ISSN XXXX XXXX © 2017 IJESC

Research Article Volume 7 Issue No.4

Criminal Investigation Tracker with Suspect Prediction

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Abstract:
Whenever a case against the crime is filed the investigation always starts from the scratch right away from the evidences found at the crime location and the eye witnesses present at the crime location. On the basis of the statement given by the eye witnesses about the crime and the criminal who committed that crime. The process of the investigations starts. As to reduce the stress of the police officers we implemented a system as criminal investigation tracker with suspect prediction that will help the officers to speed up the process of investigation and track status of ongoing case by predicting out the primary suspects on the basis of the records which consists of compendium of the people associated to the case, former criminal background proofs recovered from crime location, etc. This digitized system makes the work easy for an officer to check the status of the case online and even allows him to add up the new important information related to the case as it's when needed. The proposed system consists of suspect prediction algorithm to predict and suggest the suspects in the logical order.

Keywords: Suspects, Criminals, Decision Tree Pattern Algorithm

I. INTRODUCTION

Crime is an awful and illegal act against law for doing wrong things out of which someone can be punished by police authorities and government. A criminal is a person who has committed or is involved with any kind of crime. Crimes are a social nuisance and cost our society nearly in several ways. In our society the crime rate is growing very rapidly especially women are facing many of such crime problems. The reason for this might be the low pronouncement of guilt. About 10% of criminals commit 50% of crimes. This system helps in keeping over the patterns in crime scenario i.e. whether it is increasing or decreasing and if increasing then what are the problem areas. The first phase of the project gives the brief overview of the project and its objective. The main objective is to find and predict the probable suspect for the unsolved cases from the criminal records present in the database in the system. Here, in the initial stage the admin adds the officer to the system and then add them to a particular case that they are going to investigating individually. As the Officers are added to a particular case, the officer will add the details of the criminal in their database and once the information related to the criminal is over then the second phase would began. The second phase concentrates mainly over shaping the project towards its ultimate goal. Once, the data of criminal is added to the database the officers files the FIR and all the details of the victim and criminal is added. Herein, we concentrate on predicting the crime, how the crime had taken place with the help by using the decision tree algorithm. Their growth, depreciation and other associated results concerning the crime scenario. On the basis of the case type, belongings, land properties, relationships and other such aspects associated with the former crime logs involved and based on the respective information the prominent suspects are predicted and are suggested in a logical order.

II. LITERATURE REVIEW

Crime is basically "unpredictable" event. It is not constrained by space and time. It entirely depends on human behavior. There can be huge range of crime activities, for example, from illegal driving to terrorism attacks. Various activities performed by criminal generate large amount of information and again this information can be present in variety of formats. Because of this analysis of crime data becomes very difficult. Data mining is a useful process for extracting important information from large amount of data. In modern era criminals use more advance technologies to commit the crime, on the other hand there is inadequate use of technology in crime prevention and criminal identification. Since large data and more complex queries need to be processed, a more powerful system is required for the analysis of crime data. Crime Criminal Information System (CCIS), Crime and Criminal Tracking Network System (CCTNS) and a lot of such systems have been developed and are in use for making the crime investigation process easier. These systems have used different data mining techniques for the analysis of crime data.

III. PROPOSED SYSTEM

In this system, we have two login options. One for Administrator and another for Police Officer of the case. Administrator and officer needs credentials like use rid and password to login in to the system.

ADMINISTRATOR LOGIN:
In this login section, the main role of the administrator is to manage all the cases and have the access to view the case details and has the right to add the case officer to a particular case. The Attributes of Administrator are as follows:

Manage Officer: Here, the admin can add the police officer and can edit the details of the officers. The attributes for manage officers are: username, password, name of the officer, address, phone no, location, email id and image.

View Case: Here, the admin can be able to view the details of the cases.

OFFICER LOGIN: In officer login, the officer plays an important role in the system by adding the case and lodging the complaint about the criminal. The Attributes of officer login are as follows:

Add New Criminal: In this tab, the officer adds the suspect detail who would be involved in the crime. Officer can add the suspect by using following attributes:- Criminal name, address, age, gender, type of crime, location, evidence, crime month, crime year, time of day, suspect image.

Add New FIR: Here, in this field the officer add the details of case such as Case name, victim name, Type of crime, Location, Evidence.

Case Enquiry: In this case enquiry page, we have only one attribute as Select the case. When we select the case name we get the names of suspects which are related to the crime.

Final Case: Here, in this we have attribute as select the case.

Prediction: Here, in the prediction part we have attributes as Type of crime, location and evidence. When we select the type of crime, location and evidence we get the result of the case that who might be the suspect in the crime occurred.

IV. FLOW OF WORKING

Fig.1 shows the methodology i.e. flow of the proposed system. Here, as we see there are two logins i.e. 1st is Admin login and another is the Police login.In the Admin Login, we have the attribute as manage officer where the admin adds the officer to

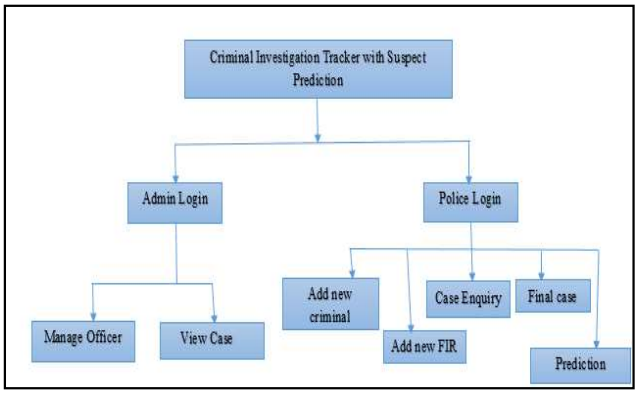

Figure.1. Workflow of Methodology

The system and for the case whereas in another attribute i.e. the view case attribute here, the admin can be able to view the cases present. In the Police Login, we have attribute as Add new criminal where we have to add the criminal name, address, age, gender, type of crime, location, evidence, crime month, crime year, time of day, suspect image by this the criminal information gets added to the system. At the next level i.e. Add new fir, the police adds the details of the case name i.e. what type of crime has happened, the name of the victim, type of crime, location and evidences that are been found on the location of the crime. Here, in this page we get the prediction about the suspect by using the algorithm known as Decision Tree algorithm. Another attribute is about the case enquiry, where the police can access the information about the case and can get the advanced information about the probable suspect of the case. The next attribute is the Final case, here in this we have to select the case name and we'll get the status of the case i.e. whether the case is completed or it is pending. Then at the detail of the case i.e. the suspect information we have an option i.e. to add the case for investigation or not and when we add the case for investigation we get the prediction about the crime that who is the major suspect in the crime. The final and the important attribute is the prediction part, here there are three main attributes i.e. we have to enter the type of crime, location and evidence of the case and when we'll click on the search button the result will be generated to us . The Algorithm used for this system is as follows:

A. Decision tree

Decision tree learning is a method commonly used in data mining. The goal is to create a model that predicts the value of a target variable based on several input variables. As mentioned above, the algorithm used for this system is decision tree. We compare the parameters in the database and from there we get the probable outcome.

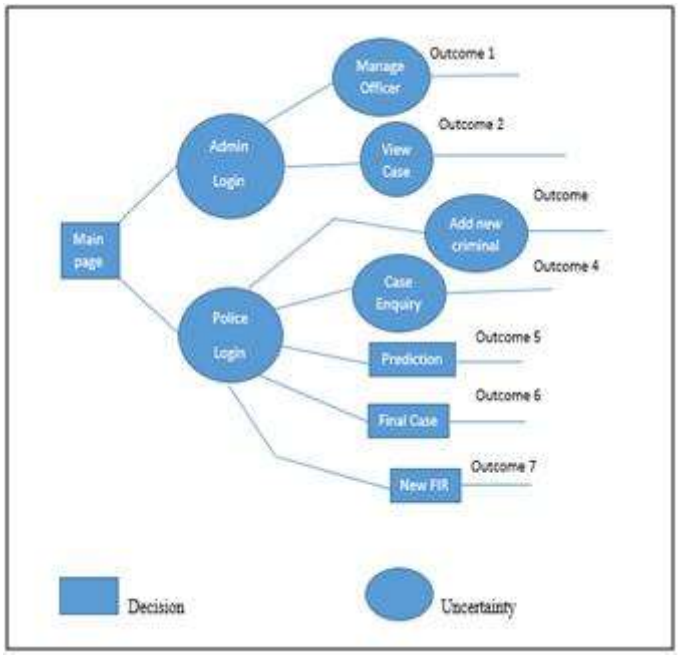

Figure.2. Decision tree

Here, in the fig 2. We see that in the police login part, there are 3 attributes i.e. the prediction, final case and the new FIR in this page we get the result of the case with the help of the algorithm decision tree. Firstly, when we add the new criminal details in New Criminal page, the details of the criminal gets added in the database. In the Add New FIR page, when we add the details of the criminal i.e. the name of victim, case name, location, type of crime, evidences and when we click on search button we get the result as

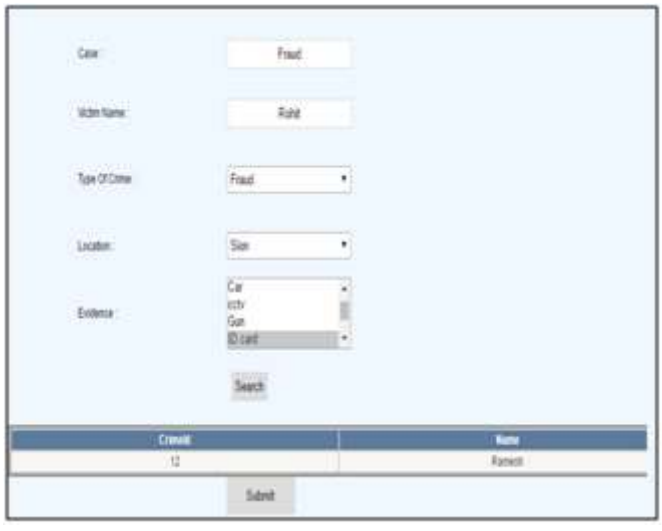

Figure.3. Add FIR form

And then click on submit button. At another stage i.e. the final Case, when we select the case name we get the details of the case and the status of the case is shown as Pending and once

when we click on add case for investigation the status will be change to completed as shown below

Figure.4. Final case form

Then click on new tab.
At the next stage i.e. the Prediction part when we enter the detail of the crime i.e. type of crime, location and evidence. We get the result as

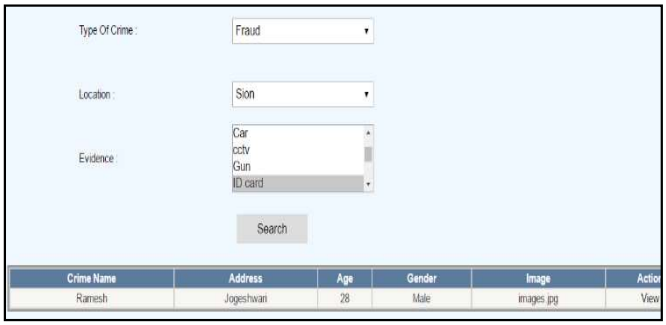

Figure.5. Prediction form

And when we click on view details we get the result as

Figure.6. View details form

B. Decision Tree Pattern

Decision trees used in data mining are of two main types:

Classification tree analysis: is when the predicted outcome is the class to which the data belongs i.e. shown in Fig. 2

Regression tree analysis: is when the predicted outcome can be considered a real number.

V. RESULTS AND DECISION

The implemented system helps in keeping over the patterns in crime scenario. From the criminal records present in the database, the officers can easily use the details and can investigate in the right track. This digitized system makes the work easy for an officer to check the status of the case.

VI. CONCLUSION

An endeavor has been made in this paper to propose a tracker system framework which sufficient to recognize the criminal through the dialog with the victims to help the law enforcement activities. Precision and accuracy of the proposed system is highly dependent on the perception of the eye witnesses.

VII. REFRENCES

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