

Cyber security a challenge to developers, is face recognition technique a solution to this problem?



Computer Science

KEYWORDS :

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ABSTRACT

The communication devices such as mobiles, computers are necessary for information processing. The fastness and mobility of these devices attracts the users. The world becomes ever more connected because of new technologies and with respect to that the users are increasingly at risk of being hacked. Today the network is used for all most all type of transactions it may be a confidential or financial. In one way new technologies are solving problems on the other way they are giving birth to new challenges that is "Cyber Crimes". Face recognition can be a potential technique against Cyber crimes.

1.Introduction

Cyber-Crime('Computer Crime') is a term for any illegal activity that uses a computer as its primary means of communication. Today more research is needed for securing the cyber from the unauthorised people. anything with an IP address or URL can be hacked. Not all disasters result from floods, and power failures. It can also come about from massive data theft by means of cyber crimes.



Every day, there are hundreds of online attacks, and their sophistication is growing with hackers. More and more targeting an individual or a specific corporation. The reason behind these cyber crimes may be personal or it may be a challenge to the developers and the users of the communication network but the network world is facing economic, software and hardware damages. People are witness of cyber attacks which have the capability of halting websites. The stock markets momentarily plummeted after cyber criminals sent out bogus tweet from an associated press twitter account saying that president had been injured in the explosion.

2.Categories of cyber crimes

Following are the categories of cyber crimes.

2.1 Piracy: the act of copying copyrighted material. Online theft is defined as any type of 'piracy' that involves the use of the internet to market or distribute creative works protected by copyright.

2.2 Hacking: the act gaining unauthorised access to a computer system or network. Hacking is also the act by which other forms of cyber-crime are committed.

2.3 In School: the potential intentional or unintentional misuse of this tool by the school children's is a problem. The internet can open a dangerous window of accessibility for children's who are unaware of the consequences of irresponsible use.

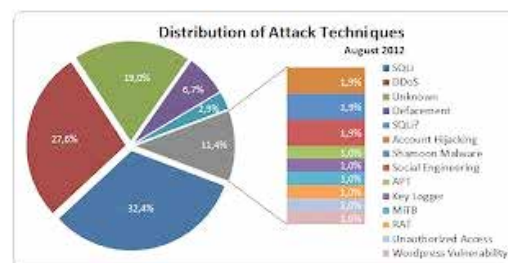
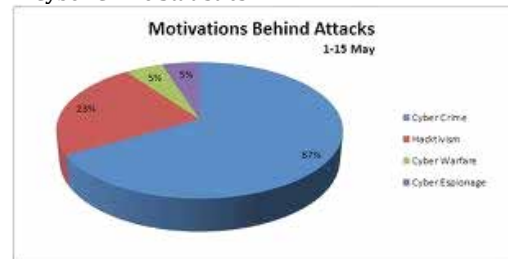
2.4 Cyber-Terrorism: violence against persons or property, or at least cause enough harm to generate fear are to be considered cyber-terrorism attacks.

2.5 Financial: crimes which disrupt business ability to conduct e-commerce.

3.Cyber Crime Fact details as below

- 25% cyber crime remain unresolved.
- 75 Million Scam Emails are sent every day claiming 2,00 victims.
- 73% of Americans have experienced some form of cyber crime and (65% globally) do the same.
- 10.5% of the world's Hackers from the UK.
- 66% of the world's hackers are American.
- 7.5% are Nigerian.
- Brazil suffers more than any other country with 83% of the population having suffered from internet crime.
- the Average Internet Crime will cost the Victim \$ 128.
- 78% of Americans feel that cyber criminals will not be brought to justice and only 2% expect to escape cyber crime in their lifetime.

4. Cyber Crime Statistics



5. Reason behind the success of any Cyber-Crime

One of the big reason behind cyber crimes is the old style of protecting the information and systems. Peoples still use passwords and pin codes for saving their accounts in the network world. But these password and pin codes can be theft and decoded easily. To protect the systems today's requirement is such an technique which cannot be theft by other. Face Recognition techniques can be deploy with the computer network systems. Face recognition methods have the primary goal of identifying the users of the devices.

We can use human face as the password for entering the computers. People definitely cannot use other persons face to enter the computer system and commit a crime.

6. Face Recognition System

Basic concept of face recognition system is identifying the peoples/users. As the system captures the user face with its devices or when it get the face as password for entering the system/website it matches the face with faces which are stored in the database. The database contains all users face picture as well as the face pictures of suspected peoples with different poses and different angles. Once the given face matches with any of the database face the access in to the system/website is permitted otherwise the system asks for the correct face. So instead of permitting text password for entering the system/website. Website should maintain the visitors record so that when the crime is detected the person can be identified.



Data base of faces



Face recognition brings in several problems which are completely unique to this domain and which make it one of the most challenging in the group of machine learning problems.

- **Illumination problem** – due to the reflexivity of human skin, even a slight change in the illumination of the image can widely affect the results.
- **Pose changes** – any rotation of the head of a person will affect the performance.
- **Time delay** – of course that due to the aging of the human individuals, the database have to be regularly updated.

7. Conclusion

The survey found that only half of the enterprises were aware of the cyber security strategies. There is a clear need to raise both awareness and the protection of software embedded in products. The technology remains in its infancy. Yet cyber experts believe it's only a matter of years and research dollars until computer can identify almost anyone instantly.

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