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Providing Security Using Honeywords

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ABSTRACT

Jules and Rivest proposed honeywords (decoy passwords) to detect attacks against hashed password databases. As per the law, each password has several honeywords in order to secure the account from the fraud users. If honeywords are selected properly, a cyber-attacker who steals a file of hashed passwords cannot be sure if it is the real password or a honeyword for any account. Entering with a honeyword to login will trigger an alarm notifying the user about a password file breach. He will get the log list of all the honeword passwords entered by the attacker, he will be notified and will request him to change the current password. How can you come to know if your password is stolen or not? The answer is no u dont. This is the reason why we will be providing a log file. Password cracking is getting faster day by day.Bots are well programmed that they can crack any passwords by using probability combination method. To avoid this combinational password cracking we are using honeywors and when the attacker enters the honeyword he will be redirected to honey pot where the fake data files are stored .honey pot will be managed by the administrator. This will reduce brute force attacks secure server called honeychecker which can distinguish a user real password among honey words of each user.

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I. INTRODUCTION

Disclosure of password files is a severe security problem that has affected millions of users and companies like Yahoo, RockYou, LinkedIn, eHarmony and Adobe since leaked passwords make the users target of many possible cyber-attacks.[1] These recent events have demonstrated that the weak password storage methods are currently in place on many web sites. For example, the LinkedIn passwords were using the SHA-1 algorithm without a salt and similarly the passwords in the eHarmony system were also stored using unsalted MD5 hashes.[2] Indeed, once a password is stolen, by using the password cracking techniques like the algorithm of Weir et al.it is easy to capture most of the plaintext passwords. In this new security world, we may have to secure our password and password strategies through online attacks on system or on enduser.[1] Generally the passwords are the most dominant form of online authentication and likely to remain so for a while despite their weaknesses. Basically a simple but clever idea behind the study in the insertion of false password is called honeywords associated with users account. Passwords

Must be protected with their hash values computed through salting this can be done by honeywords .Using honeywords can prevent hackers from breaching your website and stealing your passwords, but it will also alert the operators of the website that a breach may have occurred. In order to provide the security and password, we use honeywords.

Honey word is a technique in which it sets multiple possible passwords for each account, only one of which is genuine. The others we refer to as honey words. Example of honey words are 6 million hashed user passwords stolen from LinkedIn in 2012 and another example are hashed passwords of ever note 50 million users passwords werstolen in 2013.[3] The common defense approaches are to make password hashing more complex and time consuming. Set up fake user accounts (honeypot ac-counts). Generally, a

honeypot consists of data that appears to be a legitimate part of the site but is actually isolated with the original data.[2]

II. LITERATURE SURVEY

The real passwords are often weak and easily guessed so we use the essential honeyword concept.basically Our project is to provide security to the data files by using honewords approach.The real passwords are often weak and easily guessed so we use the essential honeyword concept.Password cracking is getting faster day by day.Bots are well programmed that they can crack anypasswords.This honeword approach will increase the security level one step ahead.[1]

Todays existing system is weak and not capable to fight with changing security decoy todays system only sends out the message that you have been encountered with unauthorized user or a person but doesn't tell who has attacked and what are the methods of attacking.[1] Example: Gmail only notify its user that he has be logged in from another account and from specific device. Nowadays Gmail notify its user that he has be logged in from another account and from specific device. But in our project we are trying to provide security to another level by making user aware about his account was tried to log in by any attacker using honeywords and what combination and password were used so that the user can either change the password or report it to the admin to provide some extra security by using latest algorithms.[2]

Password leaks are becoming a common occurrence on the internet with several large scale leaks happing every year. These leaks have revealed the poor practice many companies employ when storing their passwords.[1] The use of an honeychecker thus forces an adversary to either risk logging in with a large chance of causing the detection of the compromise of the password hash le F, or else to attempt compromising the honeychecker as well. The use of honeywords may be very helpful in the current environment, and is easy to implement.[2] We attempt to measure how hard an attackers task is to complete, Assume the password file is stolen and all hashes are reversed , Attacker must then determine the real password from a set of sweetwords , Additional information about the user is not provided.[3] User authentication protocol named oPass which leverages cellphones and SMS to thwart password stealing and password reuse attacks. We assume that each website possesses a unique phone number.[4] The predefined bound of the number of maximum ciphertext classes. In cloud storage, the number of ciphertexts usually grows rapidly. So we have to reserve enough ciphertext classes for t he future extension[5].

III. MODULE

- **Honeyword**

Basically a simple but clever idea behind the study in the insertion of false password is called honeywords associated with all users account. Passwords must be protected with their hash values computed through salting this can be done by honeywords. Using honeywords can prevent hackers from breaching your website and stealing your passwords, but it will also alert the operators of the website that a breach may have been occurred.

- **Honeypot**

Honeypot is a computer security mechanism set to detect, deflect, or, in some manner, counteract attempts at authorized use of information systems. Generally, a honeypot consists of data that appears to be a legitimate part of the site but is actually isolated with the original data. These data's are maintained by the administrator himself these data's are
fake through which the attacker can be trapped by given access to the fake files rather than trying to stop him.

IV. PLATFORMS

- Editor-Net Beans
- Language - Java
- Database-My-Sql
- Server-Glassfish Web server 3.1

- **Honey Checker**

Used to compare and check the index address of the password stored with the original database to retrieve the genuine password. But which data file?? yes the fake data files stored in the honeypot. This is the actual working of our project and in with this approach we will be providing security using honeywords.

V. ARCHITUCTURAL MODEL

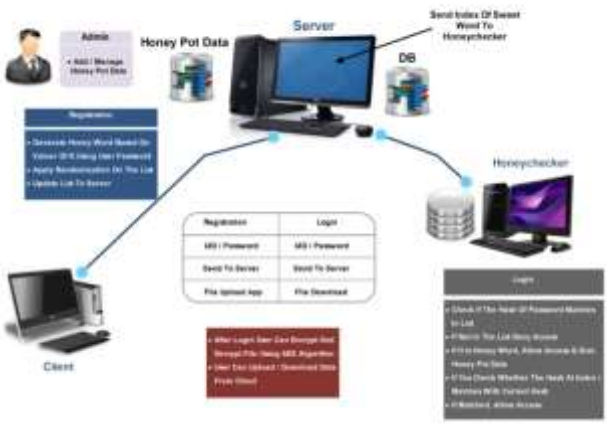

Fig. 1. System Design Architecture

Admin will be the one who will maintain the fake data files of the Honey Pot. Our project is divided into two phase registration phase and login phase. In registration Phase the user will registers himself, and the honeyword will be generated on the value of K using user password and randomization of those honeyword will be done and the user id, password will be sent through the server and will be stored in the database, during honeyword randomization before sending it to the database the index of the original password will be stored in the honeycheker so that wen the user logs in he should not enter into honeypot.

Next phase will be login phase when a genuine user will try to log in the following conditions will be checked,

- It will check the hash of the password matches in the list
- If not then it will deny accesses.
- If it is a honeyword ,Allow Access and give honey pot data.
- If yes check whether the hash at the index i matches with current hash
- If matched ,Allow Access

After login, user can encrypt or decrypt using AES algorithm, user can even upload or download data from cloud. Now when the attacker tries to login he will attack the data base and he will gain all the honeywords. Now when he will enter the honeyword he will directly get access to the data file

VI. CONCLUSION

Password leaks are becoming a common occurrence on the internet with several large scale leaks happening every year. These leaks have revealed the poor practice by many companies when storing their password. However there are several security measures that can be put in place to increase the security password hashes. To protect our organization from hijacked systems it is important to keep the security up to date and advanced. To secure a computer system, it is important to understand the attacks that can be made against it, necessary measures to be taken well in advance to avoid any threats in future.
We want user to know about the attack that has taken place on them by making them aware. So in this project we are not going to avoid leaking but we are going to prevent it by using Honeywords.

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