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UNWANTED AD DETECTION USING MACHINE LEARNING

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ABSTRACT :

This project focuses on detecting and preventing phishing websites. It includes a feature for creating a website that helps identify suspicious sites. Admins can analyze websites and add confirmed phishing sites to a block list, which exclusively contains fake websites. The "create website" function is designed to extract and analyze webpage links. Phishing websites are often recognizable by their URLs or HTML code.

In this project, the "check website" feature raises awareness among users about phishing threats and helps them avoid becoming victims of such attacks. The software provides an efficient solution for identifying and preventing access to phishing websites. Admins can log in, input a website URL in the "create" feature, and the system will search the URL, extract its hyperlinks, and display them. If the website lacks hyperlinks, it is flagged as suspicious and added to the block list. This ensures that users are warned against accessing such harmful sites.

Keywords : Unwanted Ads,Ad Detection,User Experience,URL Blacklisting,Web Security,Ad Blocking System.

I. INTRODUCTION :

With the increasing prevalence of digital advertising, unwanted and malicious ads have become a major issue for users and web developers alike. Pop-ups, auto-playing videos, and deceptive banner ads can disrupt the browsing experience, pose security risks, and slow down website performance. Addressing the detection and management of these intrusive ads is crucial to maintaining a positive user experience and ensuring website efficiency.
PHP, a widely used server-side scripting language, offers effective tools for detecting and managing unwanted advertisements. By leveraging PHP, developers can identify intrusive ads and filter them out before they are delivered to users. This report explores techniques for detecting problematic ads using PHP, strategies for optimizing ad management, and methods to minimize the impact of unwanted ads on users and websites.

Objective :

This report aims to examine the different techniques and approaches that can be utilized to identify and detect unwanted advertisements on a website through the use of PHP.

II. LITERATURE STUDY :

Intrusive advertisements, such as pop-ups and malicious scripts, have become a significant concern for both website users and administrators. To address these issues, various methods have been developed, including client-side solutions like browser-based ad blockers (e.g., AdBlock, uBlock Origin) and DNS-level tools such as Pi-hole. While these methods are effective for end users, they do not tackle server-side mitigation, which is essential for delivering secure and ad-free content to all users.
Server-side strategies typically involve techniques like using regular expressions and static blacklists to identify ad-related elements, such as <iframe> and <script> tags that are often associated with advertisements. PHP, as a server-side scripting language, is well-suited for implementing these methods due to its lightweight architecture and the capability to dynamically parse and analyze HTML using tools like DOMDocument.
Additionally, advancements in machine learning have introduced systems that can detect advertisements based on behavioral patterns and visual characteristics. However, these approaches require significant computational power, making them difficult to integrate into lightweight and real-time server-side environments.
Despite progress in ad-detection technologies, challenges remain in adapting to changing ad formats, achieving real-time detection, and integrating seamlessly into PHP-based frameworks. This study focuses on addressing these challenges by designing a PHP-based system that utilizes optimized regular expressions, real-time monitoring, and dynamically updated blacklists to effectively identify and block intrusive advertisements.

Drawbacks

While PHP shows promise as a server-side solution for detecting unwanted advertisements, it comes with several significant limitations. One of the primary challenges is its dependence on static detection methods, such as regular expressions and blacklists, which are not well-suited to keeping up with the constantly changing techniques used in modern advertisements. Many ads now use methods like obfuscation, dynamic JavaScript, and third-party tracking systems, making it easier for them to evade traditional detection systems.

Another limitation is the high computational cost of parsing and analyzing large HTML documents in real-time, which can place a significant burden on server resources, particularly for websites with heavy traffic. There is also an increased risk of false positives, where legitimate content, such as embedded scripts or widgets, may be incorrectly identified as advertisements. This can negatively impact the user experience and potentially disrupt website functionality.

PHP-based solutions also lack the advanced capabilities of machine learning models, which can offer more accurate detection by analyzing patterns and behaviors rather than relying solely on predefined rules. Additionally, maintaining a current blacklist and ensuring compatibility with modern web architectures requires continuous effort and resources. This can pose challenges for smaller websites or organizations with limited technical expertise or funding.

These drawbacks highlight the need for further innovation and optimization in PHP-based systems for detecting and managing unwanted advertisements.

III. DEVELOPMENT OF UNWANTED AD DECTECTION :

The development of an ad detection system using PHP focuses on utilizing the language's capabilities for effective server-side processing. This system is designed to monitor website content in real time, identifying and blocking ad-related elements such as banners, pop-ups, and malicious scripts. The implementation uses PHP’s DOMDocument class to parse and manipulate HTML structures. Regular expressions are applied to detect patterns often associated with advertisements, such as <iframe> tags, external JavaScript files, and URLs linked to known ad networks.

A dynamic blacklist is maintained to store frequently identified ad network URLs, which is updated regularly to address new threats. The cURL library is used for making HTTP requests and analyzing server responses, enabling the detection of redirections and external ad servers. To reduce false positives, the system includes context-based analysis, ensuring that legitimate content is not mistakenly flagged.

Additionally, a lightweight logging mechanism is implemented to alert administrators and provide reports on detected advertisements, allowing the detection rules to be refined as needed. The system is designed to function efficiently, with minimal impact on server performance, making it suitable for high-traffic environments. This PHP-based solution is an effective and easily integrable approach for ad detection, supporting websites that prioritize user experience and content quality.

PROPOSED SYSTEM:-

In proposed system to detect the virus website using web crawler. The search starts by crawling the pages of your site. Then it continues to visit the links (web page addresses or URLs) that are found in your site.

In our proposed system the admin can login and enter any website URL in weblink, then it searches the URL, it identifies the hyperlinks of the page. The links are display on current page. The website does not contain any hyperlinks, and then the website will move to the block list. The block list contains phishing sites. Those sites are fake and the user does not wish to access. Now, the user can enter the URL of website within the check website page, then click scan button, the scanning process will start and to check whether the entered URL is in the block list or not. If the site is not in the block list further process will be preceded. Otherwise if the URL is in the block list, it is considered as a virus site.

ADVANTAGES OF PROPOSED SYSTEM

- This system can be used by many e-commerce websites in order to have good customer relationship.
- User can make online payment securely.
- Data mining algorithm used in this system provides better performance as compared to other traditional classifications algorithms.
- With the help of this system user can also purchase products online without any hesitation.
- The system allows users to easily verify if a website is safe before accessing it.
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HARDWARE SPECIFICATION

Processor	:	Intel Core 2 Dual
Hard Disk Capacity	:	500 GB
Ram	:	4 GB

SOFTWARE SPECIFICATION

Operating system	:	Windows 10
Front end	:	PHP
Back end	:	MYSQL

MODULE DESIGN

Admin Login:

In this module, the admin login details are securely managed. Each admin has a unique username and password, which grants them exclusive access to specific functions within the system, such as saving, updating, and deleting data.

Registration:

In the registration module, users are required to provide details such as their username, email address, password, re-entered password, date of birth, and gender. These details are used for creating their account. If the user is already registered, they can proceed with authentication by entering their login credentials. New users will need to complete the registration process by providing the required information.

Login:

Once the user has registered, they will be directed to the login page. Here, they can enter their email address and password. To proceed, the user must click the login button to begin their session.

Create Websites:

This module examines web pages and follows the links present on them. Users can input a website URL, and if the site is not identified as a phishing site, the system will crawl through the links on that site. If the URL is detected as a phishing site, it will be added to the block list.

Block/Unblock:

The block list holds the URLs of known phishing sites. This list-based detection method helps to identify and block malicious sites. If a site needs to be unblocked, the system can regenerate the website's metadata and track the number of visits to the page.

Web Analysis:

In this module, users can input a website URL to check whether it is listed in the block list. If the site is found on the block list, it is flagged as fraudulent, and users are advised not to access it.

Conclusion :

Unwanted advertisements present significant challenges to the browsing experience by disrupting user interaction, slowing down website performance, and exposing users to potential security risks. This report demonstrates how PHP can be effectively utilized as a server-side tool to detect and block these ads. By applying techniques such as URL filtering, content pattern recognition, and request header analysis, a robust system can be created to minimize the presence of intrusive ads on websites.

The proposed solution highlights PHP's capability in real-time ad detection, offering a lightweight and scalable approach suitable for various web applications. However, there are still challenges in dealing with obfuscated or dynamically loaded advertisements, which emphasizes the need for continued advancements in ad detection methods. Future work could explore the integration of machine learning algorithms and expand the system to detect new ad formats.

Overall, server-side ad detection techniques can significantly enhance the web experience for users, improving both security and privacy. This study provides a foundation for further exploration and development of innovative solutions for detecting unwanted ads.

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