A blue red and yellow shield with white and yellow designs

Description automatically generated

**Comprehensive Website Credibility Assessment and Redirection Plug-in**

PUSL2021 computing group project

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**INTRODUCTION**

The Internet is a vast and ever-changing landscape, and it can be difficult for clients to distinguish between solid and unsecure websites.

This can be particularly genuine for unused and unknown websites, which may not have a well-established reputation. As a result, users are at risk of being caught up in phishing frauds, malware attacks, and other online dangers.

This project proposes a comprehensive site validity evaluation and redirection plug-in that will help clients to remain secure online. The plug-in will combine data from numerous sources to survey the validity of sites, The plug-in will check to see in case the site uses secure protocols such as HTTPS and check’s whether the site includes a valid digital certificate from a trusted certificate authority, also checks the website's reputation with online reputation administrations.

The plug-in will utilize AI to analyze the website's substance and identify any potential red banners, such as suspicious keywords, links, or pictures. Once the plug-in has evaluated the website's validity, it will give the client a clear and brief decision. If the site regard as solid, the plug-in will permit the client to continue without any advance notice. In case the site is unsecure, the plug-in will caution the client and propose a more solid alternative.

The plug-in will be implemented as a browser extension that can be utilized with popular web browsers such as Chrome, Firefox, and Edge. The plug-in will be built employing a variety of cutting-edge web technologies, including HTML5, CSS3, and JavaScript.

In expansion to making a difference users to remain secure online, the plug-in will also offer a number of other benefits, such as Improved efficiency by avoiding clients from wasting time on unsecure websites, the plug-in can offer assistance them to be more productive online, Reduced stress by offering assistance with online browsing, as clients can be certain that they are not going by any unsafe websites and will Increased believe by offering assistance within the web by giving clients with a way to confirm the validity of websites before they visit them.

**Objectives**

* This “Plug-in” has the potential to make a significant contribution to the internet's safety and security. The plug-in can help safeguard users from a range of online hazards by providing them with a comprehensive and simple tool for analyzing website authenticity.
* By giving users a comprehensive tool to check the legitimacy of websites, this project will ultimately help users stay safe.
* To detect and highlight unsecured websites that do not use SSL, as well as to inform users about potential security risks.
* To assist users in determining the authenticity of websites, which is important for shielding people from online frauds.
* To make it simpler for consumers to evaluate a website's credibility and let them decide whether to interact with personal information to it.
* Warning users about the dangers of making purchases from insecure websites.
* To allow users to quickly assess the trustworthiness of e-commerce websites, allowing them to make decisions about where to shop and whether to provide sensitive payment information.
* Identify and report broken links, because they can have an impact on the overall user experience and credibility.
* Improve overall internet security by identifying and warning.

**Target Users**

* **General internet users**: People who want to verify the authenticity of a website before interacting with it. This can include a wide range of users, from information seekers to online shoppers.
* **Online Shoppers**: Consumers who shop online and want security on e-commerce sites to protect their personal and financial information.
* **Small Business Owners**: Small business owners who want to manage their websites and make sure their own sites are secure, as well as those who want to make sure the sites of potential business partners are secure.
* **Elderly users**: Elderly people who are unfamiliar with online safety and are looking for tools and resources to protect themselves online.
* **Teachers and trainers**: People who teach others about online safety and digital literacy.
* **Parents and Guardians**: People who want to protect their children's online experiences by making sure the websites they visit are safe.

**Application Features and Description**

* **Safe Suggestions -** When users enter an incorrect web address, the app will provide suggestions by redirecting them to the genuine website.
* **URL input** - Users can enter the URL of a website they want to check.
* **User-friendly interface** - The application should be easy to use for users of all skill levels. It should provide clear and concise information about the security of each website, as well as recommendations on how to stay safe.
* **Security Analysis** - check the website's security status, focusing on the lack of HTTPS and SSL/TLS encryption. It may contain information about potential security risks associated with unsecure websites.
* **Malicious code detection -** Scans the website for malicious code, such as viruses, Trojan horses, and malware.
* **Real-time analysis -** Scans websites in real time, as users are browsing them.
* **Detailed Reports** - Users may receive detailed reports describing the credibility and security outcomes.
* **High-Quality Customer Support -** Providing excellent user support through features like chat support.
* **Machine Learning and AI -** Analyze the content and structure of a website using machine learning algorithms. This can aid in identifying patterns or anomalies that users may not be aware of.
* **Notifications System -** Use push notifications or email alerts to notify users of changes in the credibility of websites they have visited.
* **Error handling** – When a user enters an incorrect web address, the app should notify them and suggest a solution.
* **Mobile-Friendly Assessment -** Integrate the service with a mobile app to extend its reach and usability.
* **Broken Links Detection -** Detect broken links on a website and help to maintain a user-friendly experience and SEO rankings.

**Gann Chart**

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