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Online complaint system for Cybercrime

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Abstract - *Technology refers to the knowledge and utilization of tools, techniques and systems in order to serve a bigger purpose like solving problems or making life easier and better. Its significance on humans is tremendous because technology helps them adapt to the environment. The development of high technology including computer technology's Internet and the telephone has helped conquer communication barriers and bridge the gap between people all over the World. In a broader sense, technology affects societies in the development of advanced economies, making life more convenient to more people that have access to such technology. This paper is about "Online complaint system for cybercrime". Conventional methodology of a police complaint takes a great deal of effort and time .In a case of cybercrime, one of the biggest threats to a person or an entity now a day. The time wasted on conventional methodology helps the criminal in covering his track. Hence, the time and money of the victim is wasted, a criminal is free, and law enforcement gets blamed. In order to change this scenario we are trying to develop an app which will significantly reduce the processing time of a complaint and enable law enforcement to apprehend the criminal. We have explained SQLite database and android in this paper.*

Key words: **Android application, database, online complaint, cybercrime**

1. INTRODUCTION:

Cybercrime has increased at rapid strides, due to the rapid diffusion of the Internet and the digitisation of economic Activities. **Hence, to define cybercrime, we can say, it is just a combination of crime and computer. To put it in simple terms 'any offence or crime in which a computer is used is a cybercrime'** In a cybercrime, computer or the data is itself the target or the object of offence or a tool in committing some other offence, providing the necessary inputs for that offence. All such acts of crime will come under the broader definition of cybercrime. Internet usage is growing daily in this world. The World Wide Web sounds like a vast phenomenon but surprisingly one of its qualities is bringing the world closer making it a smaller place to live in for its users. It has also managed to create problem for people who spend long hours browsing the Cyber World – which is cybercrimes. While law enforcement agencies are trying to tackle this problem, it is growing steadily and many people have become victims of hacking, theft, identity theft and malicious software. One of the best ways to avoid being a victim of cybercrimes and protecting your sensitive information is by making use of incapable security that uses a whole system of software and hardware to authenticate any information that is sent or accessed over the Internet.

In this paper we have proposed the idea keeping in mind that people face during registering complaint manually at any police station. After getting no response from police on manually registered FIR we have to go to the higher authority for further action, for that we have to go through procedure like fill the complaint form and then wait for the appointment date. While doing this we have to face many hurdles. Though this process is time consuming and requires money investment, satisfied output is not sure. Below given Fig (A) shows the report of cybercrime that are manually complaint and action taken on it. Therefore, we are developing a system for the victims of cybercrime called **"Online complaint system for cybercrime."**

1.1 Types of Cybercrimes:

When any crime is committed over the Internet it is referred to as a cybercrime. There are many types of cybercrimes and the most common ones are given below:

1. Identity theft:
2. Ransomware
3. DDoS
4. Spam and Phishing.
5. Malvertising

1. **Identity theft**
   The term identity theft used, when a person appears to be false to other person, with a view of creating a fraud for financial gains. When this is done online on internet is called as internet identity theft.

2. **Ronsomware**
   Ransomware enters in your computer network and encrypts your files using public-key encryption, and unlike other malware this encryption key remains on that hacker's server.

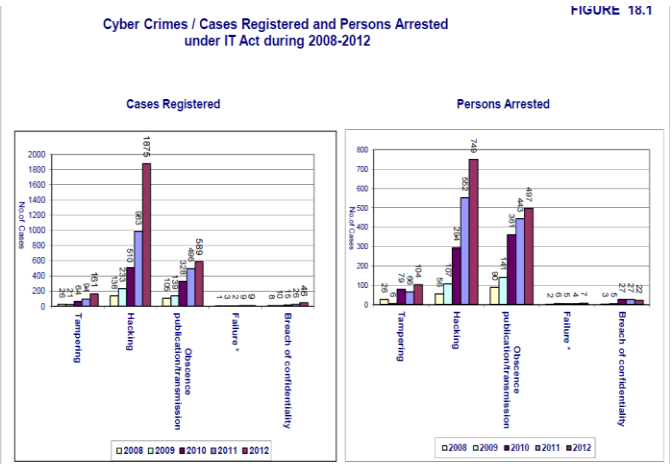
3. **DDoS**
   DDoS attacks are used to make an online service unavailable and bring it down, by bombarding or overwhelming it with traffic from multiple location and sources.

4. **Spam and Phishing**
   Spam is an unwanted emails and messages. Phishing is the method where the cyber-criminal offer baits so that you take it and give out all information they want.

5. **Malvertising**
   Malvertising is a method where user downloads malicious code by simply clicking at some advertisement on any websites that is infected.
   Hacking, copyright, infringement, child pornography, child grooming these are the other high profile cybercrimes.

1.2 Ic3:

The mission of the Internet Crime Complaint Center (IC3) is to provide the public with a reliable and convenient reporting mechanism to submit information to the FBI concerning suspected Internet-facilitated criminal activity and to develop effective alliances with industry partners. Information is processed for investigative and intelligence purposes for law enforcement and public awareness.
The 2014 Internet Crime Report highlights the IC3's efforts to prevent and reduce the prevalence and impact of Internet crimes, and reveals at least two budding Internet crime trends. First, the increased use of social media has provided a quintessential goldmine of personal data for perpetrators. More victims are submitting complaints documenting how social media was utilized to perpetrate frauds, or indicating the perpetrator initiated a relationship through social engineering. Second, the emerging popularity of virtual currency has attracted perpetrators, who are capitalizing on the vulnerabilities of the digital currency systems.



2. Requirements for filling form:

Cybercrime is a criminal activity which is carried on by the use of computers and the internet. Some of common cybercrimes are hacking, cyber stalking denial of service attack, virus dissemination, software piracy, credit card fraud and phising. To tackle the issue of cybercrimes, CIDs (Criminal Investigation Department) of various cities opened up Cyber Crime Cells in different cities. The information Technology act of Indian states clearly that when a cybercrime has been committed, it has a global jurisdiction and hence a complaint can be filed at any cyber cell.

Step1:- One may need to provide name, mailing address and telephone number along with an application letter addressing the head of a cybercrime investigation cell when filing a complaint.

Step2:- One must provide certain documents in order to register a complaint. List of documents varies with the type of cybercrime. In case of hacking following information should be provided:

1) Server Logs
2) A copy of the defaced web page in soft copy as well as hard copy format, if victim's website is defaced. If data are compromised on the victim's server or computer or any other network equipment, soft copy of original data and soft copy of compromised data.
3) Access control mechanism details i.e. - Who had the access to the computer or email of the victim?
4) List of suspects if the victim is having any suspicion on anyone.
5) All relevant information leading to the answer to following questions.

- What is compromised?
- Who might have compromised the system?
- When was the system compromised?
- Why might have been the system compromised?
- Where is the impact of the attack identifying the target system from the network?
- How many systems have been compromised by the attack?

In case of the e-mail abuse, vulvar e-mail, etc. the following information should be provided:

- The extended headers of offending e-mail.

The offending e-mail from.

3. Technology used

3.1 Android:

Android is an operating system (OS) designed basically for touchscreen mobile phones. It is based on the Linux kernel and currently being developed by Google. Android's user interface allows direct manipulation, using touch gestures, swiping, tapping and pinching, to manipulate objects on the screen, virtual keyboard for textual input.

Applications that are more popularly known as "apps", extend the functionality of devices. They are written using the Android SDK (software development kit) and mostly use the Java programming language which provides complete access to the Android APIs.

3.2 SQLite Database:

SQLite is an open source SQL database that stores data to a text file on a device. Android comes in with built in SQLite database implementation.

SQLite supports all the relational database features. In order to access this database, you don't need to establish any kind of connections for it like JDBC, ODBC etc.

Android uses SQLite database management system. For database operations are available classes SQLiteOpenHelper, SOLiteDatabase and Cursor. The main package is android .database.sqlite that conatains the classes to manage your own databases. To create a new database it is used a class derived from SQLiteOpenHelper abstract class. There are two methods that need to be implemented: on Create() and onUpgrade():

- Void onCreate (SQLiteDatabase db) is called to create the database; the function body contains the code to create tables and other database objects (VIEW, TRIGGER etc.);
- Void onUpgrade(SQLiteDatabase db, int olVers, int newVers) – is called when the database structure is modified (tables and other database objects).

The SQLiteDatabase class implements database operations. An instance of SQLite Database is obtained by calling getWritableDatabase() or getReadableDatabase() methods available SQLiteOpenHelper class and all classes derieved from it.

Databases created by an android application are accessible only to that application. To access by other applications content providers are used.

Also in the class SQLiteDatabase includes specialized methods for:

- Adding records : insert();
- Deleting records: delete();
- Changing records: update();
- Data queries : query();

4. Conclusion:

We have to face many problems while complaining conventionally. Here we tried to reduce the time consumption and money of a victim as well as to get justice. This paper aims to help the public and the police officers alike. The updates about case details are notified directly to the complainant through the application. The

ease of access of the android application by the citizens of India will encourage a more judicial and lawful society.

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