

Ethical Web Design

Lokanath Chandra Reddy

Department of Computer Science,

University of Massachusetts - Lowell

Abstract

In the Current fast paced world, web designers are not well aware of ethics related to web design. The ethics in web design are not well defined, and it is something which designers don't here or talk about. If designers are not giving enough importance to ethics, while designing web applications for users, the end users might be concerned about the surveillance and data privacy. How many of us knew that, Facebook – most popular social networking website [1] uses our data for different purposes. In this article we discuss about how unethical design happens and how to do ethical web design through a set of best practices, keeping in mind the end-users.

Introduction

According to Merriam Webster [2], ethics is “the discipline dealing with what is good and bad and with moral duty and obligation.” But, with respect to Ethical Design, is a design made with the intent to do well, with a specific code of conduct. In this context the term “web designer” is a broad umbrella covering anyone who makes decisions about the function, functionality, appearance, and interactivity of a web experience, and “web design” a term covering the craft and work of a web designer [3]. Ethical design is not just applied to Web design and development but also to, product design, data theft, internet policies, and other business practices. Web designers are not given enough guidance for ethical decision making as they create and design new web applications. Ind.ie [4] an enterprise founded by Aral Balkan and Laura Kalbag define Ethical Hierarchy of needs as mentioned below.

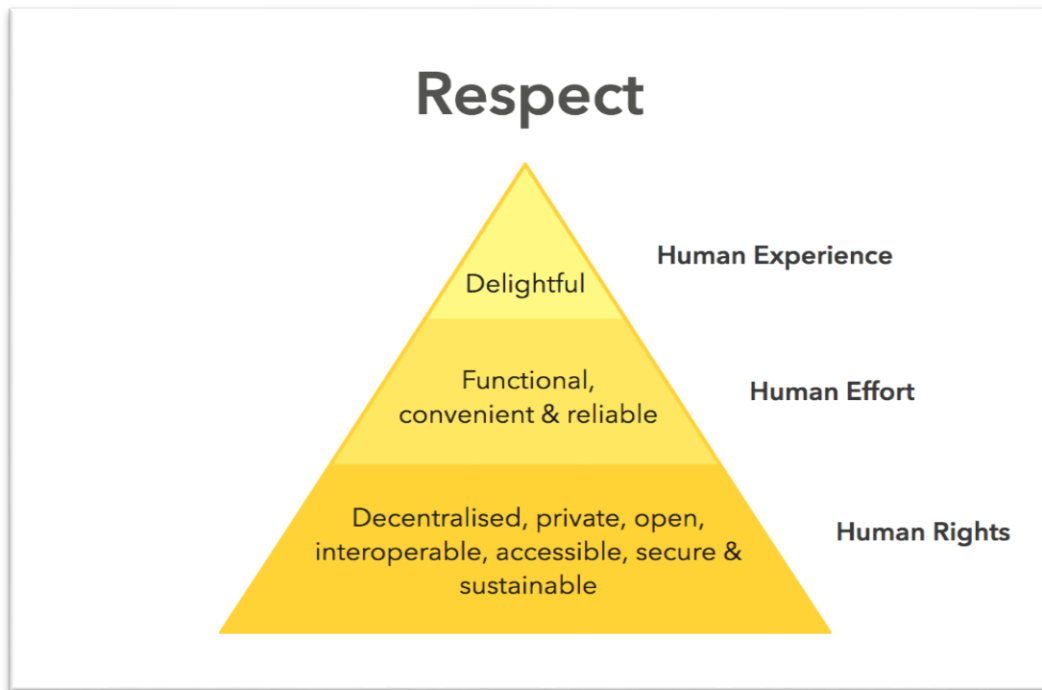


Figure 1: The 'Ethical Hierarchy of Needs' (licensed under CC BY 4.0) (Source: [4])

They quote if any of the layer break, the layer above it will collapse. If the design doesn't support any of the three (Human Rights, Human Effort or Human Experience) then it is meant to be unethical. A small mistake or an insignificant decision can have enormous implications.

In the current trend of web profiling to provide more digital advertisements which exploit user data, by using dark patterns with an intention of making money, market their product along with other stuff which brings disgrace to human experience is unethical. Hence the web developers should follow ethical standards while creating responsive web application, where we must consider every decision which is made keep in mind the end-users who will be using them. Ciara and Samantha states that designers, we have the power to help millions of people live longer, healthier and happier lives. But a truly delightful and meaningful app doesn't happen by magic [5].

Our design should be such that, we are creating a platform for end-users to connect with the world, make their tasks easier and mainly making sure we are not harming them by snooping on their data and misusing them for our own needs. This paper reviews about how the ethical design is necessary, evaluates the success of following the standards and the challenges that are faced and engaging in a safer world wide web for everyone.

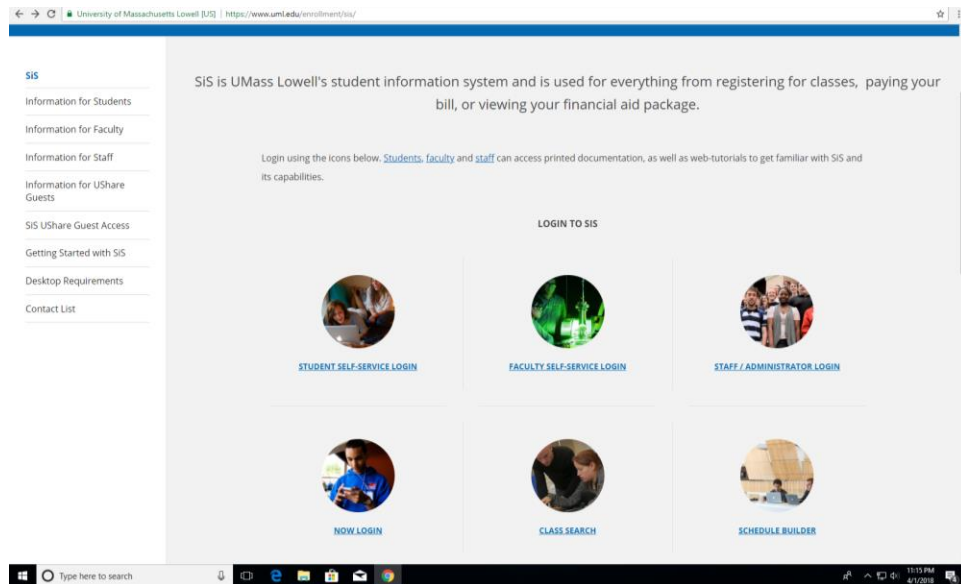
Questions to ask yourself before starting the design.

1. What kind of website are you building for the end-users? What options are you granting them to use?
2. What inputs and data do you need from the users? What will you do with the input and data gathered from the users? Have you taken their consent before using data for other purpose like marketing, analytics, etc.?
3. What measures have you taken to make the user data safe? How sure are you? Have you tested it?
4. What type of person do you want to become doing this? Are you fulfilling your duties with care and respect?
5. How will the end result improve the lives of users?

The answers to these questions will enable us to think how and why the decisions were taken to design a web application and what it will be used for [6]. There are no proper documented ethical web design standards. Don Gotterbarn et al, defines 8 principles related to the behavior of and decisions made by professional software engineers back in 1997 [7]. Many of the current web designers don't know what they are designing is right or wrong. Some of the principles defined are vague and with fast paced technology changes in the current world, we must update the design ethics too. Currently, there are many laws related to web design, but they are not completely clear. This paper discusses about the basic guidelines for effective web design.

1. Visual:

(What you see is what you get principle) To have a good web design we must create visually perspective pages which would grab attention of users in a split second. The aim of user interface design should be to reduce the distance from one point to the next and make the target object large enough to enable prompt detection and selection of interactive elements without sacrificing accuracy. One aspect of this is ensuring that users can click anywhere on an interactive element to carry out the assigned action. For example, links, whether they are in the form of text, images or buttons (such as those seen in the UML website screenshot), should afford clicking on the whole region [8] This uses Fitts's Law states "...the time to acquire a target is a function of the distance to and size of the target [9] It should also do what it says, links should not mislead or take user to a different location than what it is mentioned or supposed to do as per the user.



2. Innovative.

Web designers can think follow their innovative methods, since the technical developments is always offering new opportunities for innovative design which is never ending. Here we should also have a focus, find innovative methods to design in a most ethical way possible.

3. Do not make the users think

When designing a webpage, we should keep in mind that, the objects and content which is used doesn't pop a question in the user's mind. These kind of questions, can make the users not use the web page. The content should be related to title mentioned, for example, Sign in page should allow users to sign in and not Sign up or forgot password page. The buttons should exactly mention what it is supposed to do, like the try and buy.

4. Should work everywhere and for everyone

Adam Scott [10] states that, web applications should be built responsively and on top of progressive enhancement, prioritize the accessibility, develop inclusive forms, value the performance, expose permanent, human readable deep links and be tested with real users.

5. Online/ web profiling

The data that is used from the users, like sites they visit, time spent on each page and the responses to the ads. We must make sure that, along with this data aimed at marketing and analytics, the user personal data is not shared, such as the IP address, name, address, email id, password. "The best thing you can do is build trust with your customers - tell them what you are doing with the information and why, and don't sell or trade information and try not to buy information," says Eric Schmitt, an analyst at Forrester Research Inc. in Cambridge, Mass.

6. Display of Ads or suggestions

Not every user would want to see the ads on the web pages they visit. The ads displayed may have varied consequences. These ads are displayed based on the data of pages user has visited and fetched from the cookies stored in the local system. The major part of the ads is targeted by the search engines, social media-based websites and video sharing sites, using the search history of the user. Paul Lewis, an ex-YouTube employee reveals how its recommendation algorithm promotes divisive clips and conspiracy videos, which played a most important role during the elections. These are in one-way unethical, since it changes human thinking and behavior in minutes. This does not mean, that web designers cannot use/ display ads on their pages, but it means that they must think carefully about what type of advertising method they should use, take proper user consent, and provide a provision to not display ads if user does not like it. For example, DuckDuckGo [11] is a search engine which does not keep track of search history and not display ads based on the search history, has increased in user base over the years.

7. Maintaining privacy

Improper access to the user's personal information, such as name, address, bank account details, past purchases, products viewed, sites visited frequently, among others is the most important aspect, the web designer must keep in mind. Stopdataminig.me lists what kinds of information data brokers have about them and how to exercise their opt-out choices [12] and webpagefx.com, provides details about how much users data is worth [13]. With the information gathered from the above two infographics, privacy of the users should be high priority for every web designer. It should be made a practice to include, privacy statement, where information is collected from the users, including the data on log files. The privacy statement should consist of what type of information is being collected, how the information will be used, and details about data being transferred to a third party, for analytics or market research.

8. Gather information on Laws relating to the Web

As a web designer it is our responsibility to be abreast about the local and international laws, and issues, if the target users is worldwide. Some products or content may not be sold or displayed. For example, Shoes or sandals with national flag on it is banned in India. Copyrights, trademarks should be clearly mentioned if used.

9. Don't steal design ideas

Web designs developed by other designers can be used as an inspiration and should never be stolen for your own use with the consent from the original developer.

Conclusions and Future work

Today lots of institutions and companies have set their own ethical guidelines and given the prominence in which various aspects have emerged in this paper, a strictly defined ethical standards should be issued by the government or the World Wide Web consortium for the web designers worldwide. This paper acts as initial step for people to refer before thinking of following ethical standards in developing a website. Each passing day, hackers use different methods to spy on the users, the web designers must learn new techniques to keep the web applications and users safer. Web designers, working in an organization, find any unethical practices followed in their organizations, should come out and speak against the practices and promote ethical behavior, since unethical practice would hurt the entire web design and development industry. Along with ethical practices, we have to prepare a detailed document with examples on mobile web based applications, since most of the web applications are now run on mobile devices. We should use what we know about design and human psychology build “addictive” products which users will not be able to resist using them and make their lives better. Ethical design would help us create, design, objects, web pages, products or applications, helping the users which we can be really proud of. Ethical web design is designing or creating web applications, which help people live better, fulfilling their needs, and not intruding their privacy.

References

1. Top 15 most social networking sites, 2018. Retrieved from <https://www.dreamgrow.com/top-15-most-popular-social-networking-sites/>
2. Merriam Webster. Retrieved from <https://www.merriam-webster.com/dictionary/ethic>
3. Morten Rand-Hendriksen, 2018. Using Ethics in Web Design. Retrieved from <https://www.smashingmagazine.com/2018/03/using-ethics-in-web-design/>
4. Ind.ie Retrieved from <https://2017.ind.ie/ethical-design/>
5. Ciara and Samantha, 2017. Designing Ethics: shifting Ethical Understanding in Design. Retrieved from <https://www.smashingmagazine.com/2017/11/designing-ethics>.
6. Simon Sinek, 2009, Ted talk. Retrieved from https://www.ted.com/talks/simon_sinek_how_great_leaders_inspire_action
7. Don Gotterbarn, Keith Miller, and Simon Rogerson. 1997. Software engineering code of ethics. Common. ACM 40, 11 (November 1997), 110-118. DOI: 10.1145/265684.265699
8. IDF instructor, 2016. Fitts law the importance of size and distance in UI design. Retrieved from <https://www.interaction-design.org/literature/article/fitts-s-law-the-importance-of-size-and-distance-in-ui-design>
9. Paul Fitts, 1954. Fitts Law. Retrieved from https://www.princeton.edu/~achaney/tmve/wiki100k/docs/Fitts_s_law.html
10. Adam Scott. Ethical Web Development. Retrieved from <https://ethicalweb.org>
11. Duckduckgo. A website for searching. <https://duckduckgo.com>
12. Stopdataminig.me. A directory of Opt-Out links to stop data brokers from selling your personal information. Retrieved from <https://www.stopdatamining.me/opt-out-list/>

13. What Are Data Brokers – And What Is Your Data Worth. Retrieved from <https://www.webpagefx.com/blog/general/what-are-data-brokers-and-what-is-your-data-worth-infographic>
14. Trine Falbe, 2018. Ethical Design: The Practical Getting-Started Guide. Retrieved from <https://www.smashingmagazine.com/2018/03/ethical-design-practical-getting-started-guide/>
15. Jen Maroney, 2015. Designing Healthcare Apps with Delight. Retrieved from <https://www.smashingmagazine.com/2015/11/designing-healthcare-apps/>
16. Sophie C. Boerman, Sanne Kruikemeier & Frederik J. Zuiderveen Borgesius (2017) Online Behavioral Advertising: A Literature Review and Research Agenda, *Journal of Advertising*, 46:3, 363-376, DOI: [10.1080/00913367.2017.1339368](https://doi.org/10.1080/00913367.2017.1339368)
17. Profiling Users by Modeling Web Transactions. *2017 IEEE 37th International Conference on Distributed Computing Systems (ICDCS), Distributed Computing Systems (ICDCS), 2017 IEEE 37th International Conference on, ICDCS*. 2399, 2017. ISSN: 978-1-5386-1792-2.
18. TRIMBLE, L. Creating Science Websites: A website design project challenges students' creativity and motivates them to learn. *Science Teacher*. 84, 9, 25-30, Dec. 2017. ISSN: 00368555.
19. Patrick Thibodeau, 2000. Online Profiling. Retrieved from <https://www.computerworld.com/article/2597220/retail-it/online-profiling.html>
20. ALEX DEVERO, 2018. The Good, Bad, Ethical Design, Users and Other Things We Don't Talk About. Retrieved from https://blog.alexdevero.com/good-bad-ethical-design/?utm_source=Blog+subscribers&utm_campaign=62919e6adc-EMAIL_CAMPAIGN_2018_04_02&utm_medium=email&utm_term=0_c26e518212-62919e6adc-568937617
21. Garrett, Renee et al. "A Literature Review: Website Design and User Engagement." *Online journal of communication and media technologies* 6.3 (2016): 1–14. Print.
22. James K. Harris. 2009. Ethical issues in web design. *J. Computer. Sci. Coll.* 25, 2 (December 2009), 214-220.
23. Ethical and Legal Issues in Web Development. Retrieved from, https://www.okaloosaschools.com/fwbsites/okaloosaschools.com.fwb/files/users/anthonybryant/wds_v1.1_ssg_111.pdf
24. Thomson, A. J., & Schmoldt, D. L. (2001). Ethics in computer software design and development. *Computers and Electronics in Agriculture*, 30(1-3), 85-102. doi:10.1016/s0168-1699(00)00158-7
25. Cousins, C. (2014, August 05). Why Every Designer Needs a Code of Ethics. Retrieved April 02, 2018, from <https://designshack.net/articles/business-articles/why-every-designer-needs-a-code-of-ethics/>
26. Lin, H. (2007). The ethics of instructional technology: Issues and coping strategies experienced by professional technologists in design and training situations in higher education. *Educational Technology Research and Development*, 55(5), 411-437. doi:10.1007/s11423-006-9029-y