

Graphical user interface for OSINT tool

Jagrat Tadvi¹, Gaurav Kumar Ameta²

1(Computer Science & Engineering, Parul Institute of Technology, Vadodara
jagrattadvi@gmail.com)

2(Computer Science & Engineering, Parul Institute of Technology, Vadodara
gauravameta1@gmail.com, ORCID ID: 0000-0002-7463-2583)

Abstract :-

The process involves in building a successful website goes beyond knowing web developing language such as HTML and CSS. The success or failure of any website depends heavily on the use of some aspects of Graphical user Interface. These aspects are usually reserved for client's wishes and desires. The content features of GUI are used to stay in touch with visitors. Therefore, this article will highlight some important GUI features used in building an attractive and a successful website. Open-Source Intelligence (OSINT) involve the collection or processes of gathering data and profiling or publicly available private and public sector information sources about individuals and business intelligence purposes. These sources include internet and other social media platforms such as Facebook, emails, twitters, what's apps for. Much debate and research has been done on the threats, vulnerabilities and the impact of the use of social media sites but this study is to minimize bias. To systematic review and synthesis findings on current empirical research topic on cyber intelligence and open source intelligence profiling to identifying both the threats and vulnerabilities on online social networks for mitigation purposes. A systemic narrative review of research using rigorous searching on online databases. The results were then subjected to review using a quantitative and quality appraisal tool and a narrative synthesis methodology.

KEYWORDS :-

Cyber Intelligence, OSINT, Cybercrime, Threats, social media, Systematic Review, Graphical user interface, attractive, consistency, navigation, Websites

Introduction:-

In time past, computer systems use basic-text to run user's desires. However, it was difficult to even run simple commands. With the invention of the Graphical User Interface (GUI), computers have become easier to use. "GUI is a means of enabling user interaction with electronic devices such as computers or hand-held devices" (Close *et al.*,2010). Jansen (1998) shows

that the Xerox start was the first GUI application that was designed by researchers at Xerox Palo Alto research Centre in 1977. He further stated that later the Apple Company rented some Xerox Star features to design its first GUI system which was called Apple Lisa. However, this was developed shortly after the advent of Apple Macintosh as a commercial computer in 1984. Graphical user interface should involve various significant aspects. Thus, these aspects help to make the interface easy, attractive, and effective. Some of these aspects include consistency, loading time, navigations etc.

Many of those conducting OSINT use very basic methods to extract information. Usually, they are limited to tools that have a graphic user interface (GUI). Many tools, like Tweet Beaver, who use a graphic user interface are very powerful. This post isn't to discredit any tools that use a GUI, its intent is to introduce users who rely on a tool with a GUI to tools that require a little more effort on the user end, but yield much more customizable results. Let's take a look at 4 OSINT tools that produce advanced results using intermediate computer knowledge.

Consequently, the most important step before building any user interface is to know the website clients. The users and their wishes are the main reason behind building any website. When a user visits a website that meets his/her needs and desires, the user will be motivated to visit the website again and again. Tidwell (2011) shows that designing a good user interface involves more than programming. He adds: A success GUI depends on understanding why the users like, dislike or prefer a specific website or a piece of program and interact with them. User interface designers should be focused on user ' characteristics in helping them achieve their goals (Tidwell, 2011; Galitz, 2007). Galitz (2007) shows that GUI is a part of Human-Computer Interaction whereby both the machine and the users interacted as the users find their wishes satisfactorily.

Open-Source Intelligence (OSINT) involves the collection, analysis and use of data from openly available sources for intelligence purposes. The advent of the internet and the electronic business websites have made it possible for almost everyone to access and transact businesses online. Social media platforms have emerged as an important strategic open-source tool for organizations to facilitate communication with their employees, customers. Facebook pages and twitter feeds are mined for business intelligence purposes and one fairly recent trend of change in our culture

that seem bound to have an important influence in intelligence testing, is the way that information is transmitted and received. The study seeks to carry out a systematic review in the area of open-source intelligence gathering and profiling and how mitigating techniques are developed against threats on social media/network platforms.

Open source has been in existence for many years but with the explosion of the internet and the World Wide Web (WWW) has brought with it a number of cyber security professionals and researchers publishing journals and articles on cybercrime threats, cyber profiling and gatherings. With the advent of social media and rapid information transfers available today a great deal of actionable and predictive intelligence can be obtained from public and unclassified sources.

One of the other important features of a good GUI is how the users get in touch with the person in charge of the website. The most common way by which users keep in touch with the responses of the website is by adding a contact button (Plumley, 2011). This will help the users to give feedback, know more, and ask every single detail about the website or about the services that the website provides. Usually, there are two locations of the contact button in the website, either at the bottom of the page in the footer location or up and near the main navigation as a small button (Plumley, 2011). In addition, the contact button contains information such as address, phone number, mail box number, and operation hours. Moreover, social media website could also be used to get in touch with the users such as Facebook and Twitter. Therefore, these tools are helpful in having a dialog between the visitors and the website.

Aims and Objectives:-

The aim of this systematic review is to assess the effective use of OSINT to develop mitigating techniques against threats and abuse on online social media platforms for intelligence purposes.

The Primary objectives are:

1. To investigate into OSINT methods and techniques using existing literatures with the idea of conducting reviews on online social media platforms.
2. To identify studies that evaluate the effective use of methods on existing OSINT tools with the view of generating and identifying vulnerabilities and build threat profiles.

- 3.To identify gaps in knowledge of the list of studies that meet the required criteria for cybercrime threats and vulnerabilities.
- 4.To obtain a comparable measure of most effective studies to review.
- 5.To conclude on the effectiveness of using OSINT gathering tools to mitigate risks.

METHOLOGY

A systematic narrative review method of research involves using rigorous searching on online databases. The approach will be to eliminate biases by establish eligibility criteria using inclusion and exclusion criteria in certain key word searches in the selection strategy. The results will then be subjected to review using a quantitative and quality appraisal tool and a narrative synthesis methodology. A theoretical framework will be developed for the synthesis using concepts from the literature 'The Effectiveness of Neighborhood Watch'. A Campbell Systematic Review. Inclusion and Exclusion Terms Open Source Intelligence is often implemented alongside other factors such as a particular crime, jurisdiction, a person, a threat or a vulnerability.

Outcomes :-

The review focuses mainly on the impact of using OSINT to mitigate cybercrime. The types of cybercrime covered in the review are those that OSINT might be able to reduce. These includes online crimes on social media/network platforms such as Face Book, What's Apps and Twitters

Conclusion :-

User interface could be the key to the success or the failure of a website. It involves many important principles which make the interface usable and accessible. The success of user interface relies heavily on many aspects. Some of these principles are related to the website appearance such as consistency. Others are related to content such as navigation. In addition, good user interface is one that serves its users easily. All of these aspects are beyond knowing website programming language. Therefore, they should be known and taken into account before building any website. The review has classified research finding in terms of the use of open-source intelligence and the threat and vulnerabilities that exist on social media

platforms. The systematic review has revealed extraordinary evidences and contradictory concepts. It has also revealed the underlining research challenges impacting on Open Source Intelligence. Due to the invincibility nature of social media technologies, social media platforms are constantly being used for social, business and intelligence gathering purposes but to ensure proper and advance mitigating circumstance, further research is required to gain situational awareness, to mitigate threats and ensure appropriate counter measures.

REFERENCES :-

1. <https://medium.com/@iakecreps/advanced-osint-tools-that-arent-that-complicated-b7dd22c0b88d>
2. Bernard (1988). The graphical user interface *ACM SIGCHI Bulletin*.
3. Closa et al. (2010). Patent law for computer scientists: steps to protect computer-implemented inventions. Berlin: Springer.
4. Galitz (2007). **The essential guide to user interface design: an introduction to GUI design principles and techniques. Indiana: Wiley.**
5. Jarrett & Gaffney (2008). *Forms that work*. Brookline, Massachusetts.
6. Lynch & Horton (2008). *Web style guide: basic design principles for creating Web sites*. London: Yale University Press.
7. Palmer (2002). Designing for website usability. *The Institute of Electrical and Electronics Engineers, Inc*, 35(7).
8. Plumley (2011). *Website design and development: 100 questions to ask before building a website*. Indiana: Wiley.
9. Tidwell (2011). *Designing Interface*. Sebastopol: O'Reilly.
10. Jarrett & Gaffney (2008). *Forms that work*. Brookline, Massachusetts.
11. Algarni, Abdullah, Xu, Yue, Chan, Taizan, & Tian, Yu-Chu. 2013. **Social Engineering in Social Networks Sites: Affect Based Model. In Proceeding Paper of IEEE International Conference. Queensland University of Technology, Brisbane, Australia. Pp. 508-515.**

12. **Andress, J. & Winterfeld, S. 2014. Cyber Warfare: Techniques, Tactics and Tools for Security Practitioners. 2nd Edition. Elsevier, Syngress.**
13. **Brewster, B., Ingle, T. & Rankin, G. 2014. Crawling Open-source Data for Indications of Human Trafficking. IEEE/ACM International Conference on Utility and Cloud Computing. Intelligence and Organized Crime Research. Sheffield Hallam University. UK.**
14. **Buglass, S.L., Binder, J.F., Betts, L.R., & Underwood, J. D. M.2015. When Friends Collide: Social Heterogeneity And User Vulnerability on Social Networks Sites. Journal of Computers In Human Behavior. Elsevier. Nottingham Trent University. UK**
15. **A Coyne, J. W. & Bell, P. 2011. The Role of Strategic Intelligence In Anticipation Transnational Organised Crime: A Literature Review. International Journal of Law, Crime & Justice. Queensland University of Australia. Australia.**

