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SUSPICIOUS ACTIVITY DETECTION

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Abstract— **Crime is a global issue that can have a negative social and economic impact on a country. Controlling crime is a necessary first step. It is necessary for a country's wellbeing and long-term growth. We are well aware of the difficulty in identifying criminals and the sensitive regions that they are consistently harming in the digital world. Every country's police forces are constantly pacing themselves to keep up with crimes, criminals, and their methods. For police department personnel, the challenge of investigating a lot of data about crimes and offenders has grown significantly. Crime control is a laborious procedure that requires a methodical strategy in order to identify, investigate, and predict the offences that will assist lower the crime rate. In order to discover and analyse patterns and trends in crime, this article studies machine-learning-based crime analysis and reporting. Our algorithm can identify places with a high likelihood of crime and also depict crime-prone zones. Crime data analysts can aid law enforcement officials in hastening the process of solving crimes as more and more systems are being digitised. As a computer-based system, it will readily meet the needs of police stations and provide a solution to the issues they encounter. Both the user and administrative personnel of the Police Stations will profit from its correctness, security, reduced redundancy, lowered workload, backup facilities, and speedier information retrieval features.**

Keywords—Crime, Prediction, Reporting, Analysis.

I. INTRODUCTION

Criminal activity is a detrimental phenomena that affects both developed and developing nations globally. Criminal activity can have a negative impact on the economy, people quality of life, and well-being, which can result in social and societal problems. The public and private sectors may be forced to pay for the crimes and criminal conduct. For secure surroundings when individuals travel or relocate, public safety is a key consideration. In general, crimes occur because of a variety of factors, including particular reasons, human nature and behaviour, dire circumstances, and poverty. In addition, a number of variables, including unemployment, gender inequality, a dense population, child labour, and illiteracy, might contribute to an increase in violent crimes. Increased crime rates are strongly correlated with a variety of contexts, including commercial structures and municipal dwelling areas, in the expanding and crowded cities. In order for people to live peacefully and actively, a community must focus extensively on reducing crime. Corruption cannot thrive socially or economically in an environment of unrest. Therefore, it is crucial to analyse crime data and statistics in order to increase human safety and security while preserving sustainable growth.

- CRIME REPORTING

The software that makes it possible to file complaints online is known as the reporting system. Voice recording, a new feature that was included in our software to conform to the current system, enables the transcription of recorded speech into text and the transmission of that text to superiors. Additionally, a new component was added to allow people to file complaints in Hindi and English, their native languages. It offers time savings, data security, integrity, good backup, and data recovery. A new system that is computer-based can be suggested after a thorough analysis of the current one. Since computers are already among the most popular technologies, we suggest developing a computer based system that will meet the needs of police stations and provide a fix for the issues the police force is currently experiencing. The proposed system aims to eliminate all of the flaws and limitations of the existing one and enhance its responsiveness to user and management demands. We did our best to achieve all of the Police Department's goals in the proposed system. The main goals of the suggested system are to offer a quicker way to report crimes. The following characteristics are part of the suggested system:

1. To provide a secure system to users
2. Complaint registration
3. Online FIR System
4. Giving Feedback to users.

- CRIME ANALYSIS

Crime poses a serious threat to humanity. Many crimes occur frequently at regular intervals. Maybe it's growing and dispersing quickly and widely. From small towns and villages to large metropolis, crimes occur. There are many distinct types of crimes, including robbery, manslaughter, rape, assault, battery, and false imprisonment. There is a need to resolve cases much more quickly because crime is on the rise. The police agency is responsible for containing and decreasing the crime activities, which have increased at an accelerated rate. Given the vast amount of crime data available, crime prediction and criminal identification are the police department's two biggest issues. Technology is required so that case solving can be completed more quickly. Through extensive documentation and instances, it became clear that data science and machine learning can expedite tasks where the goal is to build a model for prediction.

Utilizing the training dataset, the test dataset will be used to validate the training. Depending on the accuracy, a better algorithm will be used to build the model. For crime prediction, the K-Nearest Neighbor (KNN) classification and other algorithms will be employed. The dataset is visualised to examine potential crimes that may have occurred in the nation.

II. LITERATURE SURVEY

The most recent studies on crime reporting and analysis can be divided into several categories. For instance, numerous studies emphasise the ecological factors, such as education, economic level, and unemployment to mention a few, underlying crimes, while simultaneously focusing on the spatial-temporal criminal event. According to recent literature, crime reporting and analysis rely on fresh types of data derived from social media sites such as Twitter and mobile phone records. All of these studies, however, primarily concentrate on the origin of crimes and then their effects. Here, we put a special emphasis on using a variety of strategies to generate significant accuracy across two sizable datasets.

III. EXISTING SYSTEM

- CRIME REPORTING

Currently, everything is done manually. All records are retained in documented form and are kept in various sorts of registers in the case of the current manual system. The manual system lacks a suitable method for keeping records and preserving data regarding crimes and criminals. The current police system is not automated. Criminal history records are manually documented. Some case files are kept on shelves, while others are piled up in heaps. These significant records soon become dusty, and some criminal records suffer severe damage from improper storage. With this kind of circumstance, it becomes extremely challenging, if not impossible, to locate a known criminal, access a suspect's prior criminal history, and learn the status of some closed cases. The entire file work is done by staff members in police stations, therefore the workload causes the criminal's information to be delayed. Additionally, there are issues with data redundancy, record updating, backup, and recovery.

- CRIME ANALYSIS

There are a few similar systems where the analysis of the crime is done in accordance with the host's instructions. For instance, if the host fed the algorithm with a specific type of crime-related data, the outcome would be primarily linked to the crime stated at that time. However, we can go a step further and create a system that analyses all types of crimes in one location and displays the crime rate data in the form of bar graphs, word clouds, graphs, and maps. Numerous different algorithms, such as the Naive Bayes Classifier, the neutral regression classifier, the linear regression classifier, the random forest regression, etc have been used to predict crime.

ALGORITHM	ACCURACY
KNeighbors Classifier	0.78734858681022879
GaussianNB	0.6460296096904441
MultinomialNB	0.45625841184387617
BernoulliNB	0.31359353970390308
SVC	0.31359353970390308
Decision Tree Classifier	0.78600269179004034

Accuracy with various Algorithms

Disadvantages Of Existing System:

To get any information, one must manually sift through massive amounts of data. The required Information search will take more time. It is necessary to refer large numbers of hard copies. There is no access anywhere. We have a serious problem with the rise in crime in our nation.

IV. PROPOSED SYSTEM

- CRIME REPORTING

To fix the issues with the current system, we create a computerised information system that does not have any of the difficulties with the institute's manual system. Since computers are currently one of the most popular technologies, we suggest a computer-based system that will easily satisfy the needs of police stations and be the solution to the issues they encounter. Both users and the administrative staff at the police stations will benefit from it. A computerised system offers speedier information retrieval, accuracy, and security while also reducing work burden and redundancy.

- CRIME ANALYSIS

We are introducing an application that will analyse past crimes committed by criminals in a certain location or region in the suggested system. This forecast is based on characteristics like criminal history, location, history, and other variables. We could use bar graphs to visualise the entire crime. We may develop this concept even further and forecast crime in certain locations or geographical areas. Our project's primary goal is to categorise crime in a certain location. to uniquely evaluate and understand crimes everywhere. to provide intelligent agents a good understanding of its environment. Building a model that can predict things is done through predictive modelling

A machine learning algorithm is used in the procedure to create those predictions by learning specific properties from a

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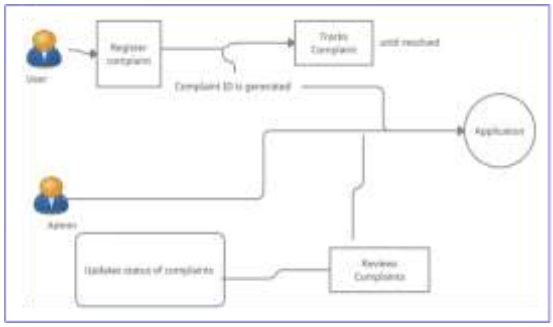
Vol-10 Issue-12 No.03 December 2020

training Data-Set. Benefits: The system has two applications for the police: Any new or weather event(s) can trigger an alert from the system that a crime is about to occur (within the next four hours). The system can be performed by the police once a day, and based on the forecasts, they can choose how to distribute resources (policemen) throughout the communities and districts.

A. Block Diagram

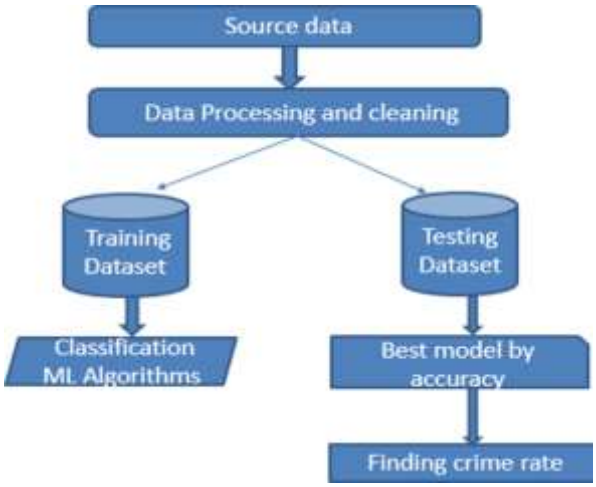
- CRIME REPORTING



B. Process Flow Chart

- CRIME ANALYSIS

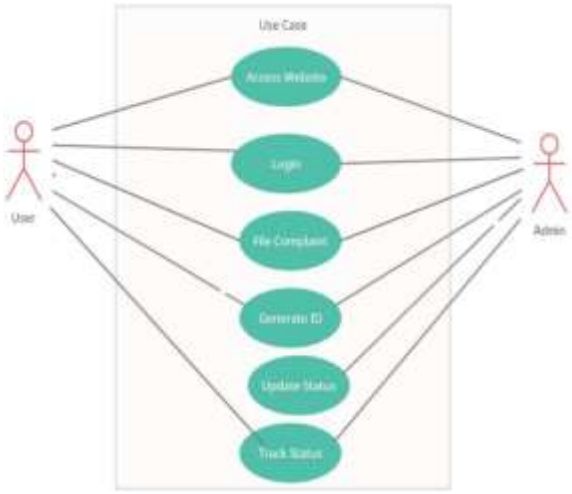
V.



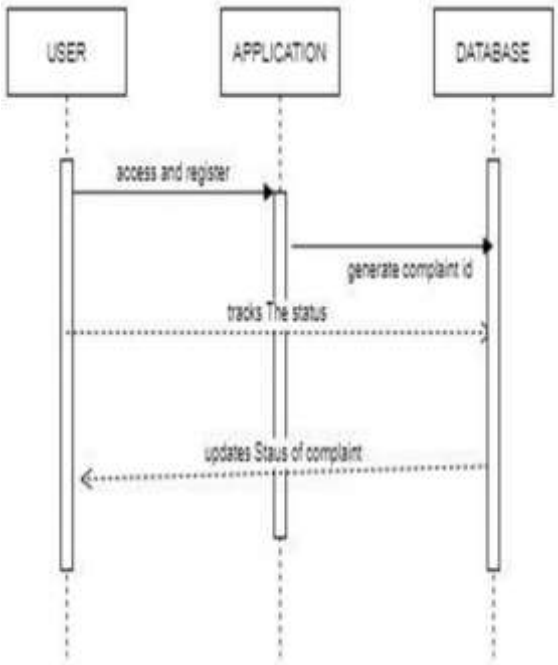
C. Uml diagrams

- CRIME REPORTING

USE CASE DIAGRAM



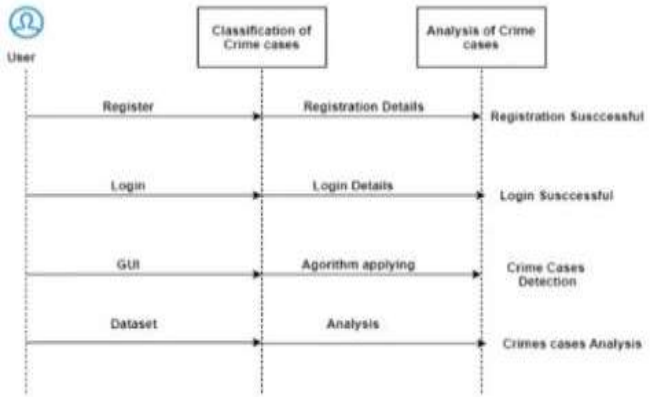
SEQUENCE DIAGRAM

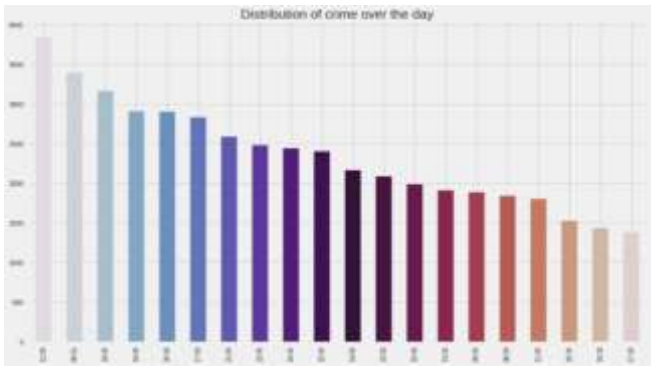


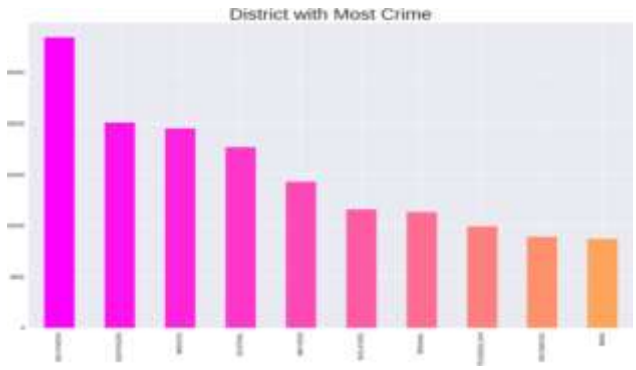
- CRIME ANALYSIS

SEQUENCE DIAGRAM

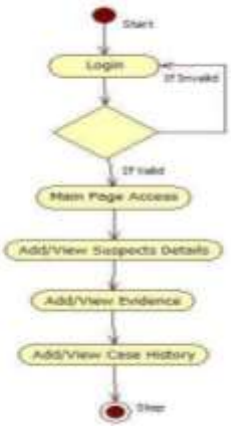
ISSN: 2278-4632
Vol-10 Issue-12 No.03 December 2020

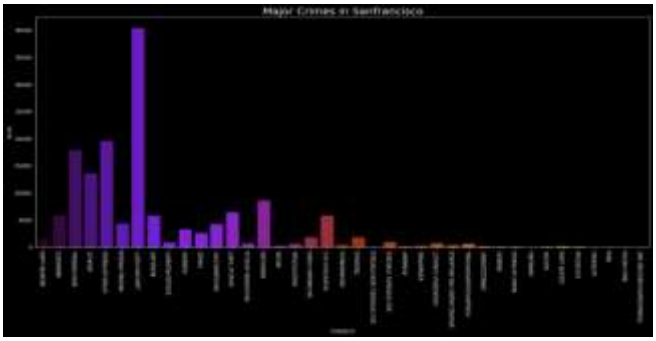


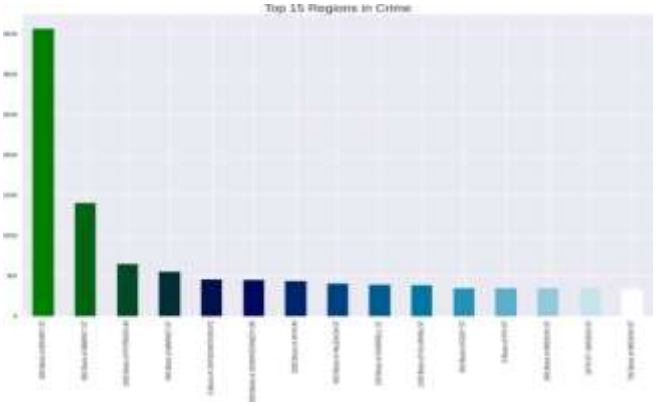




ACTIVITY DIAGRAM







V. RESULTS

- CRIME REPORTING

Using this website, users can file complaints about any cybercrime. Using the Speech-to-text format, even someone with no computer experience can access the website and file a complaint. This is a pretty straightforward technique for reporting cybercrime.

- CRIME ANALYSIS

VI. CONCLUSION

- CRIME REPORTING

This project is an online programme. The software offers the ability to report online crimes, make complaints, look for missing people, and display criminal information. This program's development team had scalability in mind. When required, additional modules can be easily added. The software was created in a modular fashion. The system's components have all been tested using both legitimate and erroneous data, and everything has turned out to be successful. As a result, the system has achieved all of its goals and may take the place of the current one. The project was successfully finished to the organization's full satisfaction. The restrictions are satisfied and successfully overcame. The system is created according to the decisions made during the design process. The project offers useful insight into creating a complete application that satisfies user needs.

- CRIME ANALYSIS

Data cleansing and processing, missing value, exploratory analysis, and evaluation were the first steps in the analytical process. Using training dataset that have undergone data cleansing and data transformation, we have developed a model using the machine learning concept. The programme is 100 percent accurate in predicting the type of crime. Data visualisation produced numerous graphs and discovered intriguing data that can help in capturing the elements that can contribute to society's safety. This study proposed a framework that described how machine learning and by combining computer vision and deep learning, a system that is far more helpful to law enforcement may be created. The technology in our suggested system will be able to do everything from track down crime hotspots to identify users based on voice notes.

VII. FUTURE SCOPE

- CRIME REPORTING

Tracking systems can be integrated with a wide range of technologies and are quite adaptable. As a result, the project can benefit greatly from numerous important upgrades. The current features are not very sophisticated, but we can make this project better in the future by implementing the following suggestions.

1. Multiple file support, We can eventually expand the tracking support to a wider range of file types by creating token injection mechanisms for various types of files.

2. Adding the Threat Level In the future, machine learning and artificial intelligence (AI) algorithms can be used to comprehend the threat level and behavior of the attacker and alert the user to take the necessary action.

3. Support for Multiple Platforms Instead of only using a web application, this application can be created as a desktop application, a mobile application for Android or iOS, or even a hybrid of the two.

- CRIME ANALYSIS

By identifying and analysing the methods of operation of specific criminals, recognising crime patterns, and providing analysis of data from field interrogations and arrests, crime analysis should provide currently useful information to aid operational personnel in meeting in tactical crime and prevention objectives.

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