Fraud Application Detection Using Sentimental Analysis

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Abstract:

The problem of fraudulent mobile applications has grown significantly in importance as a result of the quick development of mobile technology and the rising popularity of mobile applications. These malicious apps not only endanger user's devices but also steal personal information. To safeguard users from potential harm, it is crucial to track down and identify fraudulent mobile applications. With the help of sentiment analysis and the Naive Bayes classifier, SVM etc.., this project is developed for identifying fraudulent applications based on user reviews. The goal is to create a framework that uses data mining and sentiment analysis to analyse user reviews and find review-based evidence of fraud. This projectseek to evaluate the authenticity and dependability of mobile applications before users download them by utilizing sentiment analysis. The suggested method involves gathering user reviews from the Google Play store and classifying them as positive or negative using sentiment analysis. Based on the opinions expressed in the reviews, the Naive Bayes classifier, SVM etc.., is used to categorize applications as either legitimate or fraudulent. By giving users a tool to make educated decisions about the applications they download, this strategy empowers users. Users will be able to recognize fraudulent applications and steer clear of any risks involved with downloading them by putting this framework into place. While giving users a trustworthy way to distinguish between fraudulent and legitimate applications, the system will help to ensure the security and integrity of the mobile application market.

Keywords: SVM,Naïve Bayes Classifier,Fraud,Mobile Application,Sentiment Analysis.

1. INTRODUCTION

Ranking fraud has become a serious issue in today's quickly expanding mobile app market. With millions of apps to choose from, users frequently rely on app rankings to make informed decisions. This, however, makes them vulnerable to fraudulent practices in which low-quality or non-functional apps obtain high rankings through deceptive means. This project's goal is to provide users with a dependable platform for accessing app recommendations based on accurate and trustworthy data. This project

investigates the concept of ranking fraud in this paper and propose a robust detection system for mobile apps.

This project approach entails mining active periods using a leading session algorithm, which allows us to identify potential instances of ranking fraud. In addition, it investigates various types of evidence, such as ranking-based, rating-based, and review-based evidence, in order to develop a comprehensive fraud detection mechanism. Indeed it ensures the reliability and effectiveness of the system by analysing historical records and employing an optimal aggregation method. To validate the proposed solution, I personally ran experiments with real-world app data collected from the Google App Store over a long period of time. The results demonstrate the system's effectiveness in detecting ranking fraud, as well as the scalability of detection algorithms.

In summary, this project seeks to combat ranking fraud in the mobile app market by providing users with a precise and dependable method of app selection. This provides a robust system that improves user experience and protects against fraudulent practices by leveraging advanced techniques and analysing multiple evidences.

2. LITERATURE SURVEY

[1] Tejaswini Shingare, Madhuri Sancheti, Swaleha Shaikh, Jyoti Ugale, Prof.J.N.Kale, "Data Mining Techniques for Fraud Application Detection" Vol-3 Issue-2 2017.

This paper "Fraud Application Detection Using Data Mining Techniques" is upon the assumption examination and information mining to extricate the data set created. By utilizing this strategy, i will have the option to decide the value of the applications which are provided in Play store and App store. Such a proposed framework will contain a colossal sum of informational index that must be managed and utilizing information mining along with visual data will help in carrying out the system. Data or information mining is the path toward removing required data from generous enlightening assortments and changes it into a legitimate arrangement for some time later, essentially utilized for some, business based explanation. Slant Analysis is pitched into this methodology as a bit of it. Since it is the path toward looking at clarifications and gaining conceptual data from them. At an uncommonly crucial measurement, it is finding limit of the declarations

[2] Gauri Rao, Shashank Bajaj, Nikhil Nigam, Priya Vandana, Srishti Singh "Detection of Fraud Applications using Sentiment Analysis" Volume 3, Issue 5, May-2018.

In the paper "Detection of Fraud software using Sentiment Analysis" describes Rank deception in the compact Application promote, suggests blackmail/ misdirecting practices whose solitary article is to have a purpose behind hitting up the Applications in the noticeable quality rundown. It ends up being progressively relentless for Application architects to use horrible methods, for model, extending their Application arrangements or posting bogus App assessments, to give situating blackmail. It is indispensable to abstain from situating fraud as there is limited understanding and exploration in this field. Up to now, in this paper, i have given a thorough point of view of situating distortion and suggested situating blackmail distinguishing proof structure. Information mining is used in deciding extortion proficiently furthermore, that is the thing that will be propose and execute in this paper. By using different

information mining methods and calculations, it would get simpler for us to decide thebackend recovery of information. Extortion may be classified into several types, all of which make use of information mining. With the end objective of collection, coercion has been isolated into four general characterizations budgetary deception, media interchanges coercion, PC interference and assurance.

[3] Esther Nowroji, Vanitha, "Detection Of Fraud Ranking For Mobile App Using IP Address Recognition Technique", vol. 4.

In this paper "Detection Of Fraud Ranking For Mobile App Using IP Address Recognition Technique" ,The number of mobile apps available has increased as a result of the rapid growth of the mobile industry. Users can select to download apps from the Google Play and Apple app stores. Download software for a fee or without charge. An app's ranking is crucial since highly rated apps are more likely to be found by users than apps with lower rankings. Some app developers use unethical tactics to boost their app's ranking and receive high ratings. To detect rankings gained unlawfully, a ranking fraud detection system is therefore necessary. To uncover bogus ranks, My goal is to create and implement a ranking fraud detection system. The system gathers information regarding the app and user feedback, then aggregates and stores it in a database. Using this knowledge, the reviews go through preprocessing and sentiment analysis. In order to identify raking fraud, the results are compared against the app's rating.

3. EXISTING SYSTEM

The existing system manually collects and analyzes user reviews for fraud detection.Reviews are gathered from various sources without a systematic approach.Sentiment analysis is not performed systematically, relying on manual interpretation.Lack of standardized algorithms and techniques for fraud detection.Manual aggregation of insights and patterns from reviews is time-consuming and prone to errors.Limited visualization capabilities for presenting fraud detection results**.**

Limitations:

1. Inefficiency
2. Subjectivity
3. Inconsistencies
4. Human error
5. Limited insights

4. PROPOSED SYSTEM

The proposed system automates the collection of user reviews and utilizes advanced machine learning algorithms for accurate fraud detection. By systematically aggregating insights and patterns, that will enhance fraud detection accuracy. This system combines the predictions of multiple algorithms using fusion techniques, resulting in improved results. Visualizations such as charts and graphs facilitate easy understanding of fraud detection outcomes. With a user-friendly interface.This system enables efficient input, analysis, and result presentation.
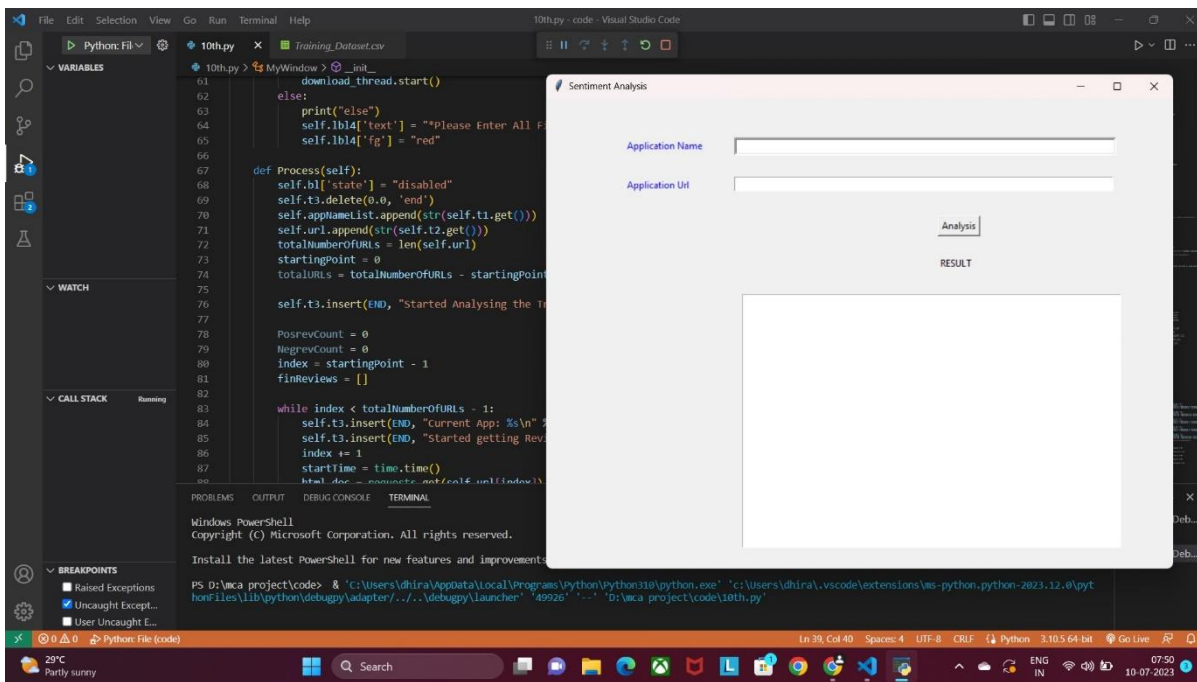
Advantages:

1. Automation
2. Accuracy
3. Reliability
4. Accuracy enhancement
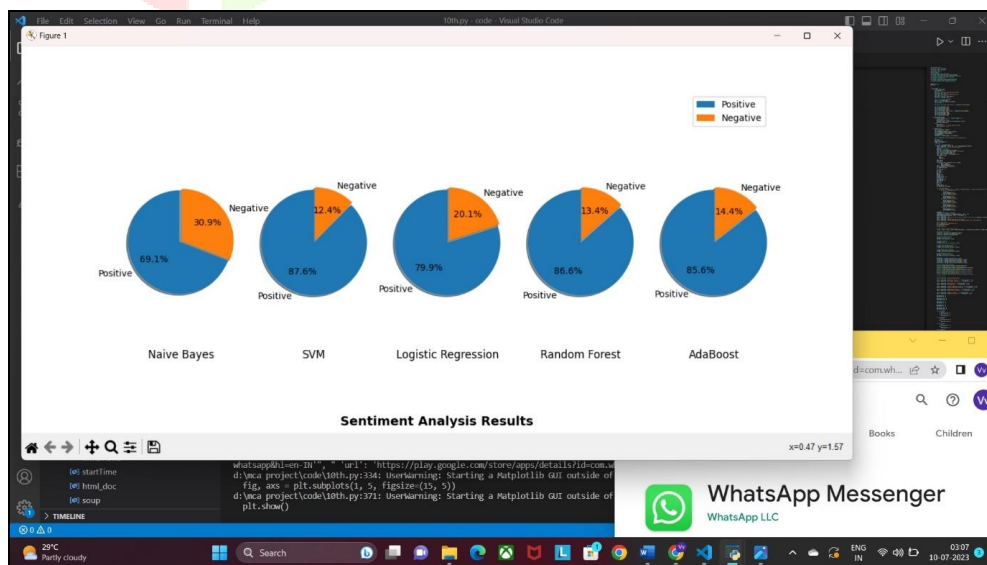5. Visualization
6. Usability

5. EXPERIMENTAL RESULTS

From the below figures it can be seen that proposed model is more accurate in order to prove our proposed system.
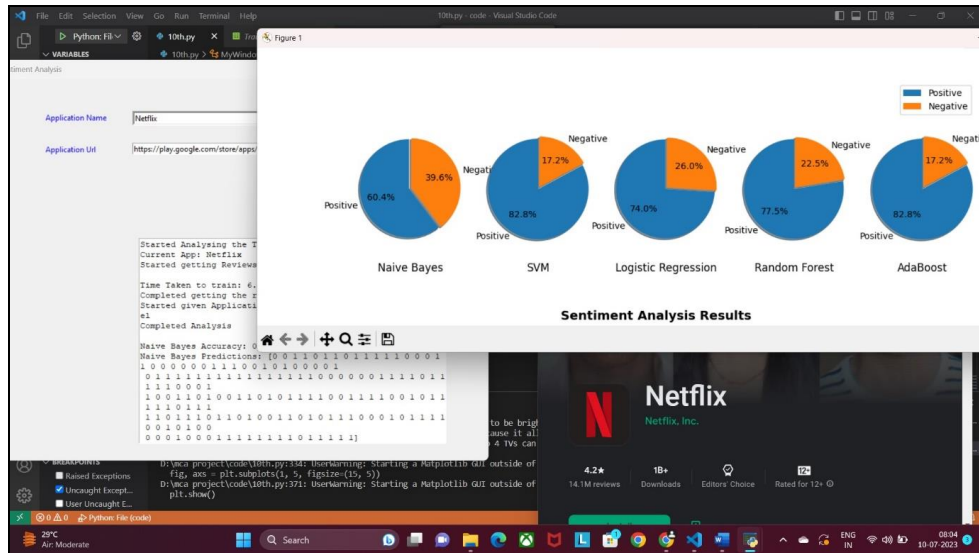
Output Design for Fraud Detection APP:

Output Window of Whataspp Messenger:

Output for Netflix:

6. CONCLUSION

In conclusion, the sentiment analysis-based fraud detection system that is being proposed has a number of advantages over the manual process that is currently in use. The system improves fraud detection accuracy and reliability by automating review collection, using systematic sentiment analysis, applying standardized algorithms, and implementing fusion techniques. Rich visualizations and an intuitive interface enhance usability and decision-making. The system's future potential includes integrating with more data sources, utilizing sophisticated sentiment analysis methods, detecting fraud in real-time, enhancing visualizations, continuously learning, and integrating with fraud prevention systems. These improvements will increase the system's power and give application platforms a complete fraud detection solution.

The proposed project can also be developed into an app such that it can be easy available to all the users. The evaluation also suitably builds up a better inclination representation strategy for characteristic testing. The practicality of the proposed strategy is demonstrated using tweet data as a relevant examination.The peculiarity estimation structures were adequately recognized and deciphered using the proposed strategy. More practical fraud evidence will be examined, as well as the hidden relationship between rating, review, and rankings. It will also be expanded to include alternative mobile App related services, such as mobile Applications recommendation, in order to improve user experience.

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