# Survey Paper On URL Based Phishing Detection

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***Abstract: It is a Desktop Application for Teachers and Students for the Computer Department which helps us again Phishing attackers that can damage,haram or destroy any computer with just a single click.In this paper Exisiting we propose a heuristic-ased phishing detection technique that uses uniform resource locator (URL) features. We identified features that phishing site URL contain.The proposed method employs those features for phishing detection. The Technique was evaluated with a dataset of 3,000 phising site URLs and 3,000 legitimate site URLs. The result demonstrates that the proposed technique can detect more than 98.23% of phsing sites.***

***Keywords*- Automation, Genetic Algorithm, Evaluation,Search Methodology, Scheduling Algorithm.**

## I. INTRODUCTION

Phishing is a malicious use of Internet resources carried out to trick Internet users to reveal personal information, such as usernames, credit card information, and Social Security numbers to the attacker. Phishing can appear through a variety of communication forms such as instant messaging, SMS, VOIP, online messenger and above all the most common form of phishing attack leverages email. Fraudsters send an email to an unsuspecting user that contains a link to a domain that is seemingly legitimate in the hopes that the users will input their private information for the attacker to steal.

There is no doubt phishing can be extremely damaging all organizations since tricking a user within a business network through a phishing scam an easy way to obtain the user's information in order to gain access to that business network.

## II. LITERATURE SURVEY

[1]. We conducted a study on phishing sites, which are either fake sites that are designed to appear similar to legitimate sites or sites that simply have phishing-related behaviors. Almost all phishing sites include the functionality in which users enter sensitive information, such as their personal identification, password, and/or account number. These sites can include links to connect to other phishing sites and malicious code that contaminates a user‘s computer. Phishing detection techniques can be generally divided into blacklist-based and heuristic-based approaches. The blacklist-based approach maintains a database list of addresses (URLs) of sites that are classified as malicious. If a user requests a site that is included in this list, the connection is blocked [4]. The blacklist-based approach has the advantages of easy implementation and a low false positive rate; however, it cannot detect phishing sites that are not listed in the database, including temporarily sites [5]. The heuristic-based approach analyzes phishing site features and generates a classifier using those features [6]. When a user requests a web page, the classifier determines whether that page is a phishing site. This approach can detect new phishing sites and temporary phishing sites because it extracts features from the requested web page. Nevertheless, it has the disadvantage of being difficult to implement; moreover, generating a classifier is timeintensive. Thus, the two approaches have both advantages and disadvantages. Therefore, these approaches are selectively employed in the proposed technique depending on the application.

Genetic Algorithm (GAs) are adaptive heuristic search algorithms that belongs to the larger part of evalutionary algorithms. Genetic Algorithm are based on the idea of natural selection and genetics. They are commonly used to generate high quality solutions for optimization problems and search problems. Genetic Algorithm simulate “servival of the fittest ” among individual of consecutive generation for solving a problem. Each generation consist of a population of individual and each individual represents a point in search space and possible solution.Each individual is representd as a string of character/integer float and bits.This string is analogous to the chromosome.

### Algorithms

To determine a classifier with the best performance for using URL-based features, we employed several machine learning algorithms: support vector machine (SVM), naive Bayes, decision tree, k-nearest neighbor (KNN), random tree, and random forest

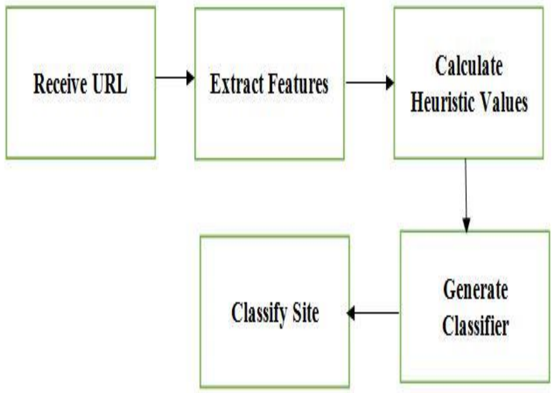
- Decision tree is a classification method that was introduced in 1992 by Quinlan [15]. It creates a tree form for classifying samples. Each internal node of the tree corresponds to a feature, and the edges from the node separate the data based on the value of the feature [15]. Decision tree includes a decision area and leaf node. The decision area checks the condition of the samples and separates them into each leaf node or the next decision area. The decision tree is very fast and easy to implement; however, it has the risk of over fitting.

## III. PROPOSED SYSTEM

In Proposed System there are two phases, one is Training Phase and another is Detection Phase. In training phase

First we have to create Dataset in which there will be a combination of 0’s and 1’s ,which will check the url in a sequential manner and then decide whether it is true or not.

It will then ask you to upload dataset which will help you to browse the URL.



- We proposed a heuristic-based phishing detection technique that employs URL-based features. The method combines URL-based features used in previous studies with new features by analyzing phishing site URLs. Additionally, we generated classifiers through several machine learning algorithms and determined that the best classifier was random forest.
- It showed a high accuracy of 98.23% and a low false-positive rate.
- The proposed technique can provide security for personal information and reduce damage caused by phish-ing attacks because it can detect new and temporary phishing sites that evade existing phishing detection techniques,

such as the blacklist-based technique.

## IV. METHODOLOGY

1. Firstly we need to click on training, select browse and select on dataset uploading.
2. The file gets store in created table namely URL database.
3. Now training is being performed and the file is read.
4. File is being fetched using select query, then it gets store in database with the use of data adapter.
5. Displays the rules in tabular manner with help of grid view and dataset is visible.
6. A text file is created on the basis of different conditions like the integer such as 0 and 1.
7. ‘0’ and ‘1’ signifies the condition whether the URL is legitimate or illegitimate.
8. ‘0’ signifies when the URL is illegitimate.
9. ‘1’ signifies when the URL is legitimate.

## VI. CONCLUSION

In this paper, we proposed a heuristic-based phishing detection technique that employs URL-based features. The method combines URL-based features used in previous studies with new features by analyzing phishing site URLs. Additionally, we generated classifiers through several machine learning algorithms and determined that the best classifier was random forest. It showed a high accuracy of 98.23% and a low false-positive rate. The proposed technique can provide security for personal information and reduce damage caused by phishing attacks because it can detect new and temporary phishing sites that evade existing phishing detection techniques, such as the blacklist-based technique. In future work, we intend to address the time-intensive disadvantage of the heuristic-based technique. With a large number of features, it is time-consuming for the heuristic based approach to generate classifiers and perform classification. Therefore, we will apply algorithms to reduce the number of features and thereby improve performance. In addition, we will examine a new phishing detection technique that uses not only URL-based features, but also HTML and JavaScript features of web pages to improve performance.

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