

## ***Discerning Disinformation through Design: Exploring Fake News Website Design Patterns***

Joaquin Miguel G. Ruiz, De La Salle University, Philippines

The Asian Conference on Media, Communication & Film 2018  
Official Conference Proceedings

### **Abstract**

The onset of emerging technologies in a fast-changing media landscape has led to media sources becoming more complex; leading to their capacity to create intricacies for the public's perceptions of truth. In the Philippines, disinformation runs rampant through fake news websites, peaking during the 2016 Presidential elections. While current fake news detection methods range from source checking to content analysis, visual communication scholars note that design plays a role in signifying credibility, as people tend to first notice visual cues. Using Tandoc et al.'s fake news typology, juxtaposed with visual design cues (e.g. logo, typography, photography, layout) and website credibility elements, this paper visually analyzes twenty-three Philippine fake news websites to glean visual design patterns. From a qualitative perspective, the presence and/or absence of visual design cues and elements, including aesthetic treatments, are analyzed. Findings verify the presence of visual design patterns across all types of fake news websites, often characterized by low-aesthetic treatments. More notably, individual typologies (e.g. parody, fabrication, propaganda) exhibit unique visual design patterns indicative of the level of facticity and intention to deceive; which affects how visual design elements are crafted. While literature suggests the possibility of fake news providers mimicking visual design cues of legitimate news organizations, findings show an apparent disregard to overall visual quality, indicative of an absence of a legitimate organization behind such websites where visual design takes a back seat to other goals. This paper concludes that visual design patterns may be used to discern disinformation from a visual communication standpoint.

Keywords: fake news, disinformation, visual communication, graphic design, website design

**iafor**

The International Academic Forum

[www.iafor.org](http://www.iafor.org)

## **Introduction**

The proliferation of untruthful news, popularly known in this day and age as “fake news”, has become a rampant phenomenon worldwide. The digitization of news, as well as the rise of social media websites, have been proven to be contributing factors to its rise (Tandoc et al., 2017); Spratt & Agosto, 2017; Alcott & Gentzkow, 2017). With a steadily increasing amount of people accessing news linked via posts in social media, they are, and will be, exposed to a lot of fake news (Mitchell, Kiley, & Gottfried, 2017). It is advised that instead of merely judging the link based on how it appears on posts in social media, users should click on it to verify its authenticity, and be led to a website where they may make their own discernment on its credibility.

While reading and dissecting the content itself would be the best way to judge the authenticity of a website, scholars have pointed out that website visuals and aesthetics are also an important indicator of credibility (Robins & Holmes, 2008; Fogg et al., 2002). A visitor can tell so much about a website and its various visual elements based on how they perceive and see it (Berger, 1989; Blintz, 2016). Detecting visual cues and patterns of news online can help people classify if a website and its contents are credible or not, as people often rely on visual cues to understand ideas and information (Ryan, 2016).

Given the importance of being able to discern disinformation with its potential negative impacts on society, it is crucial to study how different aspects may play a role in detecting fake news. At the time of this writing, there have been numerous initiatives worldwide by various organizations to come up with detection methods for fake news (Kiely & Robertson, 2016; “How to Spot Fake News,” 2018; “10 tips on how to spot fake news from Facebook” 2017). However, based on available material, not much has been said on the utilization of website graphic design patterns as a detection tool for fake news websites.

The study proposes to examine the research question: What characterizes the design of fake news websites? What design patterns can be derived from it? Its objective is to explore whether visual patterns exist in the different types of fake news websites, and how discerning such patterns may make apparent the visual design logic of fake news website creators and designers; and thus, offer an alternative method of fake news detection. By doing so, it may serve as a guide for news consumers in discerning and detecting disinformation.

## **Visual Communication and Design Cues**

The study utilizes various visual design cues that pertain to news websites as a visual communication medium, and how they create meanings of credibility—specifically, from the initial impression of the visitor when they encounter a website initially: (1) its logo, (2) typography, (3) color, (4) photography, (5) presence of advertisements, and (6), its overall organization and layout.

### ***Logo***

Having a visible and well-designed logo on a website elicits trustworthiness and expertise (Lowry et al., 2014). A website without a logo is seen as less credible

(Robins & Holmes, 2008). A logo is an identifier that provides contextual clues to the visitor what site he/she is currently visiting—showing that a website without one could be confusing (Morville & Rosenfeld, 2007). David Airey (2010), in his book *Logo Design Love* claims that anyone can design a logo, but not anyone could design the right logo. He elaborates that in order to have a well-designed logo, it should aim to be iconic.

A less-professional logo could be then seen as less credible as it lacks the expertise or competence aspect in source credibility framework (Lowry et al., 2014). This claim was made through experiments by Lowry et al. (2014), wherein they worked on a study that involved comparing high and low aesthetics of the overall layout and logo of hypothetical websites. Low-aesthetic logos, for example, were purposely made to look amateurish and cheap which led to the website it was associated with to be perceived in a negative light amidst the website's high-quality design.

In a related matter, a website favicon, an icon usually found beside the URL bar in browsers, usually in the form of the logo (“Create a favicon for your site in 8 steps”, 2014), can also add to the credibility aspect. In terms of fraudulent websites, if a favicon contains one that is unrelated to the contents of the website (e.g. not having a form of the logo for example), it could be fake (Jain & Gupta, 2017).

### ***Typography***

Type choice, just like designing logos, are intentional (Serafini & Clausen, 2012). Designers carefully select them based on appropriation to the project, their connotative values, and what message they want to elicit (Lupton, 2010). Limiting the amount of typeface used in a website is crucial as it could look chaotic and unattractive (Farkas & Farkas 2010). Though there are no definite rules, best practices pertain to using no more than 3-4 typefaces (Bear, 2018). Consistency in type choice and styles, textual hierarchy, as well as the overall legibility and lack of typographic errors are also crucial factors in building credibility in website graphic design (Hasan & Abuelrub, 2011).

### ***Color***

It is of common best practice by some to use not more than 3 colors for major elements (Niederst, n.d.). Having too much colors is bad for a website, as the chaotic visual nature it entails gives a negative impression of the website to its viewers (Fessenden, 2017). Consistent use of colors throughout a website is an important aspect of web design best practices (Macdonald, 1999). Simple color schemes and utilizing white space are also characteristics of websites viewed as being credible (Ahmad et al., 2010). The overall website color, and how it appeals to a visitor, connects to their overall trust and satisfaction with the website (Karimov, Malaika, & Hove, 2011).

### ***Photography***

News websites utilize journalistic photographs to inform readers on current events, to portray certain people, or to provide illustrations (Kędra, 2016). As mentioned by

Kedra (2016), different types of photographs are utilized for different reasons throughout a news website, and are categorized into sub-genres and types<sup>1</sup>.

A photograph should be objective in nature, as its initial goal is taking a glimpse of reality itself instead of fabricating stories through photographic narratives (Barret, 1986). Issues may arise when photographs are viewed as graphic signs, as they carry connotative messages that may suggest intentions—the reason why photos are selected accordingly in news (Sari & Yusuf, 2012).

Photography from a graphic design point of view in relation to a website's credibility pertains to the choice and quality of photos, and if image manipulation is present. For starters, whether it is glaringly manipulated or not, photographs in websites should be relevant to the context of a website to improve its credibility (Sari & Yusuf, 2012). Not only should it be appropriate, but in terms of the quality of a photo from a technical aspect, it increases a website's credibility from an expertise point of view (Fogg and Tseng, 1999).

### ***Advertisements***

The existence of numerous amounts of advertisements on a website can lessen a website's credibility according to studies conducted by Stanford in relation to web credibility—specifically, it being trustworthy and competent (“Stanford Guidelines for Web Credibility”, 2004). Ads should be part of, and integrated seamlessly with the website's design (Snell, 2008). A certain portion of the website should be allotted for advertisements, wherein the advertisement does not look out of place, and more importantly, overpowers the actual content of the website. It is important to do so because credibility judgement on a website lessens when it is hard to distinguish advertisements from the content itself (Fogg, 2003).

### ***Organization & Layout***

Credibility is reliant on how viewers perceive interfaces, such as a website, based on if there is order in the way it is organized (Seckle et al., 2015). Consistent overall look in terms of the way a site is organized and laid out is crucial in making a website more credible (Shah, Ravana, & Ismail, 2015). Organization could be achieved through different design concepts such as the grid system and visible navigation elements. A website is organized when its contents and elements are designed in a format that is not cluttered due to a working and existing grid system composed of columns and sometime rows, wherein elements could be laid out upon (Samara, 2002). A website with a working grid system is viewed as being more credible as compared to websites without such structures (Ahmad et al., 2010).

In terms of a fluid website with a working grid system, the layout is supposedly responsive to different mediums when browsing the internet—adapting its layout depending on the medium (Subić et al., 2014). Simple, functional, visible navigation elements must be present (Hasan & Abuelrub, 2011).

---

<sup>1</sup> Journalistic photographs are divided in genres, each with sub-types (in parenthesis): (1) News Photography (News photos and photo-chronicles), (2) Reportage photography (Photo Reportage and historical photo reportage), (3) Portrait photography (mug shots, journalistic portraits, and small portraits), and (4), Illustrative photography (photo illustration, cover photos, photomontages, and video-stills) (Kedra 33).

## **Juxtaposing visual design cues with Tandoc et al.'s Fake News Typology**

The study cross-tabulates the various visual design cues with Tandoc et al.'s framework on fake news and its typologies. As defined, fake news is created to cater to and achieve certain objectives by the parties involved (Gu et al., 2017). Motivations may include, but are not limited to: (1) political; (2) financial; (3) character assassination; or, (4) data leaks. Tandoc et al. operationalized the term fake news and created a typology on the subject matter on the basis of two concepts: facticity and intention—with each type of fake news having varying levels of the two elements (Tandoc et al., 2017).

The different types of fake news are the following: (1) news satire, the use of humor and exaggeration to mock news programs to deliver new, (2) news parody, purposely coming up with humor-laden false articles for the sake of entertainment, (3) news fabrication, articles published to mimic real news (without implying it is fake), (4) photo manipulation, or the use of digital software to alter photographs, (5) advertisements and public relations, wherein ads or press releases are in the guise of real news, and (6) propaganda, news that are created with political motivations in mind to persuade or influence the masses (Tandoc et al., 2017).

In the context of the study of fake news websites, three out of the six types of fake news, News Satire, Manipulation (of photos), and Ads and Public Relations are not included. News satire are not included because amidst Tandoc et al. defining it initially as fake news based on existing literature, they contradict their conceptualized definition as Satire News is low in its intention to deceive, and at the same time, high in facticity (Tandoc et al., 2017). Photo manipulation, on the other hand, does not encompass an entire website, but merely has traces or elements of it within the website itself. Photo-manipulated images are a tool that is part of a fake website or the reporting of fake news as it refers to images used in the medium itself which could be manipulated—but this does not talk about news websites as a whole. Therefore, photo manipulation, fell under the visual design cue “Photography” instead. Ads and public relations on the other hand, under the definition of Tandoc, does not necessarily refer to fake news websites, but more on the utilization of press releases and paid advertorials in the guise of news articles in existing news media's advertising space to mislead the audience into thinking that they are news reports or editorials while inserting persuasive messages about their products (Tandoc et al., 2017).

The typologies of fake news that are utilized are: (1) news parody (2) news fabrication and (3), propaganda. The presence (or absence) of visual design cues, as well as their overall aesthetic, are observed in the context of the different types of fake news websites (see table 1).

Table 1: Cross-tabulation of the Typology of Fake News and Visual Design Cues

<i>Type of Fake News</i>	<i>Visual Design Cues</i>					
	Logo	Typography	Color	Photography	Ads	Organization & Layout
News Parody						
News Fabrication						
Propaganda						

## Methodology

For the study, twenty-three (23) fake news websites were analyzed individually from 26 January 2018, to 8 February 2018. As the study pertains to visual design cues, a first-level analysis, basically on what was immediately visible, was conducted throughout the different pages of the website.

Nineteen (19) News Fabrication and Propaganda websites were derived from a verified list of fake news websites care of Fakeblok, a Google Chrome extension for fake news website detection. In a December 7, 2017 report, 48 websites were flagged by Fakeblok (GMA News Team, 2017). Out of those 48 websites, 19 were currently active at the time of the study, and were further classified using Tandoc's typology, whether they fit into News Fabrication and Propaganda based on the content and themes of the articles. Websites that mostly talked about certain political alliances, beliefs, and obviously biased were considered as Propaganda websites. Websites that contained numerous categories of news such as, but not limited to, entertainment, gossip, world, and political news, were considered as News Fabrication websites. In News Fabrication websites, if ever political articles were to be found, they were in minimal amounts and were not the entire focus of the website. Four (4) parody websites were chosen from two lists by GMA Network ("Think Before You Click: List of Pinoy fake news sites.", 2014) and a separate Center for Media Freedom and Responsibility (CMFR) report (CMFR, 2016) from the above-mentioned Fakeblok list; both of which tackled known and popular Filipino websites of the same subject classification.

All websites analyzed were considered as concocted fake websites according to related literature, given that they do not seem to imitate existing media sources (spoof websites).

## Findings and Analysis

### *Visual Design Cues (Overall)*

Based on the findings presented, fake news websites are characterized by either a lack of certain visual design cues that qualifies it as a medium that communicates credibility to its viewer from a first glance, or, if ever cues are present, they are of low-aesthetic treatments, which again, relates to something that is not credible. A fake news website that is perceived to be low in credibility visually, or based on how the website as a whole, as well as its individual elements, will lead to the viewer potentially not trusting the website; as trustworthiness is a component of credibility

(as cited in Berlo et al., 1969). The design could be then indicative of the visual communication medium itself to be trusted as a source of news based on how it is presented visually (dynamism). With data gathered from this study, visual patterns of fake news websites could be then utilized within tools of alternative detection methods of fake news—this time, from a visual communication perspective.

Logos were either absent in fake news websites, and if ever they were present, it was of low-aesthetic treatments. An absent logo communicates distrust to the viewer as they as there is no visual presence behind the identity of the organization or person behind the fake news website. Low-aesthetic treatment of the logo on the other hand, communicates it not being professional to the viewer—which leads to a lack of credibility again.

Typography choice was consistent in most websites; when it came to the way some text were stylized (e.g. weights, capitalization, alignment), it exhibited low-aesthetic treatments. When certain typefaces are in uppercase (e.g. title headers) or when line-spacing between lines of text are too near each other—they are hard to read. When bodies of text are hard to read, the website as a visual communication medium, just like logos earlier, is viewed as being not professional—which entails lower credibility. The same could be said when there are inconsistencies in alignment of text as well as utilizing too many typefaces.

Though not as abundant as the previous two, as most colors in general provided contrast as text were visible, one glaring visual design pattern was present in the analyzed websites. Though a consistent color palette was surprisingly present in most (which increases credibility), a few websites utilized too many colors—of which they are considered low-aesthetic treatments. If a website utilizes too many colors, the overall look may tend to be chaotic and hard on the eyes of the viewer; which again entails, lower credibility. Multiple colors are usually not an issue if done subtly and if there is a purpose for doing so (e.g. categorization of tags); but if the colors are glaringly persistent and hard on the eyes, that is when issues arise.

Photographs on the other hand were the most evident in most fake news websites. Though individual website types have some unique patterns amongst themselves, websites in general utilized different types of photos with low-aesthetic treatments. Whether it was a blurry or pixelated photo, it communicates that the website does not value professional photography and design standards. When multiple photos are used in the form of photo-montages, they are also of low-aesthetic quality. To add to that, a lot of design elements superimposed on photos made were of low-aesthetic treatments given how they would distract from the photo itself. These websites also utilized the use of “grabbing” photos, specifically from other media sources without attribute or credit. By stealing photos, detected through reverse image searches, they communicate themselves as being untrustworthy by intentionally disregarding copyright laws. To add to that, by not including captions, either they are intentionally disregarding ownership credits, or they are trying to present themselves as a legitimate news source as viewers would assume they are providing the photographs. On hindsight, it could also be a result of laziness or lack of intention.

Advertisements were abundant. As previously discussed, people not only hate ads on websites in general, but do so even more when they take up too much screen real

estate, or get obtrusive in the main content of the website. Having this creates a negative perception to its audience thus lowering its overall credibility. The abundance of advertisements connects how financial motivations are reasons behind the proliferation of these types of websites.

Overall, in terms of its cluttered layout, or the lack of certain features and page indicators—a website would be viewed as something that is difficult to navigate. User-experience oftentimes deals with the user itself navigating around the website, but much could be said by how he/she sees it in the first place. Some websites did not even have a visible navigation system, or if ever it was present, it was ineffective either with what links were present (either lacking or ambiguous in the categorization) or its placement—thus making the website difficult to go around. Based on literature, when a website is difficult to navigate, people lose interest—and when they lose interest, they view the website as not credible (Fogg, 2002). The study affirms past studies on the subject matter.

Low-aesthetic treatments of space (either a lack or over-abundance) were also present in most websites. Though most websites were mobile responsive, the overall websites were either of low aesthetic treatments, or completely different aesthetic-wise to their desktop counterpart. Just like the other design visual cues tackled earlier, if it does not seem like it is professionally-done, it will lack credibility in the view of its audience. On a contrasting note, grid systems were visibly present in all of the websites. Although this could be a design choice, some types of fake news websites utilize pre-made templates that have a built-in grid system.

### ***Visual Design Cues in Specific Fake News Websites***

#### ***News Parody***

In news parody websites, photography visual design patterns were derived from the findings, specifically (1) the use of generic stock photos, (2) a lack of cover photos, and (3), photo-manipulated photographs. As news parody websites are primarily for entertainment purposes, photo choices and manipulation could be a choice to inject ironic humor given the photographs themselves. What connects this to credibility on the other hand is not how generic the photos are, but more of the source of these photos, as they may be “grabbed” as well from Google or other sources.

The lack of cover photos on the other hand, could be more of a structural aspect more so than intent, given the way the website is designed. Most of the news parody websites utilized a continuous page blog-type layout, wherein in order to go around the website, the viewer should either click the “more” or “previous” buttons at the bottom of the page. In these types of layouts, instead of the main pages utilizing a cover photos and maybe the title and/or excerpts, the main pages would show the article headline and the whole text and just utilize photographs within the articles, but not specifically as a cover page.

Based on visual cues being obvious and humorous, news parody websites are visually representative of its low-intention to deceive.



## ***News Fabrication***

Due to the short-lived life of fake news websites online (Lazer et al., 2017), designs tend to be rushed—as a lot of errors tend to appear in the different aspects. Based on what is present, it appears that website creators do not tend to double, or triple-check their posts due to the errors.

Numerous fabricated fake news websites utilized pre-made templates, as was noted in the footer section of the website. By utilizing a pre-made template, they can hastily come up with a “professional-looking” website. This could be another reason why a grid was present in most news fabrication websites in general, and not just news parody. They could appear as “professional” and “credible” to various audiences who are naïve on the existence and looks of these templates at a first glance, things seem to be in order in some aspect. Apart from the low-aesthetic treatments of typography being present in fake news websites in general, style inconsistencies were common in particular to news fabrication websites—specifically capitalization.

Repeating the exact same photo numerous times were persistent in some websites. Broken photo links were also common. These types of errors do not only pertain to errors that arise with the speed of how fake news websites come and go, or the need to come up with news fast, but are also indicative of the lifespan of the social media posts as they come and go very quickly.

Fabricated news thrives on click-bait (Chen et al., 2015). The presence of these lavishly-said statements were not only present visually in the titles of the articles via capitalization, but at times, are superimposed on photos—which were pretty common in news fabrication websites. A lot of times, these photos were stills of video covers that had attention-grabbing statements. Not only were these present, but were inconsistent in use and of low-aesthetic treatments.

With the way motives are financially-based thru clicks, the focus for creators and contributors of news fabrication websites may be assumed to be mostly on creating click-bait worthy statements and headlines as opposed to putting efforts towards its design. As opposed to legitimate organizations that have the resources to hire editors and designers to make the website legitimate and credible (Chan-Olmsted et al., 2013), the opposite is evident here. Overall, as per mentioned, the various visual design cues in news fabrication websites affirm how it attempts to legitimize itself by using templates to deliver news low in facticity. Though this type of fake news attempts legitimacy, it fails to do so; thus indicative of its definition of a high intention to deceive.

## ***Propaganda***

As propaganda fake news are created with political motivations to influence and persuade (Tandoc et al., 2017), the websites that fall under this category utilized visual design patterns that lean to the said definition. Propaganda websites have numerous similar visual design patterns to news fabrication websites due to a number of propaganda websites being a variation of it at times—the difference is that it focuses on news bent on political and character assassination motives. For example, the way it utilized photos with click-bait titles superimposed on titles highlight the

political enemy's name with a striking or controversial statement about him or her. The type treatment employed (usually bold, italicized, bright colors) were used to grab attention and be visually striking. Overall, just like news fabrication, this could connect to how these types of websites have a high intention to deceive—with the subject matter differing slightly to the particular nature of fake news.

Amidst this link to the type of fake news, visual design cues were generally of low aesthetic-treatments just like the previous. From the superimposed text being inconsistent, or even cropped at times, to how typographic styles are inconsistent as well—all point to bad design that leads to a lesser credibility. Photographic quality is still the same story, whether it is a single photo, or a montage. Photo manipulations just like as it was with news parodies earlier on, were present in some websites. Compositions were more embarrassing to a certain character than humorous; in some cases, utilized the technique to juxtapose various details and glorify their affiliated political loyalties; although the aspect of humor and glorification is of a subjective matter, depending on the point of view of the audience's political affiliation. During the study, as most of the propaganda websites have pledged their loyalties to the Duterte government, they included links to Duterte-based social media pages. By doing so, it further emphasizes the nature of the propaganda website as being politically-motivated and biased as is defined.

## **Conclusion**

A disregard to an overall quality and visual aesthetic was apparent which could link to an absence of a legitimate organization to create credible websites both in content and more importantly as it relates to the study—how it is visually presented. The fake news websites tend to focus on various goals (e.g. financial, political) by usually crafting click-bait stories, that due to a lack of a proper organization, the visual design tends to be foregone and put in the background. They do not primarily care about building a brand with their website as a reputable and legitimate news source as they are more focused on grabbing attention and fulfilling their different purposes. The speed of how fake news websites come and go (Alcott, 2017) may also play a factor in the providers' lack of attention and attempt to look like a legitimate news source via visual design.

As was gleaned in the study, findings show that notable visual design patterns are present in the different types of fake news websites, often characterized by low quality aesthetics leading to a lack of credibility when examined as a visual communication medium. To reiterate, there are design patterns that span the different types of fake news, whilst some are specific to certain ones. Intention plays a part in the way some visual design elements are crafted per type of fake news. Fake news websites content are crafted with the goal of each type of fake news in mind. Oftentimes, design is placed in the backseat due to a lack of a body or organization to ensure legitimacy in the way a website looks just like what legitimate news outlets do. They tend to focus on attention-grabbing news to fulfill each of their goals. As was shown, this was apparent when a legitimate website was compared to the various fake news websites studied.

From a practical standpoint, the study could be beneficial to society as it proposes a new method to potentially detect fake news websites and may lend itself as an

alternative or complementary method of detecting disinformation which is notably becoming rampant and widespread.

## References

“10 tips on how to spot fake news from Facebook.” Rappler, 7 Apr. 2017, Retrieved from: [www.rappler.com/technology/social-media/166326-how-to-spot-fake-news-facebook](http://www.rappler.com/technology/social-media/166326-how-to-spot-fake-news-facebook).

Airey, D. (2010). *Logo Design Love : A Guide to Creating Iconic Brand Identities*. Berkeley, CA : New Riders.

Ahmad, Rahayu, et al. (2010). The Impact of User Experience Levels on Web Credibility Judgments. *Proceedings of the American Society for Information Science and Technology*, 47 (1), pp. 1–4.

Allcott, H., & Gentzkow, M. (2017). Social Media and Fake News in the 2016 Election. *Journal of Economic Perspectives*, 31(2), 211–236. Retrieved from <https://doi.org/10.1257/jep.31.2.211>

Barret, Terry (1986). Teaching about Photography: Selectivity, Instantaneity, and Credibility." *Art Education*, no. 3, p. 12.

Bear, J. H. (2018). How Can You Clean Up Your Graphic Designs? Retrieved from <http://www.thoughtco.com/use-fewer-fonts-1074171>

Berlo, David K., et al. (1969). Dimensions for Evaluating the Acceptability of Message Sources. *The Public Opinion Quarterly*, (4), 563. Retrieved from <http://0-0-search.ebscohost.com.lib1000.dlsu.edu.ph.lib1000.dlsu.edu.ph/login.aspx?direct=true&db=edsjsr&AN=edsjsr.2747566&site=eds-live>

Bintz, C. (2016). Visual literacy: does it enhance leadership abilities required for the twenty-first century?. *Journal Of Visual Literacy*, 35(2), 91-103. doi:10.1080/1051144X.2016.1278087

Chan-Olmsted, S., et al. (2013). Mobile news adoption among young adults: examining the roles of perceptions, news consumption, and media usage. *Journalism & Mass Communication Quarterly*, (1), 126. Retrieved from <http://0-0-search.ebscohost.com.lib1000.dlsu.edu.ph.lib1000.dlsu.edu.ph/login.aspx?direct=true&db=edsgao&AN=edsgcl.321680398&site=eds-live>

Chen, Yimin, et al. (2015). Misleading Online Content: Recognizing Clickbait as “False News”.” *ACM WMDD’15*.

CMFR (2016). Knowing Your Source: Think Before You Click. Retrieved from <http://cmfr-phil.org/in-context/knowning-your-source-think-before-you-click/>

“Create a favicon for your site in 8 steps.” (2014, May 7). Creative Bloq, Creative Bloq ART AND DESIGN INSPIRATION. Retrieved from [www.creativebloq.com/illustrator/create-perfect-favicon-12112760](http://www.creativebloq.com/illustrator/create-perfect-favicon-12112760)

Farkas, David K., and Jean B. Farkas (2002). *Principles of Web Design*. Longman.

Fessenden, T. (2017, October 1). First Impressions Matter: How Designers Can Support Automatic Cognitive Processing. Retrieved from <https://www.nngroup.com/articles/first-impressions-human-automaticity/>

Fogg, B.J. (2003). Credibility and the World Wide Web. *Persuasive Technology: Using Computers to Change What We Think and Do*, Morgan Kaufmann Publishers, an imprint of Elsevier Science, pp. 147–181.

Fogg, B. J., and Hsiang Tseng (1999). The Elements of Computer Credibility. Proceedings of the SIGCHI conference on Human factors in computing systems the CHI is the limit - CHI 99.

Fogg, B.J., et al. (2002). Stanford-Makovsky Web Credibility Study 2002. A Research Report by the Stanford Persuasive Technology Lab & Makovsky & Company.

Gu, Lion et al. (2017). The Fake News Machine: How Propagandists Abuse the Internet and Manipulate the Public. A Trends Lab Research Paper.

GMA News Team. (2017, December 07). WATCH: More 'fake news' sites blacklisted by NUJP, CMFR. Retrieved from <http://www.gmanetwork.com/news/news/nation/635799/more-fake-news-sites-blacklisted-by-nujp-cmfr/story/>

Hasan, Layla, and Emad Abuelrub. (2011). Assessing the quality of web sites. *Applied Computing and Informatics* (2011), vol. 9, pp. 11–29.

How to Spot Fake News. (2018, July 17). IFLA. Retrieved from [www.ifla.org/publications/node/11174](http://www.ifla.org/publications/node/11174).

Jain, Ankin Kumar, and B.B. Gupta. (2017, January 10). Phishing Detection: Analysis of Visual Similarity Based Approaches.” *Security and Communication Networks*, Hindawi. Retrieved from [www.hindawi.com/journals/scn/2017/5421046/](http://www.hindawi.com/journals/scn/2017/5421046/).

Karimov, Farhod P., Malaika Brengman, and Leo Van Hove. (2011). THE EFFECT OF WEBSITE DESIGN DIMENSIONS ON INITIAL TRUST: A SYNTHESIS OF THE EMPIRICAL LITERATURE. *Journal of Electronic Commerce Research*, vol. 12, no. 4, pp. 272-280,282-301, ABI/INFORM Global. Retrieved from <https://search.proquest.com/docview/914166186?accountid=190474>.

Kędra, Joanna. (2016, March). Enhancing Visual Literacy through Interpretation of Photo-Genres: Toward a Genre Typology of Journalistic Photographs. *Journal of Media Practice*, vol. 17, no. 1, pp. 28-47. EBSCOhost, doi:10.1080/14682753.2016.1159451.

Kiely, Eugene, and Lori Robertson (2016, December 19). How to Spot Fake News. FactCheck.org. Retrieved from [www.factcheck.org/2016/11/how-to-spot-fake-news/](http://www.factcheck.org/2016/11/how-to-spot-fake-news/).

Lazer, David, et al. (2017, May). Combating Fake News: An Agenda for Research and Action, Harvard Law School. Shorenstein Center on Media, Politics and Public Policy 2017.

Lupton, Ellen. (2010). Thinking with type: a critical guide for designers, writers, editors, & students. Princeton Architectural Press.

Lowry, Paul Benjamin, et al. (2014, January 02). A Picture Is Worth a Thousand Words: Source Credibility Theory Applied to Logo and Website Design for Heightened Credibility and Consumer Trust. *International Journal of Human-Computer Interaction*, vol. 30, no. 1, pp. 63-93.

Macdonald, L.w. (1999). Using color effectively in computer graphics. *IEEE Computer Graphics and Applications*, vol. 19, no. 4, pp. 20–35., doi:10.1109/38.773961

Mitchell, A., Kiley, J., Gottfried, J., & Guskin, E. (2017, May 24). The Role of News on Facebook. Retrieved from <http://www.journalism.org/2013/10/24/the-role-of-news-on-facebook/>

Morville, Peter and Louis Rosenfeld (2007). *Information Architecture for the World Wide Web : Designing Large-Scale Web Sites*. vol. 3rd ed, O'Reilly Media.

Niederst, Jennifer. (n.d.). *Learning Web Design: A Beginner's Guide to HTML, Graphics, and Beyond*. 2nd ed.

Robins, David, and Jason Holmes. (2008). Aesthetics and credibility in web site design. *Information Processing & Management*, vol. 44, no. 1, pp. 386–39.

Ryan, Lindy. (2016). *The visual imperative: creating a visual culture of data discovery*. Morgan Kaufman.

Samara, Timothy. (2002). *Making and breaking the grid: a graphic design layout workshop*. Rockport.

Sari, Diana Fauzia and Yunisrina Qismullah Yusuf. (2012, July). Different Representations and Semiotics Analysis of Web News Texts. *International Journal of Language Studies*, vol. 6, no. 3, pp. 17-36. Retrieved from 0-search.ebscohost.com.lib1000.dlsu.edu.ph/login.aspx?direct=true&db=ufh&AN=77668924&site=eds-live.

Seckler, Mirjam, et al. (2015, April 1). Trust and Distrust on the Web: User Experiences and Website Characteristics. *Computers in Human Behavior*, vol. 45, pp. 39-50.

Serafini, Frank, and Jennifer Clausen. (2012). “Typography as Semiotic Resource.” *Journal of Visual Literacy*, vol. 31, no. 2, pp. 1–16.

Shah, A. A., Ravana, S. D., Hamid, S., Ismail, M. A. (2015). Web credibility assessment: affecting factors and assessment techniques. *Information Research*, 20(1), paper 655. Retrieved from <http://InformationR.net/ir/20-1/paper655.html>

Snell, Steven. (2008). Online Advertising And Its Impact On Web Design. *Smashing Magazine*, 3 Dec. Retrieved from: [www.smashingmagazine.com/2008/12/online-advertising-and-its-impact-on-web-design/](http://www.smashingmagazine.com/2008/12/online-advertising-and-its-impact-on-web-design/).

Spratt, Hannah E. and Denise E. Agosto. (2017). Fighting Fake News: Because We All Deserve the Truth: Programming Ideas for Teaching Teens Media Literacy. *Young Adult Library Services*, vol. 15, no. 4, pp. 17-21.

Stanford Guidelines for Web Credibility. (2004). Stanford Web Credibility Research. Retrieved from: <http://credibility.stanford.edu/guidelines/index.html>.

Subić, Nataša, et al. (2014). Responsive web design – Are we ready for the new age?. *Online Journal of Applied Knowledge Management*, vol. 2, no. 1, pp. 93–103.

Tandoc Jr., Edson Zheng Wei Lim & Richard Ling. (2017). Defining “Fake News”. *Digital Journalism*.

“Think Before You Click: List of Pinoy fake news sites.” (2014). *GMA News Online*, Retrieved from: [www.gmanetwork.com/news/hashtag/content/382094/think-before-you-click-list-of-pinoy-fake-news-sites/story/](http://www.gmanetwork.com/news/hashtag/content/382094/think-before-you-click-list-of-pinoy-fake-news-sites/story/).

**Contact email:** [joaquin.ruiz@dlsu.edu.ph](mailto:joaquin.ruiz@dlsu.edu.ph)