and deleted. For that purpose we created user accounts and use the database to store it. By using our project the fake reviews present on the e-commerce sites can be detected and deleted. The result of our project will show the effectiveness and efficiency of our approach. It also increases the sales rate on every product shown on our application because all our products are own the real reviews and it increases or gains the users towards our e-commerce site. This entire protocol looks simple and it is not very complicated as like before. It has its unique working procedure it results in good quality reviews on the web shown to customers as well as merchants.

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