



## FAKE PRODUCT REVIEW MONITORING AND PRODUCT RECOMMENDATION

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### ABSTRACT

*In India, there are a number of people using social media opinions to create their call on shopping for product or service. Opinion Spam detection is an exhausting and hard problem as there are many faux or fake reviews that have been created by organizations or by the people for various purposes. They write fake reviews to mislead readers or automated detection system by promoting or demoting target products to promote them or to degrade their reputations. Opinion spamming refers to the use of excessive and explicit methods, such as creating a large volume of fake reviews, in order to generate biased positive or negative opinions for a target product or service with the intention of promoting or demoting it, respectively. The reviews created for this purpose are known as fake, spam or bogus reviews, and the authors responsible for composing such deceptive content are known as fake or spam reviewers. FRM will find out fake reviews made by the customers so that block them. The following things are considered in the project. First we tracking IP address of the user to detect if the reviews are from a Spammer. If multiple reviews are from the same IP address then the Reviews are considered Spam. Second we using Account Used to check whether the reviews are done using the same account. Then brand only Review detection i.e. whether the reviews are on only Brand not the product. It's not helpful to consider only the Brand value to judge a product. Using Negative Dictionary i.e. the negative words are identified in the review. If there are more than five Negative Words then the review is a Spam.*

**Keywords:** *Tracking IP address, Negative Dictionary, Tracking Mail IDs, FRM, Review Detection*



## 1.INTRODUCTION

One of the very rapid growth area is ecommerce. Generally e-commerce provide facility for customers to write reviews related with its service. The existence of these reviews can be used as a source of information. For examples, companies can use it to make design decisions of their products or services but unfortunately, the importance of the review is misused by certain parties who tried to create fake reviews, both aimed at raising the popularity or to discredit the product. They share their thoughts on internet. Before purchasing anything, it is a normal human behavior to do a survey on that product. Based on reviews, customers can compare different brands and can finalize a product of their interest. These online reviews can change the opinion of a customer about the product. If these reviews are true, then this can help the users to select proper product that satisfy their requirements. On the other hand, if the reviews are manipulated or not true then this can mislead user. This boosts us to develop a system which detect fake reviews for a product by using the text and rating property from a review. The honesty value and measure of a fake review will be measured by utilizing the data mining techniques. An algorithm could be used to track customer reviews, through mining topics and sentiment orientation from online customer reviews and will also blocked the fake reviews.

## 2.RELATED WORK

**Opinion Mining Using Ontological Spam Detection** a paper “Opinion Mining Using Ontological Spam Detection” which will help us to find out fake reviews by using Naïve Bayes as algorithm. To find out fake review in the website this “Fake Product Review Monitoring System” system is introduced. This system will find out fake reviews made by the customers and it will block the users. To find out the review is fake or genuine, we will use some classification such as

**Tracking IP address** of the user to detect if the reviews are from a Spammer. If multiple reviews are from the same IP address then the Reviews are considered Spam.

**Using Account Used** to check whether the reviews are done using the same account.

**Brand only Review detection** i.e. whether the reviews are on only Brand not the product. It's not helpful to consider only the Brand value to judge a product.



**Using Negative Dictionary** i.e. the negative words are identified in the review. If there are more than five Negative Words then the review is a Spam. For instance, a user has posted a Review: “This product is not good, the design is bad, quality is worst and it is worthless to buy.” Here, this sentence consists of 4-5 negative words. So, the system will check the count of negative words, if the count exceeds, then it will be considered as spam review. Therefore Negative Word Dictionary will be used with customized Senti strength algorithm. According to this approach, probability of given review to be Spam is more so it will be considered a Spam.

**Fake Product Review Monitoring and Product Recommendation:**

“Fake Product Review Monitoring and Product Recommendation” which help us in detecting the fake reviews and track down the user. As most of the people require review about a product before spending their money on the product. So people come across various reviews in the website but these reviews are genuine or fake is not identified by the user. In some review websites some good reviews are added by the product company people itself in order to make product famous this people belong to Social Media Optimization team.

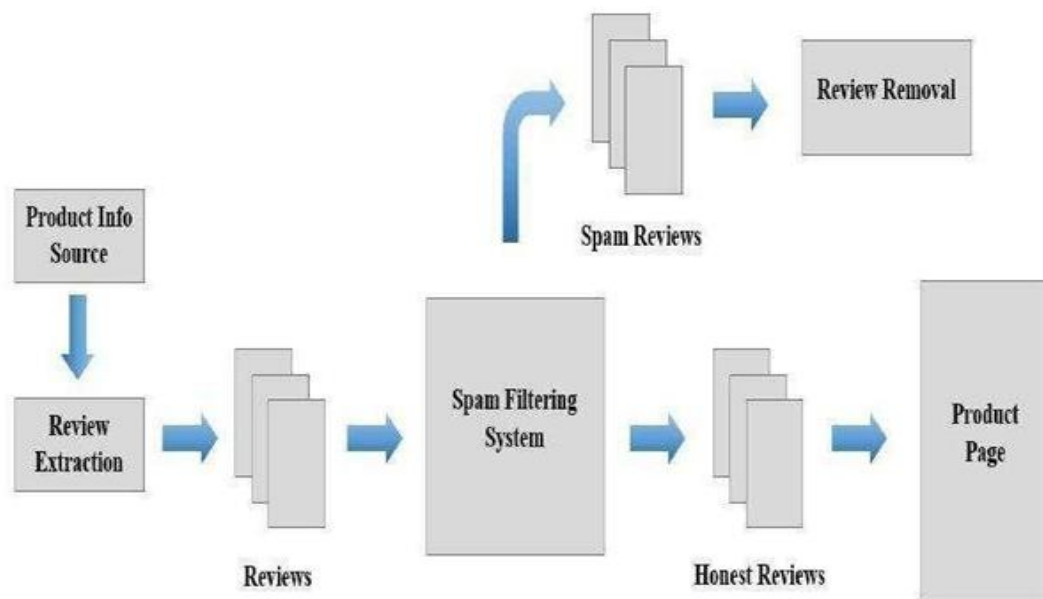
They give good reviews for many different products manufactured by their own firm. User will not be able to find out whether the review is genuine or fake. To find out fake review in the website this “Fake Product Review Monitoring and Removal for Genuine Online Product Reviews Using Opinion Mining” system is introduced. This system will find out fake reviews made by the social media optimization team by identifying the IP address. User will login to the system using his user id and password and will view various products and will give review about the product. And the user will get genuine reviews about product. And while reviewing he needs to enter the email id from which he is reviewing and it would be verified. If he writes a fake review then his id will be blocked both allowing him to share his opinions again.

System works as follows:-

- Admin will add products to the system.
- User need to enter their email id and OTP no to enter the system
- User once access the system, user can view product and can post review about the product.
- For posting reviews, the user’s id will be verified.

- And admin will also block the email id of the user if reviews are spammed.
- Admin will delete the review which is fake.
- Admin Login: - Admin login to the system using his admin ID and password.
- Add product: - Admin will add product to the system.
- Delete Review: - Admin will remove the review which tracked by the system as fake.
- User Login: - User will login to the system using his user ID and password.
- View product: - User will view product.
- Post Review: - User can post review about the product.

### 3.ARCHITECTURE DIAGRAM



### 4.WORKING

1. User will be allowed to review only if he is logged into our online portal.
2. After logging in user will be allowed to review for the product.
3. Once the user enters the review, the reviews will be processed and analyzed for spam on following conditions:
  - a) Does the review entered by the user contain any link which redirects them to other product page for brand promotion?
  - b) Analyzing whether multiple review have come from the same user.
  - c) Analyze whether same email account or same ip- address are used for multiple reviews on same product.
  - d) Analyze the reviews or ratings to detect whether reviews are spam or not.

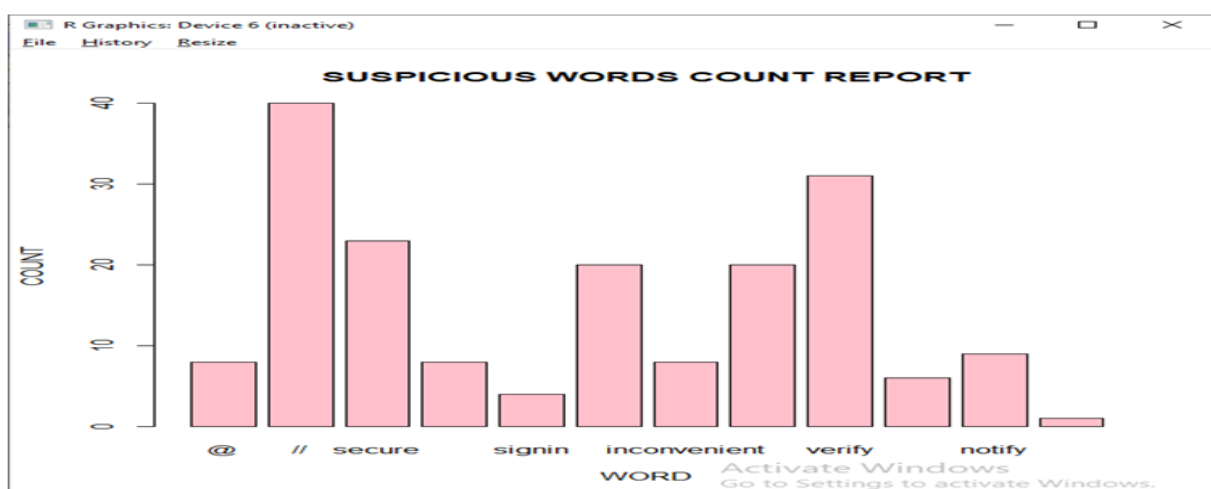
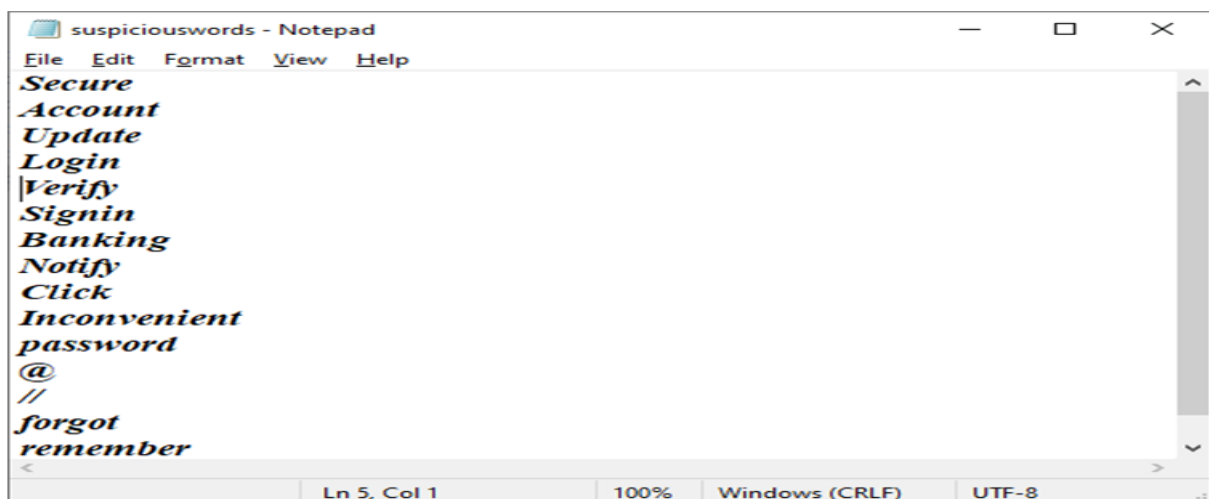
- 4. If the review posted by the user satisfies any of the above specified conditions then it will be considered as spam/fake reviews.
- 5. Once the review is detected as spam review or fake review, then user account will be blocked and review will be reported to the administrator.

### 5.RESULT AND DISCUSSION

#### SUSPICIOUS WORD

Causing one to have the idea or impression that someone or something is questionable, dishonest, or dangerous.

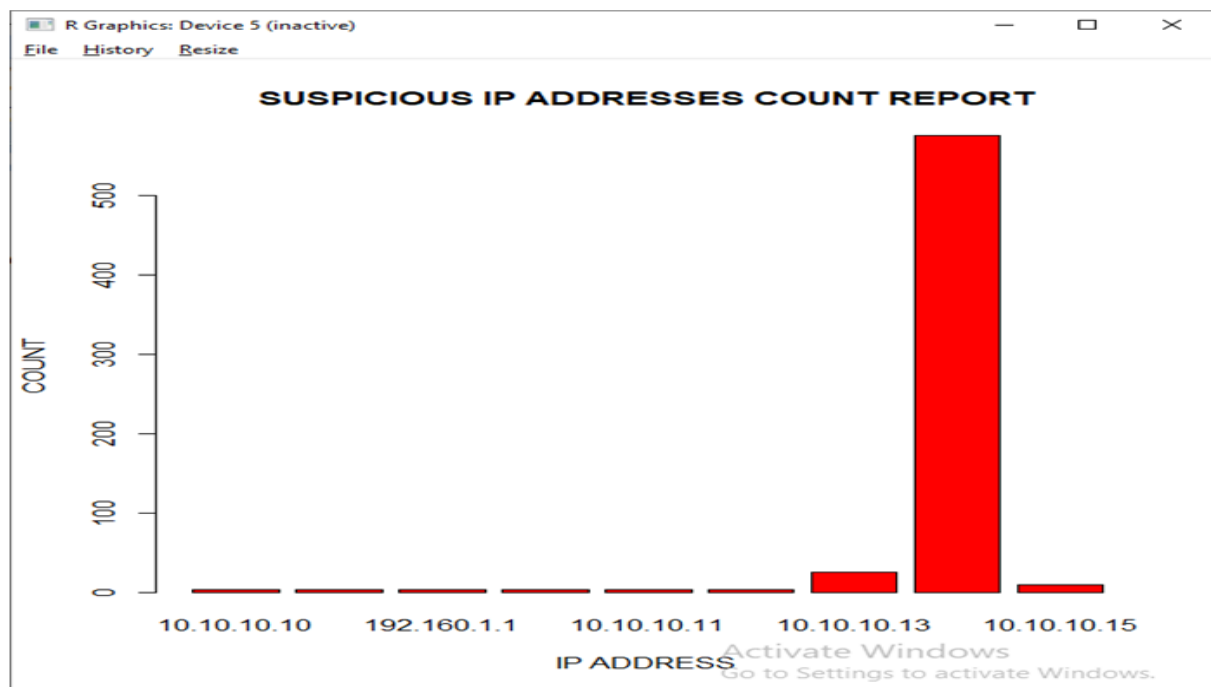
- 1 .Tending to arouse suspicion : questionable suspicious characters. 2 .Disposed to suspect : distrustful suspicious of strangers.
- 3 .Expressing or indicative of suspicion a suspicious glance.



Suspicious word count report

### SUSPICIOUS IP ADDRESS

It can be a number of things. For example if an IP address or range has been seen sending out a lot of spam, then it may be blacklisted as being suspicious. If an IP address or range has been seen exhibiting behaviour suggesting a device on it has been infected with malware, it could be deemed as suspicious.



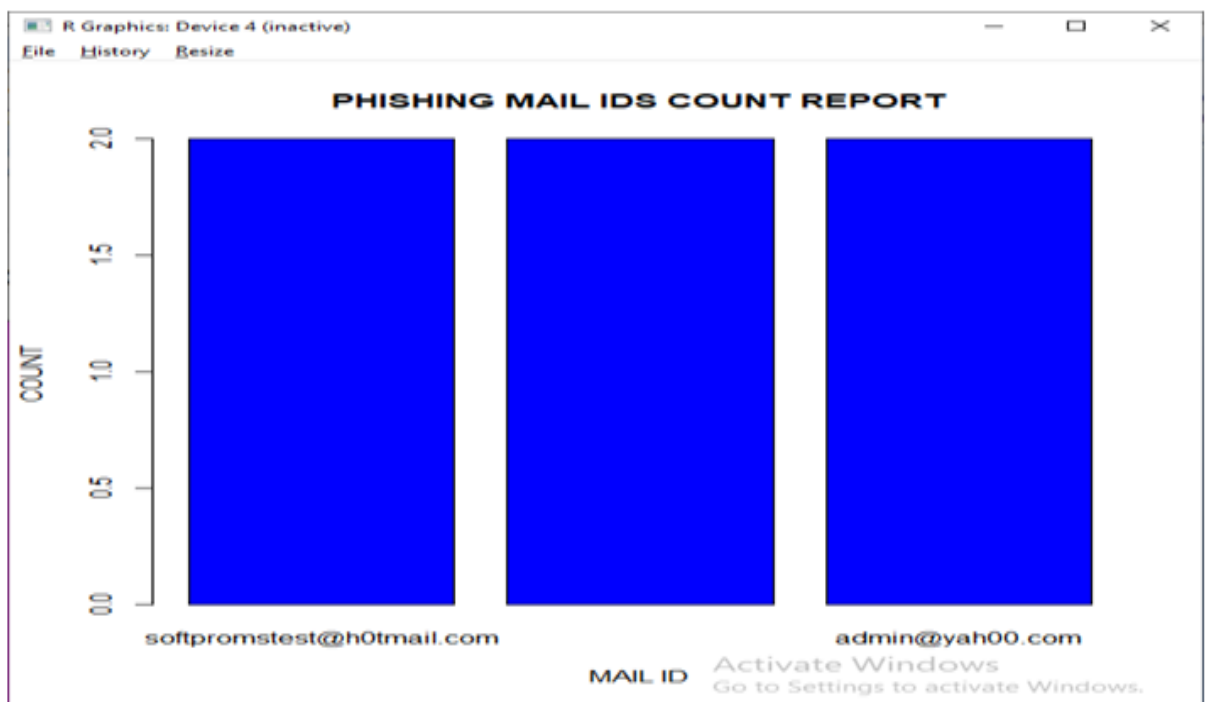
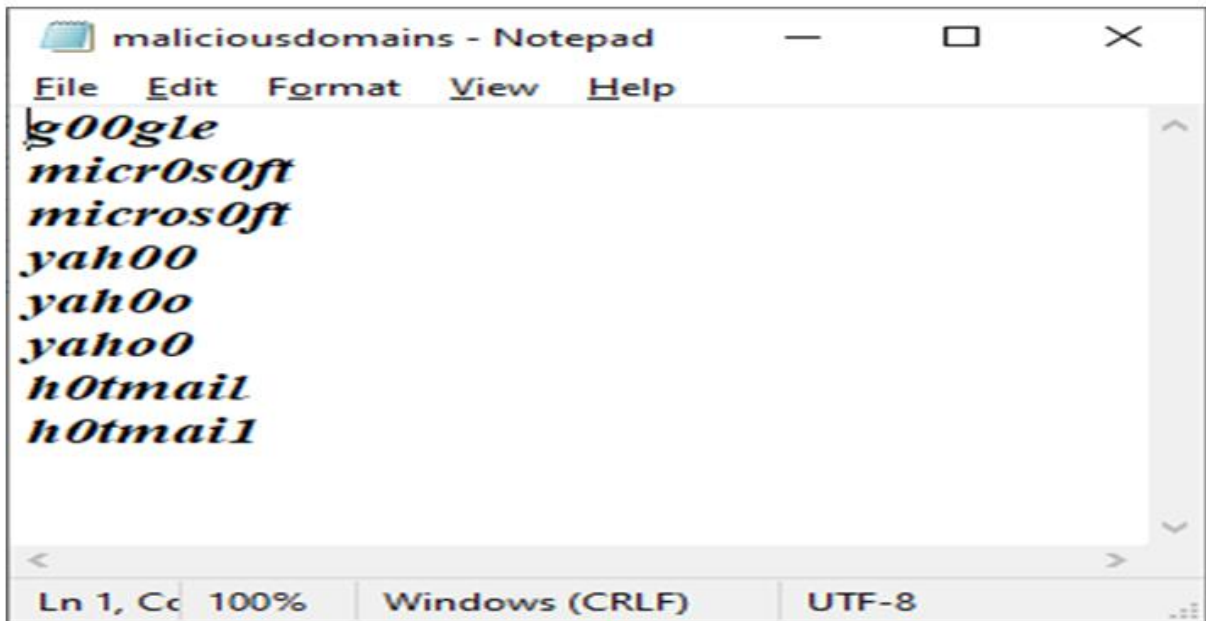
Suspicious IP addresses count report

### PHISHING MAIL IDs

Phishing is a type of online scam where criminals send an email that appears to be from a legitimate company and ask you to provide sensitive information. This is usually done by including a link that will appear to take you to the company's website to fill in your information

but the website is a clever fake and the information you provide goes straight to the crooks behind the scam.





Phishing mail ids count report



## 6.CONCLUSION

The usage of social media is increased day to day. The people keep on showing their interest towards the online shopping. And thus the fake review for products arises. The main motive of posting fake reviews is to mislead readers or automated detection system by promoting or demoting target products to promote them or to degrade their reputations. FRM will find out fake reviews made by the customers so that block them. Hence FRM proves to be a better solution for identifying the fake reviews for the products that are sold through online. Through FRM the fake product review comments occurred from malicious mail ids and ip addresses are found effectively.

## 7.FUTURE ENHANCEMENT

- The fake product review monitoring can be used in any of the real applications in order to prevent the fake reviews.
- Also, the product recommendation system can be enhanced better.
- FRM can be enhanced better in other field also.

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