

WEB PHISHING DETECTION

Literature Survey On The Selected Project & Information Gathering

In this activity you are expected to gather/collect the relevant information on project use case, refer the existing solutions, technical papers, research publications etc.

H. Huang et al., (2009) proposed the frameworks that distinguish the phishing utilizing page section similitude that breaks down universal resource locator tokens to create forecast preciseness phishing pages normally keep its CSS vogue like their objective pages.

S. Marchal et al., (2017) proposed this technique to differentiate Phishing website depends on the examination of authentic site server log knowledge. An application Off-the- Hook application or identification of phishing website. Free, displays a couple of outstanding properties together with high preciseness, whole autonomy, and nice language-freedom, speed of selection, flexibility to dynamic phish and flexibility to advancement in phishing ways.

Mustafa Aydin et al. proposed a classification algorithm for phishing website detection by extracting websites' URL features and analyzing subset based feature selection methods. It implements feature extraction and selection methods for the detection of phishing websites. The extracted features about the URL of the pages and composed feature matrix are categorized into five different analyses as Alpha-numeric Character Analysis, Keyword Analysis, Security Analysis, Domain Identity Analysis and Rank Based Analysis. Most of these features are the textual properties of the URL itself and others based on third parties services.

Samuel Marchal et al. presents PhishStorm, an automated phishing detection system that can analyze in real time any URL in order to identify potential phishing sites. Phish storm is proposed as an automated real-time URL phishingness rating system to protect users against phishing content. PhishStorm provides phishingness score for URL and can act as a Website reputation rating system.

Fadi Thabtah et al. experimentally compared large numbers of ML techniques on real phishing datasets and with respect to different metrics. The purpose of the

comparison is to reveal the advantages and disadvantages of ML predictive models and to show their actual performance when it comes to phishing attacks. The experimental results show that Covering approach models are more appropriate as anti-phishing solutions.

Muhammet Baykara et al. proposed an application which is known as Anti Phishing Simulator, it gives information about the detection problem of phishing and how to detect phishing emails. Spam emails are added to the database by Bayesian algorithm.

Wang et al., Jain and Gupta and Han et al. use white list-based method for the detection of suspected URL. Blacklist-based methods are widely used in openly available anti-phishing toolbars, such as Google safe browsing, which maintains a blacklist of URLs and provides warnings to users once a URL is considered as phishing. Prakash et al. proposed a technique to predict phishing URLs called Phishnet. In this technique, phishing URLs are identified from the existing blacklisted URLs using the directory structure, equivalent IP address, and brand name.

Felegyhazi et al. developed a method that compares the domain name and name server information of new suspicious URLs to the information of blacklisted URLs for the classification process. Sheng et al. demonstrated that a forged domain was added to the blacklist after a considerable amount of time, and approximately 50–80% of the forged domains were appended after the attack was carried out.

Prepare Empathy Map

In this activity you are expected to prepare the empathy map canvas to capture the user Pains & Gains, Prepare list of problem statements.

What are the thoughts about this project?	What is the purpose?
<ul style="list-style-type: none"> - Phishing offenses are increasing, resulting in billions of dollars in loss - The Software-as-a-Service (SaaS) and webmail sites are the most common targets of phishing - - Attackers can steal the victims private info and can also spread other types of malware 	<ul style="list-style-type: none"> - Experts can identify fake websites but not all the users can identify the fake website and such users become the victim of phishing attack - To create user awareness about phishing attacks
What are the existing solutions?	What is the proposed solution?
<ul style="list-style-type: none"> - Techniques based on blacklists/whitelists - Techniques based on natural language processing - Techniques based on visual similarity - Techniques based on rules of URL 	<ul style="list-style-type: none"> - Machine learning based techniques where a classification model is trained using various heuristic features - Heuristic features are URL, webpage content, website traffic, search engine, WHOIS record, and Page Rank
PAIN	GAIN
<ul style="list-style-type: none"> - The heuristic features are not warranted to present in all phishing websites and might also present in the benign websites, which may cause a classification error - Some of the heuristic features are hard to access and third-party dependent - Services may inaccurately identify the new benign website as a phishing site due to the lack of domain age 	<ul style="list-style-type: none"> - Real-time detection - High detection efficiency - Target independent - Third-party independent - Light-weight technique

Ideation

In this activity you are expected to list the ideas (atleast 4 per each team member) by organizing the brainstorming session and prioritize the top 3 ideas based on the feasibility & importance.

- Use anti-phishing protection and anti-spam software to protect yourself when malicious messages slip through to your computer.
- Anti-spyware and firewall settings should be used to prevent phishing attacks and users should Protect your mobile phone by setting software to update automatically. These updates could give you critical protection against security threats.

- Protect your data by backing it up. Back up your data and make sure those backups aren't connected to your home network. You can copy your computer files to an external hard drive or cloud storage. Back up the data on your phone, too.
- The website may be used to hack and misuse others detail so to protect that
- Then kids nowadays are learning from online so to protect them from facing any unpleasant or bad activity. So create a extension in google which will detect the fake websites.

TOP 3:

- We would create an interactive and responsive website that will be used to detect whether a website is legitimate or phishing. This website is made using different web designing languages which include HTML, CSS, Javascript and Python.
- It must be noted that the website is created for all users, hence it must be easy to operate with and user-friendly.
- The website will show information regarding the services provided by us. It also contains information regarding ill- practices occurring in todays technological world. The website will be created with an opinion such that people are not only able to distinguish between legitimate and fraudulent website, but also become aware of the mal-practices occrring in current world. They can stay away from the people trying to exploit ones personal information, like email address, password, debit card numbers, credit card details, CVV, bank account numbers.